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April 25, 1989

The Honorable Steve Cowper
Governor of the State of Alaska
P.O. Box A
Juneau, AK 99811-0101

Re: Forest Practices Act Steering Committee

Dear Governor Cowper:

Sealaska Corporation has been requested by Commissioner Gorsuch to ratify the legislation developed by the Forest Practices Act Steering Committee by April 24. Sealaska Corporation verbally advised Commissioner Gorsuch that Sealaska is prepared to ratify the legislation as proposed; but that Sealaska wishes to provide the Southeast ANCSA Village Corporations an opportunity to express their opinions before Sealaska formally ratifies the legislative package.

Enclosed you will find a letter to the Southeast Village Corporations summarizing the results of the Steering Committee's legislative package and Sealaska's recommendation that they support this legislation.

Even though the Forest Practices Act Steering Committee did not reach a consensus prior to the deadline, Sealaska is still requesting the Southeast ANCSA Corporations complete their review. Sealaska will continue to encourage these corporations to endorse the proposed legislation.

Sealaska Corporation continues to be committed to finding acceptable solutions and will work with the Administration to achieve that objective. We appreciate your commitment to this process and believe that even though the Steering Committee was not able to come to a consensus, significant progress was made which will be a valuable stepping stone for final resolution of Forest Practices issues.

Sincerely,

SEALASKA CORPORATION



Robert W. Loescher
Senior Vice President
Resource Management



Richard P. Harris
Vice President
Resource Planning and Administration

RWL/RPH:mt

cc: Byron I. Mallott
Marlene Johnson
William M. Howe
Commissioner Lennie Boston-Gorsuch



Same letter sent to the following:
Joseph Wilson, Goldbelt
Bruce Cook, Haida Corporation
George Cooper, Huna Totem Corporation
Clarence Jackson, Kake Tribal Corp.
Louis Thompson, Kavilco, Inc.
Reynolds Skan, Klawock Heenya Corp.
Ralph Strong, Klukwan, Inc.
Dr. Walter Soboleff, Kootznoowoo, Inc.
James Senna, Shee Atika, Inc.
Glenn Charles, Shaan-Seet, Inc.
Lowell Peterson, Yak-Tat Kwaan, Inc.
Richard Stitt, ANB Grand Camp
Edward Thomas, Tlingit & Haida

April 24, 1989

Mr. William K. Williams, President
Cape Fox Corporation
P.O. Box 8448
Ketchikan, AK 99901

Re: Forest Practices Legislation

Dear Mr. Williams:

Governor Steve Cowper initiated a consensus based process to review and where necessary to amend the Alaska Forest Practices Act, and associated regulations. To address these issues in a comprehensive manner, Governor Cowper created a Steering Committee to attempt to develop an "Agreement in Principle" which would guide the development of any legislative and regulatory changes to the Forest Practice Laws. The Steering Committee consists of State resource agencies, environmental groups, fishermen, local government and Native Corporation representatives. The Native Corporation representatives are Klukwan, Koncor and Sealaska.

The Steering Committee has completed a draft "Agreement in Principle" and "final" proposed legislative amendments to the Alaska Forest Practices Act. The "Agreement in Principle" remains a draft because changes are needed to accurately reflect the proposed legislative amendments and additional revisions to clarify intent that will direct the preparation of regulations. Enclosed for your review are:

1. Steering Committee recommended amendments to the Forest Practices Act. For your convenience a copy of the current Forest Practices Act is also enclosed.
2. Draft "Agreement in Principle." The Steering Committee is continuing to work toward finalizing the Agreement as soon as possible. Although a draft, the "Agreement" provides important

background to understand the intent of the legislation.

3. Letter from the Alaska Loggers Association (ALA) regarding proposed legislative language.

The draft legislation was finalized on Friday, April 21. The Cowper Administration has asked that the bill be ready for introduction by Monday, April 24. Sealaska Corporation has been asked to ratify the bill. Our position at this time is to ratify the legislation, subject to review by the private ANCSA Corporations in Southeast Alaska.

Sealaska believes that legislative and regulatory changes affecting the forest industry are inevitable. The Alaska Department of Fish and Game has already served public notice of its intent to promulgate generic "Habitat Regulations" that will apply to all activities that may effect fish habitat. The Department of Environmental Conservation has initiated the "319 Non-Point Source Pollution (NPS) Control Program" to regulate non-point source discharges including discharges from forestry operations. If the proposed legislation is adopted, these regulatory initiatives will be incorporated into the Forest Practices Act.

If the current steering committee legislative effort fails, the industry will be at serious risk. Our risk is that more restrictive legislation will be enacted. This risk has increased because of the atmosphere created by the Exxon Valdez spill. We also run the risk that the Departments of Environmental Conservation, Fish and Game, and Natural Resources may enact administrative regulations establishing tougher standards than we could get through negotiations.

As a result of these risks, the industry entered into these negotiations willing to agree to changes both in the way the Forest Practices Act operates and the content of its rules. The issue now is, whether the final draft is liveable or whether it goes too far. A summary of the major differences between the current law and the final draft, follows:

1. Notification.

- A. Present Law. Timber operators don't currently need DNR's permission to begin timber operations. Instead,

operators simply notify the department at least 30 days before operations begin.

B. New Bill. The notification system is retained--the Steering Committee rejected environmentalist requests for a permit. However, if DNR finds something in the plan that it feels will violate a standard, it will be able to direct the operator to change his plan. The operator can appeal to the commissioner and the courts, if he disagrees.

2. Enforcement.

A. Present Law. DNR can order a stop in operations if a violation and damage have occurred. DNR's power to issue administrative orders is so cumbersome that the agency doesn't use it. Instead, forestry violations are usually handled by Fish and Game, which has stronger enforcement statutes. The result is that forest practices enforcement is handled by ADF&G, using ADF&G's criminal penalties. ADF&G seldom recognizes economic and practical issues in taking enforcement action. Industry has felt that if DNR is given effective enforcement tools, it won't have to rely on ADF&G and future enforcement actions will be more balanced.

B. New Bill. DNR would be given a more typical range of enforcement tools. DNR's administrative order statute is made easier to use, and violations of the standards will become a misdemeanor. Since ADF&G already uses its criminal penalties, the expected result of this change is that DNR, rather than ADF&G, will be making the decision as to whether to prosecute forest practices violations criminally. DNR will be given the authority to stop threatened violations of the Act before they occur; however, except in emergency circumstances, that order won't go into effect until the operator has been given a hearing. For the first time in any state statute, in cases where more than one state agency has authority over a violation, all involved agencies will be required to coordinate their actions and develop a uniform state enforcement policy.

3. Streamside protection standards.

A. Present Law. There are no specific restrictions on logging next to fish streams. However, DNR might have the authority to write regulations establishing those restrictions.

B. New Bill. For many anadromous waters, harvesting will usually be prohibited for the first 50 feet from the stream bank. In the next 50 feet, operators will have to leave 50% of the timber. For anadromous waters that have incised rock banks, and for tributaries to anadromous waters, there will be no specific restrictions, but bank stability must be maintained.

However, timber left because of the 100-foot restriction, together with timber that is inoperable because of that restriction, can't exceed 5 percent of the "basal area" of the entire operating area. If it does, less strict standards will be imposed so that the so-called "5 percent cap" is met.

The operator can request DNR to loosen these restrictions where they aren't necessary to protect fish habitat. However, because the way the bill is written, it is unlikely that this "variation" will be granted unless Fish and Game believes that fish habitat won't be harmed.

4. Standards for Operations.

A. Present Law. DNR's regulations usually require only that operator's avoid undesirable results (i.e. avoiding mass wasting). Recommended ways of avoiding those results are set out in best management practices.

b. New Bill. New rules will be developed that will regulate activities, for example, that may result in increased pollution from non-point sources (e.g. road runoff) and landslides; and regulation of activities in the streamside areas that may effect fish habitat. The promulgation of these rules will occur with or without legislative changes to the Forest Practices Act. However, the changes to the Act give ADNR a dominant role in the promulgation and enforcement of upland activities, require that other agency regulations not duplicate ADNR laws, and that the regulations of other agencies be incorporated into the Forest Practice Regulations. The industry is further protected because DNR can write a new rule only if it's necessary to prevent harm to important public resources, and operator's can apply for variations from those rules based on site-specific conditions.

5. Other Agencies' Authorities.

A. Present Law. Fish and Game has been attempting to use its own "habitat regulations" to control forestry

activities that might affect fish habitat. Environmental Conservation is required, under federal law, to develop its own control program for water pollution from forestry activities. Fish and Game has recommended that DEC establish a new permit program to control logging activities under that federal law.

B. New Bill. With DEC's approval, the Forest Practices Act and its regulations will satisfy DEC's responsibilities, under the Federal Clean Water Act for the regulation of non-point source pollution (319 Program) and that agency won't adopt additional rules to regulate nonpoint sources. Fish and Game agrees to confine its authority to what is set out in its statutes, although industry and that department still disagree on the extent of that authority.

6. Third Party Suits.

A. Existing Law. DNR doesn't make many "decisions" under the existing law, so there isn't much opportunity for environmentalists or other "third parties" to sue the agency and operators. However, any new standards or legislation will provide new opportunities for litigation, and without a specific provision prohibiting third parties from filing these suits, they probably would be able to sue individual operators.

B. Existing Bill. The bill specifically provides that third parties cannot file lawsuits (or even administrative appeals) over timber operations on private land. If enacted, this would be the first industry protection of this kind in state statute. We do not expect that we could obtain this type of provision from the legislature other than through the Steering Committee process.

7. State Land.

A. Present Law. Planning and procedures for state timber sales is handled by regulation and informal policy. Recently, state planning procedures have, as a matter of agency policy, become stricter. There are currently no specific streamside restrictions governing state land.

B. New Bill. The new, more rigorous state planning process will be put in statute and regulation. A 100 foot "no harvest" zone will be established around anadromous streams on state land, and the next 200 feet can be harvested only with DNR's permission. However, these rules

do not apply north of the Alaska Range, and they do not apply to existing sales or land management plans (i.e. the Haines plan). DNR believes that this change will not significantly restrict timber harvest on state land, since all existing land use plans south of the Alaska Range, and the proposed Susitna plan, already have a 30-meter "no cut zone."

8. Federal lands.

A. Present law. Under the federal Coastal Zone Management Act, activities on federal land must be consistent with the state coastal program "to the maximum extent practicable." The Forest Practices Act sets the standard for judging the consistency of forestry activities on federal land.

B. New Bill. The new Act is not intended to apply to forest development on federal lands. Activities on federal land won't have to meet the standards in the bill, but federal regulations must provide the same degree of resource protection as the state standards applicable to state land. This leaves discretion to the federal government to determine how the state's goals can be met. We anticipate that the state Coastal Policy Council will review federal standards to determine if they meet those goals. See ALA letter on this issue.

9. Board of Forestry.

A. Present Law. The Board is currently composed of fourteen members of which six have direct interest in the development of forest industry and one each environmental and fisherman representative. Because of lack of clear responsibility, funding and interest, the Board currently has been inactive.

B. New Bill. A six-member board will be split between industry and other interests, and can act only by a "super majority" (so that neither interest can dominate the Board). The Board will be responsible for monitoring DNR's administration of the Act, recommending changes to the regulations, deciding what research is necessary, and reporting to the legislature. Through these changes the Board will assume a more active role in the administration of the forest practice laws and regulations.

Recommendation.

Sealaska believes that, in any event, the regulations under which the forest industry operates will be significantly modified in the immediate future. These changes will occur either through the enactment of the proposed steering committee legislation and accompanying regulations; or by the Departments of Environmental Conservation, Fish and Game and Natural Resources enacting independent administrative regulations.

Under the proposed legislation, Department of Natural Resources is the lead agency for regulating the forest industry; and that any regulations promulgated by the other resource agencies cannot be duplicative of the regulations of the Department of Natural Resources. This protects the industry from each agency acting independently to develop its own permitting and operational standards for conduct of forest operations.

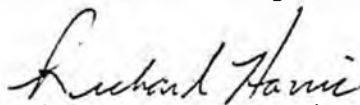
Sealaska is recommending that the Southeast ANCSA Corporations ratify the proposed "steering committee legislative proposal." This legislation represents the best possible compromise that we believe could be achieved under the current political environment. Sealaska is requesting a delay in the final ratification of this legislation, pending your review. Sealaska encourages your expedient review and would appreciate a response as soon as possible but no later than Monday, May 1, 1989.

Sincerely,

SEALASKA CORPORATION



Robert W. Loescher
Senior Vice President
Resource Management



Richard P. Harris
Vice President
Resource Planning and Administration

4/22/89

Article 1. Administration and Management

Sec. 41.17.010(5) is repealed and reenacted to read:
(5) Under the leadership of the Department of Environmental Conservation as lead agency, the state should exercise its full responsibility and authority for control of nonpoint source pollution with respect to the Federal Water Pollution Control Act, as amended, and the provisions of this chapter, and the regulations adopted under this chapter, with the approval of the department of environmental conservation, shall serve as the nonpoint source pollution requirements under state law and sec. 319 of the Clean Water Act, for activities under this chapter; however, the department of environmental conservation retains its authority to adopt nonpoint source pollution regulations for activities subject to this chapter to the extent that regulations are not adopted and approved under this chapter; the department of environmental conservation also retains the authority to withdraw its approval of regulations adopted by the commissioner under this chapter.

Sec. 41.17.010(6) is amended to read:
(5) subject to 16 U.S.C. 1456 (Section 307 (f) of the Coastal Zone Management Act of 1972, P.L. 92-583), for private lands, the provisions of this chapter and the regulations adopted under this chapter shall serve as the [BE THE BASIS FOR] forest management standards, policies, and review processes [GUIDELINES] for purposes of [UNDER] the Alaska Coastal Management Act.

A new sec. 41.17.010(7) is added:
(7) except for activities subject to the requirements of AS 16.05.840 or AS 16.05.870 and the regulations authorized by those sections, the provisions of this chapter, and the regulations adopted under this chapter, shall serve as the fish habitat protection standards, policies and review processes under state law.

Section 41.17.020. Division of forestry established. No change.
Section 41.17.030. Responsibilities of the division. No change.

* Section AS 41.17.041(a) repealed and reenacted to read:
Sec. 41.17.041. Board of Forestry. (a) The Board of Forestry is established in the department of natural resources, division of forestry.
(b) The board is composed of seven members appointed by the governor, as follows:
(1) a member or representative of a statewide commercial fishermen's organization;
(2) a member or representative of a Native corporation established under the Alaska Native Claims Settlement Act, 43 U.S.C. §1601 et seq.;
(3) a member or representative of an environmental organization;

(4) a member or representative of a forest industry trade association;

(5) a professional fish or wildlife biologist who is not employed in that capacity by a state, municipal, or federal government, except for university employment;

(6) a professional forester who is not employed in that capacity by a state, municipal, or federal government, except for university employment;

(7) the state forester, who shall serve ex officio and without vote.

(c) The state forester shall serve as chair of the board and shall, in consultation with the board, establish procedures for scheduling and organizing board meetings. A quorum of the board shall be five voting members. All decisions of the board shall be made by a vote of no less than one fewer votes than the number of voting members present.

(d) A board member who is unable to attend a meeting may designate an alternate, who shall possess the same qualifications as the board member.

(e) The division of forestry shall serve as staff to the board. The departments of natural resources, fish and game, and environmental conservation shall provide technical staffing and information as needed by the board.

Section 41.17.043 is amended to read:

Sec. 41.17.043. Terms of office. The initial terms of board members will be: for two members, one year; for two members, two years; and for two members, three years. Thereafter, t[The term of office of a member of the board is three years. The state forester serves an indefinite term, ex officio.

Section 41.17.045. Removal of Members. No change.

*Section ____ AS 41.17.047 is repealed and reenacted to read:

Sec. 41.17.047. Powers and duties of board.

(a) The board shall review and comment to the commissioner on regulations proposed for adoption under this chapter.

(b) The board shall provide a forum for representatives of affected interests to discuss and attempt to resolve issues relevant to this chapter and to Alaska's forest resources.

(c) The board, working with the departments of natural resources, environmental conservation, and fish and game, other affected agencies and parties, and the forest-dependent industries shall conduct an annual survey of research needs related to forest practices. The board shall review research proposals and shall make recommendations to the governor and the legislature to promote research projects that would address these needs.

(d) The board shall coordinate the monitoring of the implementation and effectiveness of this chapter, regulations and best management practices in meeting state water quality standards, in meeting fish and wildlife habitat requirements, and

in meeting other forestry objectives. The board shall report annually to the legislature and the governor on the effectiveness of this chapter and regulations adopted under it, with its recommendations for changes and for needed research and monitoring. The state forester, the department of fish and game, and the department of environmental conservation shall each present an annual report, independently, to the board on the effectiveness of this chapter, and regulations and best management practices adopted under this chapter protecting the resources for which they have statutory responsibility and make recommendations for any changes to rectify procedural or substantive problems. The board will forward these reports to the legislature as part of its annual report. The board shall hold hearings at least once annually in southeast, southcentral, and interior Alaska for purposes of taking public testimony on those subjects.

Section 41.17.055(d) is repealed and reenacted to read. The commissioner may develop regulations under this chapter as part of the state program for control of nonpoint source pollution under the Federal Water Pollution Control Act, as amended. However, the department of environmental conservation is the lead agency for water quality and control of nonpoint source pollution under that Act, and the regulations are therefore subject to the approval of the commissioner of environmental conservation.

Section 41.17.060. Regulatory and administrative standards is amended as follows:

Sec. AS 41.17.060(b)(2) is amended to read: (2) environmentally sensitive areas [AND BEST MANAGEMENT PRACTICES] shall be recognized in the development of regulations and best management practices that are designed to implement [IMPLEMENTATION OF ANY] non-point pollution control measures authorized by this chapter;

Sec. AS 41.17.060(b) is amended by adding a new subsection to read: (5) significant adverse effects of soil erosion and mass wasting on water quality and fish habitat shall be prevented or minimized.

Sec. AS 41.17.060(c)(6) is amended to read: (6) [WHERE ECONOMICALLY PRACTICABLE,] allowance shall [MAY] be made for scenic quality in or adjacent to areas of substantial importance to the tourism and recreation industry; and.

A new sec. AS 41.17.060(c)(7) is added:
(7) allowance shall be made for important fish and wildlife habitat.

Section 41.17.070(b) Administrative plan and report is repealed and reenacted to read:

(b) To maintain a record of division decision-making for public and agency review, the division will compile and index all decisions made under this chapter regarding directives, stop-work orders, waivers from requirements, decisions of hearing officers, and decisions on appeals. Annually, a summary of this record will be submitted to the board of forestry.

Section __. AS 41.17.080 is repealed and reenacted to read:

Sec. 41.17.080. Regulations. (a) The commissioner shall adopt regulations necessary to accomplish the purposes of this chapter under the Administrative Procedure Act (AS 44.62) regarding forest practices such as the following:

- (1) Road construction and maintenance, including
 - (a) road location, construction, maintenance, and post-operation management or removal;
 - (b) landing location and construction;
 - (c) drainage structures;
 - (d) material sources and spoil disposal sites;
- (2) Timber harvesting, including
 - (a) timber harvest unit planning and design;
 - (b) felling and bucking;
 - (c) cable yarding, shovel, tractor, and wheeled skidder systems;
 - (d) landing clean-up;
 - (e) slash disposal;
- (3) Log transfer, sort yards, and storage facilities, including
 - (a) location, design, and construction;
 - (b) maintenance;
 - (c) closure;
 - (d) log storage, rafting, and identification;
- (4) Reforestation, including
 - (a) site preparation and rehabilitation;
 - (b) prescribed burning;
 - (c) exemptions from reforestation requirements;
- (5) prevention and suppression of forest insects and diseases;
- (6) salvage logging;
- (7) vegetative management; and
- (8) fire and flood hazard management.

(b) The commissioner shall adopt regulations specifying the information to be submitted under AS 41.17.090(c) in the detailed plan of operations for the division to adequately assess whether the activities will comply with the requirements set forth in this chapter.

(c) The commissioner may establish regions, districts, or other subdivisions of forest land in the state in which different regulations apply to reflect varying conditions in the state, or to facilitate administration. In adopting regulations, the

commissioner shall make appropriate distinctions between public and private land.

(d) The commissioner shall adopt only those regulations necessary to accomplish the purposes of this chapter, and shall avoid those which increase operation costs without yielding significant benefits to public resources.

Section 41.17.085. Permit applications. No change.

A new Section, 41.17.087, is added:

Sec. 41.17.087. Variation from requirements. A forest landowner, timber owner, or operator may propose a variation from a requirement imposed by this chapter or the regulations adopted under this chapter for a particular activity. Consistent with AS 41.17.098, if the division determines that the harm intended to be avoided by the requirement is not likely to occur because of site-specific circumstances relating to the particular activity, and is not likely to cause significant harm to fish habitat or water quality, it shall agree to the proposed variation. If the division does not agree to the proposed variation, a forest landowner, timber owner, or operator may appeal to the commissioner but must conform to the requirement during the pendency of the appeal.

Section 41.17.090 is repealed and reenacted as follows (actually, parts (a), (b), and much of the remainder remains the same.)

Sec. 41.17.090. Notification of plans to harvest timber.

(a) Operations on forest land shall be reviewed under this section for consistency with the policies and provisions of this chapter and regulations adopted under this chapter.

(b) A forest landowner, timber owner, or operator may provide to the department a voluntary plan of operations which describes the long-term plans for harvest of timber. The purpose of a voluntary plan is to give the department and the public an early opportunity to review any plans, to identify areas of concern, and to allow the agencies and the public to provide local knowledge and early notice of potential problems to the forest landowner, timber owner, or operator.

(c) Before beginning operations on forest land, the operator shall provide the department with a detailed plan of operations. The plan of operations must include:

(1) a description of the proposed activities identifying the land involved and the action proposed in sufficient detail to inform the public of the nature and location of the proposed action. The description shall include a map and be in a form suitable for duplication;

(2) name, address, and approving signature of the forest landowner, timber owner, and operator; and

(3) other information required in the regulations adopted under this chapter.

(d) Within 5 days after receipt of a plan of operations under (c) of this section, the division shall distribute the

information received under (c) of this section to affected state agencies, affected coastal districts, and shall distribute the information received under (c)(1) of this section to all members of the public who have asked to receive copies of notifications for the affected area under this section.

(e) Within 30 days following receipt of a complete plan of operations, the division shall review the plan to determine whether the operation is consistent with the requirements of this chapter and the regulations adopted under this chapter. Operations may begin under the plan upon the expiration of the 30-day period or upon notice from the division that the review has been completed, whichever first occurs, unless and only to the extent that the division has issued a stop-work order for particular operations under AS 41.17.138, notified the operator that a field inspection is necessary for the operating area or for particular operations thereof, or notified the operator that a one time ten-day extension is necessary for agency elevations under 41.17.098(f). The operator may proceed with operations not covered by the stop-work order, notice of field inspection, or the elevation. During the review of a plan of operations, if a question arises concerning the proper classification of waterbody type for purposes of the standards in AS 41.17.bbb(a), the department of fish and game has the authority to finally resolve the question.

(f) If the division determines that a field inspection is necessary to determine consistency of the operating plan or some portion thereof with applicable standards, it shall notify the operator. The notice of field inspection shall cover the minimum area necessary to determine compliance with this chapter and applicable regulations. The operator shall inform the division when the site will be accessible and available for an inspection by the division. The division must conduct its field inspection within 21 days thereafter, unless the operator otherwise agrees, and the operator may begin operations at the conclusion of that period unless the department has issued a stop-work order under AS 41.17.138.

(g) During the review of a detailed plan of operations, modifications to accommodate comments may be made without requiring the operator to resubmit the plan. After the review of the detailed plan of operations made under (e) and (f) of this section, an operator shall notify the commissioner of a proposed substantial change in operations by following the procedures specified in (c) through (f) of this section.

(h) Information and paperwork required of the operator under this section shall be limited to that necessary to accomplish the purposes of this section.

(i) A plan of operations must be renewed annually under the procedures for initial review in this section, and any decision under AS 41.17.ccc with respect to that plan of operations will be reviewed during each renewal.

* Section ____ . A new section is added:

41.17.098 Interagency Coordination

(a) In administering this chapter, the division shall coordinate with other agencies and affected coastal districts with jurisdiction over activities subject to regulation under this chapter.

(b) In any review or implementation of a plan of operations under AS 41.17.090 and in any decision on a proposed variation from requirements under 41.17.087, the division shall consider the comments of all affected state agencies, and where applicable, coastal districts.

(c) The division shall give due deference to the department of environmental conservation in decisions concerning water quality.

(d) The division shall recognize the expertise of the department of fish and game with regard to fish and wildlife habitat. On private land, the division shall give due deference to the department of fish and game regarding impacts to fish habitat from timber operations including variations to riparian standards, designation of alternative site-specific riparian protection plans, and road location decisions within riparian areas. On public lands, the division shall give due deference to the department of fish and game regarding impacts to fish and wildlife habitat from timber operations including timber harvest in riparian areas, variations to riparian standards, and road location decisions within riparian areas. In making decisions under AS 41.17.087, the division shall recognize fish habitat as the primary value in riparian areas.

(e) In this section due deference means that deference which is appropriate in the context of the agency's expertise and area of responsibility, and all the evidence available to support any factual assertions. Where due deference is given, if the division does not agree with a commenting agency, it will prepare a written finding documenting the disagreement.

(f) Any agency may require an elevation of a decision of the division to a higher level of the agencies.

Section 41.17.100. Deployment of broadcast chemicals. No change.

* Section _____. AS 41.17 is amended by adding a new section to read:

AS 41.17.107. Control of infestations and disease. (a) All forest clearing operations and silvicultural systems must be designed to reduce the likelihood of increased insect infestation and disease infections that threaten forest resources.

(b) No forest landowner shall conduct or approve timber clearing activities that create conditions fostering outbreaks of infestation or infection that threaten forest resources on forest lands belonging to another person. Where the commissioner finds, after notice and hearing, that there has been a violation of this subsection, the commissioner may:

(1) require the forest landowner, at that person's expense, to promptly remove or cure the conditions fostering outbreaks of infestation or infection;

(2) require the forest landowner, at that person's expense, to undertake environmentally sound, effective, and cost-efficient actions to control the infestation or infection in the immediate vicinity of the improper timber clearing activity.

(c) If a forest landowner does not comply with a final order of the commissioner under (b)(1) or (b)(2), the commissioner may enter onto the land and undertake the actions so ordered and seek recovery of the costs of such actions by filing a foreclosing a lien against the land.

(d) The commissioner may undertake surveys and appraisals to obtain data on regional insect infestations and disease conditions. Upon a determination that there exists an area which is infested with forest insects or infected with diseases injurious to forest resources and that the infestation or infection threatens the forest lands or timber of adjacent owners, the commissioner may establish and set the boundaries of a infestation or infection zone. The commissioner may enter into agreements with any owner and with any governmental agency for the purpose of controlling or suppressing infestation or infection within the zone. Upon a determination by the commissioner that insect and disease control work within the zone is no longer necessary or feasible, the zone shall be terminated.

A new section is added:

Sec. 41.17.115. Clearing of forest land for non-timber purposes. A state agency, municipality, or public utility shall, before approving or conducting clearing of forest land for purposes other than timber harvest, determine whether the timber to be removed has significant salvage value. If the timber has significant salvage value, the agency or utility shall salvage the timber as part of the clearing process.

Article 2. Riparian Management

41.17.aaa Intent. The commissioner shall protect riparian areas from the significant adverse effects of timber harvest activities on fish habitat and water quality. The management intent for riparian areas is the adequate preservation of fish habitat by maintaining a short- and long-term source of large woody debris; stream bank stability and channel morphology; water temperatures; stream flows; water quality; adequate nutrient cycling; food sources; clean spawning gravels; and sunlight. The commissioner shall adopt regulations which may include higher standards of protection for fish and other public resources on state land managed by the department of natural resources land than on other public land or private land. These regulations may vary by region of the state, and shall take into consideration reasonable

classification of waterbodies and the economic feasibility of timber operations.

41.17.bbb Riparian standards

(a) Private land in coastal forests. Except as provided in AS 41.17.ccc, private forest land adjacent to the following types of waters as defined in AS 41.17.950 and located in Coastal Spruce-Hemlock Forest is subject to the riparian protection standards set forth in this section.

(1) Along all Type A waterbodies:

(A) no harvest of timber may be undertaken within 15-meters of the waterbody;

(B) no more than 50% of the timber calculated by basal area located between 15 and 30 meters from the waterbody may be harvested;

(C) the remaining 50% of the timber located between 15 and 30 meters from the waterbody must be live and without significant damage from harvest operations, and be generally representative of the original size distribution of the stand in order to provide for sufficient large woody debris and fish habitat components; to the extent consistent with habitat needs, the operator may harvest high value trees and retain lower value trees; and

(D) the division may agree to a modification from these timber retention requirements if adequate protection remains for the fish habitat, and provided that comparably sized substitute timber is retained in an area. It is preferable but not mandatory that the substitute timber be left in another part of the riparian area.

(2) Along all Type B waterbodies timber harvest operations within 30 meters of the stream or to the slope-break, whichever area is smaller, must be conducted in compliance with slope stability standards set forth in regulations adopted under this chapter.

(3) Along all Type C waterbodies timber harvest operations in the area within 15 meters of the stream or to the slope-break, whichever area is smaller, must be conducted in compliance with slope stability standards set forth in regulations adopted under this chapter.

(b) Other private forest land. The commissioner shall adopt regulations for private land outside of the Coastal Spruce-Hemlock Forest which designate the riparian areas to be protected and the restrictions on timber harvesting operations within those areas which are necessary for their protection in accordance with the management goals set forth in AS 41.17.aaa. Until regulations are adopted, the standards set out in (c) will apply.

(c) Other public land. On other public land, timber harvest operations on forest land within 30 meters from the shore or bank

of any anadromous or high value resident fish waterbody must be managed primarily to protect anadromous and high value resident fish habitat and water quality. Timber harvest proposed under a plan of operations submitted under AS 41.17.090 must be sited and designed to protect fish habitat and water quality.

(d) State land. (1) On state forest land managed by the department of natural resources located north of the Alaska Range, no harvest of timber may be undertaken within 30 meters immediately adjacent to an anadromous or high value resident fish waterbody unless the division determines that adequate protection remains for the fish habitat. On state forest land managed by the department of natural resources located south of the Alaska Range, no harvest of timber may be undertaken within 90 meters immediately adjacent to an anadromous or high value resident fish waterbody; provided that timber may be harvested in the area more than 30 meters away from the waterbody if authorized by the division in consultation with the department of fish and game, and to the extent that harvesting is consistent with the maintenance of important fish and wildlife habitat.

(2) The department may impose additional riparian protection standards for timber harvest operations through the adoption of land use plans under AS 38.04.065 and forest management plans and reports under AS 38.05.112 and AS 41.17.230.

(3) Nothing in this section shall alter the terms of any existing contract, approved land use plan, or the outcome of any pending litigation; provided however that any amendments or renewals to existing state timber contracts shall be made under this act.

41.17.ccc Procedures for private land in coastal forests.

(a) If a plan of operations required by AS 41.17.092 includes private land in the Coastal Spruce-Hemlock Forest, as defined by regulations adopted by the department, which is located within 30 meters of an anadromous fish waterbody, the plan must identify

(1) a planning area consisting of all contiguous land, within an entire drainage, subdrainage within a large drainage, or major reach of a large river, which is owned by a person or a group of persons under common control;

(2) an operating area including all current and future harvest areas within the planning area. The operating area includes all trees that could be cut within that area using conventional logging methods; it includes all such trees regardless of whether the application of the riparian standards set forth in 41.17.bbb would preclude cutting.

(b) Once an operating area is designated, timber within a new operating area within the planning area may not be harvested until the next rotation, unless an operator complies with guidelines set forth in part (d) of this section.

(c) A plan of operations submitted under AS 41.17.090(c) may include different timber retention requirements than those

set forth in AS 41.17.bbb(a)(1) if timber retained in the riparian area pursuant to AS 41.17.bbb(a)(1), together with timber made inoperable by application of those requirements and timber left in addition to requirements of AS 41.17.bbb(a) to protect fish habitat under an agreement with the division, would result in retention of more than 5% of the basal area in the operating area. If the division determines that timber retained in compliance with the timber retention requirements of AS 41.17.bbb(a)(1) together with timber made inoperable by application of those requirements and timber left in addition to requirements of AS 41.17.bbb(a) to protect fish habitat under an agreement with the division, would result in retention of more than 5% of the basal area in the operating area, the division shall:

(1) issue a written decision designating an alternate site specific riparian protection plan that does not require the retention of more than 5% of the basal area and that does not require the retention of timber unnecessary for adequate protection of fish habitat and water quality;

(2) agree to the timber retention proposed in the plan of operations; or

(3) tender compensation for the timber in excess of the 5% at the current market value of the trees to be harvested from the operating area.

The operator may appeal to the commissioner a decision designating an alternate site specific riparian protection plan. If different timber retention requirements under this subsection are not included in the plan of operations, the operator shall comply with the timber retention requirements of AS 41.17.bbb(a)(1).

(d) During a same rotation period, an operator may harvest timber from a new operating area within a planning area designated in (a) of this section, regardless of any changes in ownership, under the following conditions:

(1) If riparian standards of 41.17.bbb(a) have been met in the original operating area without compensation under (c) of this section, the operator may harvest timber from the new operating area. Timber harvest in the new operating area must comply with the riparian standards.

(2) If riparian standards of 41.17.bbb(a) have not been met in the original operating area or if compensation has been provided under (c) of this section, the operator may harvest timber from a new operating area if the operator complies with additional timber retention requirements set forth by the department in regulation. In these regulations, the department shall require between 7 1/2% and 10% of the basal area of the new operating area be dedicated to habitat protection or enhancement.

Article 3. Enforcement.

AS 41.17.120 Inspections and investigations. No change.

* Section . . . A new section is added:

Sec. 41.17.125. Enforcement coordination. All state agencies with enforcement authority over activities subject to regulation under this chapter shall establish a uniform enforcement strategy that avoids duplication and inconsistencies. All participating agencies shall agree to and comply with the contents of that strategy; provided, however, that when developing and implementing the uniform strategy, each state agency retains its authority to determine the appropriate remedies under the statutes and regulations it administers.

Sec. 41.17.131. Penalties for violations. (a) An operator, forest landowner or timber owner who violates or permits a violation of this chapter, a regulation adopted under this chapter, or a term of any directive under AS 41.17.135, or stop-work order issued under AS 41.17.138 is liable for a civil fine to be assessed by the commissioner not to exceed \$10,000. In determining the amount of the civil fine, the commissioner shall consider: ←

- (1) the character and degree of injury to forest resources and values;
- (2) the degree of intent or negligence of the person in causing or permitting the violation;
- (3) the character and number of past violations caused or permitted by the person; and
- (4) if the information is available, the net economic savings realized by the respondent through the violation.

(b) An operator, forest landowner, or timber owner who, with criminal negligence, violates or permits a violation of this chapter, a regulation adopted under this chapter, or a term of any directive under AS 41.17.135, or stop-work order issued under AS 41.17.138 is guilty of a class A misdemeanor. As used in this section, "criminal negligence" has the meaning given in AS 11.81.900.

(c) Each day on which a continuing violation occurs constitutes a separate violation for purposes (a) and (b) of this section.

(d) If a respondent violates a directive issued under AS 41.17.135 or a stop-work order issued under AS 41.17.138, the attorney general, at the request of the commissioner, may seek an injunction requiring the respondent to suspend all or part of the operations until the respondent complies with the directive or stop-work order, and requiring the respondent to repair or correct any damage resulting from the violation.

(e) If a respondent violates a directive issued under AS 41.17.135 which requires the respondent to repair or correct damage, the commissioner may proceed to repair or correct the

damage using state agency employees or contractors, and respondent is liable for the cost of the repair after delivery by the commissioner of an itemized statement of expenses incurred.
* Section _____. AS 41.17.133 Notice and hearing; final orders is repealed.

*Section . AS 41.17.135 is repealed and reenacted to read:
Sec. 41.17.135. Directives. (a) If the division at any time determines that a planned or ongoing activity violates or would violate this chapter or regulation adopted under it, it shall notify the respondent in writing and direct the respondent to halt or avoid the violation, or to repair or correct any damage resulting from the violation. The written notification must include a summary of the basis for the directive.
(b) The respondent may comply with the directive or may request a hearing under AS 41.17.139 within 15 days. If a hearing is requested, the respondent may continue with the activity unless the division also issues a stop-work order under AS 41.17.138. If the directive is affirmed by the hearing officer, the respondent shall cease the activity unless a stay is issued under AS 41.17.143(c) or by the superior court.

*Section _____. AS 41.17.137 Temporary orders is repealed.

*Section _____. A new section is added:
Sec. 41.17.138. Stop-work orders. (a) If the division finds that a violation of this chapter or a regulation adopted under it is occurring or is likely to occur and that significant harm to public resources is likely to occur if work is not halted before a hearing can be held, it may issue a stop-work order requiring the respondent to stop the violation or otherwise halt the threatened harm. A stop-work order must be in writing and must state the facts on which it is based.

(b) The department will immediately refer the matter to a hearing officer for determination of the validity of the stop-work order under AS 41.17.139. The hearing officer shall consider any arguments and evidence presented by the respondent within five workdays after receipt of the stop-work order and shall thereafter make an immediate decision sustaining or reversing the stop-work order. The stop-work order is of no further effect if it is not sustained by the hearing officer within the five workday period. A stop-work order may be sustained only upon the same grounds on which it was originally issued.

* Section _____. AS 41.17.139 is amended to read:
AS 41.17.139. Hearing Procedures. (a) Unless otherwise specified, proceedings under this section are not subject to the Administrative Procedure Act (AS 44.62). A hearing under AS 41.17.135 or AS 41.17.138 shall be held before the state forester, a regional forester, or another employee of the division with similar qualifications [A HEARING OFFICER, APPOINTED BY THE ATTORNEY GENERAL FROM AMONG MEMBERS OF THE

ALASKA BAR ASSOCIATION WHO HAVE BEEN NOMINATED BY THE BOARD OF FORESTRY AND WHO ARE KNOWLEDGEABLE AND EXPERIENCED IN THE SUBJECT MATTER]. A hearing under AS 41.17.087 or AS 41.17.ccc(c) shall be held before the commissioner or the commissioner's designee.

A person who has participated in the preparation of the division's [STATE'S] case [OR WHO IS A STATE EMPLOYEE] is ineligible. Hearings are not limited by common law, statutory, or judicial rules of evidence; however, the hearing officer may admit only that evidence which appears to be reliable and trustworthy. All hearings shall be open to the public. Written or oral testimony may be submitted. A party to a hearing may make written or oral argument, secure the issuance of a subpoena under AS 44.62.430, offer testimony or other evidence, and cross-examine witnesses. The hearing officer shall endeavor, in conducting any hearing, to insure that the respondent understands the proceedings and that the facts supporting the position of each party have been adequately presented. [HEARINGS SHALL BE HELD AS CLOSE AS PRACTICABLE TO THE LOCATION OF THE ALLEGED VIOLATION. TESTIMONY GIVEN AT THE HEARING SHALL BE RECORDED.]

(b) If the respondent notifies the commissioner within five days before the hearing provided for in (a) of this section, the following rules and procedures apply to the hearing:

(1) the hearing shall be a nonadversary proceeding, with the hearing officer fully and impartially representing the interests of the state and the respondent;

(2) the hearing officer shall thoroughly investigate the facts and circumstances relating to the alleged violation, including taking testimony from appropriate persons, collecting and examining documents and other evidence, and performing other actions consistent with due process of law; and

(3) the hearing officer shall issue a decision in accordance with the applicable procedures of (a) of this section.

(c) The hearing officer shall select the location of the hearing giving consideration to the convenience of the parties and witnesses. The hearing officer may permit witnesses to testify through teleconferencing.

* Section . AS 41.17.143 is amended to read:

Sec. AS 41.17.143. Appeals and judicial review. (a) A decision by a hearing officer under AS 41.17.135 or AS 41.17.138 or by the commissioner under AS 41.17.087 or AS 41.17.ccc(c) constitutes final agency action which may be appealed to the superior court within 30 days after it is issued. Judicial review shall be as provided in AS 44.62.560 and 44.62.570.

(b) An operator, forest landowner, or timber owner may request the commissioner to reconsider the decision of a hearing officer within 30 days after it is issued. Reconsideration is not a precondition of judicial review under (a). If reconsideration is requested, the final agency action for purposes of judicial review is a decision by the commissioner to affirm, modify, or reverse the hearing officer or to deny the request for reconsideration.

(c) The commissioner may stay or modify a directive or order pending administrative or judicial review. A stay or modification may not be appealed separately from an appeal of the substantive decision.

(d) No person, except the aggrieved forest landowner, timber owner, or operator, may maintain any administrative or judicial appeal, or other action or proceeding of any kind, challenging any decision or failure to act by the department with respect to the compliance of a timber operation on private forest land with this chapter, or a regulation, standard, directive or order issued under this chapter. Nothing in this subsection shall prohibit the maintenance of any action:

(1) for an alleged violation of a constitutional right;

or

(2) against the department regarding any regulation, standard, or systematic course of conduct that does not involve a challenge to, or attempt to enjoin, stay, modify or otherwise affect, a timber operation on private forest land subject to this chapter.

Article 4. State Forest System (See old Article 3)

Sec. ___ AS 41.17.230(e) is repealed.

Sec. ___ AS 41.17.230(f) is amended to read:

(e)[(f)] A management plan prepared by the commissioner shall consider and permit the uses described in AS 38.05.112(c) [(e) OF THIS SECTION]. If the commissioner finds that a permitted use is incompatible with one or more other uses in a portion of a state forest, the commissioner shall affirmatively state in the management plan that finding of incompatibility for the specific area where the incompatibility is anticipated to exist and the time period when the incompatibility is anticipated to exist together with the reasons for each finding.

Article 7. General Provisions

* Section ___. AS 41.17.900(b) is repealed and reenacted to read: (b) the degree of resource protection on federal lands shall be no less than that provided for by this chapter for state lands, however the specific provisions of this chapter and its implementing regulations are not applicable to federal lands either directly or for purposes of compliance with the Coastal Zone Management Act.

*Section ___. AS 41.17. is amended by adding a new section to read:

Sec. 41.17.910. Wildlife habitat on private lands. (a) The department of fish and game and the division shall work cooperatively with private forest landowners and timber owners to protect, maintain, and enhance wildlife habitat to the maximum

extent practicable, consistent with the interests of the owners in use of their timber resources.

(b) The department of fish and game shall provide educational and technical assistance and extension services to owners of private land or timber to assist in identifying important wildlife habitat and to assist in designing voluntary management techniques that minimize adverse impacts to wildlife habitat.

(c) The department of fish and game and the landowner shall cooperate in identifying areas of important wildlife habitat on private lands and in developing methods for their protection. Methods of protection may include, where agreed to by the landowner, setting aside private lands as wildlife habitat through purchase of fee title, purchase of conservation easements, land exchanges.

(d) Nothing in this section shall be construed to alter or diminish the state's authority and responsibility over wildlife on private lands.

*Section ____ AS 41.17.950 is amended as follows:

Change definitions:

(7) "forest landowner" means a person who owns forest land but does not include the owner of mineral or subsurface rights only;

(14) "state forest" means an area designated by the legislature and [WHICH] is retained in state ownership in order to

(A) provide a base for sustained yield management of renewable resources; and

(B) permit a variety of beneficial uses;

New definitions:

(z) "other public land" means state land managed by state agencies other than the department of natural resources, land owned by a municipality, and land owned by the University of Alaska;

(y) "Type A waterbodies" means the following anadromous fish waters:

(1) streams or rivers of any size having an average gradient of 8% or less, banks held in place by vegetation, channels that are not incised, and a substrate composed of rubble, gravel, sand or silt;

(2) wetlands and lakes including their outlets; and

(3) estuarine areas delimited by the presence of salt-tolerant vegetation.

(x) "Type B waterbodies" means anadromous fish streams and rivers of any size having an average gradient of 8% or less, a channel that is incised and contained by the geomorphology and not by vegetation, and a substrate that ranges from rubble to bedrock.

(w) "Type C waterbodies" means streams that are tributary to anadromous waters that are incised greater than 28 degrees, have an average gradient of greater than 8%, are narrower than 20 feet between ordinary high water marks, have a substrate of rubble and bedrock, and are mountain slope streams at the upper end of the watershed.

(t) "Riparian area" means:

(1) on private land in the Coastal Spruce-Hemlock forest, the areas specified in AS 41.17.bbb(a);

(2) on private land outside the Coastal Spruce-Hemlock forest, the areas specified in regulations adopted by the commissioner pursuant to AS 41.17.bbb(b);

(3) on state land managed by the department of natural resources and on other public land, the area 30 meters from the shore or bank of any anadromous or high value resident fish waterbody.

Changes to Title 38

Sec. 38.05.112 will be added as follows:

Sec. 38.05.112. Forest Management Plans and Forest Management Reports.

(a) Except for isolated personal use timber harvest, timber on lands managed by the department shall not be sold or harvested until a forest management report has been adopted.

(b) Forest management plans and reports shall be based on the best available data, including information provided by other agencies describing the immediate and long-term effect of individual and collective forest activities on the timber base and on other resources and uses. Forest management reports will state the criteria upon which the timber sale decision is based in accordance with AS 38.05.035(e).

(c) A forest management plan or report shall consider:

(1) commercial timber harvesting, including related activities;

(2) harvesting of forest products for personal use;

(3) fish and wildlife habitat, including

(A) identification and protection of important wildlife habitat;

(B) retention of riparian, wetland, and ocean-shoreline vegetation critical for fish and wildlife habitat;

(C) classification of waterbodies according to physical characteristics;

(4) uses of the forest for non-timber purposes, including

- (A) recreation, tourism, and related activities;
- (B) mining, mining claims, mineral leaseholds, and material extraction;
- (C) uses of fish and wildlife;
- (D) agriculture, including grazing; and
- (E) other resources and uses appropriate to the area, including compatible traditional uses;
- (5) soil characteristics and productivity;
- (6) water quality;
- (7) watershed management.

(c) Forest management plans and reports shall be consistent with AS 38.04.065 and with the regulations and standards adopted under AS 41.17.

Sec. 38.05.113 will be added as follows:

Sec. 38.05.113. Five-year sale schedule.

(a) The department shall produce and annually update a schedule which describes timber sales planned on all lands managed by the department for the next five years. The plan shall be of sufficient specificity that it provides a basis for the department to allocate its resources in considering and designing sales and in conducting economic and environmental analysis; informs the public and the timber products industry of long-term plans and issues; and provides a basis for input from interested persons on those subjects.

(b) A proposed sale must appear on the five-year timber schedule at least two years before the sale. The department may also adopt regulations exempting small sales, emergencies such as salvage, re-offerings of old sales, or providing a temporary supply to an operator to take advantage of developing markets while a larger sale is being prepared. This requirement shall not apply until one year after the first five-year sale schedule produced under this section.

Miscellaneous Stuff that Needs to go somewhere in Title 41.17

*Section _____. Nothing in this Act shall be construed to diminish the rights, privileges, or immunities of Alaska Natives or Alaska Native corporations with respect to land conveyed under the Alaska Native Claims Settlement Act, 43 U.S.C. 1601 et seq., or to alter or diminish the authority of the department of fish and game under AS 16 or of the department of environmental conservation under AS 46 or of any state agency under other laws.

A new Sec. will be added as follows:

LEGISLATIVE REVIEW. The legislature hereby acknowledges and recognizes that this Act is adopted on an interim basis because it involves a significant increase in agency responsibility, is based on many untested assumptions, and depends for its efficacy

on many factors beyond the control of the state. Therefore, it is the intent of the legislature that the operation of this Act and regulations adopted under this Act be fully reviewed and the Act amended as necessary after the second full field season ends in 1991. This three-year time is intended to allow for further research, and to gain experience implementing the act and its regulations. It is the intent of this legislature that that a representative group be convened for the review, or that it be conducted by the board of forestry. In either event, it is the legislature's intent that the review occur with full public input and participation, and its recommendations be forwarded for legislative review, and for any needed changes in legislation. No later than January 1, 1992, the board of forestry, the department of natural resources, the department of environmental conservation, and the department of fish and game shall submit along with the reports required in AS 41.17.047(d), any proposed amendments to this chapter. The legislature shall hold hearings to consider these or any other amendments and shall take whatever action is required to accomplish the intent and purposes of this Act.

Sec. 41.15.900. Observance of Arbor Day. To increase public awareness of the vital importance of the conservation and propagation of trees and forests to the everyday life of the citizens of Alaska, the third Monday in May of each year is designated "Arbor Day." It shall be observed by appropriate school assemblies and programs and shall be the occasion for other suitable observances and exercises by civic groups and the public in general. (§ 1 ch 11 SLA 1966; am § 1 ch 15 SLA 1973)

Revisor's notes. — Formerly AS 41.15.400. Renumbered in 1983.

Article 6. General Provisions.

Section

950. Enforcement authority

Sec. 41.15.950. Enforcement authority. (a) The following persons are peace officers of the state and they shall enforce the provisions of this chapter and the regulations adopted under this chapter:

(1) solely for the purpose of enforcing this chapter, an employee of the Department of Natural Resources, or other person, authorized by the commissioner;

(2) a police officer in the state.

(b) A person designated in (a) of this section may, when enforcing the provisions of this chapter or a regulation adopted under this chapter,

(1) execute a warrant or other process issued by an officer or court of competent jurisdiction;

(2) administer or take an oath, affirmation or affidavit; and

(3) arrest a person who violates a provision of this chapter or a regulation adopted under this chapter. (§ 4 ch 179 SLA 1970)

Revisor's notes. — Formerly AS 41.15.700. Renumbered in 1983.

Chapter 17. Forest Resources and Practices.

Article

1. Administration and Management (§§ 41.17.010 -- 41.17.110)
2. Enforcement (§§ 41.17.120 -- 41.17.143)
3. State Forest System (§§ 41.17.200 -- 41.17.230)
4. State Land Reforestation (§§ 41.17.300 -- 41.17.320)
5. Tanana Valley State Forest (§ 41.17.400)
6. General Provisions (§§ 41.17.900 -- 41.17.950)

Legislative history reports. — For the governor's transmittal letter on SB 59 (1978), with a sectional analysis, see 1978 Senate Journal, p. 656. AS 41.17 was enacted by ch. 108, SLA 1978, which derives from CSSSSB 59 (Rules) am H.

Opinions of attorney general. — Proposed regulation establishing compliance with management practice under AS

41.17 and regulations as an affirmative defense to prosecution for alleged water quality violations for the forestry industry alone would cause an equal protection problem; executive agency cannot, by regulation, create an affirmative defense to what the legislature has determined should be prosecuted. 1980 Op. Att'y Gen. No. 10.

NOTES TO DECISIONS

Cited in *Kenai Lumber Co. v. Southeast Alaska Conservation Council, Inc. v. State*, Sup. Ct. Op. No. 2516 (File Nos. 5733, 5755), 646 P.2d 215 (1982); *Inc. v. State*, Sup. Ct. Op. No. 2662 (File No. 5855), 665 P.2d 544 (1983).

Collateral references. — 52 Am. Jur. 2d, *Logs and Timbers*, § 1 et seq. 98 C.J.S., *Woods and Forests*, § 1 et seq. Constitutionality of reforestation or forest conservation legislation. 13 ALR2d 1095.

Article 1. Administration and Management.

Section	Section
10. Declaration of intent	60. Regulatory and administrative standards
20. Division of forestry established	70. Administrative plan and report
30. Responsibilities of division	80. Regulations
41. Board of forestry	85. Permit applications
43. Terms of office	90. Notification and review of operations
45. Removal of members	100. Deployment of broadcast chemicals
47. Powers and duties of board	110. Conversion of forest land to other uses
55. Powers and duties of the commissioner	

Sec. 41.17.010. Declaration of intent. The legislature declares that

(1) the forest resources of Alaska are among the most valuable natural resources of the state, and furnish timber and wood products, fish and wildlife, tourism, outdoor recreation, water, soil, air, minerals, and general health and welfare;

(2) economic enterprises and other activities and pursuits derived from forest resources warrant the continuing recognition and support of the state;

(3) the state has a fundamental obligation to ensure that management of forest resources guarantees perpetual supplies of renewable resources, provides nonrenewable resources in a manner consistent with that obligation, and serves the needs of all Alaska for the many products, benefits, and services obtained from them;

(4) government administration of forest resources should combine professional management services, regulatory measures, and economic incentives in a complementary fashion, and should draw upon

the expertise of professional foresters in conjunction with other disciplines;

(5) under the leadership of the Department of Environmental Conservation, the state should exercise its full responsibility and authority for control of nonpoint source pollution with respect to the Federal Water Pollution Control Act, as amended;

(6) subject to 16 U.S.C. 1456(f) (§ 307(f) of the Coastal Zone Management Act of 1972, P.L. 92-583), the provisions of this chapter shall be the basis for forest management standards, policies, and guidelines developed under the Alaska Coastal Management Act. (§ 1 ch 108 SLA 1978)

Opinions of attorney general. — The allocation of responsibility for administration of the forest practices regulations in coastal management consistency determinations is sufficiently unclear that it seems appropriate for resolution by the adoption of regulations since differing policy considerations emphasized in the Forest Practices Act, the Coastal Management Act, and proposed permit reform regulations will be served to a greater or lesser extent by assigning responsibility for interpreting and applying the forest

practices regulations to more than one agency and since a particular result is not compelled under the various pieces of authorizing legislation. April 20, 1981 Op. Att'y Gen.

The adoption of forest practices regulations by the Department of Natural Resources in 11 AAC 95 has completely preempted the coastal policy council's regulations, 6 AAC 80.100, in regulating timber harvest and processing in the coastal area. April 20, 1981 Op. Att'y Gen.

Sec. 41.17.020. Division of forestry established. (a) The governor may establish, within the Department of Natural Resources, a division of forestry to carry out this chapter and other appropriate duties designated by the governor.

(b) The division shall be headed by a director who shall be the state forester, appointed to the partially exempt service in accordance with law by the commissioner, from a list of two or more candidates submitted by the board. The commissioner may reject all candidates, in which case the board shall submit a new list. The state forester shall be a natural resources land manager with generally accepted educational credentials, familiar and experienced with the renewable and nonrenewable resources the values of forest land and the products, benefits, and services obtained from them.

(c) The commissioner shall administer this chapter and is authorized and encouraged to delegate responsibilities for carrying out this chapter to the state forester. (§ 1 ch 108 SLA 1978; am § 42 ch 113 SLA 1981; am § 5 ch 91 SLA 1983)

Revisor's notes. — In 1983, this section was reorganized into present subsections (a)-(c) and two other sections. Present (b) was formerly part of (a) and present (c) was formerly designated (b). Former subsections (d)-(i) and (k) were renumbered as AS 41.17.055(a)-(g) and for-

mer subsection (j) was renumbered as AS 41.17.900(d).

Opinions of attorney general. — The allocation of responsibility for administration of the forest practices regulations in coastal management consistency determinations is sufficiently unclear that it

seems appropriate for resolution by the adoption of regulations since differing policy considerations emphasized in the Forest Practices Act, the Coastal Management Act, and proposed permit reform regulations will be served to a greater or lesser extent by assigning responsibility for interpreting and applying the forest practices regulations to more than one agency and since a particular result is not

compelled under the various pieces of authorizing legislation. April 20, 1981 Op. Att'y Gen.

The adoption of forest practices regulations by the Department of Natural Resources in 11 AAC 95 has completely preempted the coastal policy council's regulations, 6 AAC 80.100, in regulating timber harvest and processing in the coastal area. April 20, 1981 Op. Att'y Gen.

Sec. 41.17.030. Responsibilities of division. (a) The division shall manage state forests and, as directed by the commissioner, provide technical advice to the division of lands on sound forest practices necessary to ensure the continuous growing and harvesting of commercial forest species on other state land.

(b) The division shall regulate operations on private forest land as authorized by the provisions of this chapter or state law.

(c) The division shall provide public information and assistance regarding forest practices and timber management generally. (§ 1 ch 108 SLA 1978)

Sec. 41.17.041. Board of forestry. (a) The Board of Forestry is established in the Department of Natural Resources, division of forestry.

(b) The board is composed of 14 members appointed by the governor from nominations submitted from the groups listed in (c) of this section. The board shall elect its own presiding officer.

(c) Seats on the board shall be allocated as follows:

(1) the state forester ex officio has one seat;

(2) a nominee of the regional forester, United States Forest Service has one seat;

(3) a nominee of the Society of American Foresters has one seat;

(4) nominees of Native corporations owning or likely to own commercial timber stands have four seats;

(5) a nominee of the Alaska Loggers' Association or of a timber processor doing business in Alaska has one seat;

(6) a nominee of an Alaskan environmental group has one seat;

(7) a nominee of the Alaska Coastal Management Council has one seat;

(8) a nominee of unions engaged in processing forest products has one seat;

(9) a nominee of the United Fishermen of Alaska has one seat;

(10) a nominee of the Alaska Miners' Association has one seat; and

(11) a member from the public at large has one seat.

(d) Each group entitled to make nominations under (c) of this section shall submit three names to the governor for the vacancy on the board it is entitled to make nominations for.

(e) Members of the board, except the state forester, do not serve at the pleasure of the governor. (§ 1 ch 108 SLA 1978; am § 87 ch 59 SLA 1982)

Revisor's notes. — Formerly AS 41.17.040(a)-(d), (g). Renumbered in 1983.

Sec. 41.17.043. Terms of office. The term of office of a member of the board is three years. The state forester serves an indefinite term, ex officio. (§ 1 ch 108 SLA 1978; am § 32 ch 85 SLA 1988)

Revisor's notes. — Formerly AS 41.17.040(e). Renumbered in 1983.

Effect of amendments. — The 1988 amendment deleted "the governor shall make the initial appointments to the board in such a way that four nominations expire during 1980, four appointments expire during 1981, and three appointments expire during 1982" at the end of the first sentence.

Sec. 41.17.045. Removal of members. (a) The governor may initiate the removal of a board member for inefficiency, neglect of duty, or misconduct in office by delivering to the member a written copy of the charges and giving the member an opportunity to be heard in person or by counsel at a public hearing before the governor or the governor's designee on at least 10 days' written notice by registered mail. The member has a right of confrontation and cross-examination of witnesses testifying.

(b) The removal is effective 15 days after the governor files a complete statement of all charges made against the member and the findings on those charges, in the main office of the board, except that a member may appeal the findings to the superior court. The court shall limit its review to a determination of whether the findings on the charges are substantiated by the evidence presented. The removal is suspended for any period of time during which an appeal from the findings of the governor or the governor's designee is pending. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Formerly AS 41.17.040(h). Renumbered and reorganized into two subsections in 1983.

Sec. 41.17.047. Powers and duties of board. The board shall review and comment to the commissioner on regulations proposed for adoption under this chapter. The board shall also report to the legislature its recommendations for changes in the provisions of this chapter and its comments on the regulations adopted by the commissioner under this chapter. It may also review and advise the legislature on the activities of the division. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Formerly AS 41.17.040(f). Renumbered in 1983.

Sec. 41.17.055. Powers and duties of the commissioner.

(a) The commissioner may designate and operate experimental and research forests on state land consistent with the limitations of AS 38.05.300. Laboratories and other facilities may be employed in conjunction with those forests.

(b) The commissioner may establish and maintain forest vegetation nurseries and greenhouses for planting stock to be made available, with or without charge, to organizations, institutions, government agencies, individuals, and businesses for reforestation, afforestation, and related purposes.

(c) The commissioner is authorized to undertake cooperative forestry programs, extension services and education programs, and to otherwise offer a full range of professional management services to the interested public. When the commissioner considers it beneficial, the commissioner may participate in federal assistance programs by accepting assistance in whatever form offered.

(d) The commissioner may develop proposed regulations under this chapter as part of the state program for control of nonpoint source pollution under the Federal Water Pollution Control Act, as amended, and shall seek to enter into a cooperative agreement with the commissioner of environmental conservation for that purpose. However, the Department of Environmental Conservation is the lead agency for water quality and control of nonpoint source pollution under that Act, and the regulations and cooperative agreement are therefore subject to the advance approval of the commissioner of environmental conservation.

(e) In the administration of this chapter, the commissioner shall consult with and draw upon the expertise of interested organizations, enterprises, individuals, government agencies, educational institutions, and landowners. The commissioner may enter into cooperative agreements and contracts with them to carry out this chapter.

(f) The commissioner shall locate department personnel with forestry expertise throughout the state to facilitate public access to professional management services and other forest resources programs.

(g) The commissioner may take other actions necessary and proper for the administration of this chapter, including the adoption of regulations under the Administrative Procedure Act (AS 44.62) and AS 41.17.047. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Formerly AS 41.17.020(d)-(i), (k). Renumbered in 1983.

Opinions of attorney general. — The adoption of forest practices regulations by the Department of Natural Resources in

11 AAC 95 has completely preempted the coastal policy council's regulations, 6 AAC 80.100, in regulating timber harvest and processing in the coastal area. April 20, 1981 Op. Att'y Gen.

Sec. 41.17.060. Regulatory and administrative standards.

(a) All regulations, administrative actions, and other activities and duties undertaken under this chapter shall be in full accordance with the standards set out in this section.

(b) With respect to state, municipal, and private forest land, the following standards apply:

(1) to the maximum extent possible, all applicable data and information of applicable disciplines shall be updated and used in making decisions relative to the management of forest resources;

(2) environmentally sensitive areas and best management practices shall be recognized in the implementation of any nonpoint source pollution control measures authorized under this chapter;

(3) administration of forest land shall consider marketing conditions and other economic constraints affecting the forest landowner, timber owner, or the operator;

(4) to the fullest extent practicable, harvested forest land shall be reforested, naturally or artificially, so as to result in a sustained yield of merchantable timber from that land; if artificial planting is required, silviculturally acceptable seedlings must first be available for planting at an economically fair price in the state.

(c) With respect to state and municipal forest land only, the following standards also apply:

(1) forest land shall be administered for the multiple use of the renewable and nonrenewable resources and for the sustained yield of the renewable resources of the land in the manner which best provides for the present needs and preserves the future options of the people of the state;

(2) any system of allocating predominant uses or values to particular units within a contiguous area of land shall reflect in reasonable proportion the various resources and values present in that area;

(3) to the extent its capacity permits, forest land shall be administered so as to provide for the continuation of businesses, activities, and lifestyles which are dependent upon or derived from forest resources;

(4) timber harvesting is limited to areas where data and information demonstrate that natural or artificial reforestation techniques will result in the production of a sustained yield of merchantable timber from that area;

(5) there may not be any significant impairment of the productivity of the land and water with respect to renewable resources; and

(6) where economically practicable, allowance may be made for scenic quality in or adjacent to areas of substantial importance to the tourism and recreation industry. (§ 1 ch 108 SLA 1978)

NOTES TO DECISIONS

Applied in Southeast Alaska Conservation Council, Inc. v. State, Sup. Ct. Op. No. 2662 (File No. 5855), 665 P.2d 544 (1983).

Sec. 41.17.070. Administrative plan and report. (a) The commissioner shall develop and continually maintain a long-range plan for the administration of this chapter which demonstrates that the provisions of AS 41.17.010 are being recognized and that the standards of AS 41.17.060 are being met. The commissioner shall maintain a current inventory or assessment of timber on forest land to assist in meeting the requirements of this section.

(b) On December 31, 1980, and at two-year intervals after that date, the commissioner shall submit a detailed report to the legislature reviewing the administration of this chapter over the preceding two years, demonstrating compliance with (a) of this section, and describing how the plan will affect the welfare of the forest products industry and other activities and pursuits derived from or affected by forest resources.

(c) [Repealed, § 108 ch 6 SLA 1984.]

(d) [Repealed, § 108 ch 6 SLA 1984.] (§ 1 ch 108 SLA 1978; am § 108 ch 6 SLA 1984)

Effect of amendments. — The 1984 amendments submitted on December 31, 1980. amendment repealed former subsections (c) and (d), relating to the report and rec-

Sec. 41.17.080. Regulations. (a) The commissioner may adopt regulations under the Administrative Procedure Act (AS 44.62) and AS 41.17.047 governing operations on forest land with respect to the following:

- (1) harvesting and removal from the site of timber and tree products;
- (2) reforestation, revegetation, and prescribed burning;
- (3) brush, slash, and debris, and salvage of trees;
- (4) soil erosion and wasting;
- (5) fire and flood hazards;
- (6) prevention and control of disease and insect infestation.

(b) The commissioner may establish regions, districts, or other subdivisions of forest land in the state in which different regulations apply to reflect varying conditions in the state, or to facilitate administration.

(c) The commissioner shall adopt only those regulations necessary to accomplish the purposes of this chapter, and shall avoid those which increase operating costs without yielding significant benefits. (§ 1 ch 108 SLA 1978)

Revisor's notes. — As enacted, subsections (b) and (c) were subsections (c) and (d), respectively. Former subsection (b) was renumbered as AS 41.17.085 and the remaining subsections designated.

Sec. 41.17.085. Permit applications. (a) An operator may apply through the commissioner for permits required by other state laws to operate on forest land, which applications may be forwarded to the commissioner of environmental conservation for procedures under AS 46.35. The commissioner shall notify the operator of the action.

(b) Where practicable and desirable, the commissioner may enter into cooperative agreements with federal agencies authorizing the department to serve as a collection point for federal permit applications. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Formerly AS 41.17.080(b). Renumbered and reorganized in 1983.

Sec. 41.17.090. Notification and review of operations. (a) Operations on forest land shall be reviewed under this section in consistency with the policies and provisions of this chapter and regulations adopted under this chapter.

(b) The commissioner shall make full use of professional management services and other educational and assistance program services of the department to encourage early contact between operators of operations on forest land and to minimize reliance on this section as a principal means for achieving the purposes of this chapter.

(c) Before operating on forest land, an operator shall give notification to the commissioner consisting of

- (1) a brief written description of the proposed operation;
- (2) a USGS map of the largest available scale showing the location of all proposed activities;
- (3) proposed measures for soil conservation and reforestation;
- (4) evidence that the landowner and timber owner, if different from the operator, have approved the proposed operation.

(d) Within five days after receipt, the commissioner shall disseminate the notification materials to affected state agencies. The agencies shall make their recommendations within 20 days after receiving the notification materials.

(e) Within 30 days of receipt of a notification under (c) of this section, the commissioner may inspect the proposed operation to determine whether that the proposed operation is in accord with the standards established by this chapter.

(f) The operator may legally commence operations upon the expiration of the 30-day period or upon notice from the commissioner that the inspection has been completed, whichever occurs first. Where no inspection is conducted, the operator is liable for a violation of this chapter or other violation of law.

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(g) An operator shall notify the commissioner of a proposed substantial change in operations by following the procedure specified in (c) — (d) of this section.

(h) Information and paperwork required of the operator under this section shall be limited to that necessary to accomplish the purposes of this section. Site examinations, including an interdisciplinary review, may be undertaken by the commissioner.

(i) The commissioner may limit the review process under this section to 10 days where such action is immediately necessary for the preservation of the public peace, health, safety or general welfare, and is undertaken in concert with affected agencies.

(j) *Repealed, § 109 ch 6 SLA 1984.* (§ 1 ch 108 SLA 1978; am § 109 ch 6 SLA 1984)

Effect of amendments. — The 1984 (j), relating to operations which began before amendment repealed former subsection fore January 1, 1979.

Sec. 41.17.100. Deployment of broadcast chemicals. The commissioner of environmental conservation, in consultation with the commissioner, shall formulate necessary plans and measures to ensure that application of broadcast chemicals and other substances foreign to the state's forest ecosystem do not lead to results contrary to the objectives and provisions of this chapter and other applicable laws and regulations relating to renewable resources. Regulations adopted by the commissioner of environmental conservation may include requirements for advance testing, posting of security, written reports, and other matters. (§ 1 ch 108 SLA 1978)

Sec. 41.17.110. Conversion of forest land to other uses. An intention to convert forest land to other uses after timber harvesting may be stated in the notification submitted under AS 41.17.090. In that event, reforestation requirements adopted under this chapter do not apply, except that conversion shall be completed during the time set by regulation for minimum reforestation of the land, and other requirements for revegetation may be imposed to the extent permitted by law. If the commissioner finds at any time that the responsible party has failed to conform to the intent to convert as stated in the notification, the commissioner shall revoke approval of the conversion and require full compliance with reforestation requirements. (§ 1 ch 108 SLA 1978)

Article 2. Enforcement.

Section	Section
120. Inspections and investigations	137. Temporary orders
131. Prohibitions and penalty	139. Procedures
133. Notice and hearing; final orders	141. Enforcement of orders
135. Civil fines	143. Appeals and judicial review

Sec. 41.17.120. Inspections and investigations. The commissioner may inspect and investigate forest land and activities on it may enter upon it in conjunction with any operations as necessary to ensure compliance with applicable regulations and requirements to otherwise enforce the provisions of this chapter. Other state agencies have this same authority to the extent necessary to enforce their own laws and regulations on forest land. Those agencies and the commissioner shall coordinate their actions under this section. (§ 1 ch SLA 1978)

Sec. 41.17.131. Prohibitions and penalty. (a) A person may violate or permit a violation of a provision of this chapter, a regulation adopted under this chapter, or a term or condition of any approval granted under AS 41.17.090 — 41.17.110.

(b) A person who commits a violation is liable for a civil fine to be assessed by the commissioner not to exceed \$10,000. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Formerly AS 41.17.130(a). Renumbered and reorganized in 1983.

Sec. 41.17.133. Notice and hearing; final orders. (a) If an investigation discloses probable cause to believe a violation has occurred, the commissioner shall serve upon the alleged violator, referred to in AS 41.17.133, 41.17.141 as the "respondent," written notice and a formal complaint that describes the alleged violation and requires the respondent to answer the charges at a hearing not more than 10 days thereafter. The respondent shall be granted 10-day extensions up to a total of 60 days upon request. The notice must also describe any damage that has occurred or might occur as a result of the violation. At the hearing, the state shall show by clear and convincing evidence that the respondent has caused or permitted a violation described in AS 41.17.131.

(b) Within 10 days after the hearing, or upon nonappearance of the respondent, the hearing officer shall enter a final order. The order shall be based on the evidence presented at the hearing, and shall be accompanied by a written opinion stating the reasons for the decision. The commissioner shall immediately notify the respondent of the order by registered mail. The order may include:

- (1) a directive to stop the violation;
- (2) the imposition of a civil fine under AS 41.17.131, which is payable immediately;
- (3) a directive to repair damages;
- (4) a finding that the charges are wholly or partially unjustified; or
- (5) a combination of (1) -- (4) of this subsection. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Formerly AS 41.17.130(b) and (c). Renumbered in 1983.

Sec. 41.17.135. Civil fines. In determining the amount of any civil fine imposed, the following shall be considered, as appropriate:

- (1) the character and degree of injury to forest resources and values;
- (2) the degree of intent or negligence of the respondent in causing or permitting the violation;
- (3) the character and number of past violations caused or permitted by the respondent; and
- (4) if the information is available, the net economic savings realized by the respondent through the violation described in AS 41.17.131. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Formerly AS 41.17.130(d). Renumbered in 1983.

Sec. 41.17.137. Temporary orders. (a) If the commissioner finds that a violation described in AS 41.17.131 has occurred and that continuation of the violation or failure to repair damage would likely result in irreversible or irretrievable damage to the forest resources or values affected, and it would be prejudicial to the welfare of the state to delay action pending a hearing, the commissioner may, without prior hearing, issue a temporary order in addition to the documents required by AS 41.17.133(a) requiring the respondent to stop the violation or repair damage or both.

The order remains in effect for 21 days unless a final order is issued. An extension of time granted under AS 41.17.133(a) extends the order issued under this section until the hearing officer issues a final order under AS 41.17.133(b). Proceedings in conjunction with the alleged violation must otherwise be the same. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Formerly AS 41.17.130(e). Renumbered and reorganized in 1983.

Sec. 41.17.139. Procedures. (a) Unless otherwise specified, proceedings under AS 41.17.131 — 41.17.139 are not subject to the Administrative Procedure Act (AS 44.62). A hearing under AS 41.17.131 — 41.17.139 shall be held before a hearing officer, appointed by the attorney general from among members of the Alaska Bar Association who have been nominated by the Board of Forestry and who are knowledgeable and experienced in the subject matter. A person who has assisted in the preparation of the state's case or who is a state employee is ineligible. Hearings are not limited by common law, statutory, or judicial rules of evidence; however, the hearing officer may admit only that evidence which appears to be reliable and trustworthy. All hearings shall be open to the public. Written or oral testimony may be submitted. A party to a hearing may make written or oral argument, secure the issuance of a subpoena under AS 44.62.430, offer testimony or other evidence, and cross-examine witnesses. The hearing officer shall endeavor, in conducting any hearing, to ensure that the respondent understands the proceedings and that the facts supporting the position of each party have been adequately presented. Hearings shall be held as close as practicable to the location of the alleged violation. Testimony given at the hearing shall be recorded.

(b) If the respondent notifies the commissioner within five days before the hearing provided for in (a) of this section, the following rules and procedures apply to the hearing:

(1) the hearing shall be a nonadversary proceeding, with the hearing officer fully and impartially representing the interests of the state and the respondent;

(2) the hearing officer shall thoroughly investigate the facts and circumstances relating to the alleged violation, including taking testimony from appropriate persons, collecting and examining documents and other evidence, and performing other actions consistent with due process of law;

(3) issue a decision in accordance with the applicable procedures of (a) of this section. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Formerly AS 41.17.130(h). Renumbered in 1983.

Sec. 41.17.141. Enforcement of orders. (a) If a person fails to comply with an order issued under AS 41.17.133(b) or 41.17.137, the attorney general, at the request of the commissioner, may seek an injunction suspending all or part of the operations being conducted by the respondent until the respondent complies with the order. If the order directs the respondent to repair damage, the commissioner may proceed with department staff or contractors to repair the damage, and the respondent is liable for the cost of the repair after delivery by the commissioner of an itemized statement of expenses incurred.

(b) All orders issued under AS 41.17.131 — 41.17.141 are enforceable by injunction, attachment, garnishment, or other appropriate remedy. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Formerly AS 41.17.130(f) and (g). Renumbered in 1983.

Sec. 41.17.143. Appeals and judicial review. (a) An administrative action of the department under this chapter, except actions under AS 41.17.131 — 41.17.141 and except for adoption of regulations, may be appealed to the commissioner within 30 days after it is taken. The commissioner shall hold a hearing, at which all substantial issues shall be considered, within 15 days after an appeal is filed. The respondent shall be granted 10-day extensions up to a total of 60 days upon request. Within 10 days after conclusion of the hearing, the commissioner shall issue a written decision based upon the evidence, which shall be provided to the appellant. The commissioner may delegate duties, in whole or in part, under this subsection to a hearing officer appointed by the attorney general from among members of the Alaska Bar Association who have been nominated by the Board of Forestry and who are knowledgeable and experienced in the subject matter.

(b) A final decision under (a) of this section or a final order under AS 41.17.133 may be appealed to the superior court within 30 days after it is issued. Judicial review shall be as provided in AS 44.62.560 and 44.62.570.

(c) A temporary order issued under AS 41.17.137 may be immediately appealed to the superior court as to its propriety. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Formerly AS 41.17.140. Renumbered in 1983.

NOTES TO DECISIONS

Quoted in Southeast Alaska Conservation Council, Inc. v. State, Sup. Ct. Op. No. 2662 (File No. 5855), 665 P.2d 544 (1983).

Article 3. State Forest System.

Section
200. State forest purposes
210. State forests

Section
220. Management of state forests
230. Management plans

Sec. 41.17.200. State forest purposes. The purpose of AS 41.17.200 — 41.17.230 is to permit the establishment of designated state-owned or acquired land and water areas as state forests. The primary purpose in the establishment of state forests is the perpetuation of personal, commercial, and other beneficial uses of resources through multiple-use management. (§ 1 ch 91 SLA 1983)

Sec. 41.17.210. State forests. (a) The governor may propose to the legislature the establishment of state forests consisting primarily of commercially valuable forest land determined by the governor to be necessary for retention in state ownership for management under the principles of multiple use and sustained yield and consistent with AS 38.04.005. The proposal of the governor shall include a report and recommendations of the commissioner including

- (1) a preliminary forest inventory;
- (2) a summary of the testimony offered at public hearings held on the management of the proposed state forest in communities proximately located to a proposed state forest;
- (3) the findings of the commissioner on anticipated incompatibilities of uses described in AS 41.17.230(e) under AS 41.17.230(f);
- (4) written comments from appropriate state agencies on the compatibility of the uses described in AS 41.17.230(e) within the proposed state forest;
- (5) an estimate of the cost of a full implementation of an operational level forest inventory and the management plan.

(b) A state forest established by the legislature shall be retained in state ownership. (§ 1 ch 91 SLA 1983)

Sec. 41.17.220. Management of state forests. Land within a state forest or within a unit of a state forest shall be managed under:

- (1) the principles of multiple-use and sustained yield;
- (2) this chapter; and
- (3) a management plan prepared by the department. (§ 1 ch 91 SLA 1983)

Sec. 41.17.230. Management plans. (a) The commissioner shall prepare a management plan consistent with AS 38.04.005 and this chapter for each state forest and for each unit of a state forest to assist in meeting the requirements of this chapter. An operational level forest inventory shall be completed before a management plan for the state forest or the unit of a state forest is adopted. The management plan shall be adopted, implemented and maintained within three years of the establishment of a state forest by the legislature.

(b) The commissioner shall review a management plan at least once every five years and may revise the plan when necessary.

(c) A management plan may not be adopted or revised after the establishment of the state forest without prior review by the Board of Forestry and by other appropriate state agencies or without prior public hearings held in a community proximately located to the state forest or to a unit of a state forest.

(d) A copy of a management plan or a revision to a management plan adopted or prepared by the commissioner shall be provided to the legislature within 30 days of its adoption or revision or within the first 10 days of the first regular session of the legislature to convene after its adoption or revision.

(e) The commissioner shall consider and permit the following uses under a management plan prepared under (a) or (b) of this section subject to a determination under (f) of this section:

- (1) commercial timber harvest and related activities;
- (2) harvest of forest products for personal use;
- (3) mining, mining claim, and mineral leasehold location;
- (4) mineral leasing;
- (5) material extraction;
- (6) recreation;
- (7) wildlife and fisheries habitat management including critical habitat management;
- (8) greenbelts;
- (9) trapping and sport and subsistence fishing and hunting;
- (10) grazing;
- (11) watershed management;
- (12) research;
- (13) uses consistent with the policies of AS 38.04.015; and
- (14) other traditional, compatible uses.

(f) A management plan prepared by the commissioner shall consider and permit the uses described in (e) of this section. If the commissioner finds that a permitted use is incompatible with one or more other uses in a portion of a state forest, the commissioner shall affirmatively state in the management plan that finding of incompatibility for the specific area where the incompatibility is anticipated to exist and the time period when the incompatibility is anticipated to exist together with the reasons for each finding. (§ 1 ch 91 S.L.A 1983)

Article 4. State Land Reforestation.

Section

300. State land reforestation fund

310. Appropriations to state land reforestation fund

Section

320. Report to the legislature.

Sec. 41.17.300. State land reforestation fund. A state land reforestation fund is established in the department. The money in the state land reforestation fund may be used only for the reforestation of state land, including site preparation, seed and seedling acquisition and cultivation, planting, and other reforestation measures, timber stand improvement, and the development of materials and techniques for the reforestation of state land. (§ 2 ch 91 SLA 1983)

Sec. 41.17.310. Appropriations to state land reforestation fund. (a) The state land reforestation fund consists of money appropriated by the legislature and contributions from private donors. It is the intent of the legislature that the appropriations made to the fund equal no less than 25 percent of the revenues from the sale of timber and other forest products from state land as well as the total revenues from

(1) compensation for loss or damage to land within a state forest; and

(2) the federal government and other governmental units for reforestation.

(b) Money appropriated to or paid into the state land reforestation fund does not lapse. (§ 2 ch 91 SLA 1983)

Sec. 41.17.320. Report to the legislature. The commissioner shall make an annual report to the legislature within the first 10 days of each session of the legislature on the uses of the money in the state land reforestation fund, the proposed uses of the fund in the following fiscal year, and the balance in the fund. (§ 2 ch 91 SLA 1983)

Article 5. Tanana Valley State Forest.

Section

400. Tanana Valley State Forest

Sec. 41.17.400. Tanana Valley State Forest. (a) Subject to valid existing rights and except for land owned by or transferred to the University of Alaska under a settlement agreement between the state and the university, the state-owned or acquired land and water lying within the parcels described in (d) of this section is designated as the Tanana Valley State Forest.

(b) The commissioner shall prepare a management plan for the Tanana Valley State Forest under AS 41.17.230.

(c) In addition to the uses described in AS 41.17.230(e), the commissioner may establish transportation corridors within the Tanana Valley State Forest.

(d) The Tanana Valley State Forest includes the state-owned or acquired land and water lying within the following described parcels:

- Township 1 North, Range 2 East, Fairbanks Meridian
Sections 1 — 3
Sections 10 — 12
Sections 13 — 15, N¹/₂
- Township 1 North, Range 3 East, Fairbanks Meridian
Section 1, E¹/₂, E¹/₂SW¹/₄, SW¹/₄SW¹/₄, SE¹/₄NW¹/₄
Section 2, NW¹/₄, NW¹/₄SW¹/₄
Sections 3 — 5
Section 6, N¹/₂
Section 7, E¹/₂E¹/₂
Sections 8 — 9
Section 10, NW¹/₄SW¹/₄, N¹/₂NW¹/₄, SW¹/₄NW¹/₄
Section 11, E¹/₂, S¹/₂SW¹/₄
Sections 12 — 14
Section 15, S¹/₂NE¹/₄, NE¹/₄NE¹/₄, S¹/₂
- Township 1 North, Range 4 East, Fairbanks Meridian
Sections 1 — 12
Sections 16 — 18
- Township 1 North, Range 5 East, Fairbanks Meridian
Sections 6 — 10
Sections 15 — 16
- Township 1 North, Range 4 West, Fairbanks Meridian
Section 5, W¹/₂
Sections 6 — 11
Section 15
Sections 16 — 24
Section 27
Section 28, NE¹/₄, NE¹/₄SE¹/₄
Section 29, S¹/₂, W¹/₂NW¹/₄
Sections 30 — 32
Section 33, W¹/₂
- Township 1 North, Range 5 West, Fairbanks Meridian
- Township 1 North, Range 8 West, Fairbanks Meridian
Sections 17 — 20
Sections 29 — 34
Section 35, W¹/₂
- Township 1 North, Range 9 West, Fairbanks Meridian
Sections 13 — 36
- Township 1 North, Range 10 West, Fairbanks Meridian
Sections 13 — 36
- Township 1 North, Range 11 West, Fairbanks Meridian
Sections 5 — 7
Sections 18 — 19
Sections 30 — 36
- Township 1 North, Range 12 West, Fairbanks Meridian
- Township 1 North, Range 13 West, Fairbanks Meridian

- Sections 1 — 3
- Sections 10 — 15
- Sections 22 — 26
- Sections 35 — 36
- Township 2 North, Range 2 East, Fairbanks Meridian
 - Sections 34 — 36
- Township 2 North, Range 3 East, Fairbanks Meridian
 - Sections 13 — 16
 - Sections 21 — 29
 - Sections 31 — 36
- Township 2 North, Range 4 East, Fairbanks Meridian
 - Sections 5 — 8
 - Sections 17 — 19
 - Section 30, N¹/₂
- Township 2 North, Range 3 West, Fairbanks Meridian
 - Section 11, S¹/₂
 - Section 12, S¹/₂
 - Section 13 — 17
 - Sections 19 — 24
- Township 2 North, Range 5 West, Fairbanks Meridian
 - Section 1
 - Section 2, N¹/₂
 - Section 3, N¹/₂
 - Sections 4 — 8
 - Section 9, N¹/₂
 - Section 11, S¹/₂
 - Sections 12 — 14
 - Section 15, S¹/₂
 - Section 17, N¹/₂
 - Sections 18 — 19
 - Sections 21 — 36
- Township 2 North, Range 10 West, Fairbanks Meridian
 - Sections 4 — 7
- Township 2 North, Range 11 West, Fairbanks Meridian
 - Sections 1 — 12
 - Sections 16 — 21
 - Sections 28 — 33
- Township 2 North, Range 12 West, Fairbanks Meridian
- Township 2 North, Range 13 West, Fairbanks Meridian
 - Sections 1 — 30
 - Sections 33 — 36
- Township 2 North, Range 14 West, Fairbanks Meridian
 - Sections 23 — 26
- Township 3 North, Range 2 West, Fairbanks Meridian
 - Section 7, Tract E, ASLS 81-20
 - Section 8, Tracts H,J,K,L, ASLS 81-20

- Section 17, Tracts M,N,O, ASLS 81-20
- Section 18, Tracts A,B, ASLS 81-20
- Section 19
- Township 3 North, Range 3 West, Fairbanks Meridian
 - Section 13
 - Sections 19 — 36
- Township 3 North, Range 4 West, Fairbanks Meridian
 - Section 3, west of Washington Creek
 - Sections 4 — 7
 - Section 8, west of Washington Creek
 - Sections 9 — 10, west of Washington Creek
 - Section 17, west of Washington Creek
 - Sections 18 — 36
- Township 3 North, Range 5 West, Fairbanks Meridian
 - Section 1
 - Sections 4 — 5, north of left limit of Tatalina River
 - Sections 6 — 7
 - Sections 11 — 36
- Township 3 North, Range 6 West, Fairbanks Meridian
 - Sections 1 — 12
- Township 3 North, Range 7 West, Fairbanks Meridian
 - Sections 1 — 3
 - Sections 10 — 12
- Township 3 North, Range 10 West, Fairbanks Meridian
 - Sections 1 — 10
 - Sections 15 — 33
- Township 3 North, Range 11 West, Fairbanks Meridian
 - Sections 1 — 3
 - Sections 10 — 15
 - Sections 19 — 36
- Township 3 North, Range 12 West, Fairbanks Meridian
 - Sections 19 — 21, east of right limit of Hutlitakwa Creek
 - Sections 22 — 29
 - Section 30, east of right limit of Hutlitakwa Creek
 - Sections 31 — 36
- Township 3 North, Range 13 West, Fairbanks Meridian
 - Sections 3 — 4
 - Section 9
 - Sections 16 — 17
 - Sections 19 — 20
 - Section 21, W¹/₂
 - Sections 25 — 26, east of right limit of Hutlitakwa Creek
 - Sections 29 — 32
 - Sections 34 — 35, east of right limit of Hutlitakwa Creek
 - Section 36
- Township 3 North, Range 14 West, Fairbanks Meridian

- Section 25, E¹/₂
- Section 36
- Township 4 North, Range 5 West, Fairbanks Meridian
 - Section 1, west of left limit of Tatalina River
 - Sections 2 — 10
 - Sections 11 — 12, west of left limit of Tatalina River
 - Sections 14 — 15, west of left limit of Tatalina River
 - Sections 16 — 21
 - Section 22, west of left limit of Tatalina River
 - Sections 27 — 28, west of left limit of Tatalina River
 - Sections 29 — 32
 - Section 33, west of left limit of Tatalina River
- Township 4 North, Range 6 West, Fairbanks Meridian
 - Section 1
 - Sections 10 — 15
 - Sections 22 — 36
- Township 4 North, Range 7 West, Fairbanks Meridian
 - Sections 25 — 29
 - Sections 32 — 36
- Township 4 North, Range 13 West, Fairbanks Meridian
 - Section 27
 - Section 33, SE¹/₄
 - Section 34
- Township 5 North, Range 5 West, Fairbanks Meridian
 - Sections 1 — 2, west of Slate Creek
 - Sections 3 — 5
 - Section 6, E¹/₂
 - Section 7, E¹/₂
 - Sections 8 — 11
 - Section 12, west of Slate Creek
 - Sections 13 — 17
 - Section 18, E¹/₂
 - Sections 19 — 36
- Township 6 North, Range 4 West, Fairbanks Meridian
 - Section 5, west of Alyeska Pipeline right-of-way and north of left limit of Slate Creek
 - Section 6, west of Alyeska Pipeline right-of-way
 - Sections 7 — 8, west of left limit of Slate Creek
 - Sections 18 — 19, west of left limit of Slate Creek
- Township 6 North, Range 5 West, Fairbanks Meridian
 - Sections 1 — 4
 - Section 5, E¹/₂
 - Section 8, E¹/₂
 - Sections 9 — 16
 - Section 17, E¹/₂
 - Sections 20 — 23

- Sections 24 — 26, west of left limit of Slate Creek
- Sections 27 — 29
- Sections 32 — 34
- Section 35, west of left limit of Slate Creek
- Township 7 North, Range 4 West, Fairbanks Meridian
 - Sections 30 — 31, west of Alyeska Pipeline right-of-way
- Township 7 North, Range 5 West, Fairbanks Meridian
 - Section 15, west of Alyeska Pipeline right-of-way
 - Section 16, E¹/₂
 - Section 21, E¹/₂
 - Sections 22 — 23, west of Alyeska Pipeline right-of-way
 - Sections 25 — 26, west of Alyeska Pipeline right-of-way
 - Section 27
 - Section 28, E¹/₂
 - Section 33, E¹/₂
 - Sections 34 — 36
- Township 15 North, Range 11 East, Copper River Meridian
 - Sections 1 — 2
 - Section 3, excl. ASLS 78-42
 - Sections 4 — 8
 - Sections 17 — 19
 - Section 30
 - Section 31
- Township 16 North, Range 11 East, Copper River Meridian
 - Sections 1 — 3
 - Sections 10 — 15
 - Sections 22 — 36
- Township 16 North, Range 12 East, Copper River Meridian
 - Sections 1 — 12
 - Sections 14 — 22
 - Sections 28 — 32
- Township 17 North, Range 11 East, Copper River Meridian
 - Sections 1 — 3
 - Sections 10 — 15
- Township 17 North, Range 12 East, Copper River Meridian
 - Sections 5 — 6, west of Eagle Trail
 - Sections 7 — 8
 - Section 9, west of Eagle Trail
 - Sections 15 — 16, west of Eagle Trail
 - Sections 17 — 21
 - Sections 22 — 23, west of Eagle Trail
 - Section 26, west of Eagle Trail
 - Sections 27 — 34
 - Section 35, west of Eagle Trail
- Township 18 North, Range 11 East, Copper River Meridian
 - Section 26, west of Eagle Trail

Sections 27 — 33
Sections 34 — 36, west of Eagle Trail
Township 19 North, Range 8 East, Copper River Meridian
Sections 1 — 2, east of left limit of Tanana River
Sections 12 — 13, east of left limit of Tanana River
Sections 24 — 25, east of left limit of Tanana River
Township 19 North, Range 9 East, Copper River Meridian
Sections 1 — 21
Sections 22 — 25, north of left limit of Tanana River
Sections 28 — 32, north of left limit of Tanana River
Township 19 North, Range 13 East, Copper River Meridian
Sections 1 — 4
Sections 5 — 6, excl. F028758
Sections 7 — 16
Section 17, northeast of Tanana River
Section 18, north of Tanana River
Section 20, northeast of Tanana River
Section 21, north of Tanana River
Sections 22 — 27
Section 28, north of Tanana River
Section 29, east of Tanana River
Section 34, north and east of Tanana River
Section 35, north of Tanana River
Section 36
Township 19 North, Range 14 East, Copper River Meridian
Township 19 North, Range 15 East, Copper River Meridian
Township 20 North, Range 8 East, Copper River Meridian
Sections 1 — 2
Section 3, east of Alaska Highway
Section 10, east of Alaska Highway
Sections 11 — 13
Section 14, east of Alaska Highway
Section 23, east of Alaska Highway
Sections 24 — 25
Section 26, east of Alaska Highway
Section 35, east of Alaska Highway
Section 36
Township 20 North, Range 9 East, Copper River Meridian
Township 20 North, Range 10 East, Copper River Meridian
Township 20 North, Range 11 East, Copper River Meridian
Sections 1 — 16
Section 17, excl. NA, Par. C, F12548
Section 18
Sections 20 — 23
Sections 28 — 29
Section 32

Section 33, excl. USS 4377, NA Par. A, F12549, NA, Par. B,
F-14422

Township 20 North, Range 12 East Copper River Meridian

Sections 20 — 23

Section 24, excl. NA, F-12107

Sections 25 — 29

Sections 34 — 36

Township 20 North, Range 13 East, Copper River Meridian

Township 21 North, Range 8 East, Copper River Meridian

Sections 8 — 17

Sections 21 — 25

Sections 26 — 27, excl. USS 3620

Section 34, excl. USS 5622A

Section 36

Township 21 North, Range 9 East, Copper River Meridian

Township 21 North, Range 10 East, Copper River Meridian

Township 22 North, Range 5 East, Copper River Meridian

Sections 1 — 12

Sections 13 — 18, north of Alaska Highway

Township 22 North, Range 8 East, Copper River Meridian

Sections 1 — 5

Sections 8 — 18

Sections 20 — 24

Sections 27 — 32

Sections 34 — 36

Township 22 North, Range 9 East, Copper River Meridian

Township 23 North, Range 5 East, Copper River Meridian

Sections 1 — 3

Sections 10 — 15

Sections 21 — 24

Township 23 North, Range 6 East, Copper River Meridian

Sections 5 — 7

Township 23 North, Range 7 East, Copper River Meridian

Sections 1 — 30

Township 23 North, Range 8 East, Copper River Meridian

Township 24 North, Range 5 East, Copper River Meridian

Sections 1 — 5

Sections 8 — 17

Sections 20 — 29

Sections 34 — 36

Township 24 North, Range 6 East, Copper River Meridian

Township 24 North, Range 7 East, Copper River Meridian

Sections 1 — 30

Sections 32 — 36

Township 25 North, Range 6 East, Copper River Meridian

Township 25 North, Range 8 East, Copper River Meridian

Township 26 North, Range 5 East, Copper River Meridian

Township 26 North, Range 6 East, Copper River Meridian

Township 1 South, Range 3 East, Fairbanks Meridian

Section 1

Sections 11 — 14

Section 15, S¹/₂, S¹/₂N¹/₂

Section 16

Section 23, NE¹/₄

Section 24, N¹/₂

Township 1 South, Range 4 East, Fairbanks Meridian

Sections 1 — 2

Section 4, S¹/₂

Section 5, S¹/₂, NW¹/₄

Sections 6 — 7

Section 8, north of Chena River

Section 9, the NW¹/₄ north of Chena River, N¹/₂NE¹/₄

Section 10, NE¹/₄

Section 11

Section 12, N¹/₂

Section 17, north of Chena River

Section 18

Township 1 South, Range 5 East, Fairbanks Meridian

Section 6

Township 1 South, Range 3 West, Fairbanks Meridian

Section 26, S¹/₂ south of Parks Highway

Sections 27 — 28, south of Parks Highway

Section 29, west of Old Nenana Highway and south of Parks Highway

Sections 31 — 34, south of Parks Highway

Section 35

Township 1 South, Range 4 West, Fairbanks Meridian

Section 4, SW¹/₄

Sections 7 — 8

Section 9, NW¹/₄

Section 18, N¹/₂

Section 23, SE¹/₄, SE¹/₄NE¹/₄

Sections 24 — 29

Section 32, N¹/₂N¹/₂

Section 34, excl. NW¹/₄NW¹/₄

Sections 35 — 36

Township 1 South, Range 5 West, Fairbanks Meridian

Sections 2 — 12

Section 13, N¹/₂

Sections 14 — 23

Sections 28 — 30

Section 31, N¹/₂, N¹/₂S¹/₂

- Section 32, N $\frac{1}{2}$, N $\frac{1}{2}$ S $\frac{1}{2}$
- Township 1 South, Range 6 West, Fairbanks Meridian
 - Sections 1 — 4
 - Sections 9 — 16
 - Sections 21 — 28
 - Sections 32 — 34
 - Section 35, E $\frac{1}{2}$
 - Section 36, N $\frac{1}{2}$
- Township 1 South, Range 8 West, Fairbanks Meridian
 - Sections 3 — 10
 - Sections 15 — 22
 - Sections 27 — 34
- Township 1 South, Range 10 West, Fairbanks Meridian
 - Sections 1 — 6
- Township 1 South, Range 11 West, Fairbanks Meridian
 - Sections 1 — 24
 - Sections 27 — 34
- Township 1 South, Range 12 West, Fairbanks Meridian
 - Sections 1 — 2
 - Sections 11 — 14
 - Section 21, south of the unnamed creek
 - Sections 22 — 28
 - Sections 31 — 32, south of right limit of Tanana River
 - Sections 33 — 36
- Township 1 South, Range 13 West, Fairbanks Meridian
 - Section 27, north of a branch of Tanana River
 - Sections 34 — 36, north of a branch of Tanana River
- Township 2 South, Range 3 West, Fairbanks Meridian
 - Section 2, N $\frac{1}{2}$, tract F, ASLS 80 — 118
 - Sections 3 — 10
 - Section 13, Lots A and C
 - Section 14, Lots 5 — 7, NE $\frac{1}{4}$, SW $\frac{1}{4}$
 - Section 15, west of left limit of Tanana River
 - Sections 16 — 19
 - Sections 20 — 24, north of military reservation
 - Sections 28 — 29, north of military reservation
 - Sections 30 — 31
 - Section 32, north of military reservation
- Township 2 South, Range 4 West, Fairbanks Meridian
 - Sections 1 — 3
 - Section 7, SE $\frac{1}{4}$ SE $\frac{1}{4}$
 - Section 8, south of Parks Highway
 - Section 9, south of Parks Highway
 - Sections 10 — 16
 - Section 17, south of Parks Highway
 - Section 18, south of Parks Highway

- Section 19, south of Parks Highway
- Sections 20 — 36
- Township 2 South, Range 5 West, Fairbanks Meridian
 - Sections 1 — 2
 - Sections 7 — 23
 - Section 24, north of Parks Highway
 - Section 26, north of Parks Highway
 - Section 27, north of Parks Highway
- Township 2 South, Range 6 West, Fairbanks Meridian
 - Section 3
 - Section 4, N¹/₂, SE¹/₄, SW¹/₄SW¹/₄
 - Section 5
 - Sections 10 — 12
 - Section 16
- Township 2 South, Range 7 West, Fairbanks Meridian
 - Section 35, SE¹/₄SE¹/₄
 - Section 36, SE¹/₄, SE¹/₄NE¹/₄, E¹/₂SW¹/₄, SW¹/₄SW¹/₄
- Township 2 South, Range 11 West, Fairbanks Meridian
 - Section 6
- Township 2 South, Range 12 West, Fairbanks Meridian
 - Sections 1 — 24
 - Sections 27 — 34
- Township 2 South, Range 13 West, Fairbanks Meridian
 - Sections 1 — 6
 - Section 7, Tracts A, B and C, ASLS 81-54 SW¹/₄
 - Section 8, NE¹/₄, Tracts D, E, F, ASLS 81-54
 - Sections 9 — 30
 - Sections 33 — 36
- Township 3 South, Range 3 West, Fairbanks Meridian
 - Sections 6 — 7, north of military reservation
- Township 3 South, Range 4 West, Fairbanks Meridian
 - Sections 1 — 11
 - Section 12, north of military reservation
 - Sections 14 — 15, north of military reservation
 - Section 16
 - Section 17, north of military reservation
 - Sections 20 — 22, north of military reservation
- Township 3 South, Range 5 West, Fairbanks Meridian
 - Section 1
 - Sections 11 — 12 Section 13, NW¹/₄NW¹/₄, Lots 2 — 4
 - Sections 14 — 15, north of left limit of Tanana River
 - Section 19, north of left limit of Tanana River, excl. NE¹/₄NE¹/₄
 - Section 20, north of left limit of Tanana River, excl. Lot 3
 - Section 21, north of left limit of Tanana River
 - Section 31, Lot 2
- Township 3 South, Range 6 West, Fairbanks Meridian

- Sections 13 — 36
 Township 3 South, Range 7 West, Fairbanks Meridian
 Section 1
 Section 2, E¹/₂, E¹/₂SW¹/₄, SW¹/₄SW¹/₄
 Section 3, SE¹/₄SE¹/₄
 Section 9, south of Parks Highway
 Section 10, that portion of NE¹/₄ which lies south of Parks Highway: SW¹/₄SE¹/₂
 Section 11, N¹/₂, N¹/₂SE¹/₄
 Section 12, N¹/₂, N¹/₂S¹/₂
 Section 20, S¹/₂
 Sections 22 — 29
 Section 31 — 36
 Township 3 South, Range 12 West, Fairbanks Meridian
 Sections 3 — 10
 Sections 15 — 19
 Section 30
 Township 3 South, Range 13 West, Fairbanks Meridian
 Section 12, E¹/₂
 Section 13
 Section 14, E¹/₂
 Sections 24 — 25
 Section 26, E¹/₂
 Sections 35 — 36
 Township 4 South, Range 4 East, Fairbanks Meridian
 Sections 30 — 32, west of Richardson Highway
 Township 4 South, Range 6 West, Fairbanks Meridian
 Sections 1 — 12
 Sections 14 — 18
 Township 4 South, Range 7 West, Fairbanks Meridian
 Sections 1 — 12
 Sections 13 — 14, north of left limit of Tanana River
 Section 18, Lots 3-6
 Township 4 South, Range 13 West, Fairbanks Meridian
 Sections 1 — 2
 Sections 3 — 4, east of left limit of Kantishna River
 Sections 8 — 10, east of left limit of Kantishna River
 Section 11
 Section 15
 Sections 16 — 17, east of left limit of Kantishna River
 Sections 20 — 21, east of left limit of Kantishna River
 Section 22
 Sections 27 — 29, east of left limit of Kantishna River
 Sections 33 — 34, east of left limit of Kantishna River
 Township 5 South, Range 4 East, Fairbanks Meridian
 Sections 5 — 6

- Section 7, east of military reservation
- Section 8
- Section 17
- Sections 18 — 19, east of military reservation
- Section 20
- Section 29
- Section 30, east of military reservation
- Section 31
- Section 32, excl. NE¹/₄SE¹/₄, Lots 1-4
- Township 5 South, Range 5 East, Fairbanks Meridian
 - Sections 25 — 29
 - Sections 33 — 36
- Township 5 South, Range 6 East, Fairbanks Meridian
 - Sections 28 — 29
 - Section 30, S¹/₂
 - Sections 31 — 34
 - Section 36, S¹/₂
- Township 5 South, Range 8 East, Fairbanks Meridian
 - Sections 1 — 6
 - Sections 8 — 17
 - Sections 20 — 30
 - Sections 32 — 36
- Township 5 South, Range 9 East, Fairbanks Meridian
 - Sections 4 — 9
 - Sections 13 — 36
- Township 6 South, Range 4 East, Fairbanks Meridian
 - Section 5, excl. Lots 1, 2
 - Sections 6 — 7, east of military reservation
 - Section 8
 - Section 9, excl. N¹/₂NE¹/₄SE¹/₄, S¹/₂S¹/₂NE¹/₄, GL-5
 - Section 14, Lot 4
 - Section 15, south of Tanana River
 - Section 16
 - Section 21, east of military reservation
 - Section 22
 - Section 23, NE¹/₄NE¹/₄, that portion west of Richardson Highway
 - Section 25, south of Richardson Highway
 - Section 26, excl. Lot 1
 - Section 27, east of military reservation
 - Section 35
 - Section 36, W¹/₂SW¹/₄
- Township 6 South, Range 5 East, Fairbanks Meridian
 - Sections 1 — 4
 - Sections 9 — 15
 - Section 16, S¹/₂, NE¹/₄

- Section 20, S¹/₂
- Sections 21 — 28
- Section 29, N¹/₂
- Section 36
- Township 6 South, Range 6 East, Fairbanks Meridian
 - Section 1
 - Sections 3 — 9
 - Section 10, W¹/₂
 - Section 11, E¹/₂
 - Sections 12 — 36
- Township 6 South, Range 7 East, Fairbanks Meridian
 - Sections 3 — 36
- Township 6 South, Range 8 East, Fairbanks Meridian
- Township 6 South, Range 9 East, Fairbanks Meridian
- Township 6 South, Range 10 East, Fairbanks Meridian
- Township 7 South, Range 6 East, Fairbanks Meridian
 - Sections 1 — 5
 - Sections 8 — 15
 - Sections 21 — 24
 - Sections 25 — 27, north of left limit of Tanana River
 - Section 28
 - Section 29, S¹/₂
 - Section 30, S¹/₂
 - Sections 31 — 32
 - Section 33, north of left limit of Tanana River
- Township 7 South, Range 7 East, Fairbanks Meridian
 - Sections 1 — 18
 - Sections 23 — 26
 - Sections 35 — 36, excl. ASLS 81-213 except Tract A
- Township 7 South, Range 8 East, Fairbanks Meridian
 - Sections 1 — 12
 - Sections 15 — 21
 - Sections 28 — 34
- Township 7 South, Range 9 East, Fairbanks Meridian
 - Sections 3 — 10
 - Sections 15 — 16, N¹/₂
- Township 7 South, Range 10 East, Fairbanks Meridian
 - Sections 24 — 25
 - Sections 35 — 36
- Township 7 South, Range 11 East, Fairbanks Meridian
 - Sections 1 — 2
 - Sections 11 — 14
 - Sections 19 — 36
- Township 7 South, Range 12 East, Fairbanks Meridian
- Township 8 South, Range 7 East, Fairbanks Meridian
 - Section 1

- Township 8 South, Range 8 East, Fairbanks Meridian
Sections 4 — 6
- Township 8 South, Range 10 East, Fairbanks Meridian
Section 1
Sections 12 — 13
- Township 8 South, Range 11 East, Fairbanks Meridian
Sections 1 — 18
Sections 22 — 27
Section 36
- Township 8 South, Range 12 East, Fairbanks Meridian
Sections 1 — 10
Sections 15 — 22
Sections 27 — 34
- Township 8 South, Range 13 East, Fairbanks Meridian
Sections 25 — 26
Sections 33 — 36
- Township 9 South, Range 11 East, Fairbanks Meridian
Section 3, S¹/₂
Sections 4 — 5
Sections 8 — 11
Section 13 — 16
Section 17, E¹/₂, NE¹/₄SW¹/₄, SW¹/₄NW¹/₄
Sections 21 — 27
Section 28, excl. FO2662
- Township 9 South, Range 12 East, Fairbanks Meridian
Sections 19 — 21
Sections 28 — 36
- Township 9 South, Range 13 East, Fairbanks Meridian
Sections 1 — 3
Section 10, E¹/₂
Sections 11 — 13
Sections 24 — 25
Section 26, S¹/₂
Section 27
Sections 34 — 36
- Township 9 South, Range 14 East, Fairbanks Meridian
- Township 9 South, Range 16 East, Fairbanks Meridian
- Township 10 South, Range 12 East, Fairbanks Meridian
Sections 1 — 3
Sections 4 — 6, north of left limit of Tanana River
Sections 10 — 12, north of left limit of Tanana River
- Township 10 South, Range 13 East, Fairbanks Meridian
Sections 1 — 6
Sections 7 — 8, north of left limit of Tanana River
Sections 9 — 12
Sections 14 — 15, N¹/₂

Township 10 South, Range 14 East, Fairbanks Meridian

Sections 1 — 20

Section 21, NE¹/₄SE¹/₄, W¹/₂, N¹/₂NE¹/₄

Sections 22 — 24

Section 25, excl. Tract C

Section 26, excl. SW¹/₄SW¹/₄Section 27, N¹/₂NE¹/₄, NE¹/₄NW¹/₄Section 28, W¹/₂

Section 29

Section 30, NE¹/₄NE¹/₄

Section 32, excl. Tract U, Delta I

Section 33, W¹/₂

Township 10 South, Range 16 East, Fairbanks Meridian

Sections 1 — 35

Township 11 South, Range 14 East, Fairbanks Meridian

Section 4, NW¹/₄, Tracts A,B,E

Section 5, excluding Tract U, Delta Barley I

Section 9, Tracts A,B,E¹/₂

Section 10, Tracts B,C

Section 15, Tracts B,C

Section 16, E¹/₂, Tracts A,B

Section 21, Tracts A,B

Section 22, NW¹/₄, Tracts A,B,D

Section 23, Tracts A,B,D,E

Section 26, Tracts A,B,C,D

Section 35, E¹/₂, Tracts A,B

Section 36, Tracts A,B,C,D,E

Township 11 South, Range 16 East, Fairbanks Meridian

Township 12 South, Range 14 East, Fairbanks Meridian

Section 1, excl. USS 4013

Section 2, excl. ASLS 79-93

Section 11, excl. ASLS 79-93

Sections 12 — 13

Section 14, excl. ASLS 79-93

Sections 23 — 25, excl. ASLS 79-93

Section 36, excl. ASLS 79-93

Township 12 South, Range 15 East, Fairbanks Meridian

Sections 2 — 6

Section 7, excl. SE¹/₄SW¹/₄

Sections 8 — 14

Section 15, E¹/₂, E¹/₂NE¹/₄Sections 18 — 19, W¹/₂W¹/₂Section 21, S¹/₂SE¹/₄Section 22, excl. N¹/₂NW¹/₄

Sections 23 — 30

Section 31, SW¹/₄

- Section 32, SE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$
 - Sections 33 — 36
 - Township 12 South, Range 16 East, Fairbanks Meridian
 - Sections 1 — 5
 - Sections 9 — 16
 - Sections 21 — 28
 - Sections 34 — 36
 - Township 13 South, Range 15 East, Fairbanks Meridian
 - Sections 1 — 3
 - Section 4, N $\frac{1}{2}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$
 - Section 5, Tracts A and C
 - Section 6, north of Alaska Highway
 - Section 11, Tracts D and F
 - Section 12
 - Section 13, Tracts B and C
 - Township 13 South, Range 16 East, Fairbanks Meridian
 - Section 1
 - Sections 6 — 7
 - Section 12, excl. George Lake Subdivision
 - Sections 16 — 18
 - Sections 19 — 20, north of left limit of Tanana River
 - Section 21
 - Section 27
 - Sections 28 — 29, north of left limit of Tanana River
 - Sections 32 — 33, north of left limit of Tanana River
 - Sections 34 — 35
 - Township 14 South, Range 16 East, Fairbanks Meridian
 - Sections 1 — 3
 - Section 4, north of left limit of Tanana River
 - Sections 10 — 11, north of left limit of Tanana River
 - Section 12.
- (§ 3 ch 91 SLA 1983; am §§ 33, 34 ch 85 SLA 1988)

Cross references. — For land that may be selected by the Fairbanks North Star Borough for an industrial park, see § 4, ch. 91, SLA 1983, in the Temporary and Special Acts.

Effect of amendments. — The 1988 amendment deleted the last two sentences in subsection (b), relating to the submission of the management plan to the legislature and the approval of the management plan for the Tanana Valley State Forest, respectively, and, in subsection (c), combined together the former two sen-

tences and substituted "In addition to the uses described in AS 41.17.230(e)" for "The commissioner shall consider and permit the uses described in AS 41.17.230(e) within the Tanana Valley State Forest, subject to the procedures established in AS 41.17.230(f)."

Legislative history reports. — For an analysis of the amendment to (b) and (c) of this section by secs. 33 and 34, ch. 85, SLA 1988 (HCS CSSB 413 (Jud)), see 1988 House & Senate Joint Journal Supplement No. 18, May 10, 1988, p. 7.

Article 6. General Provisions.**Section**

900. Applicability

950. Definitions

Sec. 41.17.900. Applicability. (a) Unless otherwise specified, this chapter applies to forest land under state, municipal, or private ownership.

(b) The provisions of this chapter applicable to state land are applicable to forest land under federal ownership to the extent permitted by law.

(c) The commissioner shall exempt by regulation from the provisions of this chapter

(1) minor, small scale, or incidental commercial operations of little significance with respect to the purposes of this chapter; and

(2) operations for primarily noncommercial purposes, including but not limited to the harvesting of timber for personal use.

(d) Notwithstanding any other provision of this chapter, the commissioner may not employ the authority vested by this chapter so as to duplicate or preempt the statutory authority of other state agencies to adopt regulations or undertake other administrative actions governing resources, values, or activities on forest land except for

(1) regulations under the Coastal Management Act; and

(2) regulations, if authorized by the commissioner of environmental conservation, relating to control of nonpoint source pollution. (§ 1 ch 108 SLA 1978)

Revisor's notes. — Subsections (a) — section (d) was formerly AS 41.17.020(j).
(c) were formerly AS 41.17.050 and sub- Renumbered in 1983.

Sec. 41.17.950. Definitions. In this chapter, unless the context otherwise requires,

(1) "board" means the Board of Forestry established in AS 41.17.041;

(2) "broadcast chemicals" includes pesticides, herbicides, fungicides, fertilizers, poisons, and any other substances

(A) used for silvicultural management or related purposes;

(B) not native to the ecosystem in which they are being applied; and

(C) having a foreseeable adverse impact on the welfare of renewable resources, as determined by the commissioner of environmental conservation;

(3), (4) [Repealed, § 43 ch 85 SLA 1988.]

(5) "division" means the division of forestry;

(6) "forest land" means land stocked or having been stocked with forest trees of any size and not currently developed for nonforest use, regardless of whether presently available or accessible for commercial

purposes, and includes any such land under state, municipal, or private ownership;

(7) "forest landowner" means a person who owns forest land;

(8) "multiple use" means

(A) the management of all the various resources of forest land so that they are used in the combination that will best meet the needs of the citizens of Alaska, making the most judicious use of the land for some or all of these resources or related values, benefits, and services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions;

(B) that some land will be used for less than all of the resources; and

(C) harmonious and coordinated management of the various resources, each with the other, without significant impairment of the productivity of the land and water, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output;

(9) "operations" means timber harvesting or activities associated with timber harvesting or forest development unless exempted under AS 41.17.900(a)-(c);

(10) "operator" means a person who is engaged in timber harvesting or activities associated with timber harvesting or forest development, or who contracts with others to conduct operations for that person, except a person who is engaged in an operation as an employee with wages or piecework as the sole compensation;

(11) "person" has the meaning given in AS 01.10.060 and also includes a joint venture;

(12) "significant impairment of the productivity of the land and water" means any activity which may foreseeably result in prolonged or substantial damage to renewable resources or prolonged or substantial reduction of the continuing capability of the land or water to produce renewable resources at their natural or historic levels;

(13) "silviculture" means the art of producing and tending a forest, the application of the knowledge of silvics in the treatment of a forest, and the theory and practice of controlling and managing forest establishment, composition, and growth;

(14) "state forest" means an area which is retained in state ownership in order to

(A) provide a base for sustained yield management of renewable resources; and

(B) permit a variety of beneficial uses;

(15) "sustained yield" means the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of forest land and water without significant impairment of the productivity of the land and water, but does

not require that timber be harvested in a non-declining yield basis over a rotation period; and

(16) "timber owner" means a person who owns timber on forest land or who has the rights to timber, but does not own the land itself. (§ 1 ch 108 SLA 1978; am § 88 ch 59 SLA 1982; am § 43 ch 85 SLA 1988)

Revisor's notes. — In 1983 paragraphs (12) — (16) were reorganized to place the terms defined in alphabetical order. Paragraph (11) was rewritten in 1988 to conform to the style of the Alaska Statutes.

Cross references. — For additional

definitions, see AS 41.99.900.

Effect of amendments. — The 1988 amendment repealed former paragraphs (3) and (4), which defined "commissioner" and "department," respectively.

NOTES TO DECISIONS

The "sustained yield principle" as used in Alas. Const. art. VIII, § 4 accords with the definition set forth in AS 38.04.910(10), and the added language in the definition of "sustained yield" in this section that it "does not require that timber be harvested in a nondeclining yield basis over a rotation period"; and it should

be read as permitting timber cutting at a level that cannot be sustained over a forest rotation period only in unusual circumstances. Southeast Alaska Conservation Council, Inc. v. State, Sup. Ct. Op. No. 2662 (File No. 5855), 665 P.2d 544 (1983).

Chapter 20. Parks and Recreational Facilities.

[Renumbered as AS 41.21. See parallel reference table at the front of this pamphlet.]

Chapter 21. Parks and Recreational Facilities.

Article

1. Administration (§§ 41.21.010 — 41.21.040)
2. State Parks (§§ 41.21.110 -- 41.21.183)
3. Alaska Marine Parks (§§ 41.21.300 — 41.21.306)
4. State Recreation Areas (§§ 41.21.410 — 41.21.495)
5. Special Management Areas (§§ 41.21.500 — 41.21.514)
6. Alaska Chilkat Bald Eagle Preserve (§§ 41.21.610 — 41.21.630)
7. Roadside Rests, Beaches (§§ 41.21.800 — 41.21.805)
8. Trails, Footpaths and Campsites (§§ 41.21.850 — 41.21.872)
9. Miscellaneous Provisions (§§ 41.21.900 — 41.21.918)
10. General Provisions (§§ 41.21.950 — 41.21.990)

Article 1. Administration.

Section

10. Purpose
20. Duties of Department of Natural Resources
22. Discharge of firearms
25. Zoning of private land within state parks
26. Fees for the use of state park system facilities

Section

27. Concession contracts in the state park system
28. Definitions
30. Disposition of funds
40. Division within department

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

STEVE COWPER, GOVERNOR

P.O. BOX 107005
ANCHORAGE, ALASKA 99510-7005
PHONE: (907) 561-2020

April 10, 1989

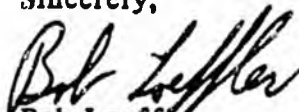
Steering Committee Members
Interested Citizens

Dear Sir or Madame:

Enclosed is the Agreement-in-Principle, and a draft of the proposed statute to implement that agreement. The steering committee will be working out final changes to the proposed statute during the next week. A final copy of the statute should be available on approximately April 15th.

If you have any questions, please do not hesitate to write or call. My phone number is 762-2660.

Sincerely,


Bob Loeffler
Regional Planner

Alaska Forest Practices Act Review

**Draft
Agreement-in-Principle**

April 10, 1989

Draft Agreement-in-Principle Alaska Forest Practices Act Review

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Draft Agreement-in-Principle Summary

These pages summarize the main points of the agreement-in-principle of the Alaska Forest Practices Act Steering Committee. The remainder of the report contains the details of the agreement. Language in this draft has not yet been reviewed by the steering committee. It will be reviewed by the committee before it is submitted to their groups for ratification.

Major Points of the draft Agreement

I. Riparian Management

The agreement proposes a streamside management program for the protection of fisheries habitat and water quality.

Region I - Private Land

On private land, a riparian management system is proposed that includes development of a channel typing system and riparian management prescriptions for each channel type. Of the nine channel types, six require a 15-meter (50-foot) conditional harvest zone within which timber harvest would require state agreement, and an additional 15-meter (50-foot) riparian management zone within which an operator would be required to leave 50% of the timber consistent with the existing size distribution of the timber stand within the zone. In addition, any timber taken from the conditional harvest zone or the riparian management zone in excess of timber retention standards must be replaced by comparably sized timber either in other sections of the riparian zone or in an area outside the riparian zone agreed to by DNR with due deference to DF&G. However, timber operators would not be required to leave more than 5% of the basal area in a landowner's operating area without compensation. (Basal area is the total cross-sectional area of trees measured 4.5 feet above the ground.)

Of the remaining three channel types, two require a 30-meter riparian zone, and one a 15-meter zone. In these zones, special prescriptions will apply to limit the impact of timber harvest on the riparian habitat. In addition, all activities will be subject to regulations to prevent slope instability and to prevent nonpoint source water pollution.

Region II - Private Land

As an interim standard, a 30-meter special management zone (SMZ) will be used on all anadromous and high value resident fish waters. A SMZ is a shoreline or streamside area that will be managed primarily to protect anadromous and high value resident fish habitat and water quality. Timber harvest may occur in SMZs if it is sited and designed to be consistent with these fish habitat and water quality goals. Timber harvest decisions in the SMZ require DNR agreement with review and due deference to DF&G.

Region II groups will develop riparian standards within the next 12 months for Region II. DNR will form a committee representing interested groups similar to the current forest practices steering committee. The recommendations of the group will be given to the Board of Forestry for review and then to DNR for adoption.

State Land

On state land, the riparian system requires that state timber sales follow the requirements in existing area and forest plans. New state plans and revisions to existing plans will require a minimum of a 100-foot conditional harvest zone along anadromous streams and high value resident fish waters. Additional riparian management zone requirements will be addressed during the planning process. Until a plan is completed, the department will include a 100-foot no-cut buffer with an additional 200-foot conditional harvest zone along all lakes and streams.

Other Public Land

Borough, municipal, and other public land not managed by DNR (including trust lands such as mental health and university lands) will require a special management zone along all anadromous and high value resident fish waters. Timber harvest in this zone will follow the same requirements as those of the interim standards for private land in Region II, explained above.

II. The Enhanced Notification Process

The enhanced notification process is the proposed method for efficient state review of timber harvest plans on private and municipal land to determine the plan's conformance with forest practice standards. It includes the following points:

- * A system of enforceable standards that harvest operations must follow. These standards will be written to satisfy the requirements of the forest practices act, to address forest water-quality related standards portion of DEC non-point source pollution programs and, on private land, to serve as the Alaska Coastal Management Program.
- * A system of agency office and field review in which the agencies have an enforceable disapproval of proposed activities that would violate a forest practice standard.
- * Public review of proposed harvest plans.
- * Provision for "stop work orders" to halt proposed or ongoing work where agency personnel perceive a threat of imminent significant harm to the environment.
- * A voluntary annual plan to give agencies and the public earlier information, and to give the landowner earlier feedback.
- * DF&G retains all previous authority under Title 16.
- * DNR remains lead agency for forest practices activities outside streams. DNR will accord due deference to the expertise of DF&G concerning activities within the riparian zone. DNR will accord due deference to the expertise of DEC concerning water quality issues.
- * DEC retains authority as lead agency for non-point source pollution control and water quality as in existing statutes.

III. Enforcement

The proposed agreement would add the following to the existing enforcement system:

- * Procedures for imposing existing civil penalties are streamlined, and criminal penalties are added. DNR will also have the ability to issue a remedial order to correct violations of forest practice standards.
- * Hearings will be conducted by an employee of the Division of Forestry with appeals to the Commissioner.
- * State agencies are required to develop and implement a single state enforcement strategy for forest practices that violate forest practices act standards and other state requirements.

IV. Wildlife and Planning

DNR's forest planning process is changed in the following manner:

- * New statutory and regulatory emphasis on wildlife habitat and other non-timber uses.
- * Five-year sale schedule and enhanced public participation.
- * Best interest finding under AS 38.05.035 for all sales, including increased analysis in the development of individual timber sale provisions.
- * Enhanced opportunities for public participation at each of the forest planning stages.
- * Planning for public lands will be required to allow for scenic quality and wildlife habitat, in addition to other considerations.
- * On private lands, the landowners are encouraged to enter into cooperative agreements with DF&G to identify wildlife habitats, and management options to minimize adverse impacts.

V. Board of Forestry

The Board of Forestry is restructured to a smaller, balanced board with authority to provide advice concerning research and implementation of the Forest Practices Act and regulations. The board will include a member or representative of a fishing organization, a Native corporation, an environmental organization, and a forest industry trade association; and a professional fish or wildlife biologist, and a professional forester.

VI. Other Issues.

- * Log storage and rafting -- a task group has been formed to develop guidelines for log rafting and in-water log storage, including review of meteorological and oceanographic factors, review of applied industry technology, and recommended construction and log handling and bundling standards.
- * Reforestation -- the steering committee has recommended funding of the Reforestation Fund as provided by law.

- * Consultation, education, and training -- the Division of Forestry will undertake new efforts to ensure that the public, landowners, operators, and agency personnel become fully informed of the state planning process and of proper practices for timber harvesting. Field workshops and interdisciplinary training will be used to ensure that the regulatory agencies, the public, and the timber industry understand each other's objectives, methods, and practices.

VII. Funding

Funding of \$1.2 million will be required to implement the act. The funding will provide the agency review and field presence necessary to strengthen resource protection using a strong forest practices act while retaining a strong timber industry. The legislation should provide that funds come from receipts derived from timber sales on state lands, 25% of which would go to reforestation. If additional funds are required, the legislature should look to funds to be derived from other sources, in light of the standing timber and other costs contributed from the forest products industry through the terms of the proposed agreement, and contributions made from other forest users.

VIII. Future Review of the Forest Practices Program

This agreement-in-principle and the recommended legislation are intended to be reviewed within three years. This three-year time is intended to allow for further research, to gain experience implementing the act's regulatory and administrative standards -- especially the riparian standards and the enhanced notification system. It is presumed that a representative group will be convened for the review, or that the review will be conducted by the restructured Board of Forestry. The review will occur with full public input and participation.

IX. Remaining Steps in the Agreement Process

The draft Agreement-in-Principle will be reviewed by the Alaska Forest Practices Act Steering Committee to ensure that the language in this document and in the proposed statute reflects the intent determined at previous committee meetings. After this review, the agreement-in-principle will be submitted to steering committee members' parent organizations for ratification or rejection. If approved by consensus, legislation implementing this agreement will be submitted to the legislature. Once legislation is passed, the Department of Natural Resources, working with DF&G, DEC, and steering committee members, will draft and promulgate regulations consistent with this agreement.

PART I - Introduction

I. Purpose of the Alaska Forest Practices Act Review

In response to criticisms of the Alaska Forest Practices Act, and to improve resource protection while retaining a viable timber industry, the governor directed the Departments of Natural Resources, Fish and Game, and Environmental Conservation to conduct a public review of the act and make recommendations for improvements in the act, its regulations, and implementation. The Forest Practices Act (AS 41.17) and its regulations (11 AAC 95) governs forest practices on state, municipal, and private lands.

To achieve an objective and balanced review, the review process included representatives of timber land owners, state agencies, and users of public resources affected by forest practices. Recommended changes in legislation will be submitted by the Governor to the legislature during the 1989 legislative session. Any recommended changes in regulation and enforcement procedures will be promulgated by the appropriate departments.

The paragraphs below identify how different groups participate in this process.

The Steering Committee. The steering committee was the body responsible for guiding the review process and recommending changes in legislation, regulations, and implementation. The steering committee operates by unanimous consent to develop its recommendation. The public steering committee members were not picked by the governor or by the state agencies. They were chosen by the public groups.

Working Groups. Two working groups were formed by the steering committee to flesh out issues and make recommendations for resolution. Most of the work for the project occurred in working groups. For different issues, certain steering committee members were more active than others. For some issues, steering committee members may call on members of interest groups not represented on the steering committee. Final decisions were made by the Steering Committee.

Mediators. The mediators guided the mediation process but did not make decisions. The mediators were hired from outside state government to ensure an objective process. The mediators were selected by a committee composed of representatives of DNR, DF&G, and DEC. The mediators chaired working group and steering committee meetings. The mediators were Jim Waldo and Frank Gaffney of the Northwest Renewable Resources Center.

Public and Special Interest Groups. Interested groups not represented on the steering committee helped pick steering committee representatives; gave comments on issues and recommendations through telephone conversations or other formal and informal contact; and some participated on working groups for all of some or the issues.

The General Public. The general public is involved through the legislative process and standard agency process for promulgation of new or conforming regulations.

II. The Steering Committee

- A. Make-up of the Steering Committee. Membership on the steering committee was a compromise of representation for all who are affected by the Forest Practices Act, and having a group size that allowed a workable process. In addition, the committee included equal representation from timber groups and non-timber groups. To achieve these objectives, the steering committee included thirteen members as indicated below:

5 representatives of forest owners and operators (i.e., those who are regulated by forest practices): three representatives of private timber land owners; one municipality with timber ownership; and a representative of the Alaska Loggers Association

5 representatives of users of public resources affected by forest practices (i.e., those who may advocate regulations: fishing groups, environmental groups, etc.)

3 representatives of the state agencies:
Department of Natural Resources
Department of Fish and Game
Department of Environmental Conservation

Total: 13 Members

Other agencies were also involved. The Division of Governmental Coordination ensured that concerns of the local coastal districts were considered by the steering committee. The Department of Commerce and Economic Development provided technical assistance.

B. Selection of the Steering Committee Members. To ensure a credible process, it was important that the various interest groups felt well represented by the steering committee. Therefore, the state asked timber land owners, timber operators, and public resource users to select their own representatives. These steering committee members were not picked by the governor nor by the state agencies.

III. Steering Committee Membership

Agency Members

Norman Cohen
Deputy Commissioner
Department of Fish and Game

Tom Hawkins
Assistant Commissioner
Dept. of Natural Resources

Amy Kyle
Deputy Commissioner
Dept. Environmental Conservation

Public Members

John Duffy/Ted Smith

Bob Ellis

Other Involved Agencies

Jan Caulfield
Coastal Program Coordinator
Div of Governmental Coordination

Gerry Engle, Program Manager
Minerals and Forest Products
Division of Business Development
Dept. of Commerce & Economic Development

Affiliations

Matanuska-Susitna Borough

Southeast Alaska Conservation Council
Sitka Fish and Game Advisory Committee
Northern Southeast Regional Aquaculture Board
Sitka Conservation Society

Pete Isleib/Dennis Eames

United Fishermen of Alaska
Southeast Seiners Association

Nancy Lethcoe

Prince William Sound Conservation Alliance
Cordova District Fishermen United

Bob Loescher

Sealaska Corporation
Alaska Loggers Association

Robert Loiselle

Klukwan Forest Products, Inc.
Alaska Loggers Association

Alan Phipps

Susitna Valley Association
Alaska Center for the Environment

Larry Smith

Southcentral Council of Fish and Game
Advisory Committees
Association of Regional Councils

John Sturgeon

Koncor Forest Products
Alaska Loggers Association

George Woodbury

Chairman, Timber Issues Committee
Alaska Loggers Association

Note: A list of active staff and working group members will be added to the final report.

IV. Ground Rules

The steering committee adopted the following five ground rules to guide the mediation process:

1. This effort will receive priority attention, staffing, and time commitment.
2. All parties agree to negotiate in good faith and to try to reach an agreement by consensus.
3. All participants in the negotiation bring with them the legitimate purposes and goals of their organizations. All parties recognize the legitimacy of the goals of others and assume that their own goals will also be respected.
4. Anyone may leave the process and the above ground rules, but only after telling the entire group why and seeing if the problem(s) can be addressed by the group.
5. All parties agree to be an advocate for an agreed-upon plan. However, interim agreements are not binding until a final plan is agreed-upon by all.

V. The Consensus Agreement

This section lists the steering committee's obligations to the consensus agreement.

The fifth ground rule adopted by the steering committee is, "All parties agree to be an advocate for an agreed-upon plan. However, interim agreements are not binding until a

final plan is agreed-upon by all." This agreement-in-principle, if ratified by all the steering committee groups, is the agreed-upon plan.

The parties' agreement is to the entire plan -- not to individual parts of it. Thus, if the agreement is changed, including failure to pass funds to implement it, the parties are not bound to continue their support.

The parties to this consensus will support this agreement through the end of the 1989 legislative session, but their consensus expires at the end of the session. If the legislation is not passed during the 1989 session, the parties will meet before July 1, 1989 to reauthorize (or reject) consensus for the following session.

VI. Implementation of the Agreement-in-Principle.

A. Remaining Steps in the Agreement Process

The draft Agreement-in-Principle has been reviewed by the Alaska Forest Practices Act Steering Committee to ensure that the language in this document and subsequent statutory language reflects the intent determined at previous committee meetings. After this review, the agreement-in-principle and proposed statutes will be submitted to steering committee members' parent organizations for ratification or rejection.

B. Implementing the Completed Agreement.

If approved by consensus, legislation implementing this agreement will be submitted to the legislature. The governor hopes to introduce this legislation during late March or early April for enactment this year. Once legislation is passed, DNR, working with DF&G, DEC, and steering committee members, will draft and promulgate regulations consistent with this agreement. Policy changes that do not require legislation or regulation such as education and training will also be implemented by the appropriate department. The schedule for drafting and promulgating regulations is given in Part III of this report.

Part II - Draft Agreement on Issues

Chapter 1. Riparian Management

A. Private Land

1. Background & Riparian Standards for Region I

Introduction and General Summary

The riparian or streamside areas within Alaska's forest lands and the management of those areas was perhaps the most difficult of all the issues dealt with by the Alaska Forest Practices Act Review Committee. These areas are critical for the protection of water quality, and fisheries and wildlife habitat, and they are also some of the most productive areas for timber production. Therefore these areas are of high interest to all parties involved in this forest practices review. In order to develop Riparian Management Standards, a working group made up of Steering Committee members was formed to deal specifically with streamside issues. They quickly learned that while there was scientific information available to guide their decisions, it was incomplete. Some decisions would have to be based on assumptions.

A technical committee was convened to complete the following:

Frame the issues.

Develop a stream channel typing system.

Resolve the scientific questions to the extent possible.

Identify areas where appropriate scientific information was unavailable and where further research needed.

Examine the effects of various streamside leave tree requirements and the attendant risks to fish habitat, water quality, and the economic impacts to timber owners and operators.

Provide the steering-committee working group with recommendations if the technical committee could not agree on standards.

The steering-committee working group used the technical committee's report for reference during negotiations. They also agreed that because of lack of scientific certainty, four principles were necessary components of any system that would balance the needs of all the resources at stake. Those principles were

1. Fairness

Any successful system must be based on shared risk and incentives for both timber owners and regulators to make it work.

2. No "Big Hit"

Neither fish nor timber should bear an inordinate share of the burden; that a balance must be found. No private landowner should have to bear an unusually large burden.

3. Enforceable

Standards and regulations should be understandable and measurable for ease in implementation.

4. Professional Management

To provide optimum utilization of manpower and some system flexibility for fish and water quality protection, and timber management, the new system would require careful planning and targeted field effort.

The interim riparian standards described later in this section resulted from negotiations based on these principles and information developed by the technical committee. They are intended to protect fish and water quality within the streamside zone while providing some opportunity for timber harvest. Other forestry related upland activities, such as roading and timber harvest, will be covered in standards to be developed as a result of this agreement.

The agreement-in-principle and the recommended legislation are intended to be reviewed within three years. This three year time is intended to allow for further research and to gain experience implementing the act's regulatory and administrative standards -- especially the riparian standards and enhanced notification system. It is presumed that a representative group will be convened for the review, or that the review will be conducted by the restructured Board of Forestry. In either event, this review will be done with full public input and participation. In addition, DNR, DF&G, and DEC will each present an annual report, independently, to the Board of Forestry and the legislature on the resources for which they have statutory expertise and make recommendations for any improvements to rectify procedural or substantive problems. For more information concerning review of the act, see page 64.

Technical Committee Work Summary

Stream Channel Typing System

The first task of the riparian-technical committee was to develop a stream channel typing system. The committee examined a U.S. Forest Service classification system and consolidated over 50 categories into a nine channel types. A description of these channel types is included in the chart on the next page.

These nine stream channel types are used as a framework for forest practices regulations. Each channel type applies to a segment of either flowing (i.e., streams) or standing (i.e., lakes and ponds) waters that have specific physical characteristics. Physical characteristics used to define channel types are channel gradient expressed as percentage slope, presence or absence of channel incision greater than 2 meters, perennial or intermittent stream flow, size of the dominant substrate, and stream width at the ordinary high-water mark. In addition to these five physical characteristics a functional group name has been listed, which describes each channel type.

Channel types are determined by comparing the physical characteristics of the water segment in question with the channel typing criteria listed in the chart on the following page. The category with criteria most similar to the physical characteristics of the segment in question is defined as the channel type.

STREAM CHANNEL TYPES
PHYSICAL CHARACTERISTICS

STREAM CHANNEL	GRADIENT	INCISION	STREAM FLOW	*SUBSTRATE	CHANNEL WIDTH
1. MOUNTAIN SLOPE	HIGH 8%	YES >28'	PERENNIAL	RUBBLE TO BEDROCK	<30'
2. SMALL CONTAINED MID-SLOPE	2-8%	YES	PERENNIAL	RUBBLE TO BEDROCK	<20'
3. SMALL UNCONTAINED MID-SLOPE	2-8%	NO	INTERMITTANT & PERENNIAL	GRAVEL TO RUBBLE	<20'
4. LARGE CONTAINED	<6%	YES	PERENNIAL	RUBBLE TO BEDROCK	>20'
5. LARGE LOW GRADIENT	<2%	NO	PERENNIAL	GRAVEL TO SAND	>20'
6. VERY LARGE MULTIPLE CHANNEL	<2%	NO	PERENNIAL	GRAVEL	>200'
7. SMALL LOW GRADIENT	<2%	NO	INTERMITTANT & PERENNIAL	GRAVEL TO SILT	<20'
8. ESTUARINE - SALT TOLERANT VEG. (SEDGE TO FUCUS)	<.1%	NO	PERENNIAL	GRAVEL TO SILT	VARIABLE
9. PLACID (LAKE, OUTLET & WETLANDS)	<2%	NO	PERENNIAL	SILT TO GRAVEL	VARIABLE

* Substrate size is in order of dominance.

DEFINITIONS:	Bedrock	=	>3'
	Rubble	=	2.5" - 3'
	Gravel	=	4mm - 2.5"
	sand	=	.1mm - 4mm
	silt	=	<.1mm

Fisheries Habitat Components

The technical committee agreed that the riparian management standards should address the following fish habitat components:

- *1. Streambank Stability and Channel Morphology (form)
- *2. Large Woody Debris
- *3. Temperature
- *4. Turbidity and Sedimentation
- 5. Discharge Peaks and Streamflow
- 6. Nutrients
- 7. Other Water Quality
- 8. Food Resources
- 9. Gravel
- 10. Sunlight

*Components to address first. Whatever riparian management system could address these four components would likely also be sufficient for the remaining six (this assumption should be verified through experience, research and monitoring).

Timber Operational Components

The technical committee also agreed that the riparian standards should also take into account the following timber operational components:

- 1. the volume of the merchantable timber required to be left standing;
- 2. the operational costs within and adjacent to the riparian zone;
- 3. the impact on the ability to harvest adjacent timber; and
- 4. the safety of those working in the woods.

In addition, the technical committee received several presentations assessing the economic impacts of various leave requirements on a variety of tracts of timberland large and small, private and public. Depending on site circumstance, the width and configuration of the leave requirements, and the area rendered inoperable by those leave requirements, the estimated impact to timber owners and operators varied from 1% to 40% of the standing timber base and increased operational cost. These presentations and the discussions that followed were combined with the fish habitat components to prepare matrix on the following page.

Summary

Based on fisheries considerations alone, the riparian technical committee agreed that a 30-meter "no harvest" buffer zone provides acceptable protection for fish. Based on a variety of studies by the National Marine Fisheries Service and others, a 30-meter "no harvest" zone (15 meters in channel type 1) is recommended by some members of this committee as providing acceptable protection for fish, assuming normal forestry operations outside the zone. After reviewing impacts of such a zone on timber operations, some members of the technical committee feel that a flexible zone based on the values in the risk matrix should dictate the management recommendations.

The technical committee agreed that site specific decisions by appropriate interdisciplinary teams provide the most flexible management system to meet the needs of all interests involved in forest/fishery management.

MATRIX OF RIP/ RISK ASSESSMENT

Stream Channel Type	Fish Production Capability	Timber Production Capability	Potential for Erosion from Timber Harvest	Risk to Slope Stability	Susceptibility for Bank Erosion	Importance of Bank for Fish Habitat	Risk of High Temperature Problems for Fish	Risk to Channel Stability	Canopy Closure Concerns in Second Growth Forest	Importance of LWD to Fish Habitat	Conflict Indicator Number*
1	Low	Med	High	High	Low	Low	Low	Low	Low	Low	14
2	Med	High	Med	High	Low	Low	Low	Low	Med	Low	17
3	High	High	Med	Med	Med	Med	Med	High	High	High	25
4	Med	High	Med	High	Med	Low	Low	Low	Low	Low	17
5	High	High	Med	Low	High	High	Med	High	Low	High	24
6	High	Med	Low	Low	High	Med/High	Low	Low	Low	High	18/19
7	High	High	High	Low	Med	High	High	High	High	High	27
8	High	Low	Low	Low	High	High	Med	Med	Low	High	20
9	High	Med	Low	Low	Med	Med	High	Low	Med	High	20

* Low = 1
 Med = 2
 High = 3

Site specific decisions are a manpower/cost-intensive decision-making process, and that fact created a reluctance by some technical committee members to tailor standards to different stream channel types.

However, the committee did agree that specific standards for stream channel types can be developed that will potentially provide an acceptable level of protection to fish, assuming specific data needs are satisfied.

The committee also agreed that interim standards are necessary until appropriate long-term standards can be developed.

Data Needs

The technical committee identified seven areas for further research on the interaction of forestry and fish.

1. Probability of riparian leave trees to provide large woody debris.
2. Probability of second growth timber to provide large woody debris.
3. Depletion/recruitment rates of large woody debris for interior Alaska streams.
4. Information on temperature sensitive streams throughout Alaska.
5. Information on winter water temperature effects on fish.
6. Second growth canopy closure effects on fish production.
7. Stand characteristics of trees next to streams: age, size, volume, species, etc.

The committee estimated 2-5 years to conduct the research necessary to address these seven areas.

Riparian Working Group Conclusions

In discussing the issues surrounding riparian standards, the riparian working group used the technical committee's work and also discussed the number of Alaskan streams that are not catalogued for fish and that do not appear on maps. To deal with this uncertainty, the group developed a double cap riparian system. Using the technical committee's stream channel typing system, a riparian standard was agreed to for types 1-9, with specific size and retention standards and operational requirements. The group also agreed that in no case will the retention requirements exceed 5% of the basal area of the standing timber in an operating area without adequate compensation to the private land or timber owner. Subject to the 5% cap, stream channel type standards will apply in all cases unless otherwise agreed by the land or timber owner and DNR with due deference to DF&G.

The Alaska Department of Natural Resources (DNR) will continue as lead agency for forest practices, but will provide due deference to Alaska Department of Fish and Game (DF&G) on requests for an alternative plan from the riparian standards. DNR will work with DF&G to assess the riparian retention standards against the 5% operational area cap, where applicable, with DNR maintaining the record. Field decisions regarding requests for alternative plans from the riparian standards shall be kept in writing by DNR. A key to this process can be found in the section on enhanced notification.

An early exchange of information between land or timber owners and the state through the voluntary release of annual plan and the subsequent mandatory detailed plan of operations, will allow state agencies to concentrate their field effort on those areas of highest concern.

The provisions of this agreement and the riparian standards listed in this section are intended to apply to private land in DNR's Region I. Riparian standards for private land in Region II are explained on page 18.

General Provisions

There will be a riparian management zone (RMZ) adjacent to each stream or shore of anadromous waters; the standards will vary depending on stream channel type. Editor's note: language was to be developed by Frank Rue & John Sturgeon concerning cooperative methods to address management for high-value resident fish habitat. It is not complete: Bob Loeffler's suggested language is: Cooperative methods for protection of particular high value resident fish habitat should be developed, where appropriate, between DF&G and individual private landowners.

A RMZ is an area adjacent to a stream or shore which requires special management attention to protect water quality and fish habitat. Within an RMZ, special management practices will apply such as timber retention requirements.

For some stream classes, there is a conditional harvest zone (CHZ) in which greater attention is required. Any harvesting within the CHZ requires written DNR agreement with (DF&G review and with) due deference provided to DF&G.

Any timber taken from the CHZ or RMZ in excess of the timber retention standards must be replaced by comparably sized timber either in other sections of the riparian zone or from an area outside the riparian zone agreed to by DNR with due deference to DF&G.

Trees left as part of the CHZ or RMZ timber retention standards must be live and without significant damage upon completion of the harvest. In the case of blowdown, salvage operations may occur in the CHZ and RMZ with agreement from DNR with due deference to DF&G.

In the channel types that provide for a conditional harvest zone, it shall be the first 15 meters bordering a stream or shore as measured at a 90° angle from the ordinary high water mark.

Riparian stream channel type standards will apply in all cases unless the retention area is modified by agreements between DNR and the land or timber owner.

In no case will the retention standards exceed 5% of the basal area of the standing timber in a given operating area without adequate compensation at fair market value to the land or timber owner. Fair market value will be computed on the basis of the current market value of the trees to be harvested from the operating area. In some cases basal area retention of 7 1/2% or 10% may be required for timber harvest outside of an operating area. See pages 15 and 16 for details.

Basal area is the square footage of the diameter at breast height (dbh) of standing timber (dbh is four and a half feet above the ground). Basal area is computed by standardized procedures to be developed in regulation using, where practical, accepted timber cruising techniques.

Riparian retention standards are applied to stream or shore segments of 100 meters unless otherwise agreed to by DNR with due deference to DF&G.

All trees left due to the application of riparian standards within the CHZ and RMZ will count towards the 5% basal area cap. Trees left in channel types 1, 2, and 4, do not count towards the 5% cap. If inoperable areas are created by the riparian standards, those trees will count towards the 5% basal area cap.

Except for stream crossings, roads will not be built within the RMZ or CHZ without agreement by DNR with due deference to DF&G.

DF&G retains jurisdiction over stream crossings in accordance with Title 16 of the Alaskan Code. DF&G makes final determination of stream channel types.

DF&G Habitat Regulations. DF&G retains its current jurisdiction and will continue to exercise its current authorities. DF&G habitat regulations adopted under AS 16.05.840 and AS 16.05.870 will be cross-referenced and reprinted in the forest practices regulations (11 AAC 95) for the convenience of the forest industry. Habitat regulations adopted by DF&G and forest practices regulations adopted by DNR will be complementary and not duplicative. Standards for forest practices activities in riparian zones will be developed by DNR in consultation with DF&G and DEC.

DEC 319 Process. Standards for forest practices for DEC's 319 nonpoint source water pollution program will be addressed through riparian and other standards incorporated with the forest practices regulations. Such standards may be adopted or referenced in DEC's regulations. DNR will accord due deference to DEC on issues concerning water quality.

RIPARIAN STANDARDS - INTENT

The Commissioner shall protect riparian areas from adverse impacts of logging on fish habitat. The management goals for riparian areas will be the adequate preservation of their function as fish habitat by maintaining: a short- and long-term source of large woody debris; streambank stability and channel morphology; water temperatures; streamflows; water quality; adequate nutrient cycling; food sources; clean spawning gravels; and sufficient solar influx. The Commissioner shall adopt regulations. The regulations may include higher standards of protection for fish and other public resources on public lands than private lands. These regulations may vary by region of the state and shall take into consideration reasonable classification of waterbodies.

RIPARIAN STANDARDS TABLE

The riparian standards in this table apply only to anadromous waters in DNR Region I. (Standards also apply to type I channels that are tributary to an anadromous fish channel). Standards apply to each side of a stream.

<u>Channel Type</u>	<u>Riparian Standard</u>
1	15-meter RMZ or to slope break, whichever is first; no large woody debris (LWD) requirement; meet slope stability standards
2	30-meter RMZ or to slope break, whichever is first; meet slope stability standards.
3	15-meter CHZ and 15-meter RMZ with 50% retention ¹ per size distribution ²
4	30-meter RMZ or to slope break, whichever is first; meet slope stability standards.
5	15-meter CHZ and 15-meter RMZ with 50% retention ¹ per size distribution ²
6	15-meter CHZ and 15-meter RMZ with 50% retention ¹ per size distribution ²
7	15-meter CHZ and 15-meter RMZ with 50% retention ¹ per size distribution ²
8	15-meter CHZ and 15-meter RMZ with 50% retention ¹ per size distribution ²
9	15-meter CHZ and 15-meter RMZ with 50% retention ¹ per size distribution ²

Stream channel type standards will apply. However, in no case will the basal area retained be more than 5% of the basal area of the standing timber in a given operating area without adequate compensation at fair market value. The 5% retention cap will be applied within the RMZs and CHZs unless the retention area is modified by agreements between DNR with due deference to DF&G, and the land or timber owner.

Abbreviations: CHZ = Conditional Harvest Zone
RMZ = Riparian Management Zone

¹ Retention of any tree species may satisfy the requirement.

² A field committee composed of a representative of DOF, DF&G, and a landowner will work out methods to implement the retention per size distribution requirement, using basal area or other means to ensure protection for fish habitat and harvest opportunities for the land owner.

Determining the Operating Area and 5% Cap

This section lists the method for defining an operating area.

Definitions

Planning Area. All contiguous land under the ownership of an individual, a corporation, or group of corporations under common control within an entire drainage, a sub-drainage in a large drainage, or a major reach of a large river.

Operating Area. The operating area includes all current and future harvest areas within the planning area. It includes all trees that could be cut within that area using conventional logging methods. It includes all such trees regardless of whether application of riparian standards would preclude cutting.

Process

1. Operator designates operating area. Portions of planning area not included within operating area cannot be logged until the next rotation, unless the operator complies with the guidelines outlined in the section titled "Harvesting Timber Outside the Operating Area," on the next page. This provision does not apply to land conversions.
2. Operator calculates basal area within the operating area using methods defined in regulation.
3. Operator calculates 5% of the basal area within the operating area. As explained earlier in this chapter, the landowner is not required to leave more than 5% of the basal area in the operating area without compensation. The 5% cap applies to all trees within the operating area that are left because of the riparian standards plus all tree stands made inoperable by application of those standards.
4. DNR evaluates proposal to determine whether basal area is accurate (plus or minus 10%).
5. Operator proposes actual harvest layout ⁿincorporating riparian management standards.
 - * If the 5% cap is not exceeded, DF&G may recommend different configuration of the riparian zone to maximize protection of fish habitat. However, the landowner makes the final decision whether to apply the riparian standards or to follow DF&G's suggestions.
 - * If the 5% cap is exceeded, the 5% retention shall be distributed through the riparian areas by agreement with DNR with due deference to DF&G.
6. If the State wants the landowner to leave more trees in the riparian zone than is required under riparian standards, the state may offer to the landowner adequate compensation at fair market value. Fair market value is computed on the basis of the current market value of the trees to be harvested from the operating area. (See also, Harvesting Timber Outside the Operating Area, on the next page.)

Harvesting Timber Outside the Operating Area. In order to discourage gerrymandering of the operating area, the following procedures will apply.

If the 5% cap has not been reached. The operator may harvest timber outside the original operating area if the 5% cap has not been reached and previous operations have complied with riparian standards or DF&G's recommended configurations as agreed to by the operator. The operator must comply with riparian standards in the new operating area.

If the 5% cap has been reached. If the 5% cap has been reached and the operator has not included all harvestable timber in the operating area, the timber not included may not be harvested until the next rotation, unless the operator and DNK (in consultation with DF&G) agree on additional riparian habitat enhancement or protection under the guidelines outlined below.

The basal area of the timber required to be dedicated to additional protection and enhancement will depend on the basal area of the proposed harvest that was originally excluded from the operating area. (Editor's note: the previous sentence was criticized as unclear and was to be re-written by Frank Rue & Tom Dillon. Bob Loeffler's suggested re-write is: The amount of the new operating area's basal area required for fish habitat protection or enhancement is dependent on the new operating area's size, relative to the original operating area's size.)

- * If the basal area proposed to be harvested is less than 10% of the basal area of the original operating area, the basal area of timber required for additional protection and enhancement will be 7 1/2% of the basal area of the new operating area.
- * If the basal area proposed to be harvested is more than 10% of the basal area of the original operating area, the basal area of timber required for additional protection and enhancement will be equal to 10% of the basal area of the new operating area.

The additional protection and enhancement may be in other watersheds in areas of value for anadromous fish habitat.

Side-Slope Stability Standards

This page lists the side-slope stability standards referenced in the riparian standards table on the previous page.

For channel types 1, 2, and 4, in addition to the general forest practices act standards covering forest practices activities, the following slope stability requirements shall apply:

1. Slopes in excess of 60% are slopes considered to be of high risk to slope failure.
2. Avoid undercutting the toe of slopes with a high risk to slope failure by road construction.
3. At the discretion of the operator, leave standing low value and non-merchantable timber where feasible to reduce risk of debris torrents.
4. Full or partial log-suspension will be achieved.
5. Fall and yard timber away from streams in "V" notches.
6. In these areas, side casting of displaced soil from road construction will be avoided to the maximum extent practicable.

2. Interim Riparian Standards for Region II (Private Land)

The standards outlined in the previous pages apply to private land in Region I. The standard outlined on this page applies to private land in Region II.

A 30-meter special management zone (SMZ) will be used on all stream types. (See channel type chart on page 8.) A SMZ is a shoreline or streamside area that will be managed primarily to protect anadromous and high quality resident fish habitat and water quality. Timber harvest may occur in SMZs if it is sited and designed to be consistent with these fish habitat and water quality goals. Timber harvest decisions in the SMZ require DNR approval with review and due deference to DF&G. A SMZ will be used on any waterbody in which anadromous fish or high value resident fish are found. These may include rivers, streams, lakes, estuaries, and wetlands.

A Region II group will develop riparian standards within the next 12 months for Region IIa and IIb. DNR will form a committee representing interested groups similar to the current forest practices steering committee. The riparian standards and stream types will be studied, with special emphasis on stream type 6's. The group should address all stream types, operating and planning definitions, the size and existence of a cap, and the size of and management within riparian zones. The recommendations of the group will be given to the Board of Forestry for review, and then to DNR for adoption.

3. Definitions

Special Zones Along Streams.

Riparian Management Zone (RMZ). An RMZ is a shoreline or streamside area which requires special management attention to protect water quality and fish habitat. Within the RMZ, special management practices such as timber retention requirements or slope-stability standards may apply. Timber harvest within the RMZ does not require agreement by DNR as long as it follows the standards.

Special Management Zone (SMZ). A SMZ is a shoreline or streamside area that will be managed primarily to protect anadromous and high value resident fish habitat and water quality. Timber harvest may occur in SMZs if it is sited and designed to be consistent with these fish habitat and water quality goals. Timber harvest decisions in the SMZ require DNR approval with review and due deference to DF&G.

Conditional Harvest Zone (CHZ). A CHZ is a shoreline or streamside area which requires special management attention to protect water quality and fish habitat. Any harvesting within a CHZ requires written DNR approval with DF&G review and with due deference provided to DF&G. Any timber taken from a CHZ in excess of the standards must be replaced by comparably sized timber either in other sections of the riparian zone (an adjacent RMZ) or from an area outside the riparian zone agreed to by DNR with review and due deference provided to DF&G.

No-cut Buffer. A no-cut buffer is a shoreline or streamside area in which timber harvest is not allowed.

RMZs, SMZs, CHZs, and no-cut buffers may be applied adjacent to rivers, lakes, estuaries, or wetlands. (See channel typing chart on page 8 and riparian prescription for the locations where these zones apply.)

Other useful Definitions.

High Value Resident Fish. For private lands, high value resident fish means resident fish populations which are accessible to the public and are or have historically been important for recreational, personal use, commercial or subsistence purposes.

Anadromous Fish Stream. In lieu of site-specific determinations that a stream does or does not contain anadromous fish, it should, for planning purposes, be presumed that a stream is anadromous if it is connected to anadromous waters without DF&G documented physical blockage and has a stream gradient of 8% or less. Where a previous site visit has not been made, DF&G will, at the operator's request, conduct a field review to document the presence of an anadromous fish. The field review to document the presence of anadromous fish will be scheduled when the anadromous fish are likely to be present and the site is accessible.

Class I Waters. Class I waters are those rivers, streams, lakes, estuaries, and wetlands that contain anadromous or high value resident fish.

Ordinary High Water Mark. The mark along the bank or shore up to which the presence and action of the nontidal water are so common and usual, and so long continued in all ordinary years, as to leave a natural line impressed on the bank or shore and indicated by erosion, shelving, changes in soil characteristics, destruction of terrestrial vegetation, or other distinctive physical characteristics [from 11 AAC 53.900(23)]. In tidal zones, the measurement is from mean higher high water.

Basal Area. Basal area is the cross-sectional area at breast height of standing trees expressed in square feet. Diameter at breast height (dbh) is measured four and a half feet above the ground. Basal area is computed by standardized procedures to be developed in regulation using, where possible, accepted timber cruising techniques.

Planning Area. All contiguous land under common ownership within an entire drainage, a sub-drainage in a large drainage, or a major reach of a large river.

Operating Area. The operating area includes all current and future harvest areas within the planning area. It includes all trees that could be cut within that area using conventional logging methods. It includes all such trees regardless of whether application of riparian standards would preclude cutting.

Due Deference. DNR will give due deference to DF&G and DEC as defined in 6 AAC 50.120. For decisions regarding variations to the riparian management standards, the habitat requirements shall be the paramount values within the riparian zones. If DNR does not agree with DF&G, it will prepare a written finding documenting their differences and elevating the issue as appropriate.

DF&G also receives due deference on road location decisions within streamside zones, and DEC receives due deference on the application of water quality standards. DF&G also makes final determination of stream channel types.

From 6 AAC 50.120: " 'Due deference' means that deference which is appropriate in the context of the commenter's expertise and area of responsibility, and all the evidence available to support any factual assertions."

Conventional Logging Methods. Conventional logging methods include shovel yarding, tractive means of skidding, and cable means of yarding such as high lead or skyline. Conventional logging methods do not include helicopter logging or balloon-assisted yarding.

Chapter 1. Riparian Management

B. State Land

I. Existing State Plans

On state land managed by DNR, area plans, state forest plans, and management plans have determined buffer widths and management adjacent to streams and water bodies. These policies have been determined in consultation with DF&G and with significant public review and comment. Policies vary among plans, but are generally consistent within regions of the state. Three examples follow:

From the Draft Prince of Wales Island Area Plan:

Anadromous fish streams: There will be a fish habitat management zone that is 300 feet wide, as measured from the ordinary high water mark, on each side of all catalogued anadromous fish streams. Site specific circumstances may sometimes dictate the establishment of a fish habitat management zone that is wider than 300 feet. The primary management objectives for a fish habitat management zone will be to maintain or enhance anadromous fish habitat. Only activities which are or can be made compatible with this objective will be allowed in these zones. DNR will consult with ADF&G before and throughout project planning to determine the appropriateness of a project, appropriate buffers and their width, and the appropriate design and maintenance of projects that meet objectives of the management zone.

Area plans written for southcentral and northern Alaska:

Generally these plans require that to the extent feasible and prudent, there will be setback a minimum of 100-foot landward of ordinary high water mark between designated anadromous fish waters and non-water dependent uses. The department interprets this language to indicate that there will be, to the extent feasible and prudent, a 100-foot no-cut zone between designated anadromous fish waters and timber harvest. (A smaller zone exists in the Willow Subbasin Plan: a minimum of 50-foot each side of the ordinary high water mark. Stream buffers in both the Susitna Area Plan and the Willow Subbasin Plan may be updated by the Susitna Regional Forest Plan, currently in progress.)

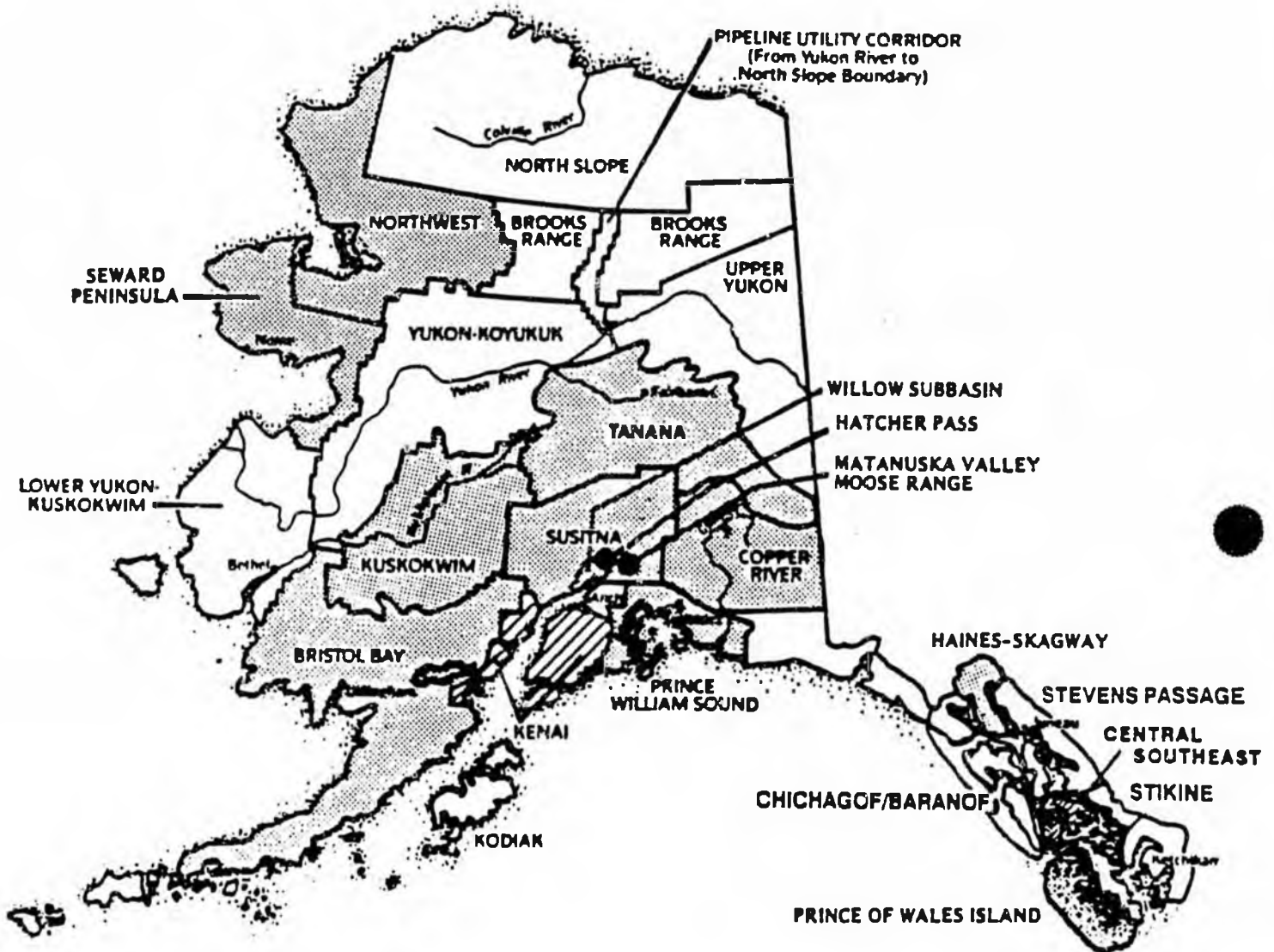
The Tanana Valley State Forest Plan:

The State Forest Plan requires a Special Management Zone (SMZ) adjacent to a stream or lake that will be managed primarily to protect or enhance recreation values, significant fish and wildlife habitat and human uses, and water quality. Its width will be determined on a case-by-case basis but will at a minimum extend 100 feet landward from the ordinary high water mark. Timber harvest may occur in the SMZ if it is sited and designed to be consistent with the primary recreation, fish and wildlife, and water-quality goals stated above.




The general areas and status of state area plans are shown on the map on the following page.

Alaska Department of Natural Resources

AREA PLANS



AREA PLANNING STATUS

-  Completed area plans
-  Area plans in progress
-  Not scheduled for area plans at this time

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Alaska Department of
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II. Future State Plans

All future state land use plans and revisions to existing plans will include at a minimum a 100-foot conditional harvest zone along class I waters (anadromous and high value resident fish waters). Any additional riparian management zone requirements will be addressed during the planning process.

Until an area plan, forest management plan, or site-specific plan is developed, the department will include a 100-foot no-cut buffer with an additional 200-foot conditional harvest zone along all lakes and streams. This provision, however, will not require the renegotiation of existing contracts. Also, this agreement and the proposed revisions to the act are not intended to affect on-going litigation in any way. (For description of the terms "riparian management zone," "conditional harvest zone," and "no-cut buffer," see page 19.

Chapter 1. Riparian Management

C. Other Public Land

The first two sections of this chapter describe riparian management prescriptions for private and state land. Other public land, including trust lands such as mental health lands, school lands, and university lands, will, if managed by DNR, follow the state land prescription. Borough, municipal, and other public lands not managed by DNR will follow the prescription below.

A 30-meter special management zone (SMZ) will be used on all stream types. (See channel type chart on page 8.) A SMZ is a shoreline or streamside area that will be managed primarily to protect anadromous and high value resident fish habitat and water quality. Timber harvest may occur in SMZs if it is sited and designed to be consistent with these fish habitat and water quality goals. Timber harvest decisions in the SMZ require DNR approval with review and due deference to DF&G. A SMZ will be used on any waterbody in which anadromous fish or high value resident fish are found. These may include rivers, streams, lakes, estuaries, and wetlands. This prescription is the same as the interim prescription for private lands in Region II.

Chapter 2. The Enhanced Notification System

This section describes the enhanced notification system. It applies to all lands which are not owned and managed by the state (DNR). For state land, the DNR forest planning process applies (see DNR planning process, Chapter 5, Section A). The way the new system would operate is shown on pages 30-32 at the end of this section. This section includes the following provisions:

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Public Information	25
Standard of Review	26
Agency Review	26
Variations from Standards	28
Coordination	28
Appeals	29
Administrative Record	29
Diagram of the Proposed Process	30

REVIEW PHASES. There will be three tiers of review. Information provided during the first and second tiers of review is described in Appendix A. Specific field information will be provided as available and necessary.

1. Annual Plan of Operation (Voluntary).

The annual plan is voluntary and will be useful for the agencies, the public, and the landowner. It provides information about annual (or longer term) activities the landowner expects to begin. It gives the agencies early notice and review of the probable harvest areas and allows the agencies to provide early information, suggestions, and potential problem areas to the landowner. For the public, it provides early notice and information, and an opportunity to provide local knowledge to the agencies and the landowner.

2. Detailed Plan of Operations (Required).

This plan provides the agencies with details of cutting units, road alignments, and other information necessary for review against the standards of the forest practices act.

3. Field Review (where necessary). Where the agencies are unsure about determinations based only on the detailed plan of operation, the agencies may require a field review. DF&G and DEC may request a field review, and DNR will require a field trip.

PUBLIC INFORMATION. Information from tiers 1 and 2 (or a synopsis of the information) will be distributed to a regional or some geographically based mailing list by DNR. Coastal districts affected by the proposed harvest will be given notice during this distribution. The comment period will be identified in the packet. DNR will provide comments received to the landowner. Field decisions will not be subject to public comment because of the operational problems of injecting a 30-day or longer delay into the field process. (Field decisions will, however, be documented for review. See Administrative Record, at the end of this draft.)

STANDARD OF REVIEW

1. A system of enforceable standards. The forest practices review system would have enforceable statutory and regulatory standards that harvest operations must follow. Where possible, these would be design standards; where that is not possible, they would be performance standards. The statute should also contain some guidance for DNR to use in its decisions whether to agree to a variation from these standards. These statutory and regulatory standards will be developed to satisfy DEC 319 requirements, and to serve as the Alaska Coastal Management Program (ACMP) standards on private land. For further details concerning ACMP, see page 55.
2. Scope of review. The scope of agency review is to determine whether forest practices statutory and regulatory standards will be met by the proposed activities. There is no general best interest finding. While the public can comment on anything they choose, the agencies would only have the discretion to consider those comments as they concern a violation of a forest practices standard or proposed variations from the standards.

AGENCY REVIEW - Review of Conformance of Activities to FPA Standards. (Discussion below does not include review of annual plan of operations. For discussion of that process, see REVIEW PHASES, above.) In all cases, DNR decisions will be based on appropriate consultation, coordination, or due deference as discussed on pages 28 and 29.

1. Office Review (i.e., Tier 2 - Review of Detailed Plan of Operations). Agencies review landowner's detailed plan of operations to determine if proposed activities will violate a forest practice standard.
 - a. *Proposed Activity Consistent with Standards.* If an activity meets the applicable standards, the activity would continue as planned.
 - b. *Field Review Needed.* If a field review is necessary for DNR to determine whether the activity would be consistent with the standards, then DNR notifies the landowner that field review is required before the activity can occur. A field review may also be requested by the landowner.
 - c. *Activity Violates Standard.* If DNR finds the activity, as proposed, would violate a standard, then DNR can issue a directive or a stop work order (for difference between them, see section below). One of the following would apply.
 - (1) the landowner could propose a different method of performing the activity for the agencies to evaluate;
 - (2) the landowner could conform to the agencies' recommended method for performing the activity;
 - (3) the landowner and agencies could discuss and agree on a method consistent with the standard; or
 - (4) the landowner can appeal the directive or stop work order.

2. Field Review. A field review will be conducted when necessary to determine whether a proposed activity is consistent with forest practices act standards.

If, after the field review, DNR felt an activity would not violate a standard, the activity would continue as planned. If DNR felt the activity, as proposed, would violate a standard, then DNR can issue a directive or a stop work order (for difference between them, see section 4, below). After the directive or stop work order, one of the four options would apply that are listed in I.c. (1) through (4) above.

3. Review Schedule

- a. *Detailed Plan of Operations.* Agencies would complete review and DNR would respond to the landowner within 30 days. If DNR does not respond, the activity could continue as planned. An additional 10 days may be added for agency elevations.
- b. *Field Review.* The landowner would give DNR 21-days notice to conduct a field review prior to conducting any activity at the site identified as needing a field review. The landowner would not give the notice until site conditions were appropriate for the inspection and reasonable access was available. Reasonable access means that the site of the proposed activity has been surveyed or marked, and that the area is free of significant snow cover. At that time, the DNR would have 21 days to complete inspection and make their decision unless an alternate schedule is agreed upon by agencies and the landowner. (DF&G and DEC may also make inspections within the 21-day period.)

4. Directive versus Stop Work Order.

- a. *Directive.* A directive is a letter that DNR writes to the landowner saying how a proposed activity or part of an activity would be out of compliance with a FPA standard. The landowner may appeal a directive; however, the landowner can continue with the activity unless a stop work order is issued or the agency directive is upheld on appeal.
- b. *A stop work order.* A stop work order is similar to a directive -- that is, it's a letter or a form stating that an activity or part of an activity violates a standard. The difference is that a stop work order means that the landowner cannot continue with the activity pending appeal. They must stop pending appeal.

A stop work order is used when the agency believes that significant harm will occur if work continues. The following are some examples of where significant harm would occur if work continues: road building that may cause a landslide, cutting trees that the standard says should remain standing (i.e., once cut, the trees can't be put back), other activities that will cause imminent erosion into a stream.

If delaying compliance will not cause a significant harm (e.g., it won't occur during the time of the appeal process), then a directive is appropriate. The following are some examples of where significant harm might not occur during the time of the appeal: not putting a road to bed properly, cleaning up slash, changing a yarding location (this may not be harmful to delay, if use of the yard location is still 20 days away). In each of these cases, a 10-day delay for appeal of the directive may not cause significant harm because

delaying the activity won't cause the harm.

- c. *When can a stop work order or directive be used?* A stop work order or a directive can be used during the office review, during a field review, or anytime a DNR field inspector sees an operation that will violate a standard.
- d. *Are directives and stop work orders effective before an activity takes place?* Yes. We are using the term "stop work order" to mean that work must stop (or cannot start) pending appeal. We are using them to apply to existing activities and proposed activities. In other words, where DNR reviews a plan and sees that significant harm will occur when the activity begins, they can issue a stop work order. If the activity is already occurring, DNR may also use a stop work order. Both a "directive" and a "stop work order" can apply to existing and proposed activities.

VARIATIONS FROM STANDARDS. The landowner or operator may propose a variation from a design standard in a specific instance. For example, if a design standard was designed to avoid landslides and in this case the design standard was unnecessary because it was solid rock and a landslide was unlikely, or the landowner could provide an alternative design that gave the same degree of landslide protection, then a site-specific variation from the standard would be appropriate. Note, however, that the landowner could not appeal the standard itself, just that its application was not necessary in a particular case to achieve protection of public resources from significant harm.

If a variation was proposed, any one of the following would apply:

- (a) the agencies could agree to the variation as proposed;
- (b) the agencies could modify in the landowner's proposal and the landowner could agree;
- (c) the agencies could negotiate an agreement acceptable to both parties; or
- (d) they could not come to agreement. If they did not come to agreement, the mandatory standard would apply; that is, the mandatory standard would be a fall-back position for both the agencies and the landowner.
- (e) the landowner could appeal the agencies denial of the variation. In this case, the landowner would have to abide by the standard during the time of the appeal (and afterward, if the appeal was denied).

If an agency wanted the landowner to provide protection above and beyond the standard, it could propose a variation from the standard. If the landowner agreed, then the protection would be provided. If the landowner did not agree, then standard would apply.

COORDINATION

1. Coordination of review. DNR will be the coordinating agency for all activities pursuant to the forest practices act (distribution of information, scheduling, field logistics, project status, etc.) DNR will also be the agency charged with implementing the Forest Practices Act with the appropriate consultation, elevation, and due deference.
2. Consultation. For application of all standards to a specific project site, for all review tiers, all agencies and coastal districts (if the project will affect their district) will interact with DNR in a consultative role. Their advice is not binding on DNR but is an effective way to obtain and apply agency and local expertise to a proposal.

3. Due Deference. DNR will give due deference to DF&G and DEC as defined in 6 AAC 50.120. For decisions regarding variations to the riparian management standards, the habitat requirements shall be the paramount values within the riparian zones. If DNR does not agree with DF&G, it will prepare a written finding documenting their differences and elevating the issue as appropriate.

DF&G also receives due deference on road location decisions within streamside zones, and DEC receives due deference on the application of water quality standards. DF&G also makes final determination of stream channel types.

From 6 AAC 50.120: " 'Due deference' means that deference which is appropriate in the context of the commenter's expertise and area of responsibility, and all the evidence available to support any factual assertions."

DNR will assist DEC by identifying areas and proposals where water quality issues are likely to arise. This will allow DEC to focus its limited staff resources on areas and issues where water quality is of greatest concern, reducing the need for DEC to duplicate DNR's level of field presence.

4. Elevation. A DNR decision will not occur if an agency formally requests discussion of the issue at a higher level authority. Any elevation to higher authority will be completed within 10 days. If necessary, DNR will notify the landowner or operator of the additional 10-day waiting period.

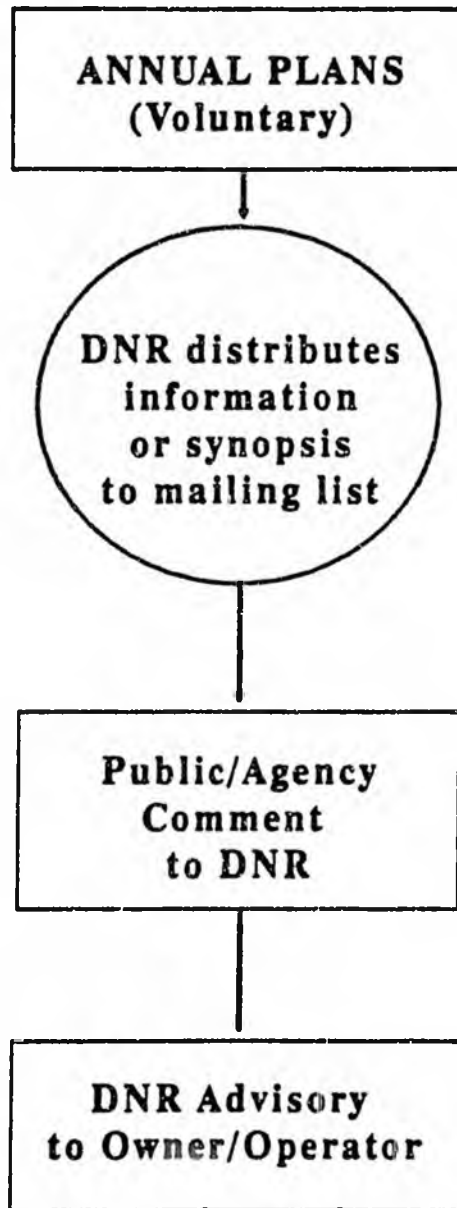
APPEALS. The appeal process would be quick (10-days or less for directives; than 5 working days or less for stop work orders); would be internal to DNR; and would not require the hiring of an appeal officer. The appeal process may be integrated into the agency elevation process.

ADMINISTRATIVE RECORD.

1. Documenting Decisions. All decisions would be in writing. Landowners need written decisions so they know what activities and standards they will be held to. The public and agencies need adequate documentation so that they can review agency actions.
2. Compiling Decisions. DNR will compile and index the decisions including directives, stop work orders, and variations from standards. In this fashion there will be a continuous record for the public or the Board of Forestry to review to determine whether the system is working and if it needs change. Annually, a summary of this record will be submitted to the Board of Forestry for review.
3. Confidential Data. All financial data submitted to DNR to justify compensation or for other purposes will be confidential.

**THE ENHANCED FOREST PRACTICE
NOTIFICATION SYSTEM**
Diagram of Proposed Review Process

REVIEW OF ANNUAL PLAN



page 1 of 3

KEY



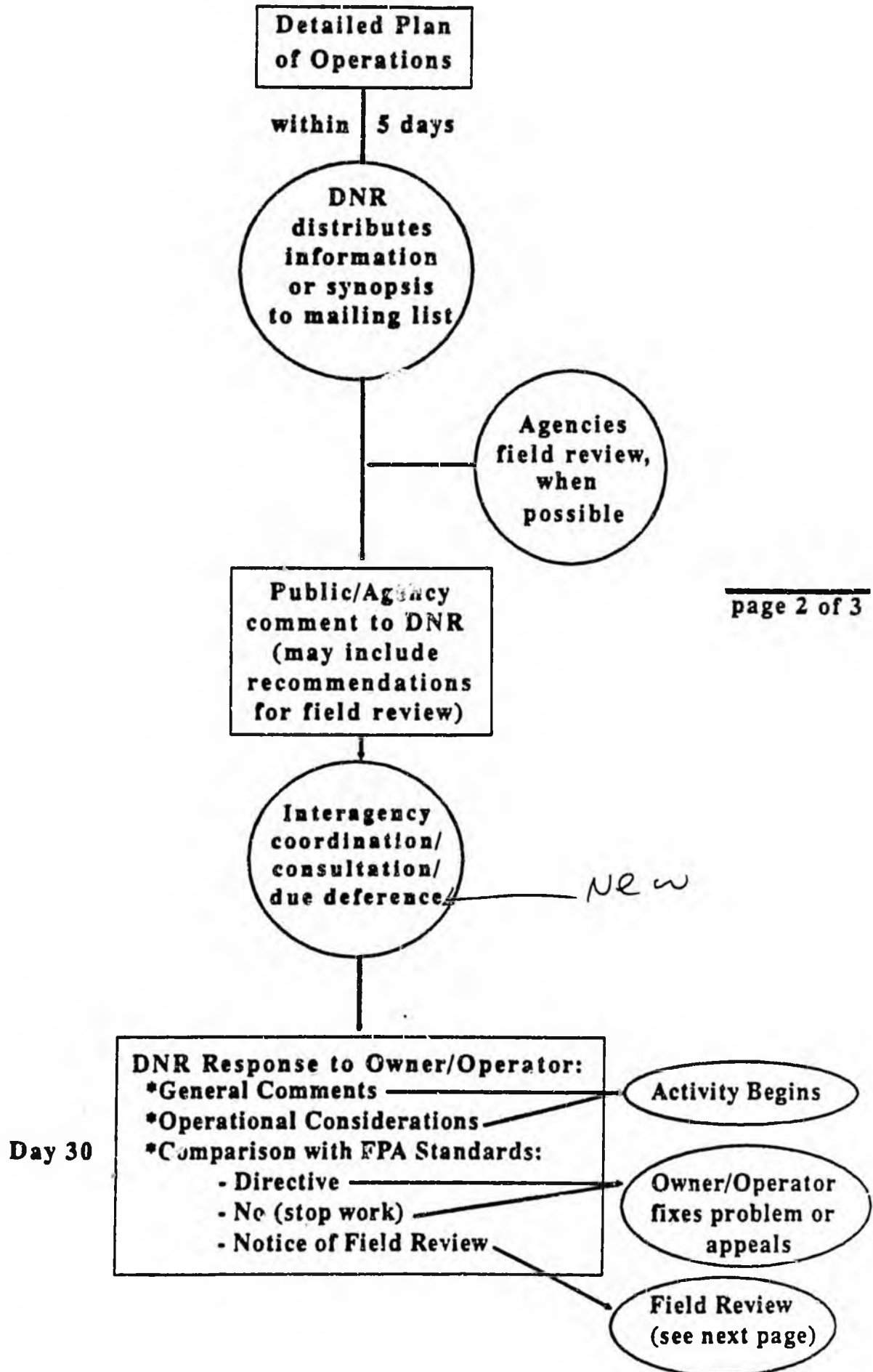
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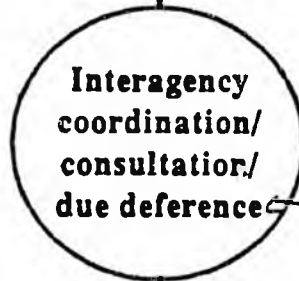
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REVIEW OF DETAILED PLAN OF OPERATIONS

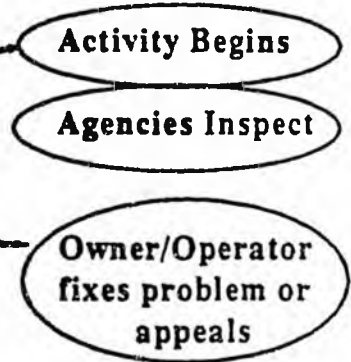
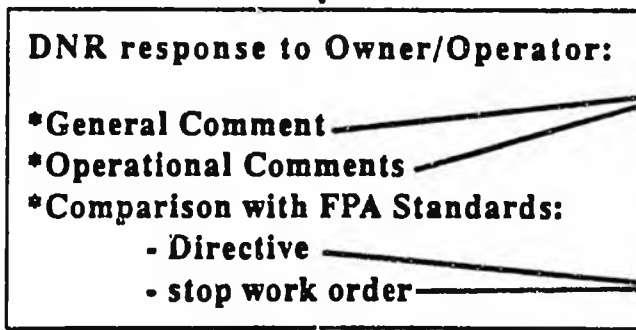
OFFICE REVIEW:



FIELD REVIEW
(if not conducted during
initial 30-day period)



New



21 days max.

Chapter 3. Enforcement

The Forest Practices Act currently provides for stop orders and civil fines. However, in the existing law, both a stop order and a civil fine require a hearing before an independent hearing officer "appointed by the attorney general from among members of the Alaska Bar Association who have been nominated by the Board of Forestry and who are knowledgeable and experienced in the subject matter [AS 41.17.139(a)]." This requirement is expensive and this hearing requires that DOF personnel have legal training that they currently do not have.

The FPA will be amended to provide the following additional enforcement remedies:

1. Violation of the Act, a regulation or an order will be a Class A misdemeanor (existing civil penalties remain available).
2. The requirement for an independent hearing officer will be deleted.
3. DNR will have the authority to issue "stop orders" for actual or threatened violations without previously providing an administrative hearing under the following conditions:
 - a. there must be an imminent threat of significant harm to public resources;
 - b. the order must be written, and the grounds for the order must be stated. At the hearing, the agency must rely on the same grounds stated in the order; and
 - c. the order will be effective for 5 working days after the receipt of a request for a hearing, in which time an agency hearing must be held to uphold or rescind the order.
4. The FPA will require that prior to taking any enforcement action (other than an emergency action) all state agencies with enforcement authority over the matter will establish a uniform state enforcement strategy. All participating agencies must agree to the contents of that strategy. The uniform strategy could include all enforcement strategies available to the agencies. When developing the coordinated enforcement strategy, each agency retains its authority to determine the appropriate remedy under its statutes and regulations. For specific types or classes of violations, procedures to establish that strategy may be established in advance through the procedure in (5) below.
5. The agencies will write procedures for developing these strategies.
6. In developing the required uniform enforcement strategy, state agencies will accord deference to each agency's statutory authorities, and will respect these authorities to the extent consistent with the strategy's goals of avoiding inconsistent or duplicate enforcement action.
7. The FPA will provide that state agencies must comply with the uniform state enforcement strategy.

Notes from the Steering Committee Meeting:

- * The hearing officer is the deciding officer; the loser may either go to court or request the Commissioner's review or reconsideration based on the existing record. (Specifically relevant to section .133 of the act.) Also, the hearing is based on the facts of the field investigation, and facts presented by the operator and agencies.

- * In section .143 of the act, delete the attorney general's function. The agreement in principle will indicate that the commissioner's hearing authority will be delegated to the state forester with the ability to redelegate as appropriate.
- * The enforcement remedies are possible on all land ownerships: private, borough, or state.
- * There was a question of what constitutes a violation (with respect to civil fines, sec .141). The answer was that the enforcement remedies provided to DNR would use a similar definition to that provided to DEC under its Title 46.

Chapter 4. Board of Forestry

- A. The Board of Forestry should be composed of seven members or representatives of the following:
1. A member or representative of a statewide commercial fishing organization;
 2. A member or representative of a for-profit corporation established under the Alaska Native Claims Settlement Act;
 3. A member or representative of an environmental organization;
 4. A member or representative of a forest industry trade association;
 5. A professional fish or wildlife biologist who is not employed in that capacity by state, municipal, or federal governments (except for university employment).
 6. A professional forester who is not employed in that capacity by state, municipal, or federal governments (except for university employment).
 7. The State Forester is the non-voting chair of the Board.
- B. The members should be selected by the governor. Terms should be staggered to provide continuity between administrations, and removal should be for cause only.
- C. Appropriate technical staff shall be provided at board meetings by DEC, DF&G, DNR. Board staffing by DOF.
- D. In addition to the existing duties in the Forest Practices Act, the board should provide a forum for representatives of concerned parties to discuss and attempt to resolve relevant issues concerning Alaska's forest resources. Additional duties of the Board shall include preparation of an annual report, including any dissenting opinions, to the legislature and the governor on the effectiveness of the act, the need for legislative or regulatory changes, and research and monitoring needs, based on public comment, agency input, and at least one public meeting in each region annually (i.e., Southeast, Southcentral and Interior Alaska).
- DNR, DF&G, and DEC will present an annual report independently to the legislature and the Board of Forestry, on the resources for which they have statutory expertise and make recommendations for any improvements that rectify procedural or substantive problems. (For duties of the board concerning research and monitoring, see page 63.)
- E. The quorum for the operation of the board will be five voting members. Decisions may be made with one member dissenting rather than by simple majority or by unanimous consent.
- F. The chair will work with the board to establish procedures for scheduling and organizing meetings. If a board member cannot attend a meeting, he may send an alternate. The alternate must, however, represent a the same constituency (i.e., be a member or representative of the environmental community; be a professional forester not currently employed in that capacity by state government; etc.)

Chapter 5. Wildlife and Planning

This chapter of the agreement describes the proposed DNR forest planning process. This planning process is the method of implementing wildlife protection during timber harvest on state land managed by the Department of Natural Resources.

As a summary, changes to DNR's forest planning process accomplish the following:

- * New statutory and regulatory emphasis on wildlife habitat and other non-timber uses.
- * Five-year sale schedule and enhanced public participation.
- * Best interest finding under AS 38.05.035 for all sales, including increased analysis in the development of individual timber sale provisions.
- * Enhanced opportunities for public participation at each of the forest planning stages.
- * Planning for public lands will be required to allow for scenic quality and wildlife habitat, in addition to other considerations.
- * On private lands, the landowners are encouraged to enter into cooperative agreements with DF&G to identify wildlife habitats and management options to minimize adverse impacts.

The first part of this chapter (pages 37 through 44) describes the proposed planning process. While DNR's general planning process is described, including area plans, changes are concentrated in the forest planning process: state forest plans, forest management plans, and forest management reports.

The second part of this chapter describes the intent of the committee for wildlife on state land. It is followed by proposed regulations to implement the proposed changes to the planning process, including wildlife protection during timber harvest on state land. The fourth section describes the committee's intent for wildlife on private lands.

The organization of this chapter is outlined below.

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DNR's Forest Planning Process	37
Wildlife on State Land, Intent	45
Wildlife and Planning on State Land (Proposed Statute and regulation changes)	46
Wildlife on Private Land	48

Chapter 5. Wildlife and Planning

A. Department of Natural Resources Forest Planning Process

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Detailed Land Use Management, including Timber Sale Design	Page 40
The Five-year Timber Sale Schedule	Page 43
Proposals for Statute/regulation Changes	Page 44

Summary

Land use plans are DNR's method for providing general guidance for land management. They have substantial agency and public involvement, generally including three rounds of public meetings.

The department receives agency and public review of timber sale design through its Forest Management Report (FMR). It includes the department's analysis and design details for individual timber sales. The FMR receives public and agency review. The FMR also serves as the Best Interest Finding for each sale.

The Five-Year Timber Sale Schedule, is a technique for getting improved public and agency review of the department's timber sale program. It is intended to give the department early warning of issues from the timber industry, agencies, and the public that may influence the individual sale design or the department's overall sale program. The schedule does not replace other planning and public notice requirements.

LAND USE PLANS GENERAL GUIDANCE FOR LAND MANAGEMENT, INCLUDING FORESTRY

The Department uses land use plans to provide general guidance for land management, including timber harvest. The detail of the guidance can vary substantially between plans and within plans for an area. The guidance can be as general as setting out the primary management values. It can be as detailed as setting out specific timing restrictions and harvest practices, or locating areas where timber harvest is expected and where it is prohibited. The detail of the guidance depends on public and agency concern, the amount of knowledge about the issue, the type of decision required, and the amount of data and time available.

Land use plans include area plans and management plans of which state forest management plans are one example. (Other divisions and agencies also prepare plans -- for example, the Division of Parks prepares plans for state parks -- but these are not described here.)

I. Types of Plans

A. Area Plans

The Department of Natural Resources uses area plans to determine the primary management values on lands managed by the department. The area plan determines whether land will remain in state ownership or be sold. For land that remains in state ownership, the plan determines the classification, management intent, allowable and prohibited uses, and guidelines for the use of state land. For example, an area plan might determine that there are two primary management objectives for the land -- say, forestry and wildlife -- and might provide general guidelines for those two uses to be managed compatibly. In some cases very specific guidance is included.

Area plans exist or are in progress for approximately 60% of state land. Completed area plans include the Susitna, Tanana, Kuskokwim, Copper River Basin, Northwest, Prince William Sound, Prince of Wales Island, and Delta-Salcha Area Plan; and the Bristol Bay Cooperative Management Plan. The department is scheduling the Kenai Peninsula and the Central Southeast Area Plans to begin during 1989. Area plans are required by AS 38.05.065 and 11 AAC 55.030.

B. Management Plans

Management Plans are written to address issues in more detail than the land use designations resulting from an area plan. A management plan generally decides the timing, extent, location, and guidelines for land use activities. Management plans may deal with a smaller area in greater detail or provide direction for a specific land use within a larger area. Management plans are required by Title 41.17 for State Forests. On land not legislatively designated, they are done when the complexity of proposed or existing activities requires more detailed planning.

The Susitna Regional Forest Plan, currently underway, is an example of a forest management plan.

C. State Forest Management Plans.

State Forest Management Plans are management plans required by legislation for state forests. The Tanana Forest Plan and the Haines Forest Plan were completed for the state's two State Forests.

II. Description of the Planning Process

The planning process is essentially the same for area plans, management plans, and state forest plans. It is designed to ensure full participation by the public and government agencies; to provide opportunities for review and revision of the plan; and to include consideration of all comments. The process includes eight major steps.

1. Public and agencies identify issues (usually public meetings)
2. Resource information is compiled.
3. Management alternatives are prepared.
4. Alternatives are reviewed with the public (usually public meetings)
5. Draft plan is prepared.
6. Draft plan is reviewed with the public (usually public meetings)
7. Final plan is prepared.
8. Plan is adopted and implemented.

Steps one and two usually result in a published resource analysis in which resources such as Fish and Wildlife, Forestry, Minerals, Recreation and Transportation are analyzed for issues, concerns, policy, supply and demand, management options, and costs.

An interagency team is responsible for developing the plan. The Department of Fish and Game is always part of the planning team. For example, the planning team for the Tanana State Forest Plan included: Division of Forestry, Division of Geological and Geophysical Surveys, Division of Land and Water Management, Division of Mining, and Division of Parks and Outdoor Recreation; Department of Fish and Game; Department of Environmental Conservation; Department of Transportation and Public Facilities; the Fairbanks North Star Borough; and the USDA Forest Service Institute of Northern Forestry.

In addition, private citizens, citizens' groups, private organizations, and other state, federal and local agencies participate in the planning process by attending workshops and providing comments.

Area plans require between two and a half and three years to prepare, management plans are sometimes quicker. The final plan is adopted by the commissioner of DNR and guides land management actions on DNR-managed land.

III. Differences between Title 41 and Title 38 Plans.

There are essentially no differences in the planning process between land administered under title 38 (i.e., general state land), and that administered under title 41.17 (state forests). Area plans and sometimes management plans are prepared for general state land. State forest plans are always prepared for legislatively designated state forests.

IV. Other General Guidance for State Land

A. The Legislature

The legislature can determine the primary resource values for an area in legislation as when it creates a state forest, state park, state critical habitat area, or other legislatively determined area.

The legislature has created two state forests: Tanana Valley and Haines. "The primary purpose in the establishments of state forests is the perpetuation of personal, commercial, and other beneficial uses of resources through multiple-use management." (AS 41.17.200)

B. Areas where land use plans have not been prepared

Almost all state land outside of either area plans or state forests have been classified. In some cases, there was a classification for a specific purposes (i.e., to recognize a village watershed; or to allow the state to hold a timber sale). In many cases, the classification is general and gives little guidance to subsequent decisions.

DETAILED LAND USE MANAGEMENT, INCLUDING TIMBER SALE DESIGN

I. Nomenclature - Forest Management Report, FMR,.035 finding, preliminary decision, site-specific timber sale plan, and best interest finding.

Title 38, [AS 38.05.035(e)] requires that the state make available a "written finding" before most disposal of state interests. When a draft of this "written finding" is made available for public review, it is sometimes called a preliminary decision, draft best interest finding, or draft .035-finding. After incorporating review comments, the department signs the "written finding" and holds the timber sale. The final version of this "written finding" is sometimes called a final decision, final finding, .035-finding, or best interest finding. They are all the same thing. The mechanism that the department uses to set out this "written finding" for an individual timber sale is the Forest Management Report (FMR).

The department circulates the timber sale design for public review as part of the Forest Management Report. Therefore, the FMR is also a "site-specific timber sale plan."

II. The Forest Management Report

The draft Forest Management Report (FMR) is the Preliminary Decision document prepared for individual timber sale proposals. The FMR is required in the Division of Forestry's Policy and Procedures Manual. It is designed to exceed the requirements of AS 38.05.035 and is designed specifically for disposal that involve forest products. The FMR provides general sale identification information; location data and timber sale design information for effective notice of interested parties; land title details; conformance with other existing plans, department policies, and conformance with regulations (such as those of the forest practices act); access provisions, and a narrative section. The narrative section varies greatly in length with the complexity of the proposed sale.

Points to be addressed in this part of the FMR include the following areas:

- * Statutory Authorities
- * Consistency with 5-year harvest schedule
- * Harvest unit description
- * Access provisions
- * Logging systems/constraints
- * Insect and disease conditions
- * Physical sale area descriptions including topography, soils, wetlands as they influence the sale design
- * Stand descriptions
- * Reforestation and silvicultural provisions (including reforestation cost and proposed methods)
- * Whether an annual operating plan will be required
- * Coastal Zone Management consistency determination (where applicable)
- * Non-timber resources. For these resources the FMR process will include review and description of non-timber resources, activities, and significant impacts, unusual conditions that require special provisions in the sale design; and where appropriate, mitigation. The review of non-timber resources will address the following:
 - (1) fish and wildlife habitat including:
 - (a) identification and protection of important wildlife habitat such as high-density bear use areas; swan nesting areas; moose, deer, and mountain goat winter ranges; and critical marine mammal habitat;
 - (b) design of harvest methods and configurations to provide natural travel corridors and escape cover;
 - (c) retention of snags for cavity dependent wildlife, recognizing worker safety and fire requirements;
 - (d) retention of riparian, wetland, and ocean-shoreline vegetation critical for fish and wildlife habitat;
 - (e) classification of waterbodies according to physical characteristics.
 - (2) uses of the forest for its recreation, tourism and related activities;
 - (3) mining, mining claims, and mineral leasehold location;
 - (4) gravel extraction;
 - (5) uses of fish and wildlife;
 - (6) agriculture, including grazing;
 - (7) soil productivity and water quality;
 - (8) other existing commercial and non-commercial uses;
 - (9) internal/adjacent private lands;
 - (10) other forest products, resources and uses the department considers appropriate.
- * criteria upon which the timber sale decisions are made.
- * air
- * cultural/historic sites
- * visual resources
- * applicable public and agency comments and DNR responses (final FMR only)

Forest Management Reports are generally completed between 5 and 14 months prior to the anticipated auction date. They are advertised and available to the public. Comments to this document are evaluated and responded to in the final FMR. The final sale design, if it proceeds, is modified as needed. Field work is done to put the paper plan on the ground.

Forest Management Reports are sometimes prepared for areas where more general land use planning such as an area plan or a forest management plan does not exist. In these cases, the FMR may include some of the more general planning process steps typical of those plans. For example: scoping meetings, more complete resource inventory, management alternatives, etc. Where no higher level plan exists, the complexity and detail of the FMR, including the extent to which it includes the more general process steps, will depend on the

complexity and controversy of the proposed activities.

III. Public and Agency Review.

For large, complex, or controversial sales, agency review is conducted before the FMR is available to the public. For small sales, public and agency review may occur concurrently.

The draft FMR is available and comments taken for at least 30 days. For controversial sales, or sales where communication is difficult (e.g., some remote areas), the review period may be longer. Public meetings may be held, if needed. After changes are made in response to public or agency comments, the final FMR must, by law, be available for at least 21 days before the sale auction is held or the contract signed.

IV. Annual Operating Plans (Post Contract Signing).

Annual Operating Plans (commonly referred to as "logging plans") describe how the purchaser is going to fulfill the timber sale contract. They are not required by regulation but may be included as a contract stipulation (11 AAC 21.300). Logging plans are often required if the sale is complex. What a logging plan must address varies widely from sale to sale. The plans may be as simple as start and stop dates or may require engineering details. The plans are reviewed for consistency with the contract and must be approved by DNR prior to the operation proceeding. Approved annual operating plans become part of the sale contract.

Where annual operating plans are required by the contract there are three scenarios:

- 1) Where no substantial deviation from the contractual provisions are proposed and the plan meets contractual requirements, the Division of Forestry will forward a copy of the annual operating plan to DEC and DF&G so they will be alerted to any required permits from their agencies.
- 2) If the plan proposes actions which are consistent with the FMR, but not the contract, the logging plan cannot be approved without a contract amendment. Contract amendments must be consistent with the actions proposed and reviewed in the FMR, not result in any material change in the contract and be within the limit of changes allowed by regulation. The Division of Forestry shall solicit agency review of this proposed action from the other agencies prior to implementing the contract amendment.
- 3) If an action is proposed which significantly deviates from the FMR, the Division of Forestry will advertize the proposed change for public and agency review for at least 30 days. All comments shall receive a response and be considered prior to consummating the specific contract amendment and allowing implementation of the annual operating plan as amended.

Regardless of the required level of review, DNR must approve every annual operating plan prior to the operator proceeding.

THE FIVE-YEAR TIMBER SALE SCHEDULE

The Five-Year Timber Sale Schedule, is a policy technique and scoping process for getting improved public and agency review of and input into the department's timber sale program. It is intended to give the department early review of issues from the timber industry, agencies, and the public that may influence the individual sale design or the department's overall sale program. The schedule does not replace other planning and public notice requirements.

The narrative is written with Year 5 being the year of the sale with Year 1 four years prior.

I. General Description of the Schedule

A. Years 1-3.

The objectives of Years 1 through 3 of the schedule are to identify issues early in the process; direct DNR's and DF&G's field work and data collection; to direct the environmental and economic analysis; and to inform the public and forest industry where the department's timber sale program is headed. Years 1 through 3 are primarily informational -- for both the department and the public.

B. Years 4 and 5

The objectives of these years of the sale schedule are to gather public and agency review and comment on specific timber sale design prior to Division personnel completing cruising, boundary marking, road design, harvest design, etc. Division personnel complete detailed harvest and environmental design to ensure that the sale balances the needs of the timber industry, agencies, and the public. Work will concentrate on sales in year four of the sales plan and changes that may be required in year five of the sale schedule.

During this time the draft Forest Management Report is completed and made available for public review. The report contains timber sale design information. After incorporating changes made on the basis of public comment, the final report is distributed before the sale auction. (The Forest Management Report serves as the ".035 finding," "site-specific timber sale plan," "best interest finding," or preliminary decision." See description of Forest Management Report on pages 40-42.) The sale occurs and harvest may begin during year 5.

As the five-year schedule is amended from year to year, sales will move from one year to another. However, sales with cutting units totaling greater than 160 acres must be on the schedule for two years before sale.

II. Specific Provisions of the Sale Schedule

A. Duration on the sale schedule

Sales with cutting units totaling greater than 160 acres must appear on the sale schedule for two years before they are sold. Exceptions to this requirement may be made for emergencies such as salvage, re-offerings of old sales, or providing a temporary supply to an operator to take advantage of developing markets while a larger sale is being prepared. Our intent is that smaller sales will be on the schedule, but it is not required. Every competitive bid sale must, however, comply with all public and agency review requirements (see description of Forest Management Report).

B. A 160-acre threshold?

The department needs to respond with small sales for operators who cannot always plan two years in advance. In addition, small sales generally have less impact on public resources than larger sales. The 160-acre threshold was picked to allow the department that flexibility. (Forest Management Reports and public notice will be required for less than 160-acre sales.)

C. Public and agency review.

The five year schedule will be sent for annual public and agency review. Comments will be compiled and the schedule will be amended as necessary on the basis of those comments.

D. Start-up.

To prevent this schedule from placing a one-year delay in the department's timber program, the requirement that sales be on the schedule for two years will not apply in the schedule's first year of publication. However, first year sales will comply with other requirements for agency and public review. (See description of Forest Management Report).

III. Title 41 and Title 38

The Five-year Timber Sale Schedule applies equally to land administered under title 38 (general state land), and under title 41.17 (State Forests). There are no differences.

PROPOSALS FOR STATUTE/REGULATION CHANGES

Statute and regulation changes to implement the proposed changes are listed on pages 46 and 47.

Chapter 5. Wildlife and Planning

B. Wildlife Habitat, State Lands

The forest resources of Alaska are among the most valuable natural resources of the state, and public lands furnish timber and wood products, fish and wildlife, tourism, outdoor recreation, water, soil, air, minerals and general health and welfare. On public lands, it is the objective of the state to a) provide timber for the forest products industry, b) protect, maintain, and where possible enhance fish and wildlife habitat, and c) protect, maintain, and where possible enhance¹ commercial, recreational, subsistence, and personal use and enjoyment of these resources to best meet the needs of the public.

The next two pages contain statute and regulation changes for DNR's forest management planning process that implement this intent on state land.

¹Note to drafter: The words "where possible" are only meant to modify "enhance", not protect or "maintain."

Chapter 5. Wildlife and Planning

C. Forest Planning & Wildlife on State Land Proposed Statutory and Regulatory Changes

I. Proposed Statute Changes.

Forest Management Plans. This section applies only to land managed by the Department of Natural Resources and classified forestry or managed for long-term forestry.

- (a) On state land, before timber harvest begins, the following will be addressed by either a forest management plan or a forest management report:
 - (1) commercial timber harvest and related activities
 - (2) harvest of forest products for personal use
 - (3) fish and wildlife habitat including:
 - (a) identification and protection of important wildlife habitat;
 - (b) retention of riparian, wetland, and ocean-shoreline vegetation critical for fish and wildlife habitat; and
 - (c) classification of waterbodies according to physical characteristics.
 - (4) uses of the forest for recreation, tourism, and related activities;
 - (5) mining, mining claims, mineral leasehold location, and mineral leasing;
 - (6) material extraction;
 - (7) uses of fish and wildlife;
 - (8) agriculture, including grazing;
 - (9) soil productivity and water quality;
 - (10) other resources and uses the department considers appropriate;
 - (11) watershed management;
 - (12) other traditional, compatible uses;
- (b) Forest management plans and forest management reports for state lands will be developed in accordance with AS 38.04.065 and will reflect the standards in Sec 41.17.060(c) and regulations promulgated pursuant to Sec. 41.17.080. Forest management reports will be designed to satisfy the requirements of AS 38.05.035(e). The reports will also contain the criteria upon which the timber sale decisions are made. Forest management plans will be submitted to the Board of Forestry for review.
- (c) Language describing the five-year timber sale schedule goes here. We have not written it but will leave it for the attorney general to write a draft.
- (d) DNR will solicit and base its decisions on applicable and best available data, and on other information provided by participating agencies, describing the immediate and long-term effects of individual and collective forest activities on the timber base and on other resources and uses.

II. Proposed Regulations. Regulations for Section (a) above will contain the following: These regulations apply only to land managed by the Department of Natural Resources, and classified forestry or managed for long-term forestry.

The Forest Management Report will address the following:

- * Statutory Authorities
- * Consistency with 5-year harvest schedule
- * Harvest unit description
- * Access provisions
- * Logging systems/constraints
- * Insect and disease conditions
- * Physical sale area descriptions including topography, soils, wetlands, as they influence the sale design
- * Stand descriptions
- * Reforestation and silvicultural provisions (including reforestation cost and proposed methods)
- * Whether an annual operating plan will be required
- * Coastal Zone Management consistency determination (where applicable)
- * Non-timber resources. For these resources the FMR process will include review and description of non-timber resources, activities, and significant impacts, unusual conditions that require special provisions in the sale design; and where appropriate, mitigation. The review of non-timber resources will address the following:
 - (1) fish and wildlife habitat including:
 - (a) identification and protection of important wildlife habitat such as high-density bear use areas; swan nesting areas; moose, deer, and mountain goat winter ranges; and critical marine mammal habitat;²
 - (b) design of harvest methods and configurations to provide natural travel corridors and escape cover;
 - (c) retention of snags for cavity dependent wildlife, recognizing worker safety and fire requirements;
 - (d) retention of riparian, wetland, and ocean-shoreline vegetation critical for fish and wildlife habitat; and
 - (e) classification of waterbodies according to physical characteristics.
 - (2) uses of the forest for its recreation, tourism and related activities;
 - (3) mining, mining claims, and mineral leasehold location;
 - (4) gravel extraction;
 - (5) uses of fish and wildlife;
 - (6) agriculture, including grazing;
 - (7) soil productivity and water quality;
 - (8) other existing commercial and non-commercial uses;
 - (9) internal/adjacent private lands;
 - (10) other forest products, resources and uses the department considers appropriate.
- * criteria upon which the timber sale decisions are made.
- * air
- * cultural/historic sites
- * visual resources
- * applicable public and agency comments and DNR responses (final FMR only)

Other Regulation Change: The state will attempt to notify landowners adjoining areas scheduled for timber harvest with the draft FMR. The area of notification may be adjusted during a state area plan, forest plan or management plan.

² Note to regulation drafter. The list in this clause is meant to be illustrative, but not limiting. It is meant to include whatever game and non-game species' habitats are determined important.

Chapter 5. Wildlife and Planning

D. Wildlife Habitat on Private Lands

The state will work cooperatively with the land or timber owner to protect, maintain, and enhance wildlife habitat to the maximum extent practicable, bearing in mind the objectives of the land or timber owner. The state and private forest owners are encouraged to enter cooperative agreements where they serve to facilitate cooperation.

The Department of Fish and Game and the private land or timber owner will cooperate in project planning and design to identify important wildlife habitats and voluntary management options to minimize adverse impacts on those habitats, recognizing the management objectives of the land or timber owner. Cooperative agreements referred to above should address how the department will provide assistance in the further evaluation of such habitats.

The state and private land or timber owners should develop procedures for both the identification of wildlife habitat meriting protection and the identification of appropriate compensation opportunities for private lands set aside as wildlife habitat. This may include cash payment or other compensation such as conservation easements, land exchanges, and credits for state timber sales.

To further this process the state shall provide, on a cooperative basis, educational and technical assistance, and extension services to help the land or timber owner and operator assess wildlife habitat values and to design management options to provide wildlife habitat protection and to meet the land or timber owner's management and use objectives.

Nothing in this act is intended to enlarge or diminish any responsibility of the state or any landowner to protect wildlife on private land.

Chapter 6. Forest Practice Act Standards

This section of the report outlines changes to forest practices act standards under 41.17.060 and .080.

Section 41.17.060

1. Subsection .060(b)(2) will be amended to read as follows:
(2) environmentally sensitive areas ~~and best management practices~~ shall be recognized in the *development of regulations and best management practices that are designed to implement implementation of any* nonpoint source pollution control measures authorized under this chapter;
2. Subsection .060(b)(5) will be added as follows:
(5) *significant adverse effects of soil erosion and mass wasting on water quality and fish habitat shall be prevented or minimized.*
3. Subsection .060(c)(6) will be amended to read as follows:
(6) ~~where economically practicable,~~ allowance shall ~~may~~ be made for scenic quality in or adjacent to areas of substantial importance to the tourism and recreation industry, *and for important wildlife habitat.*

Section 41.17.080

1. Subsection (a) will be amended to read as follows:
(a) The commissioner ~~shall may~~ adopt regulations under the Administrative Procedure Act (AS 44.62) and AS 41.17.047 governing ~~operations on forest practices such as land with respect to the following:~~
2. The following list replaces the list in (a)(1) through (a)(6) of the existing act:
 - (1) Road construction and maintenance
 - a. Road location
 - b. Road construction
 - c. Landing location and construction
 - d. Water crossing structures
 - e. Road maintenance
 - f. Rock quarries, gravel pits, borrow pits, and spoil disposal areas
 - g. Post operation road management (i.e., "put-to-bed")
 - (2) Timber harvesting
 - a. Timber harvest unit planning and design
 - b. Felling and bucking
 - c. Cable yarding
 - d. Shovel, tractor, and wheeled skidder systems
 - e. Landing clean-up
 - f. Slash disposal

- (3) Log transfer, sort yards, and storage facilities
 - a. Location
 - b. Design
 - c. Construction & Maintenance
 - d. Closure
 - e. Log storage, rafting, and identification³
- (4) Reforestation
 - a. Site preparation and rehabilitation
 - b. Urban and other lands exempted from reforestation requirements
 - c. Prescribed burning
- (5) Prevention and suppression of forest insects and diseases⁴
- (6) Upland salvage logging
- (7) Brush control
- (8) Fire and flood hazard management

3. Subsection .080(c) will be amended to read as follows:

(c) The commissioner shall adopt only those regulations necessary to accomplish the purposes of this chapter, and shall avoid those which increase operation costs without yielding significant benefits to public resources.

The regulations promulgated according to this chapter will be drafted under a process outlined in Part III, Implementing the Agreement.

³ Note that some regulations may go here, some maybe be submitted to the Army Corps of Engineers for their permits, and some may become lease stipulations under DNR's tideland lease program.

⁴ Note to drafter, regulations promulgated under this and subsection (6) may be combined with those promulgated under the sections of the act specifically dealing with timber salvage, and with insect and disease management.

Chapter 7. Other Issues

A. Timber Management Adjacent to Private Lands

There have been cases where logging operations may have physically damage adjacent lands due to blowdown, trespass, landslides etc. The extent and likelihood of possible damages depend on topography, type of logging, risk of blowdown, whether the private parcels are surveyed, etc. Therefore, stipulations applied to logging on state land to prevent these problems will vary according to the individual circumstances.

The state involves the public in state land management decisions that affect their interests. The department, through the timber sale planning process, takes public concerns into account when locating and designing timber harvest. (See discussion of state planning process, pages 37 to 44.)

To facilitate this process, the state will attempt to notify landowners adjoining areas scheduled for timber harvest, and to provide them with an opportunity for review and comment, and to take their and other public concerns into account prior to adoption of a forest management plan or forest management report. The area of the notification requirement may be detailed during a state area plan, forest plan, or management plan.

This provision will be implemented by regulation changes in the state's forest planning process. See the bottom of page 47.

Chapter 7. Other Issues

B. Non-Timber Clearing

Timber Salvage. Timber with commercial or personal use value that will be cleared for other uses should be salvaged from state, and municipal lands, public rights-of-way, and public utility corridors. This will be accomplished by adherence to the following guidelines.

1. Before conducting or approving significant land clearing actions, state agencies, municipalities, and public utilities will determine whether the timber is worth salvaging and adopt appropriate salvage methods.
2. Major projects that involve clearing large areas of forested land will be planned by state agencies, municipalities, and public utilities far enough in advance so that schedules can be established to allow a reasonable period of time to arrange for and conduct commercial salvage of the timber. This advance planning will provide sufficient time to conduct the inventories and harvest.

Chapter 7. Other Issues

C. Insect & Disease Management

This section of the agreement has two parts: an explanation of intent, and proposed statute changes. The intent section that follows explains the purpose of statutory changes. modifications are intended to accomplish.

INTENT

It has become evident in the spruce stands of southcentral Alaska that a wide variety of conditions or actions, including poor clearing practices, can trigger infestations of bark beetles, specifically the spruce beetle (*Dendroctonus Rufipennis*). The attached proposed statutory section would parallel similar legislation in Oregon and California.*

Paragraph (a) of the new section extends prevention and suppression to state, municipal and private land that is currently provided only to state lands, requiring all forest clearing operations to be designed to prevent forest insect or disease outbreaks.

All landowners are identified in Paragraph (b) as responsible for the prevention and suppression of forest insect and disease outbreaks within their forest land which are a result of their forest clearing practices. This paragraph also provides that if the landowner does not contain the infestation, and biologically effective, cost-effective, and environmentally safe suppression measures are available, the state forester may implement them.

Paragraph (d) authorizes the Department of Natural Resources to enter into agreements with other public and private entities to prevent or suppress forest insects or diseases.

Paragraphs (c) enables the Department of Natural Resources to declare infested or threatened zones and thereafter to conduct detection, evaluation, and suppression activities within the outbreak area. Paragraph (e) provides for the dissolution of the zone.

Changes to the law are intended to promote the use of clearing practices that avoid creating forest insect or disease problems. In addition it will encourage suppression of infestations where 1) forest resources are threatened, and 2) suppression measures that are biologically effective, cost-effective, and environmentally safe are available.

A distinct but related issue needs amending in current regulation. 11 AAC 95.160 SLASH (d) requires that "Within Region II, when beetle brood is present in concentrations of white spruce slash with an outside bark diameter greater than five inches it must be treated by burning or some other method to destroy developing insects and prevent bark beetle build-up." Because many areas within Region I have equally significant beetle population problems, reference to Region II would be omitted. As these problems occur in white, Lutz, and Sitka spruce, mention of only one of these should be omitted. The paragraph would then read, "When the state forester determines that spruce beetle brood concentrations in downed spruce create a threat to standing timber, such material must be utilized or treated to destroy developing insects and prevent bark beetle build-up."

*California Public Resource Code, Article 5 Paragraph 4714 and Oregon Revised Statutes 527.380.

**Insect & Disease
Statute Changes**

(a) All forest clearing operations and silvicultural systems must be designed to reduce the likelihood of increased resource threatening insect infestations and disease infections resulting from such operations.

(b) No person shall conduct or approve timber clearing activities that create conditions fostering outbreaks of infestation or infection that threaten forest resources on other forest lands. Where the Commissioner finds after notice and hearing that the owner of timber or timberlands has created such conditions in violation of this subsection, the Commissioner may:

- (1) require the owner at the owner's expense promptly to remove or cure the conditions fostering outbreaks of infestation or infection;
- (2) require the owner at the owner's expense to undertake environmentally sound, effective, and cost-efficient actions to control the infestation or infection in the immediate vicinity of the improper timber clearing activity; and
- (3) if the owner does not comply with a final order under (b)(1) or (b)(2), enter onto the land and undertake the actions so ordered and seek recovery of the costs of such actions by filing and foreclosing a lien against the property.

(c) The Commissioner may undertake surveys and appraisals to obtain pertinent data on regional insect infestations and disease conditions. Whenever the Commissioner determines that there exists an area which is infested or infected with forest insects or diseases injurious to forest resources and that the infestation or infection is of such a character as to threaten the timber or timberlands of adjacent owners, the Commissioner may declare the existence of a zone of infestation or infection, and describe and fix its boundaries.

(d) The Commissioner may enter into agreements with any owner and with any agency of government, including the federal government, for the purpose of preventing or suppressing forest insects or diseases damaging or threatening forest resources.

(e) Whenever the Commissioner determines that insect and disease control work within the designated zone of infestation or infection is no longer necessary or feasible, he shall dissolve the zone.

Chapter 7. Other Issues

D. Log Storage Area Facilities and Log Rafts

Water storage and transportation of logs are common practices in coastal Alaska. Yet both practices have generated concern regarding incremental and catastrophic loss of logs from log storage areas and log rafts.

A task force comprised of a marine engineer, logging engineer, operator, and a forest user will prepare a report defining accepted industry design standards for in-water log storage facilities and log rafting as specified below.

The report will be used in the formulation of guidelines for log rafting and in-water log storage. Some of the guidelines may be promulgated as regulations under the revised forest practices act. Some guidelines may be applied to DNR tideland permits and leases, and some may be recommended to the Army Corps of Engineers through the Alaska Coastal Management Program consistency review process or other means. In addition, the 1985 Log transfer facility guidelines agreement will be incorporated into the forest practices regulations.

Log storage facilities, log rafting, and log tow standards would be developed as follows:

1. Definitions and explanations of the role important physical factors, such as meteorological and oceanographic (wind exposure and velocity, tidal datum, current datum, etc.) affecting construction standards.
2. Definitions of applied industry technology such as stiff-leg boom, standing boom, log boom, and their appropriate application.
3. Log bundling techniques.
4. Industry requirements for all activities.
5. Industry recommended construction standards.

Chapter 7. Other Issues

E. Reforestation

This draft agreement proposes that the reforestation backlog is funded through program receipts: through allocation of 25% of receipts of timber sales on state land to DNR's reforestation program.

Chapter 7. Other Issues

F. Relationship of the FPA

to the Alaska Coastal Management Act

The current Forest Practices Act (FPA) and regulations are "the basis for Forest management standards, policies, and guidelines of the Alaska Coastal Management Act" (AS 41.17.010(6)). Since the passage of the FPA, review procedures (6 AAC 50) for coastal development activities have been added to the Alaska Coastal Management Program (ACMP) regulations. The following statutory amendment is necessary to insure that the new FPA statutes and regulations clearly serve as the basis for ACMP involvement in forestry activities on private lands by expressly making reference to the ACMP review procedures and by deleting the inappropriate reference to district planning guidelines. DNR, in consultation with DGC, will amend their existing regulations to implement this section in accordance with section 41.17.900.

The amended statutory language reads:

AS 41.17.010(6)

Subject to 16.U.S.C. 1456(f) (Section 307(f)) of the Coastal Zone Management Act of 1972, P2 92-583), the provisions of this chapter shall ~~be the basis for~~ *serve as the forest management standards, policies, and ~~guidelines~~ review process developed ~~under~~ for purposes of the Alaska Coastal Management Act.*

Chapter 7. Other Issues

G. Other

The forest practices act will be amended to include this additional language.

Nothing in this act shall diminish the rights of Alaska Native Corporations or Alaska Natives or diminish their privileges and immunities with respect to land conveyed to them under the Alaska Native Claims Settlement Act, as amended.

Chapter 8. Funding

Funding of \$1.2 million will be required to implement the act. The funding will provide the agency review and field presence necessary to strengthen resource protection using a strong forest practices act while retaining a strong timber industry. The legislature should provide that funds come from receipts derived from timber sales on state lands, 25% of which would go to reforestation. If additional funds are required, the legislature should look to funds to be derived from other sources, in light of the standing timber and other costs contributed from the forest products industry through the terms of the proposed agreement, and contributions made by other forest users.

The funding required by DNR, DF&G, and DEC are outlined in a series of memos in the appendix to this report.

Part III - Implementing the Agreement-in-Principle

Chapter 1. Legislative Changes

Legislation to implement this Draft Agreement-in-Principle is available for review. Assuming ratification by steering committee member groups, legislation will be introduced during early April with the intent that, if possible, it be passed this legislative session.

Chapter 2. Promulgating Regulations

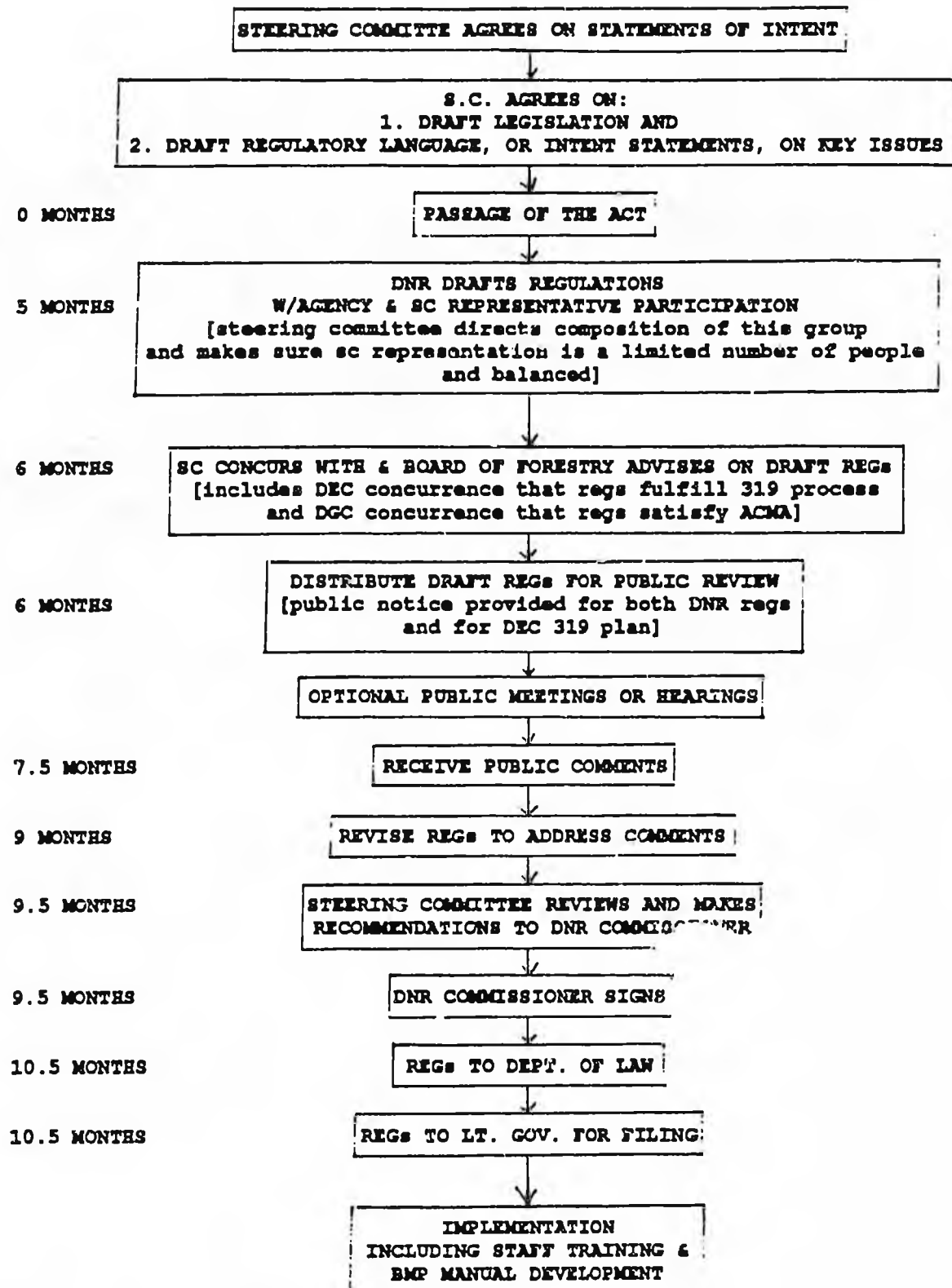
If legislation is passed this session, DNR will draft and promulgate regulations consistent with the legislation and with the final agreement-in-principle.

A process and an approximate schedule for promulgating the regulation is outlined on the following page. After passage of the act, DNR with participating steering committee representatives will draft regulations. Before distribution for public review, the steering committee will concur and the restructured Board of Forestry will review the regulations. The final regulations are intended to be in place for the 1990 operating season.

DNR and DEC will establish a working group to develop appropriate water quality based standards for incorporation into forest practices regulations. The working group will recommend to DEC how these regulations will be promulgated. These standards may also be adopted or referenced in DEC regulations.

DEC's lead role for nonpoint source pollution, and DEC's responsibilities for water quality are not changed from the provisions of existing state law.

Best management practices will be reviewed and updated in each area. Also, development and review of regulations will include consideration of boundary changes to DNR forest regions, or the creation of new subregions within DNR forest regions.



ASSUMED: - STATUTES AND REGs ARE ENFORCEABLE
 - MANDATORY BMPs WILL BE IN REGs
 - VOLUNTARY BMPs WILL BE IN THE BMP FIELD MANUAL

Chapter 3. Policy Changes

A. Consultation/Education/Training

ISSUE

Forest Practices Statutes, Regulations and Processes are now complex and will become more complex. Several agencies are involved with their statutes and regulations; public involvement will be more extensive as time proceeds. An effective information transfer program needs to address three factors: consultation, education and training.

FACTORS DEFINED

CONSULTATION: Several avenues of communication must be developed

- * DNR with DF&G, DGC, DEC
- * DF&G, DGC, DEC with DNR
- * DNR with citizen groups and vice versa
- * Agencies with operators

EDUCATION: All involved parties must understand existing, modified and new processes. Resource managers and interested citizens must understand the resources being managed and/or protected including the public resources affected by forestry and the rights and needs of private landowners and the timber industry. All involved parties must understand the rights and responsibilities of forest practice processes.

In addition to the involved parties understanding specific processes, the general public has a need to know about Resource Management, the negotiated agreement and its results.

TRAINING: an extensive training process will be required to implement the negotiated agreement.

AUDIENCES DEFINED

RESOURCE MANAGERS: Agency and other professional managers; ie. Foresters, Biologist, etc. Throughout this paper, we are assuming that foresters, including DOF foresters need to be trained with respect to the forest practice act but also that DF&G biologists need to be trained in the needs of the forest industry and timber harvest methods.

FIELD MANAGERS: Resource Managers assigned to field operations (as contrasted with administration)

INVOLVED PARTIES: Fisherman, Environmentalist, forest industry (Administration), and others

OPERATORS: Loggers and others responsible for forest harvest operations

PROPOSALS

I. FOREST PRACTICES HANDBOOK

- A Target audience: Resource Managers and operators
- B Goal: Present a useful handbook designed for field operations
- C Format: A Forest Practices handbook could be composed of several sections

Section 1: An "English Language" version of

- a. How/where to obtain forest practices notifications and other permits
- b. A clear explanation of agency responsibilities and "Lead Agency" status

- c. Addresses/phone numbers of DNR, ADF&G, DEC, DGC Central/field offices
- Section 2: Forest Practices Regulations
Section 3: Appendices
- a. Forest Practices Statute
 - b. Other Appropriate Statutes/Regulations

Section 4: A Forest Practices "manual" which would provide Division of Forestry Region-specific information. Possible topics are road construction/use/maintenance, critical wildlife information, weather, soil, fire, etc.

NOTE 1: The handbook must be written/presented in a style that encourages use by non-technicians.

The manual could be a separate volume. A combined volume would necessitate only one book... one less thing to lose or carry. A separate volume would allow greater coverage.

The manual could be region-specific, eg. through separate documents or one piece that discussed all regions.

- D. Costs: An individual must collect, collate and properly prepare substantial materials. Writing and editing is needed to properly present materials. Printing/binding costs (if necessary) must be paid. All the above costs would most likely be incurred by DNR and/or ADF&G.

II. OVERVIEW WORKSHOPS

- A. Target Audience: Resource Managers
Secondary Audience: Involved Parties
- B. Goal: Transfer the overview of the forest practices and state forest planning process to Resource Managers and others. This will be an extensive (verses intensive) information transfer to build a sense of general understanding and philosophy.
- C. Format: A series of workshops will be held. Four likely locations are: Ketchikan, Juneau, Anchorage, and Fairbanks.
- D. Meeting Structure: Presentations of "Why we did this (as a group) and individuals were involved. A series of 2 or 3 panels could generally cover in a sense, the following topics: The Resources, Statutes, Regulations, Processes.
- E. Costs: Workshop costs could be covered through a prorated charge. Video costs could be shared (See note 3 below) by all participants.

NOTE 1: One day workshop with 50-75 people maximum.

NOTE 2: Some general sessions would be appropriate. These could follow lunch (or later if need be). Trained facilitators with specific tasks/goals are recommended.

NOTE 3: Workshops should be video-taped for later editing into 25-30 minute presentations.

III. FIELD WORKSHOPS

- A. Target Audience: Field Managers and Operators
- B. Goal: Develop intensive (versus extensive) understanding and implementation of Forest Practices regulations and processes (including how it affects both public resources and the timber industry).
- C. Format: Field workshops will be held at DNR - Division of Forestry Area Offices (or other appropriate places). These 1 1/2 to 2 day workshops will concentrate on Forest Practices Regulations/process implementation. The first day would be devoted to "in-office" training/assessments. The second day would be field oriented. The first workshops would occur 30 to 60 days following the closest regional workshop. A follow-up workshop would occur within six months and thereafter on an annual basis.
- D. Cost: Workshop costs would be borne by participants. Transportation and per diem cost should be within existing budget abilities.
- E. The Board of Forestry will be invited to all workshops.

IV. COMMUNICATION COMMITTEE

- A. Target Audience: The lay public
- B. Goal: 1) Build within the lay public a conceptual understanding of resource management and conflicts/trade-offs/solutions inherent in resource management. 2) Build an informed constituency that will support resource management and budgetary needs to adequately implement/enforce forest practices regulations and processes.
- C. Format: DNR & DF&G public information personnel will have the responsibility to receive and edit news releases, breaking stories concerning forest practices, the revised forest practices act, and other pertinent items. Public information personnel will have the ability to steer media members to newsworthy stories, such as cooperative fire/wildlife management on a fire; solving a difficult bridge crossing; a joint reforestation/moose habitat study, etc.

Division heads will coordinate with the public information personnel to assure that they receive information in a prompt and understandable form. Public information personnel will release news to the appropriate print/electronic media in a timely and informative manner.

- D. Cost: No additional cost is foreseen. Publicist orientations could be held by Division Directors' and other interested parties.

V. CROSS TRAINING

Resource management education (biology, forest management/engineering, hydrology, etc.) is highly technical and usually restricted to the primary resource being studied. Successful forest practices implementation will hinge, in part, to a more than rudimentary understanding of all resources and industries involved.

A two-part cross-training program is proposed:

- A. Division Directors' will develop an agency cross-training program targeting field resource managers. The program should involve resource managers as active participants/coordinators. Certain aspects might involve university level expertise from Alaska and Pacific Northwest institutions. The State of Alaska, Board of Forestry (BOF) is a logical body to provide developmental/oversite guidance.

- B. Many technical questions have been raised by the forest practices negotiations: wildlife population dynamics, hydrology, fish habitat, effect of timber harvest methods, etc. These questions have no answers, yet, and it is an exercise in futility to argue "my study against yours". A joint cooperative study committee is proposed. Each Forest Practices participant plus the University of Alaska would be offered a seat. Committee charter would be to (1) define the questions, (2) find who, if anyone, is addressing that or a similar question, (3) report findings and recommendations to the BOF.

The research function is an integral part of resource management. Research takes money. The BOF would be charged with seeking appropriate funding of project monies. Part 2 (above) is a long term project that could be best left for the State Forester and ADF&G Habitat Division to further develop.

VI. SUMMARY

The above discussion primarily addresses education, training, and information transfer. It doesn't adequately discuss consultation. It is assumed several memoranda of understanding (or one inclusive memorandum) will result from the negotiations. Those instruments should include formal understandings of who consults with whom, when and how.

A second, less formal series of consultations must occur among interested parties. This can occur partly as a function of the annual field meetings. The BOF also can play a useful role. The State forester has proposed to have BOF meetings and field trips held at regular intervals around the state. The public will be encouraged to attend and make their views known.

The above ideas can help Alaska move into the realm of cooperative resource management that will serve all the timber industry and state citizens.

VII. INFORMATION BROCHURE FOR STATE FOREST PLANNING

- A. Target Audience: the general public & private timber operators.
- B. Goal: 1) To better inform the timber industry, forest users, and the general public about DNR's land management process leading to timber harvest. 2) To inform the industry, and general public how to get involved in the process including comment and review, etc; to ensure that their concerns are addressed.
- C. Format: Easily readable brochure or pamphlet.

Chapter 3. Policy Changes

B. Research and Monitoring

Monitoring

The Board of Forestry will coordinate the development of a plan for monitoring the statutes, regulations, and BMPs for their effectiveness in meeting state water quality standards.

The Board of Forestry will coordinate the development of a plan for monitoring the statutes, regulations, and BMPs for their effectiveness in meeting fisheries habitat requirements.

In addition, because of questions concerning the nomination process for the board of forestry, the board should review the nomination process after the first few years to determine whether members are truly representative of their interest groups; whether there is a sufficient pool of nominees to effect interested, effective board members; and whether the board is an effective forum for the discussion of forestry issues.

Research

The Board of Forestry, working with DNR, DEC, DF&G, and other affected institutions, and the forest-dependant industries shall conduct an annual survey of research and monitoring needs related to forest practices and their effect on public resources. The board shall review research proposals and shall make recommendations to the governor and the legislature to promote research projects which would address these needs.

A number of research topics have been identified. The most important research needs identified were identified by the technical committee as part of the riparian management discussion. They concern the interaction of forestry and fish.

1. Probability of riparian leave trees to provide large woody debris.
2. Probability of second growth timber to provide large woody debris.
3. Depletion/recruitment rates of large woody debris for interior Alaska streams.
4. Information on temperature sensitive streams throughout Alaska.
5. Information on winter water temperature effects on fish.
6. Second growth canopy closure effects on fish production.
7. Stand characteristics of trees next to streams: age, size, volume, species, etc.

The committee estimated that it would take from 2-5 years to conduct the research necessary to address the above items.

Other research needs have also been identified. There needs to be further research on the role of large woody debris as it relates to creation and maintenance of fish habitat, particularly in interior Alaska and certain stream types throughout the state. As other data needs are identified, they should be brought to the Board of Forestry. The board should work with the Alaska Cooperative Forestry/Fisheries Working Group and with other groups with research capabilities.

Chapter 4. Review of the Agreement

This agreement-in-principle and the recommended legislation are intended to be reviewed within three years. This three-year time is intended to allow for further research, and to gain experience implementing the act's regulatory and administrative standards -- especially the riparian standards and the enhanced notification system. It is presumed that a representative group will be convened for the review, or that the review will be conducted by the restructured Board of Forestry; in either event, this review will be done with full public input and participation.

An effective review requires that monitoring and research be an on-going part of the forest practices program. To assess the effectiveness of the riparian standards in protecting fish habitat and allowing a viable timber industry, it will be necessary to conduct the research and monitoring program outlined on the previous pages, and for the Department of Natural Resources to maintain an accessible administrative record of decisions made under the act, especially requests and decisions concerning variations from design standards (as outlined on page 29). In addition, each year DNR, DF&G, and DEC will each present an annual report, independently, to the Board of Forestry and the legislature on the research for which they have statutory expertise, and make recommendations for any improvements necessary to rectify procedural or substantive problems.

This section will be added to draft legislation:

It is the intent of this legislature that the operation of the forest practices act and regulations be reviewed within three years of the passage of this act. This three-year time is intended to allow for further research, and to gain experience implementing the act and its regulations. It is the intent of this legislature that a representative group be convened for the review, or that it be conducted by the board of forestry. In either event, it is the legislature's intent that the review occur with full public input and participation, and its recommendations be forwarded for legislative review, and for any needed changes in legislation.

Appendix A

Information List for Enhanced Notification System

We envision a two-tiered review consisting of an initial, broader scale, voluntary plan of operations and a detailed plan of operation submitted at least 30 days prior to commencement of activities.

Annual Plan

The landowner should provide an annual operating plan to the agencies and the public. While the plan is voluntary, it is useful for the agencies, the public, and the landowner. Such a plan would provide the agencies with an early look at proposed harvest activities to help them begin an early review. It would also help the agencies provide information, suggestions, and potential problem areas to the landowner. For the landowner, it is a way to get agency and public feedback to plans early in the process. For the public, it provides early notice and information.

For DNR to distribute the annual operating plan to the public, the landowner must provide either a summary or a report in distributional form (i.e., a format that can be xeroxed).

The list that follows contains the information necessary for such a plan to be useful to the agencies, and the information should be provided when known.

- (1) The name and address of the landowner (and operator, if known).
- (2) A map showing the approximate unit boundaries, to the extent known.
- (3) The location of existing roads and anticipated location of new mainline and spur roads, sort yards, and log transfer sites.
- (4) Description and anticipated location of campsites, fuel storage sites, and associated water, sewer and solid waste disposal facilities.
- (5) An identification of known streams and tributaries and, to the extent possible, the classification of those streams.
- (6) To the extent possible an identification of steep slopes greater than 60% where harvesting is expected to occur and measures that may be necessary to prevent mass wasting.
- (7) A description of known or potential anadromous fish and wildlife habitats in the units and the management options to minimize impacts on those habitats pursuant to the act and regulations.
- (8) To the extent possible, a general description of anticipated timber harvesting operations and transportation needs over a five-year period in the affected drainage where the activities are proposed.
- (9) Whether the 5% cap is expected to be invoked during the detailed planning process, if known.
- (10) Any other available information such as that required under the Detailed Plan Review, or any information considered relevant by the landowner.

Detailed Plan of Operations.

A detailed plan of timber harvesting operations shall be filed with the department in writing by a person who owns, leases, or otherwise controls or operates on all of any portion of any timber land and one who plans to harvest the timber thereon. The format and type of information required for the detailed plan of operations will be refined as regulations are written. The information required shall be sufficient for the agencies to adequately determine whether the planned forest activities are consistent with the Forest Practices Act and regulations, and will take into account the information needs of the public. According to current practices, DNR does not accept incomplete notifications, and the regulations will confirm this practice. The plan shall be public information.

- (1) The name, address, and approving signature of the land owner.
- (2) The name, address, and approving signature of the timber owner.
- (3) The name, address, and approving signature of the timber operator.
- (4) A description of the proposed operation and land on which the work is proposed to be done, including an orthophoto or accurate map at the harvest scale available indicating:
 - (a) the location of all known streams and anticipated stream crossing structures;
 - (b) the location of all proposed and existing roads, landings, sort yards, and log transfer facilities;
 - (c) roads identified to be put to bed;
 - (d) unit boundaries and yarding plans;
 - (e) areas of 60% or greater slope or other known areas with high potential for soil failure;
 - (f) locations where rigging is proposed to be hung through streamside buffer strips or across anadromous fish streams;
 - (g) upland quarry or borrow site locations;
 - (h) overburden or waste material disposal areas;
 - (i) classification of streams and their tributaries in units; and
 - (j) description and anticipated location of campsites, fuel storage sites, and associated water and solid waste disposal facilities.
 - (k) all other proposed activities.
- (5) A description of the silvicultural systems to be applied, including the type of logging equipment to be used and designated areas where full log suspension will be achieved.
- (6) A description, based on available information, of the methods to be used to avoid accelerated erosion and mass wasting from roads and other timber operations to be conducted within a drainage.
- (7) A description of proposed measures for reforestation and drainage erosion control.
- (8) Special provisions, if any, to protect fish habitat within the area of operations.
- (9) The expected dates of commencement and completion of timber operations.
- (10) Any other information required through regulation to meet the rules and standards of this chapter.
- (11) A xeroxable summary for distribution to the public. The summary will describe the areas to be harvested, harvesting systems and roading activities, and any other information the landowner considers relevant. The summary should contain a xeroxable map showing the location of cutting units, streams, areas of

steep slopes and any other information that the landowner considers relevant.

- (12) Voluntarily, special actions to protect public resources not required by the forest practices act.
- (13) Operating area, planning area, riparian leave areas, and any variations from regulatory standards. If the 5% cap will be invoked, then the supporting basal area calculations.

steep slopes and any other information that the landowner considers relevant.

- (12) Voluntarily, special actions to protect public resources not required by the forest practices act.
- (13) Operating area, planning area, riparian leave areas, and any variations from regulatory standards. If the 5% cap will be invoked, then the supporting basal area calculations.

Alaska Loggers Association, Inc.

111 STEDMAN, SUITE 200
KETCHIKAN, ALASKA 99901
Phone 907-225-8114

April 23, 1989

Mr. Tom Hawkins
Assistant Commissioner
Alaska Department of
Natural Resources
P. O. Box 107005
Anchorage, AK 99510

Dear Tom:

The Alaska Loggers Association (ALA) Forest Practices Act Committee has reviewed the status of the proposed Forest Practices Act as it came out of the Steering Committee's meeting of April 22, 1989. We recognize that many people have put in long hours and effort in a thoughtful attempt to reach a consensus on a bill.

Regrettably, the process has not left enough time for maturation of all of the issues that need to be addressed to the point of consensus. Furthermore, the process has not left enough time for review of the proposed legislation by all of the people in our Association who would be affected by it. As you know, the people who actually do the timber harvesting are the people who will bear the burden of performing these tasks and we simply have no choice other than to share with them the requirements of the new legislation and to discuss with them in detail what it would mean to them. We would then want to come back with proposed changes. This is part of the give and take of any legislative process, and certainly part of what an Association is required to do for its members. We therefore ask for your understanding in appreciating why the Alaska Loggers Association cannot say "yes" to proceeding with this legislation in this session of the Legislature. Indeed, we believe that were the ALA to agree to it, there would not be sufficient time for the Legislature to review this important change in public policy in a manner which adequately considers the issues raised and what they will mean to State resources in the future.

Accordingly, we propose that after everyone involved with this process has had an opportunity for a much needed rest, we return to the negotiating table and continue the discussions so that we can introduce responsible, fully thought out and fully reviewed legislation in the 1990 Legislature. The unease which so many of the members of the Steering Committee seem to feel makes

Alaska Loggers Association, Inc.

it clear to the ALA that other members have the same concerns, but they are also concerned about "appearing" to be pulling out of the process. For example, we note the Southeast Alaska Conservation Council's (SEACC's) position statement on April 19, 1989, in which SEACC said, among other things,

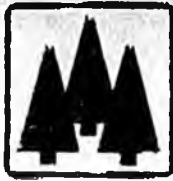
SEACC's participation in the consensus process was premised on completion by March 1. Seven weeks later we continue to debate. Chances for passage of this agreement in the current legislative session are poor at best.

Given our concern on timing and that of others, the ALA believes that good public policy requires the kind of careful review that the continuation of the process proposed above would bring. It is far better to have good legislation which all of the participants in the process can support seven to eight months from now than to have legislation which is not complete, has not been reviewed by our members and cannot be reviewed by the Legislature itself in a responsible manner simply for political appearances. We believe we have a greater responsibility to the public than that.

Accordingly, the ALA cannot ratify the proposed legislation at this time, but would like your response to our proposal for continuing the effort.

Yours very truly,

Donald L. Finney
Manager,



Klukwan Forest Products, Inc.

P.O. Box 34659 • Juneau, Alaska 99803-4659

(907) 789-7104 Fax: (907) 789-0675

April 24, 1989

Commissioner Lennie Boston-Gorsuch
Dept. of Natural Resources
400 Willoughby Avenue
Juneau, Alaska 99801

Dear Commissioner Boston- Gorsuch:

We understand that responses from steering committee members with regard to approval or disapproval of the proposed Forest Practices Act are due today.

We have carefully considered our position and find that we cannot endorse the proposed legislation as it stands. Having said that, I must also point out that we do support a majority of the provisions of the proposed bill. The time frame allotted for this process was simply not adequate to allow all issues to be properly debated and resolved. As a consequence, a number of points which were not entirely satisfactory to a some of the participants were included simply to have something to vote on.

We have been concerned from the outset that the time frame allotted for this process was not adequate. While all participants have worked long and hard, and in good faith to achieve consensus, there was simply not enough time. A similar process in the State of Washington, after which the Alaska process was modeled, took much longer to complete.

Given that it is unlikely that this legislation can be passed in the short time remaining in this session, we see no reason why the proposed bill cannot be further refined and be ready for introduction at the beginning of next session.

We feel we have made a great deal of progress on this issue. We sincerely hope we are afforded the opportunity to bring it to a conclusion on a rational and carefully considered basis.

Sincerely,

Robert G. Loiselle
Chief Executive Officer

RGL:mm

cc: Southeast ANSCA Village Corporations

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF FORESTRY

STEVE COWPER, GOVERNOR

400 WILLOUGHBY AVENUE
JUNEAU, ALASKA 99801
PHONE. (907) 465-2491

April 26, 1989

Mr. Walt Begalka
c/o Ketchikan Pulp Co.
Box 6600
Ketchikan, AK 99901

Dear Mr. Begalka:

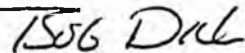
Forest Practices negotiations have been underway for several months and people worked hard to bring the project to fruition. It is indeed sad that we didn't get there. As of 6:00PM Monday 24 April 1989, Commissioner Gorsuch declared the project dead on arrival. We had polled, throughout the day, the various key negotiating team members and found two issues on which we could not come to agreement.

The first issue dealt with Forest Practices Act treatment of the State/Federal statutory relationship. The second issue which eluded agreement was language dealing with state land riparian buffer zones. A last minute modification to expand the buffer zones was found unacceptable to some. Based on the fact that we potentially had four groups unable to achieve consensus we declared the agreement to be unobtainable.

DNR presently is assessing what we do and do not have and how we might best proceed. Commissioner Gorsuch backgrounded the Governor's office yesterday (Tuesday 25 April) and direction is expected shortly.

More as it develops.

Sincerely,



Malcolm R. Dick, Jr.
State Forester

cc: Commissioner Gorsuch
Forest Practices Steering Committee

221

Memo: Re
Completion of 319 RSA -
Timber Harvest

Evaluation of Nonpoint-Source Pollution
Controls Related to Timber Harvest
and Associated Activities
prepared by ADF&G, Habitat Division **1**

Memo to Robert W. Loescher
from Frank Rue

Memo to Division Directors from
Frank Rue Re
Inhouse Review of Proposed Fish
Habitat Regulations 12/30/88 **2**

3

4

5

MEMORANDUM

State of Alaska

DEPARTMENT OF FISH AND GAME

TO: Dave Redburn
Ecologist
Division of Environmental
Quality
Department of Environmental
Conservation

DATE: January 13, 1989

FILE NO.:

TELEPHONE NO.: 465-4105

SUBJECT: Completion of
319 RSA - Timber
Harvest

FROM: *BHB*
Bruce H. Baker
Deputy Director
Habitat Division
Department of Fish and Game

The Alaska Department of Fish and Game has completed its evaluation of nonpoint-source pollution controls related to timber harvest and associated activities as required under the Reimbursable Services Agreement (RSA) with the Alaska Department of Environmental Conservation. The enclosed report completes the department's obligation under the RSA.

We suggest you distribute the draft 319 nonpoint-source pollution control strategy for agency review before commencing the public review.

Thank you for the opportunity to contribute to the development of the Alaska Nonpoint-Source Pollution Control Strategy. We look forward to working with you further in the completion of the statewide strategy. If you have any question on the enclosed report, please contact Lance Trasky or Glenn Seaman.

Enclosure

cc: Lance Trasky
Al Ott
Rick Reed
Glenn Seaman

DRAFT

EVALUATION OF NONPOINT-SOURCE POLLUTION CONTROLS
RELATED TO TIMBER HARVEST AND ASSOCIATED ACTIVITIES

Prepared by

Alaska Department of Fish and Game
Division of Habitat

Prepared for

Alaska Department of Environmental Conservation
Division of Environmental Quality
Water Quality Management Section
Juneau, Alaska

January 1988

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Appendix 1: Impacts of Clearcut Logging on the Fish and Wildlife
Resources of Southeast Alaska. M. J. Sigman, ed. 1985.
Tech. Rep. 85-3. Habitat Division, Alaska Department of Fish and
Game, Juneau. 95 pp.

Appendix 2: Memorandum from N. A. Cohen, Deputy Commissioner,
Department of Fish and Game, to R. Grogan, Director, Division of
Governmental Coordination, Office of Management and Budget, on
forest practices issues (dated August 1, 1988).

INTRODUCTION

The Alaska Department of Environmental Conservation (ADEC) is preparing the State of Alaska Nonpoint-Source Pollution Control Strategy as mandated by Congress through the 1987 amendments to Section 319 of the Clean Water Act. The state's strategy must be submitted to the Environmental Protection Agency (EPA) for approval. The nonpoint-source pollution control strategy must identify and evaluate existing nonpoint-source pollution controls, programs and activities needed to control nonpoint-source pollution, likely sources of program funding, and evaluate and update "best management practices" to control nonpoint-source pollution. The Alaska Department of Fish and Game (ADF&G) has had considerable experience in environmental monitoring of timber harvest operations and in evaluating the potential impacts of timber operations on water quality and fish and wildlife habitat. Because of this experience, the ADEC enlisted the services of the ADF&G to contribute to the timber harvest element of the state nonpoint-source pollution control strategy.

Four tasks were assigned to the ADF&G through a Reimbursable Services Agreement with the ADEC. Task 1 required the department to prepare a brief description of the effects of nonpoint-source pollution related to timber harvest and associated activities on water quality and fish habitat. It should be emphasized that this is a summary of impacts, and is not intended to represent a comprehensive evaluation. Task 2 required the department to briefly describe federal and state regulatory programs and evaluate their effectiveness in controlling nonpoint-source pollution associated with timber operations. Under Task 3, the department prepared an evaluation of primary data gaps on the information needed to evaluate and control the impacts of nonpoint-source pollution from timber harvest operations on water quality and fish habitat. Finally, Task 4 required the department to recommend specific measures and activities to avoid or minimize timber harvest-related nonpoint-source pollution with emphasis on avoiding or minimizing the effects on fish and fish habitat.

This report has been submitted by ADF&G to ADEC in fulfillment of the timber harvest portion of the referenced Reimbursable Services Agreement.

TASK 1: ASSESSMENT OF IMPACTS

Introduction

The timber and fishing industries are both important components of Alaska's economy. The harvesting of timber resources and associated activities, if not conducted properly, can be a major source of nonpoint-source pollution of Alaska waters and have significant adverse impacts on fish habitat and fish. The department conducted a review of recent literature related the effects of timber harvest and associated activities on water quality and fish habitat. A brief discussion of our findings is provided below. This discussion is intended to be a summary of potential impacts based on recent literature. A detailed discussion by the Alaska Department of Fish and Game of information available prior to 1985 on the potential impacts of logging on fish and wildlife resources in southeast Alaska is provided in Sigman (1985). A copy of this report is included in Appendix A.

Problem Description

Forest practices such as harvesting, site preparation, reforestation, and road construction can result in significant nonpoint sources of pollution. Timber harvest and related activities have a high potential of damaging fish habitat in Alaska (Everest and Harr 1982). Sediment and turbidity has been identified as the nation's most serious threat to water quality and aquatic habitat (Lloyd et al. 1987).

Both trees and fish are renewable resources. The rotation period for merchantable conifers in Alaska is 80 to 150 years (Reed and Harms 1956, Harris and Farr 1974, Sampson et al. 1988). Depending on the species, salmon stocks complete their life cycle every 2 to 5 years. In southeast Alaska and the Kenai Peninsula/Prince William Sound area, commercial fishing contributes 40 and 44 percent of total income generated by private basic industries, and this proportion is rising (Berman and Hull 1987). With the high level of public interest in protecting water quality and fish resources, it is imperative that the impacts of timber harvests and associated activities be avoided or minimized.

Adverse Effects of Timber Harvests on Water Quality and Fish

Unlike point sources, which enter streams at discrete, identifiable locations, nonpoint sources of pollution are often diffuse. Consequently, nonpoint-source pollutants are difficult to isolate and control. Activities associated with most timber harvest

activities can cause nonpoint sources of pollution. These activities include road construction and maintenance, tree removal, yarding, petrochemical spills, silvicultural treatments (e.g., slash burning, scarification, and application of fertilizers, pesticides, and fire retardants) are nonpoint sources. Water quality parameters most affected by timber harvest and associated activities include sediment, turbidity, temperature, dissolved oxygen, dissolved inorganic substances, pH, color, and toxic substances (Brown 1983). A brief discussion of each of these parameters is provided below.

SEDIMENT

Clearcuts, logging roads, and yarding methods trails accelerate the natural process of sedimentation in forest streams by aggravating mass wasting, surface erosion, and channel scour (Brown 1983, Everest et al. 1987, Gregory et al. 1987).

Mass Wasting

Mass wasting is the dominant natural process of stream sedimentation in southeast Alaska (Swanston 1969). The frequency and yield of mass wasting are greatly accelerated by clearcutting due to deterioration of tree roots, which bind thin soils to bedrock on glacially oversteepened slopes (Rood 1984, Swanson et al. 1987). Debris torrents (i.e., rapidly moving slurries of soil, rocks, and woody debris in steep stream channels) are an extremely deleterious type of mass wasting, because the streambed is scoured to bedrock and massive debris piles can block channels and provide long-term sources of sediments (Rood 1984). Logging roads also exacerbate mass wasting, eroding at 25-344 times the rate of forested areas in the Pacific Northwest (Amaranthus et al. 1985). The principle causes of failures of logging roads appear to be overloading steep slopes with fill or sidecast material, inadequate construction, and failure to maintain adequate drainage (Rood 1984, Amaranthus et al. 1985, Krag et al. 1986).

Surface Erosion

Surface erosion on slopes is limited in undisturbed forests and clearcuts, because precipitation is transported predominantly as subsurface flow. However, surface erosion from landslide scars can be a significant source, and mass wasting is accelerated by clearcutting and logging roads. Surface erosion from roads and skid trails is a major source of fine sediments (Cederholm and Reid 1987, Everest et al. 1987). Stream sedimentation is greatest when logging roads are poorly designed, sited, and maintained; heavily used; or in areas of high precipitation (Amaranthus et al. 1985, Sessions et al. 1987, Everest et al. 1987).

Channel Scour

Channel scour is accelerated by wedges of bedload material from

mass wasting and by harvesting activities that destabilize streambanks, such as cutting trees within the floodplain, yarding trees through streams, and operating equipment within or adjacent to streams (Brown 1983, Hartman et al. 1987, Swanson et al. 1987).

In forest watersheds, channel stability depends, to a large degree, on the presence and stability of large woody debris (Bissor et al. 1987). Large woody debris is the principal structural feature of small to moderate-sized streams. Larger streams are capable of moving tree boles and root wads at high flows; however, by deflecting and slowing the current, large woody debris also stabilizes these streams by minimizing bank erosion, creating pools, and providing long-term storage for fine sediments, as well as clean spawning gravels. Clearcutting to the streambanks eliminates the source of large woody debris until the timber regains suitable size. In Alaska, this may be a century or more, depending on species, stream size, and local conditions. Streams which have lost, or have less stable, large woody debris due to logging have experienced increased bank erosion, bedload scour, riffle areas, suspended sediments, and sedimentation of spawning and rearing habitat (Bisson et al. 1987).

Adverse Effects of Sediments on Fish

Pulses of suspended sediments can be deleterious to fish either directly or through reductions in available prey (Brown 1983, Everest et al. 1987). Sediment concentrations are seldom high enough to be directly lethal to fish. However, sublethal concentrations retard fish growth and increase emigration. Juvenile salmonids experience increased stress from reductions in visibility, greater difficulty in capturing prey, and changes in territorial behavior associated with increased stream turbidity. Suspended sediments can also abrade fish gills causing further stress. Suspended sediment reduces densities and species composition of aquatic macroinvertebrates consumed by fish.

Fine sediment that settles to the streambed can also alter epibenthic productivity, and benthic macroinvertebrate densities and species composition (Brown 1983, Everest et al. 1987). Fine sediments reduce substrate permeability. Low levels of intragravel dissolved oxygen suffocate fish eggs and alevins. A high proportion of fine sediments also prevent emergence of the fry from the streambed. The effects of fine sediments are typically most pronounced in low-gradient stream segments, where most of the spawning activity occurs.

Bedload transport of coarse sediments is increased by timber harvest and associated activities. This increased transport of coarse sediments scours salmonid food sources (i.e., benthic invertebrates) and spawning areas (Tripp and Poulin 1986a,b; Swanson et al. 1987). Coarse sediments may extend riffle areas, filling in pools used by rearing coho salmon. In some streams at low flows, flowing water may percolate through wedges of coarse sediments, completely dewatering the channel and preventing fish

passage (Cederholm and Reid 1987, Swanson et al. 1987). Undercut banks are destabilized by coarse sediments, further eliminating salmonid rearing habitat.

By increasing light and warming surface and intragravel waters, the short-term effect of clearcutting has led to increased stream productivity in coastal watersheds of the Pacific Northwest (Beschta et al. 1987, Hartman et al. 1987). However, unstable channels and increased sedimentation from mass wasting, road erosion, channel scour, and loss of large woody debris has ultimately reduced populations of juvenile and adult salmonids (Hartman et al. 1987, Cederholm and Reid 1987).

WATER TEMPERATURE

Removing streamside vegetation elevates stream temperatures in summer and may lower stream temperatures in winter (Beschta et al. 1987). The acute effects of elevated water temperatures is less of a problem in southeast Alaska compared to other areas in the Pacific Northwest due to climatic and geographic conditions (Gibbons et al. 1987). However, water temperatures in some southeast Alaskan clearcuts have reached levels where salmonids were stressed. Variation in water temperatures are likely to be more problematic in some areas of southcentral and interior Alaska, where discharge of small streams is sluggish and streams are exposed to more solar radiation in summer and colder temperatures in winter than in southeast Alaska. Stream temperatures begin to return to a normal range as the riparian vegetation returns which generally occurs in 5-30 years, depending on size of stream, silvicultural treatments, and other factors (Brown 1983, Beschta et al. 1987, Hartman et al. 1987, Holtby 1988).

Slightly elevated water temperatures may have adverse affects on fish (Beschta et al. 1987, Hartman et al. 1987). In British Columbia, salmonid alevin emerged from the gravel sooner, yearling coho salmon and smolts were more numerous, and smolts emigrated earlier in streams with slightly warmer intragravel water temperatures (Hartman et al. 1987). However, the returns of adult salmon to the study area streams were lower than expected. The reduced return was believed to be related, in part, to an increase in mortality resulting from early emigrating salmon smolts in colder ocean waters. It appears that the timing and size of smolts emigrating to the sea may be critical, with the most advantageous period corresponding to the historical or pre-logging peak emigration (Hartman et al. 1987).

Although the number of yearling coho may increase as a result of removing trees along the stream, recent studies in British Columbia and southeast Alaska have shown significant declines in overwintering populations of juvenile coho, particularly when large woody debris is scarce (Heifetz et al. 1986, Johnson et al. 1986, Murphy et al. 1986, Hartman et al. 1987). Winter conditions appear to be the critical factor limiting population size. More coho

salmon spend two years rearing in fresh water in Alaska compared to one year in British Columbia or the Pacific Northwest; hence, the deleterious effects of timber harvest (particularly sedimentation and loss of large wood debris) may outweigh any short-term benefits of elevated stream temperatures and productivity (Everest et al. 1987).

DISSOLVED OXYGEN

Naturally low levels of dissolved oxygen have been implicated in fish kills in some streams in southeast Alaska (Gibbons et al. 1987). Elevated temperatures in clearcut areas aggravate the problem during summer low flows by reducing the amount of dissolved oxygen in the water. Decomposing logging slash and elevated temperatures collectively reduce dissolved oxygen in surface and intragravel waters. In swift streams, reductions in dissolved oxygen are seldom a problem because the streams are quickly reaerated (Brown 1983, Beschta et al. 1987). In slower streams, particularly the portions of streams used for spawning, reductions of dissolved oxygen have resulted in adult mortality. Dissolved oxygen levels in the spawning substrate recover much more slowly than in surface waters because of poorer intragravel circulation (Brown 1983). Logging residue, including twigs, needles, and bark, is frequently incorporated in the streambed following timber harvest operations. The biological oxygen demand for decomposition of this organic debris further depletes the dissolved oxygen required by eggs and alevins and reduces the interstitial flow of water which would normally reaerate water in the redd and carry away metabolic wastes (Brown 1983, Gregory et al. 1987, Beschta et al. 1987).

DISSOLVED INORGANIC SUBSTANCES, pH, AND COLOR

Concentrations of dissolved inorganic substances, such as nitrates and phosphates, frequently peak in streams following the first rainfall after harvest (Brown 1983). Levels of dissolved inorganic substances may follow this pattern of peaking after rains for several years. Slash burning results in higher concentrations of dissolved inorganic substances; however, post-logging concentrations rarely exceed levels that are detrimental to fish (Brown 1983). Streams may also become slightly more acidic or colored as a result of logging, but this has been a short-term, relatively insignificant problem in the Pacific Northwest. Forest fertilization, particularly addition of phosphorus, which is a limiting nutrient in southeast Alaska, can accelerate eutrophication of lakes (Norris et al. 1983). Intensively managed forests in the Pacific Northwest have been fertilized for many years and this practice is being applied more commonly in British Columbia. In Alaska, fertilizers have been used experimentally but not yet on an operational level (Koski and Walter 1981). Fire retardants are composed of similar substances as fertilizers and would have similar effects (Brown 1983, Norris et al. 1983). Fire

retardants may be used to retard fires in southcentral and interior Alaska, due to drier conditions. Intensive management of forests for timber may lead to an increased use of fire retardants in the future (Norris et al. 1983).

TOXIC SUBSTANCES

Toxic substances can be introduced into forest streams as a result of logging and subsequent silvicultural practices (Brown 1983, Norris et al. 1983). These substances include organic leachates, fertilizers, fire retardants, pesticides, and spilled petrochemicals. Organic toxins are leached from slash which is left in, or washed into, streams (Brown 1983). Some of these leachates are toxic to fish and macroinvertebrates and also increase biological oxygen demand. Reductions in dissolved oxygen will probably affect fish and invertebrates before the toxins, however. Herbicides and insecticides have yet to be used in Alaska on an operational scale (Koski and Walter 1981). However, pesticides are commonly used to facilitate regrowth of silviculturally desirable trees in forests outside of Alaska (Norris et al. 1983), and they may be used more frequently in Alaska in the future. Small petrochemical spills occur during logging activities, and these may have a cumulative effect on fish, especially in small, low-gradient streams; however, no research has been conducted on this problem.

TASK 2: EXISTING WATER QUALITY AND AQUATIC HABITAT PROTECTION PROGRAMS

Introduction

Programs which protect water quality and aquatic habitat include land use designations, such as parks and refuges, and land use laws and regulations. Portions of southeast and southcentral Alaska have been designated national parks and monuments and state parks. These land use designations are an effective means of protecting water quality and aquatic habitat from the adverse impacts of timber harvest in that they prohibit timber development in those areas. However, with the exception of Admiralty Island and Misty Fiords National Monuments, they contain few commercially viable forest lands. Other specially designated lands include national wildlife refuges and state game refuges, sanctuaries, and critical habitat areas. Although these area designations were made with the intent of protecting fish and wildlife habitats, timber harvest is not statutorily prohibited in these areas.

The primary means of controlling nonpoint sources of pollution is through federal and state land use laws and regulations. A summary of the principal federal and state water quality and aquatic habitat protection programs and their effectiveness in controlling nonpoint sources of pollution is described below.

Federal Laws

Federal laws include the National Forest Management Act of 1976, Forest and Rangeland Renewable Resources Planning Act of 1974, Endangered Species Act of 1973, National Environmental Policy Act of 1969 (NEPA), Multiple Use Sustained Yield Act, Fish and Wildlife Coordination Act, and Clean Water Act. The most pertinent of these are discussed below.

NATIONAL FOREST MANAGEMENT ACT

The National Forest Management Act of 1976 (Public Law 94-588) requires the U.S. Forest Service (USFS) to prepare plans for managing multiple uses of national forest lands. Plans were developed for the Tongass and Chugach National Forests in 1979 and 1984, respectively. The plans were accompanied by environmental impact statements, in accordance with the provisions of the National Environmental Policy Act (NEPA). The Tongass plan is currently being updated and revised. In 1986, the USFS compiled and refined existing standards, guidelines, and prescriptions for fish habitat protection in a "Aquatic Habitat Management Handbook." The handbook established criteria for stream classification, buffer

strips, and management of large woody debris and provided best management practices (BMPs) to meet the state's water quality standards.

Guidelines contained in national forest plans may be effective in protecting water quality and fish habitat on Forest Service lands from the adverse effects of individual timber sales. Region-wide, however, the USFS has been required by the Alaska National Interest Land Conservation Act to provide for harvests of 4.5 billion board feet per decade. Many of these sales require access, and the USFS is constructing more roads than it would in an unsubsidized program. Forest roads are a major source stream sedimentation, through both sheet erosion of fine sediments and mass wasting (Everest et al. 1987). Cederholm and Reid (1987) found significant accumulations of sediments in stream substrates when forest roads comprised more than 2.5 percent of a watershed. Subsidizing forest roads to meet a timber harvest quota has increased the percentage of roads on watersheds and subsequently strained efforts to protect water quality and fish habitat.

NATIONAL ENVIRONMENTAL POLICY ACT

The NEPA (Public Law 91-190) requires federal agencies to prepare detailed environmental assessments or impact statements for all major actions likely to significantly affect the quality of the human environment. The intent of the act is to identify and avoid significant adverse impacts. The requirement for public involvement in the review process is intended to ensure that the sponsoring agency becomes fully aware of the environmental impacts of proposed actions before commitments are made. The USFS prepared environmental impact statements for the Tongass and Chugach national forest plans which provided options for minimizing nonpoint-source pollution from timber harvest activities. However, the broad alternatives addressed in the NEPA documents leave the USFS with considerable latitude to interpret the dictates of the management strategy, and there are limited opportunities for state agencies and the public to influence specific management decisions. Environmental impact statements may be an effective means for public oversight of USFS planning efforts, but have had limited effectiveness in minimizing nonpoint-source pollution associated with timber harvest activities.

FISH AND WILDLIFE COORDINATION ACT

The Fish and Wildlife Coordination Act (Public Law 85-624) is intended to compel federal agency consideration of impacts to fish and wildlife in proposals and authorizations to control or modify streams or other waterbodies, including wetlands. Federal agencies are required to give full consideration to the reports and recommendations of the Secretary of the Interior and state departments of fish and wildlife. This law is not very effective in controlling nonpoint-source pollution in Alaska, because it is

advisory in nature and not directly applicable to most timber harvest activities which do not fall under the provisions of the act.

CLEAN WATER ACT

The Federal Water Pollution Control Act of 1972, Clean Water Act of 1977, and Water Quality Act of 1987 are collectively referred to as the Clean Water Act (CWA) and are administered by the Environmental Protection Agency. The CWA is applied to timber harvests primarily through state water quality certifications of the Corps of Engineers' Section 401 and 404 permits and through the state water quality standards. The Alaska Water Quality Standards (AWQS) are adequate water quality standards, but not very fully implemented (see discussed under subsequent section on the AWQS).

The most recent CWA amendments require states, in part, to 1) develop detailed water quality assessments which identify bodies of water not meeting or maintaining water quality standards and identifying the nonpoint sources, and 2) develop a management program to reduce nonpoint-source pollution. The management program may specify a variety of measures, including education and training, financial and technical assistance, interagency agreements, BMPs, and regulatory programs. Regulatory programs developed pursuant to the CWA have the potential to be among the most applicable and effective methods for protecting water quality and aquatic habitat from nonpoint sources of pollution.

State and Local Laws

State and local laws which directly or indirectly address adverse effects of timber harvest on water quality and aquatic habitat are the Alaska Forest Resources and Practices Act and its implementing regulations, water quality standards, fish habitat permits, and the Alaska Coastal Management Act, and local coastal management programs.

FOREST RESOURCES AND PRACTICES ACT

The Forest Resources and Practices Act (FPA, AS 41.17) and forest practices regulations (FPR, 11 AAC 95) are authorities which regulate forest practices on state, municipal, and private lands. They are administered by the Division of Forestry (DOF), Alaska Department of Natural Resources (ADNR). The act established the Board of Forestry, which reviews forestry regulations and proposed changes to the FPA. Activities on state and municipal lands are required to comply with regulatory and administrative provisions of the FPA and FPR. Private operators must notify DNR when harvest activities are to begin, but no permit is required.

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The BMPs in the DOF's Forest Practices Field Manual are not mandatory. Performance bonds of \$500-1,000 may be ~~required~~. The FPA requires the Alaska Department of Environmental Conservation (ADEC) to prepare plans and guidelines for use of broadcast chemicals. The DOF has the authority to inspect and investigate forest operations on state, municipal, and private lands. Violations of the act or its regulations are subject to civil penalties, not to exceed \$10,000 if convicted of a violation. The Commissioner of ADNR can also issue an order to halt operations for up to 21 days to correct violations or repair damages if irreversible or irretrievable damage is likely to result without immediate action. The ADNR may seek a court injunction for noncompliance.

Although the FPA was enacted to ensure that forest management perpetuates nonfederal forest lands and minimizes adverse effects on other forest resources and uses, it has had limited effectiveness in controlling nonpoint sources of pollution associated with timber harvest activities. The FPA and FPR are ineffective in controlling pollution, in part, because private landowners do not need a state approval to begin harvest operations, inspections are not required, the regulations and BMPs are not binding, and it is very difficult to enforce and prosecute violations because of the cumbersome civil penalty procedures and staff limitations.

Forestry boards which are dominated by members with a professional or financial interest in promoting the timber industry cannot adequately protect water quality (Ayer 1973, Anderson 1977, McCrea 1984). Nine of the 14 seats on Alaska's Board of Forestry are (or are nominated by) professional foresters, timber processors or union members, and Native corporations owning commercial timber stands. The Board of Forestry has ~~been~~ ^{recently} inactive, and there has been ~~little~~ ^{little} incentive to deal with forest practices which affect other forest resources and uses.

The FPA only requires private landowners to notify the DOF when operations are to commence. Notification is not as effective as a permit, because a permit could include stipulations to protect water quality that are tailored to a specific location or harvesting operation. A permit could also be revoked if the operation was not complying with permit stipulations or other enforceable standards. The FPR use unenforceable, non-binding, and undefined language (e.g., "minimize," "to the extent feasible," "should") that is subject to wide interpretation, and the state forester has the discretion to grant waivers. The BMPs in the field manual are only advisory and a violation in the FPR must occur before the standards can be enforced.

The lack of any criminal penalties and insufficient performance bonds provide little incentive to comply with the standards. An alleged violator must be served a formal written complaint, requiring the respondent to answer the charges at a hearing. Only

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the hearing officer can permanently stop a violation, impose a civil fine, or direct a violator to repair damages. This system is cumbersome, ineffective, and expensive. The state is currently reviewing the provisions of the act and regulations.

ALASKA WATER QUALITY STANDARDS

The AWQS (18 AAC 70) are administered by the ADEC. The AWQS establish minimum legal pollutant thresholds. The water quality parameters most pertinent to nonpoint-source pollution resulting from forest harvest activities are sediment, turbidity, dissolved gas, pH, temperature, dissolved inorganic substances, toxic and other deleterious organic and inorganic substances, and color.

The AWQS are adequate standards, but are not fully implemented. Neither the ADEC nor the ADNR require a permit or approval of timber operations to review timber harvest activities for compliance with the AWQS. Absent a permit, the water quality standards are reactive, in that they can only be enforced after a violation and impact to water quality and fish habitat has occurred. Because nonpoint sources are diffuse and unpredictable, they are difficult to detect and enforce. Moreover, the ADEC has not in the past, nor does it currently have, adequate staff to carry out logging inspections and enforce the AWQS on timber operations.

ANADROMOUS FISH ACT

The Anadromous Fish Act (AS 16.05.870) requires individuals and government agencies to notify the ADF&G and obtain prior authorization for all instream activities that might adversely affect anadromous fish in specified waterbodies. Permits issued under AS 16.05.870 are collectively referred to as fish habitat permits. The department may require a permit for timber harvest and associated activities that may pose a direct and substantial threat to classified anadromous fish streams.

Fish habitat permits are an effective means for protecting anadromous fish from some of the adverse effects of forest practices on state, municipal, and private lands. There are significant limitations, however. Many anadromous fish streams in forested areas are undocumented. Because of the legal requirement to show direct and substantial effects, AS 16.05.870 is not routinely exercised when a pollution source lies outside of the stream or upstream from documented anadromous fish habitat. In addition, the USFS argues that the Anadromous Fish Act does not apply within national forests. The ADF&G does not agree with the USFS, as its argument contradicts findings of the Alaska Attorney General's Office (AG Opinion No. 10, 1964; AG Opinion, August 11, 1987; AG Opinion, September 9, 1988). Nevertheless, the USFS does not routinely apply for fish habitat permits when it plans and conducts forest harvests and road construction activities on the

national forests. Similar to the ADEC, time and funding limitations restrict ADF&G field monitoring and compliance activities.

ALASKA COASTAL MANAGEMENT PROGRAM

The Alaska Coastal Management Act (AS 46.40), its implementing regulations (6 AAC 50, 6 AAC 80, 6 AAC 85), and approved district coastal management programs are collectively referred to as the Alaska Coastal Management Program (ACMP). The state standards (6 AAC 80) and local district policies apply to most federal, state, and local activities requiring a land use plan or permit.

The ACMP has limited applicability and effectiveness in controlling nonpoint-source pollution. The original standards regarding timber harvests on state, municipal, and private lands were replaced by the FPA and FPR. Few local coastal districts in southeast or southcentral Alaska have promulgated comprehensive policies specific to timber harvests. Absent the ability to attach stipulations through a forest practices permitting process (because permits are not currently required), the ACMP is powerless to regulate timber harvest activities on private lands.

The USFS has argued that activities on national forests, because federal lands are excluded from the coastal zone, are not subject to the ACMP. The state has maintained that their conclusions are not valid, as the CZMA and its implementing regulations require activities on federal lands that have direct and significant impacts on the coastal zone to be consistent with the ACMP. More recently, the USFS maintained that only the ACMP timber standard, 6 AAC 80.100, applies to the consistency review of USFS activities. The Alaska Attorney General (AG Opinion, September 29, 1988, File No. 663-87-0476) concluded that all of the ACMP standards apply to USFS authorized timber operations. As a result of these disagreements, the USFS does not routinely submit all logging plans and permit approvals to state for an ACMP consistency determination. The state and USFS are attempting to resolve this issue.

Conclusions

Existing water quality and aquatic habitat protection programs have had limited effectiveness in controlling nonpoint sources of pollution resulting from timber harvest operations. The state has had limited influence over timber operations on national forest lands, and existing state regulation of nonpoint source pollution on nonfederal timber lands has generally been ineffective, because of limitations in statutory authority, staff and funding to impose or enforce needed requirements. Additional measures are needed to more effectively control nonpoint sources of pollution.

TASK 3: GAPS IN EXISTING INFORMATION**Introduction**

Important gaps in available information need to be filled through biological and water quality investigations and monitoring. Few studies have been done in Alaska, particularly in the southcentral and interior regions, to assess adverse impacts of forest practices on water quality and fish habitat. Research in other states and provinces may or may not be relevant to Alaska. Additional information is needed on the following topics to facilitate the objective analysis of the adverse effects of timber harvests on nonpoint-source pollution.

Major Gaps in Existing Information**DOCUMENTATION OF FISH HABITAT**

Because of inadequate staff and funding necessary to survey remote forest lands, many streams supporting anadromous and resident fish have not been documented. Recent intensive stream surveys by ADF&G on forest lands of Prince William Sound, Kenai Peninsula, and the Susitna Valley indicated that only 25-30 percent of streams with anadromous fish had been previously documented. The AWQS require equal protection for all fish producing waters. However, there is currently no systematic cataloging of streams supporting resident (nonanadromous) fish populations on forest lands in Alaska, and very few of these streams have been identified. In addition to their ecological importance, resident fish species are an important component of Alaska's rapidly expanding sport fishery. Stream surveys of roadless forested areas require the use of helicopters for access and are expensive. Stream surveys need to be conducted well in advance of any timber harvest, because the administrative procedures necessary to document a waterbody under the Anadromous Fish Act take almost a full year. Protection of fish resources on forest lands could be improved by funding and implementing a systematic stream survey program.

APPLYING EXISTING RESEARCH AND RECOMMENDATIONS IN ALASKA

Numerous studies in the Pacific Northwest and coastal British Columbia have documented adverse impacts of timber harvests on water quality and fish habitat. Notable examples of long-term studies are the Alsea River watershed (Hall et al. 1987) and H. J. Andrews Experimental Forest in Oregon, the Clearwater River (Cederholm and Reid 1987) in Washington, and the Queen Charlotte Islands (Tripp and Poulin 1986a,b) and Carnation Creek (Hartman et al. 1987) in British Columbia. Many of the findings from these and

other research projects are believed to be applicable in Alaska, while others may not be.

The chief difficulty in applying research findings from other regions is deciding which areas the differences are important and which they are not (Gibbons et al. 1987). Despite their many similarities, coastal watersheds in southeast Alaska differ in some respects from those in other Pacific Northwest states and British Columbia. For example, southeast Alaska's climate is wetter and colder, soils are thinner and less complex, slopes are steeper, parent materials are less weathered, forests are almost all oldgrowth, trees are predominantly Sitka spruce and hemlock, and a greater proportion of the juvenile coho salmon spend an extra year (i.e., two years total) rearing in fresh water.

Assessing similarities and differences where the variables are so complex will be a time-consuming task. It is advisable, however, to establish a clear understanding of the physical, biological, and regulatory conditions of other areas to assist in applying existing findings and recommendations in Alaska. This project could be accomplished by a university graduate student or a consultant with cooperation from state and federal resource agencies.

IDENTIFYING SIGNIFICANT VARIATIONS IN SEDIMENT LOADS

Sediment has been identified as the nation's most serious pollutant by the EPA and the American Fisheries Society. The AWQS for suspended sediments and fine sediments in spawning substrates allow very little variation from natural conditions. Implementing these standards, given the high variability in undisturbed watersheds, is a difficult task. Techniques need to be developed to detect elevated concentrations of fine sediments in streams affected by timber harvests activities and to differentiate these from background levels before they reach a level where stream productivity declines. This will better equip regulatory agencies to focus their effort on prevention of impacts, rather than documenting impacts after they have occurred.

Suspended Sediments

It is difficult to detect small, but biologically significant changes in suspended sediments caused by nonpoint-source pollution. Small changes in suspended sediment concentration (SSC) cannot be inferred from a few random samples taken at an unknown stream stage without controls. For example, accurately detecting a 10-20 percent change in SSC in a small stream in California would require 12,327 samples (Brown 1983). Fewer samples are needed if the threshold level is raised. To measure SSC 5 times the mean in the same stream would require only 4 samples. Relaxing the state's water quality standards to simplify detection of changes does not seem to be an advisable solution. However, if rigorous standards are to be maintained, sampling must include controls (i.e., above

and below or before and after the impact, preferably both) and be conducted at more than one location during a range of storm events (Brown 1983).

It may be possible in some instances to consider a limited area, such as a small watershed as a "point-source" (Brown 1983). Samples taken above and below a tributary's confluence with an undisturbed higher order stream, particularly while discharge is rising or at its peak, could be analyzed for statistically significant differences (Brown 1983). Roads are the biggest producer of fine sediments in logged watersheds. The "point-source" sampling method would appear to be particularly applicable for culverts, bridges, and fords. Enough samples must be taken above and below the road crossing to ensure statistical validation.

If harvest areas are widespread in a watershed or roads cross a stream at more than one point, sources of suspended sediments will be difficult to identify. In this case, there is no substitute for intensive pre- and post-harvest sampling. Lacking this information, it will be next to impossible to differentiate background levels of suspended sediments from elevated levels. Brown (1983) recommends that sampling efforts concentrate on the rising and peak stages of storm flows. Samples should include a range of storms and, if possible, more than one control watershed. Such an intensive sampling strategy is liable to be expensive. Costs could be minimized by focusing on areas where logging roads or extensive clearcuts are proposed. Because the sampling should be concentrated during the summer, field work could be conducted by seasonal employees.

In addition to having significant impacts of its own (Lloyd et al. 1987), turbidity can be used as an index of SSC (Lloyd 1987). Turbidity is easier and quicker to measure in the field (Lloyd 1987), allowing collection of more samples in a shorter period. However, the relationship between turbidity and SSC is often site- or storm-specific (Beschta 1980, Lloyd 1987). Sidle and Campbell (1985) reported a high correlation between turbidity and total suspended solids in a Chichagof Island stream. The relationships need to be determined in Alaskan watersheds of different sizes, shapes, gradients, soil types, and sediment characteristics (Brown 1983). Pending this information, turbidity can still be used as a reasonable estimator of SSC (Lloyd et al. 1987). The same sampling limitations would apply to measurements of turbidity as SSC.

Settled and Imbedded Sediments

The state water quality standard for fine sediments in spawning gravels may require a greater knowledge of factors influencing the streambed composition than is currently available (Adams and Beschta 1980). The standard specifies that fine sediments (0.1-4.0 mm) in spawning substrates may not be increased more than 5 percent by weight over natural conditions or exceed a maximum of

30 percent.

The proportion of fine sediments in streambeds is highly variable between streams, locations in the same stream, locations in the same riffle, and at different depths at the same point (Everest et al. 1987). Fine sediment content also varies between storms and at rising and falling stages within storm flows (Adams and Beschta 1980). Thus, natural variations can mask the adverse effects of timber harvests. This standard can only be enforced if a statistically significant difference can be shown between samples from the affected segment of the streambed and samples from earlier visits or adjacent, unaffected segments of the same stream.

The factors which influence the amount of fines in streambeds in Alaska needs to be better understood (Adams and Beschta 1980). Streams should be sampled at low flows, when streambed composition is relatively stable, especially in winter while eggs are present (Adams and Beschta 1980). Costs could be minimized by focusing on areas where logging roads or extensive clearcuts are proposed. By concentrating sampling effort during the winter, field work could be conducted by seasonal employees, perhaps in conjunction with measurements of suspended sediment and turbidity.

BASELINE STUDIES IN SOUTHCENTRAL AND INTERIOR ALASKA

Research conducted in southeast Alaska, other Pacific Northwest states, and coastal British Columbia is most applicable to southeast Alaska. Streams in the coastal forests of Prince William Sound or the spruce/hardwood forests of the Susitna and Tanana valleys may not have similar responses to timber harvests. Baseline studies need to be conducted in these areas, with particular attention to sources and effects of sediments and effects of canopy removal on maximum and minimum stream temperatures.

STREAM CLASSIFICATION

After noting severe post-logging impacts on some streams and not on others, Hartman et al. (1987) recommended that stream channels in British Columbia be classified to allow a range of protective measures. Washington based its forest practices regulations on stream types (McCrea 1984) and the USFS is using a stream classification scheme on the two national forests in Alaska (USFS 1986).

Toews and Brownlee (1981) and Gibbons (1984) recommend ranking systems that might be applicable throughout Alaska. However, the benefits of stream classification must be carefully assessed before it is adopted by regulation or policy. The application of less restrictive standards for small headwater streams is a major weakness of the Washington Forest Practices Act (McCrea 1984).

The ADEC and ADF&G should jointly investigate the potential for stream classification in Alaska.

DETERMINING APPROPRIATE BUFFER STRIPS

Prevention measures are the best way to avoid adverse impacts to fish habitat. Adverse effects of timber harvest and logging roads can be ameliorated or avoided by leaving a buffer strip adjacent to waterbodies. Many studies conducted in the Pacific Northwest have compared the effects of timber harvests and roads on streams with and without buffer strips. Buffer strips minimize increases in summer water temperatures (Brown et al. 1971, Brazier and Brown 1973, Beschta 1978, Beschta et al. 1987, Hall et al. 1987), sediments (Hansmann and Phinney 1973, Beschta 1978, Moring 1982, Culp and Davies 1983, Hall et al. 1987), submerged slash (Hansmann and Phinney 1973, Hall et al. 1987), and dissolved inorganic substances (Hall et al. 1987). Buffer strips minimize decreases in dissolved oxygen (Hall et al. 1987). Buffer strips maintain the source and stability of large woody debris (Toews and Moore 1982, Tschaplinski and Hartman 1983, Murphy et al. 1986, Heifetz et al. 1986, Hartman et al. 1987). Streams with buffer strips have lower densities of aquatic macroinvertebrates, but higher species diversity, compared to streams in clearcuts without buffer strips (Newbold et al. 1980, Culp and Davies 1983).

The primary benefits of buffer strips for stream water quality and aquatic habitat include shade, bank stabilization, a long-term source of large woody debris, keeping slash out of the stream, and intercepting sediments. Potential problems with buffer strips include blowdowns, the cost of forgoing harvest of trees in buffer strips, and the need for more roads. Although the benefits of buffers in ameliorating nonpoint-source pollution are well known, the size and configuration of buffer strips in Alaska forests should be studied. Some of the factors that should be considered include the following.

Blowdowns

Buffer strips are subject to windthrow. Wind is the major cause; however, contributing factors include topography, high rainfall, shallow soils, shallow water table, orientation, tree species, and tree heights (Moore 1977, Steinblums 1978). Steinblums et al. (1984) developed a predictive equation for designing stable buffer strips in Oregon's Cascade Mountains. The equation may be extrapolated to Alaska, although it is likely to be less applicable and require more professional judgement. A similar study needs to be conducted in Alaska. In southeast Alaska, juvenile salmonids prefer streams with buffer strips that have blown down to streams without a buffer strip (Heifetz et al. 1986, Murphy et al. 1986). Heifetz et al. (1986) noted that their results may not apply in streams with ice cover. This study needs to be replicated in southcentral and interior Alaska.

Economic Factors

Costs and benefits of leaving trees in buffers of various widths have been compared (Sadler 1970, Gillick and Scott 1975, Dykstra and Froehlich 1976, Olsen et al. 1987, Garland 1987, Adams et al. in press). Some of the studies were limited because they only evaluated loss of spawning salmon and habitat. Rearing habitat is usually more vulnerable, because the streams are smaller, more numerous, and harder to avoid. None of the studies considered costs of rehabilitating streams which had lost their long-term sources of large woody debris. Stream rehabilitation is expensive (House and Boehne 1985). Physical, biological, and economic conditions in Alaska differ from those where these studies were conducted. A study which assesses costs and benefits of timber harvests related to water quality and aquatic habitat needs to be conducted in Alaska.

Practical Dimensions

Leaving buffer strips on headwater streams may require more roads (McCrea 1984, Garland 1987, Adams et al. in press). Logging roads contribute substantially to mass wasting on steep slopes and they may be the single largest contributor of fine sediments to streams. Buffer strips alone are incapable of preventing surface runoff from roads and ditches from reaching stream channels because sediments often enter channels at road crossings. Determining the balance between too few buffers and too many roads may be one of the biggest challenges to using buffer strips. Another consideration is "headwall leave areas," where trees are left in areas susceptible to debris torrents (Swanson et al. 1987).

The question with buffer strips is not whether they are valuable in protecting fish habitat, but what are the proper dimensions, should headwater streams be protected, and how much selective cutting within the buffer should be allowed (Barton et al. 1985, Bisson et al. 1987). The ADNR, ADEC, ADF&G, and the timber industry need to jointly develop buffer strip criteria.

UPDATING BEST MANAGEMENT PRACTICES

Because nonpoint-source pollution is difficult to measure and control using conventional water quality standards, BMPs are often cited as the best method for minimizing or avoiding adverse effects on aquatic habitats. However, BMPs can also have significant limitations. In order to preserve decision making flexibility, the agency which develops and administers BMPs generally incorporates language which leaves field personnel with discretionary authority to interpret and enforce the BMPs. Alternatively, BMPs may be voluntary, but would not assure effective protection of water quality.

The BMPs in ADNR's Forest Practices Field Manual have many of the weaknesses of those in other states, including vague language,

voluntary compliance, and no provisions for updates based on new information. The manual should be revised and updated. Since it was published in 1981, researchers and policy-makers throughout the Pacific Northwest have developed new, more effective BMPs. In the last decade, for example, researchers have determined the value of large woody debris in maintaining stream stability and providing crucial winter habitat for juvenile salmonids. These BMPs should be collected and evaluated for their relevance to Alaskan conditions. The BMPs should be compiled by an interagency (ADNR, ADEC, and ADF&G) working group and used as the basis of a new manual.

MONITORING EFFECTIVENESS OF BEST MANAGEMENT PRACTICES

Specific BMPs should be incorporated into regulation and strictly enforced. However, even when BMPs are precise and compliance is mandatory, violations can be difficult to monitor and enforce. Substantial water quality problems have occurred in other states which have relied on BMPs to protect water quality. Effectiveness of the BMPs will need to be assessed periodically through questionnaires and field studies, similar to research conducted in other states (Brown et al. 1978, Sachet et al. 1980, Sessions et al. 1987, Piehl et al. 1988). As a result of these studies, enforcement efforts could be focused on specific areas or techniques and ineffective BMPs could be identified and revised.

TASK 4: RECOMMENDATIONS FOR NONPOINT-SOURCE POLLUTION CONTROLS

Introduction

As concluded in previous sections, additional measures are needed to more effectively control nonpoint sources of pollution related to timber harvest and associated activities in Alaska. The ADF&G has developed 11 recommendations for controlling nonpoint sources of pollution associated with timber operations. The ADF&G has identified the primary and more timely actions that may be applied to control nonpoint sources of pollution. These recommendations are not intended to be all encompassing and other measures should be evaluated. For example, only three recommendations to address a few information gaps discussed under Task 3 are included in this section. The ADEC and other participants in the development of the State of Alaska Nonpoint Pollution Control Strategy should consider developing additional recommendations to address the other identified information gaps.

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Recommendation 1:
Evaluate and Revise the Alaska Forest Practices Act
and Implementing Regulations

OBJECTIVE

To evaluate the effectiveness of the FPA, FPR, and BMPs in controlling nonpoint-source pollution related to timber harvest and associated activities, and make appropriate revisions.

DESCRIPTION

Alaska's 1979 FPA and implementing 1983 FPR regulate timber harvest and associated activities on state, municipal, and private lands. In response to agency and public concerns, Alaska Governor Steve Cowper directed state agencies to review the act and regulations with the intent of developing and proposing revisions to the act during the 1989 legislative session. This review is currently underway and is expected to include an evaluation of the effectiveness of the act, regulations, and BMPs in protecting water quality, fish and wildlife habitat, and other uses of forest lands. The ADF&G's review of the act and regulations and the manner they have been implemented (see Appendix B, memorandum from Norman Cohen to Robert Grogan, August 29, 1988) concluded that they have had limited effectiveness in controlling nonpoint sources of pollution and providing adequate protection of water quality and fish habitat.

The primary sources of water pollution related to timber harvest and associated activities result from nonpoint sources. The ADF&G believes that several aspects of the FPA and FPR and the manner in which they are implemented must be changed to more effectively deal with nonpoint sources of pollution. A brief description of specific aspects of the act and regulations that should be evaluated and changed to more effectively control nonpoint-source pollution associated with timber harvest activities is provided below.

Standards: A number of the standards in the act and regulations are nonbinding or do not provide clear guidance to address nonpoint sources of pollution. The standards in the FPA and FPR should be reevaluated, revised, and made enforceable performance standards.

Operation Plan Review and Approval: Currently, operators on private lands are only required to notify ADNR of operations and are not required to obtain any permit or authorization prior to logging or road construction. ADNR can only recommend changes to a plan of operations, and implementation of the recommendations is the operator's prerogative. A requirement for a permit and plan review, combined with enforceable performance standards, would allow the state to require stipulations and take compliance action when necessary.

Best Management Practices: The ADNR provides voluntary BMPs in its Forest Practices Field Manual (published in 1981). These BMPs are outdated and should be reviewed, updated, and expanded. As appropriate, the revised BMPs should be integrated into the FPR as requirements rather than advisory measures.

Enforcement of Violations: The FPA sets a maximum penalty of \$10,000 for violations and establishes a system where the violator appears before a hearing officer. The FPA only allows imposition of civil penalties, which are very time consuming and costly to impose, and provide little incentive for enforcement or compliance. A criminal penalty (i.e., a misdemeanor) to enable enforcement and provide an incentive for compliance or, at a minimum, retaining civil penalties without a hearing officer should be required.

Planning: Resource agency ability to evaluate and minimize potential for nonpoint-source pollution impacts could be facilitated through a change in the FPA to require long term, drainage-wide planning by landowners. This would allow the review of individual sale layouts and associated roads, landings, gravel pits, and other facilities, and an evaluation of potential cumulative impacts in the context of an entire drainage rather than in piecemeal manner.

Provide for Closer Coordination and Conflict Resolution: Currently the ADEC, ADF&G, and coastal districts act as advisors to the ADNR in providing recommendations in their areas of expertise. The ADNR is required to consult with ADF&G and ADEC on operations on state and private lands, but consultation with coastal districts is optional under the FPA. There is also no clear process for conflict resolution under the FPA. A clear process for coordination and conflict resolution already exists under the the ACMP consistency review regulations (6 AAC 50), which could be used for the FPA. Agencies and districts would also be given "due deference" in their areas of expertise and all appropriate aspects of the project would be reviewed concurrently rather than in a piecemeal manner. With the establishment of a forest practices permit, activities on private and municipal lands could be reviewed under 6 AAC 50.

AGENCIES OR PARTIES RESPONSIBLE FOR IMPLEMENTATION

The ADNR has been assigned the lead in the state's review of the FPA and FPR. The ADF&G, ADEC, and the Alaska Division of Governmental Coordination (DGC) also play key roles. Timber interests, environmental groups, fishing groups, and coastal districts are also involved and represented on the steering committee. Once the initial evaluation is complete, the three state resource agencies and the DGC should monitor the completion and implementation of all revisions to the FPA and FPR.

AUTHORITIES APPLIED TO IMPLEMENT THE RECOMMENDATION

The applicable authorities under review are the FPA (AS 41.17) and FPR (11 AAC 95). An amendment to both the act and regulations is necessary to substantially improve the act's and regulation's effectiveness in controlling nonpoint-source pollution associated with timber harvest operations. For example, a permit requirement for operations on private lands and more enforceable performance standards would require an amendment to the FPA.

POTENTIAL CONSTRAINTS TO IMPLEMENTATION

One of the constraints to implementation of this task is the limited time available for agency, industry, and interest group staff to work on changes to FPA and FPR. A second potential constraint is that no special funding has been made available to resource agencies to fund this effort, which will likely prolong the review. Another potential constraint may be the reluctance of timber industry to accept many of measures necessary to more effectively control nonpoint sources of pollution. A requirement for permits and binding or enforceable performance standards or BMPs, for example, may be opposed by industry.

POTENTIAL FUNDING SOURCES

No supplemental funding has been provided to date for the state agencies and most parties involved in the review of the act and regulations. The most probable source for additional funding, if needed, would be a supplemental appropriation from the Alaska Legislature.

SCHEDULES OR MILESTONES

The Governor has asked state agencies and interest groups to review the FPA and implementing regulations and develop an amendment to the FPA for submittal to the Alaska Legislature by February 1989. The steering committee has not yet identified products to be developed or a schedule for the process. Providing the FPA is revised, new regulations should be drafted and submitted for public review by about December 1989.

Recommendation 2:
Promulgate Nonpoint-Source Pollution Regulations

OBJECTIVE

To develop a uniform legal basis and standards for preventing and controlling nonpoint-source pollution to ensure compliance with the AWQS.

DESCRIPTION

Most of the water pollution from timber harvest and associated activities is caused by nonpoint sources. The process for maintaining water quality under the AWQS is not effective in controlling pollution from nonpoint sources. Procedurally, the ADEC must first identify a change in water quality and then locate the source before it can take compliance action. Nonpoint sources of pollution are commonly difficult to identify, locate, and prove the cause. In effect, the AWQS are implemented on timber harvest and associated activities only after the impact has occurred, through compliance and enforcement actions. Moreover, the ADEC does not have the staff resources to carry out inspections of logging activities or to detect violations of the AWQS. Nonpoint-source violations are difficult to prosecute in court and consequently the ADEC rarely takes any legal action.

To address these limitations, the department recommends that the ADEC develop comprehensive regulations governing activities with a potential to create nonpoint sources of pollution. The statutory responsibility for protecting water quality and agency expertise necessary to develop and implement nonpoint-source regulations rests within ADEC. The regulations should apply to timber harvest activities and other activities, such as placer mining and urban runoff, not controllable as point sources. The regulations should include: enforceable performance standards; site-specific review of timber harvest plans of operations (i.e., a permit); liability for failure to comply with approved plans and permit stipulations; extensive coordination with other agencies; and agency field inspection.

A new program to regulate nonpoint-source pollution of forest lands need not be cumbersome nor lengthen the time necessary to review a project. The review of timber harvest and associated activities on forest lands could be made in conjunction with the review under the FPA and FPR. Appropriate coordination among state agencies and with coastal districts would be accomplished through the 6 AAC 50 review process.

AGENCIES OR PARTIES RESPONSIBLE FOR IMPLEMENTATION

The ADEC would have the primary responsibility for the promulgation and implementation of nonpoint-source pollution control regulations. With respect to timber interests, the ADEC should work closely with ADNR-DOF and ADF&G in drafting the regulations. Other key affected interest groups such as native corporations or other landowners, fishing groups, and conservation groups should be involved in the development of the regulations.

AUTHORITIES APPLIED TO IMPLEMENT THE RECOMMENDATION

The authorities under which the new regulations would be developed are AS 46 and the CWA.

POTENTIAL CONSTRAINTS TO IMPLEMENTATION

A potential constraint to implementation is opposition from the regulated industry. Industry may claim the new program would be too costly and unnecessary because, from their perspective, existing authorities are adequate. A second possible constraint to implementation is the perception that the ADEC would duplicate or interfere with ADNR regulation of timber lands under the FPA or other agency regulatory authorities. While there may be some complementarity, ADEC statutes and activities concerning the control of nonpoint-source pollution from timber harvest would not diminish other agency authorities. New ADEC regulations would set performance standards necessary for meeting the AWQS. Other requirements related to fish habitat, reforestation, mitigation, or habitat restoration would not be affected. A third possible constraint is the likely increase ADEC permitting staff work load resulting from additional project reviews and monitoring activities.

POTENTIAL FUNDING SOURCES

Additional funding for the ADEC to implement the new comprehensive regulations would likely be required. A relatively greater increment may be needed for the review of timber harvest and associated activities compared to other activities, such as placer mining, in which the ADEC is currently reviewing. The most probable source of funding would be a combination of state and federal funds. Under Section 319(h) of the CWA the EPA could, providing Congress appropriates the money, provide grants to fund up to 60 percent of program cost. Another potential source of funding is the Alaska Legislature.

SCHEDULES OR MILESTONES

The ADEC should proceed with the development of a nonpoint-source pollution control program through ADEC regulations as soon as practicable. With respect to regulations as they apply to timber harvest and associated activities, the ADEC will need to be cognizant of the ongoing state review of the FPA and FPR. We suggest that the ADEC commence the development of regulations by February or March 1989. The regulations should be completed and go into effect by March 1990 or as soon as possible thereafter.

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Recommendation 3:
Obtain Additional Funding for Review and Monitoring

OBJECTIVE

To reduce or control nonpoint source of pollution through additional review and monitoring of timber harvest and associated activities.

DESCRIPTION

The ADEC is the state agency with the statutory responsibility and expertise to protect state water quality. Due to funding constraints, internal program priorities and/or limitations in staff, ADEC's ability to review and monitor timber harvest and associated activities under the AWQS or the FPA and FPRs has been very limited. It is essential that ADEC play a very active role in both project review and monitoring under any strategy to control nonpoint sources of pollution. The ADEC recently participated in a few forest practices field reviews in Yakutat and Hobart Bay areas. The ADEC's interest and participation in this review is very encouraging, and will help a great deal in addressing water quality concerns associated with that development. In addition, the ADF&G, through regulation of activities affecting anadromous fish streams, and to some extent the ADNR, through implementation of the FPA and FPR, also play a role in controlling nonpoint sources of pollution. These other agencies should also acquire additional funding, in addition to making other statutory and regulatory changes, to carry out their responsibilities to review and monitor timber harvest and associated activities for nonpoint sources of pollution.

The timber harvest industry has generally supported increased agency involvement in project development and monitoring. The resource agencies should work together and with the industry in defining priorities for project review and field presence. It may be appropriate to submit a joint resource agency proposal to the Alaska Legislature or other sources for additional funding.

AGENCIES OR PARTIES RESPONSIBLE FOR IMPLEMENTATION

The ADEC should assume the lead responsibility for seeking additional funding under the CWA. The resource agencies should, either separately or collectively, submit proposals to the Alaska Legislature for enhanced involvement in the review and monitoring of timber harvest and associated activities.

AUTHORITIES APPLIED TO IMPLEMENT THE RECOMMENDATION

No new authorities need to be created. The CWA and AS 46.03 provide the authority to implement this recommendation.

POTENTIAL CONSTRAINTS TO IMPLEMENTATION

The biggest constraint to implementation is the difficulty in securing funding necessary to enhance agency review and monitoring capabilities. Both state and federal sources of revenue and the political will to more thoroughly manage forest practices are uncertain.

POTENTIAL FUNDING SOURCES

The most likely funding sources are federal funds under the EPA Section 319(h) grant program after FY 89 or a general fund appropriation from the Alaska Legislature.

Recommendation 4:
Review and Update Timber Harvest BMPs

OBJECTIVE

To develop comprehensive, state-of-the-art BMPs for controlling nonpoint sources of pollution resulting from timber harvest and associated activities.

DESCRIPTION

There are several field manuals available with BMPs for timber harvest and associated activities. The ADNR/DOF, EPA, USFWS, and the USFS have developed manuals of BMPs for timber harvest and associating activities in Alaska. Most of these manuals primarily address timber harvest and associated activities in the Alaska's Sitka spruce/hemlock coastal forest, and few BMPs have been developed specifically for timber harvest activities in southcentral and interior spruce and birch forests. Many of the existing BMPs have been shown, based on agency experience and recent studies, to be ineffective in controlling nonpoint sources of pollution. Existing BMPs should be reviewed and revised, and new BMPs developed, to more effectively address nonpoint-source pollution associated with timber harvest operations. The reevaluation and development of BMPs should be included as a separate recommendation in the state's nonpoint-source pollution control strategy in the event it is not accomplished under the FPA/FPR discussed in Recommendation 1. The evaluation should include, at a minimum: (1) a review current literature and other state programs related to BMPs for timber harvest and associated activities; (2) an assessment of the extent to which existing BMPs have been applied by the timber industry; (3) an evaluation of the effectiveness of existing BMPs in preventing nonpoint-source pollution; and (4) an evaluation of which BMPs should be incorporated into regulations as mandatory requirements.

AGENCIES OR PARTIES RESPONSIBLE FOR IMPLEMENTATION

The state resource agencies should take the lead in the evaluation and development of new BMPs. These agencies should, as appropriate, involve federal agencies and the timber industry.

AUTHORITIES APPLIED TO IMPLEMENT THE RECOMMENDATION

Section 319(b)(2)(A) requires states to identify BMPs which will be undertaken to reduce pollutants. BMPs may also be developed under ADEC statutes and the ADNR's FPA and FPR. Where appropriate, the BMPs should be adopted as part of the ADEC nonpoint source pollution control regulations discussed under Recommendation 2.

POTENTIAL CONSTRAINTS TO IMPLEMENTATION

Both agencies and industry would probably support a reevaluation and revision of existing BMPs. One possible constraint would be industries reluctance to support BMPs based on economic or other grounds. Another potential constraint would be the substantial staff commitment required to conduct a thorough evaluation of BMPs. This task may be accomplished with existing staff over a long period of time. However, there is need to complete this task in a more timely manner which may require additional staff support.

POTENTIAL FUNDING SOURCES

The most likely funding sources after FY 89, if needed, would be federal funding through the EPA Section 319(h) grant program and/or the Alaska Legislature.

SCHEDULES OR MILESTONES

The setting of a schedule and milestones is difficult in light of the uncertainty of the scope and timing of the FPA/FPR review, and whether the review will include a reevaluation and revision of BMPs associated with timber harvest activities. A separate evaluation will be needed only if a thorough evaluation is not completed under the FPA/FPR review. If there is no commitment made to reevaluate the BMPs by June 1989, then ADEC should independently initiate a review of BMPs related to control nonpoint sources of pollution associated with timber harvest operations. An independent review, if necessary, should start in July 1989 and be completed by March 1990 or as soon as possible thereafter.

Recommendation 5:
Educate Public and Timber Industry

OBJECTIVE

To educate coastal districts and the timber harvest industry on effective timber harvest BMPs.

DESCRIPTION

It is important that BMPs be well understood and supported by both the affected public and the forest harvest industry (Sachet et al. 1980). A public information program should be established to further educate the public and industry personnel on effective BMPs.

The public review should focus on affected coastal districts in southeast and southcentral Alaska. There are several reasons for this. First, coastal districts are the organized entity in coastal regions of Alaska responsible for representing community views in review of activities associated with timber harvest and other coastal projects. Secondly, several coastal districts recently expressed a need and desire for an educational effort at the October 12-13, 1988, Southeast Coastal District Workshop in Ketchikan. Districts indicated that they do not understand BMPs for timber harvest activities and do not know how to recognize effective or ineffective practices. These coastal districts expressed an interest in learning more about effective BMPs for timber harvest activities to improve their ability to participate and represent local views in the project review process and to monitor these activities. Thirdly, the predominant view among district staff at the workshop is that the FPA and FPR have not been very effective in protecting water quality, coastal habitat, and other coastal district concerns. A public education effort could improve coordination between the state and districts, improve their understanding of the timber industry, and improve their ability to assist in the management of timber harvest activities.

The program for educating the timber harvest industry on BMPs should be also be conducted with the landowner decision makers and, as appropriate, with logging contractors. Similarly, we believe an educational effort with timber landowners will help improve coordination between the state and the timber industry.

The specifics of an effective educational program for coastal districts and industry should be designed and implemented in coordination with the state resource agencies, coastal districts, and the timber industry. The general educational program would be conducted jointly by ADNR, ADEC, ADF&G, and DGC. The public information program might include separate one week workshops for districts and industry, including a combination of meetings and

field trips, for coastal districts and industry. Separate coastal district and industry workshops would allow proper orientation to different district/industry backgrounds and technical information needs. The workshops might be located in two locations, one in southcentral Alaska (e.g., conducted in Prince William Sound) and another in southeast Alaska (e.g., Prince of Wales Island).

AGENCIES OR PARTIES RESPONSIBLE FOR IMPLEMENTATION

To be successful, the education program must be designed and implemented in close coordination with the primary land owners or managers (e.g., regional and village native corporations, USFS), the state resource agencies, and affected coastal districts. The state resource agencies and DGC would coordinate the design and implementation of the program.

AUTHORITIES APPLIED TO IMPLEMENT THE RECOMMENDATION

The authorities to implement the recommendation include Section 319(h)(5)(D) of the CWA, the FPA and FPR, and ADEC statutes (AS 46) requiring protection of water quality.

POTENTIAL CONSTRAINTS TO IMPLEMENTATION

One of the likely constraints to successful implementation of this recommendation is the difficulty in getting the wide variety of interests to agree on program design. For example, it will be difficult to achieve consensus on the location for field trips (e.g., landowners would not want their operations used as examples of poor forest practices). This and other constraints can be overcome through close coordination with the landowners in the design and implementation of the educational program.

POTENTIAL FUNDING SOURCES

Additional funding for ADNR, ADF&G, and ADEC will likely be needed to implement the proposed educational program. The funding level needed to develop and implement a public education program would be determined when the program is designed. Potential funding sources include federal funding through the EPA Section 319(h) state grant program. The EPA can provide up to 60 percent funding and the remaining 40 percent must be provided by the state through nonfederal funds. Another potential source of federal funding is the state ACMP funding pursuant to Section 306 of the Coastal Zone Management Act of 1972, as amended (CZMA). It should be recognized, however, that CZMA funding has decreased in recent years and the ability to fund new programs is low. It may be possible, however, to partially support this recommendation by using ACMP funds to support district participation in the workshops. The Alaska Legislature could also be asked to include

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this program as part of any new funding for implementation of the FPA and FPR (see Recommendation 1).

SCHEDULES OR MILESTONES

As mentioned in previous recommendations, the FPA and FPR are currently under state review. The results of this review and commitments to change various aspects of the act and regulations will likely be made by June 1989. A review of the timber harvest BMPs may be underway at that time. Program design for the public education program could commence by July 1989. Between July and December 1989 the agencies could design an education program. The period January to April 1990 would be used to consolidate materials and develop presentations for the workshops, and to schedule the coastal district and industry workshops. The coastal district and agency workshops should be conducted the 1990 summer field season.

Recommendation 6:
Promulgate Fish Habitat Regulations

OBJECTIVE

To develop uniform standards for regulation of activities affecting anadromous fish pursuant to the Fishways Act (AS 16.05.840) and the Anadromous Fish Act (AS 16.05.870).

DESCRIPTION

The ADF&G is responsible for regulating activities that may affect fish passage under the Fishways Act (AS 16.05.840) and activities affecting anadromous fish under the Anadromous Fish Act (AS 16.05.870). Permits issued under these acts are referred to as fish habitat permits. Subsection AS 16.05.870(b) of the Anadromous Fish Act specifically requires the ADF&G to regulate logging activities which may result in pollution of anadromous fish streams. AS 16.050.870(b) states:

If a person or governmental agency desires to construct a hydraulic project, or use, divert, obstruct, pollute, or change the natural flow or bed of a specified river, lake, or stream, or to use wheeled, tracked, or excavating equipment or log-dragging equipment in the bed of a specified river, lake, or stream, the person or governmental agency shall notify the commissioner of this intention before the beginning of the construction or use.

There are currently no ADF&G regulations governing the issuance of fish habitat permits. The ADF&G should promulgate regulations pursuant to Fishways and Anadromous Fish acts. The regulations, once approved, would provide a clear description of the activities that would be regulated, standards that would be enforced, and help ensure consistency for fish habitat permits.

AGENCIES OR PARTIES RESPONSIBLE FOR IMPLEMENTATION

The ADF&G is the agency responsible for implementation. Coordination with other agencies and development interests should occur as appropriate.

AUTHORITIES APPLIED TO IMPLEMENT THE RECOMMENDATION

The applicable authorities are AS 16.05.840 and AS 16.05.870.

POTENTIAL CONSTRAINTS TO IMPLEMENTATION

One constraint may be opposition from some of the entities affected by the regulations. The department will need to work with these entities to address their concerns.

POTENTIAL FUNDING SOURCES

No additional funding is needed.

SCHEDULES OR MILESTONES

No schedules or milestones have been set. The ADF&G should initiate the promulgation of regulations for fish habitat permits as soon as practical.

Recommendation 7:
Establish a MOU Between the State and USFS

OBJECTIVE

To establish a formal agreement between the State of Alaska and the USFS on policies and procedures for coordinating review of USFS programs and activities.

DESCRIPTION

For the past few years the DGC, in coordination with ADNR, ADEC, and ADF&G, has been working with USFS towards developing a Memorandum of Understanding (MOU) for coordinating state review of a broad range of USFS programs and activities. The MOU will generally address state authorities which apply to activities on USFS lands. Both the activities that will be reviewed by the state and the procedures for conducting the review will be addressed. These negotiations should be completed and the MOU signed as soon as possible.

In 1978 the ADF&G entered into an MOU with the USFS regarding coordination between the two agencies on review of USFS activities that affect fish and wildlife. In 1980 the ADEC and USFS also entered into an MOU regarding coordination in the review of USFS authorized activities that affect water quality. These MOUs are still in effect but have not been fully implemented. Following the completion and signing of the DGC/USFS MOU discussed above, the ADF&G and ADEC should determine whether changes to the previous MOUs should be amended or terminated. The ADEC and ADF&G should initiate changes in the MOUs as appropriate.

AGENCIES OR PARTIES RESPONSIBLE FOR IMPLEMENTATION

The DGC has the lead responsibility for working with the USFS in development of the general MOU. Following approval of this MOU, the ADEC and ADF&G would be responsible for evaluating agency specific MOUs and, where appropriate, initiating amendments to those MOUs.

AUTHORITIES APPLIED TO IMPLEMENT THE RECOMMENDATION

The authorities to enter into an MOU are: Section 307 of the CZMA (16 U.S.C. 1456), the ACMP (AS 46.40, 6 AAC 50 and 80), the National Forest Management Act (16 U.S.C. 1600), the National Environmental Policy Act (42 U.S.C. 4321), the Federal Land Policy and Management Act (43 U.S.C. 1701), the Alaska National Interest Land Conservation Act (16 U.S.C. 3210), ADEC statutes (AS 46.03), and the CWA (33 U.S.C. 1251).

POTENTIAL CONSTRAINTS TO IMPLEMENTATION

A possible constraint to implementation is the USFS reluctance to enter into coordination agreement with the state regarding ACMP consistency. The USFS and the state are in disagreement with respect to what activities should be subject to consistency and which standards of the ACMP apply. The state has provided the USFS with a legal opinion in support of its position, and we are hopeful that this issue will be resolved shortly.

POTENTIAL FUNDING SOURCES

No addition funding is needed.

SCHEDULES OR MILESTONES

No schedule or milestones have been set. It is the state's hope that an agreement will be reached and an MOU signed in the near future.

Recommendation 6:
Establish an Interagency Forest Practices Working Group

OBJECTIVE

To facilitate implementation of the State Nonpoint-Source Pollution Control Strategy and the resolution of other forest practices issues.

DESCRIPTION

Section 319 of the CWA requires that the state incorporate a number of measures in its nonpoint-source pollution control plans to ensure successful implementation of state nonpoint-source pollution control management strategies. The state has been unable to adequately implement the 1980 nonpoint-source pollution control management plans and appropriate measures must be taken to ensure implementation of the current plan. An interagency group was established to monitor development of 1980 plan, but this group was disbanded at plan completion and the other state resource agencies did not play an active role in plan implementation. An interagency working group should be established to facilitate and oversee both the implementation of the current strategy and the resolution and implementation of other forest practices issues (e.g., products of the FPA and FPR described under Recommendation 1). The "core" of the working group should consist of one mid or upper level staff representative from each of the state resource agencies. Depending on the topics of discussion, it may be desirable to involve the DGC and other state and federal agencies or other interest groups.

The ADEC would retain its lead responsibility for implementing the nonpoint-source pollution control strategy and would use the core working group to solicit agency participation and as a forum to discuss strategy. The core working group would meet regularly during the first year or two following plan approval and as needed thereafter. Each of the working group members will be responsible for coordinating their agency's involvement in the implementation of the recommendations.

The working group could also assume responsibilities for completion of various tasks that are part of or result from the state's reevaluation of the FPA and FPR. It is not likely that this working group could get involved in that effort, if at all, until after the initial evaluation. A general process and schedule is already in place for the initial evaluation of the FPA and FPR (see Recommendation 1).

AGENCIES OR PARTIES RESPONSIBLE FOR IMPLEMENTATION

The core working group would consist of a representative from the ADEC, ADF&G, and the ADNR. The group would be organized by ADEC for issues relating to the implementation of the Statewide Nonpoint-Source Pollution Control Strategy. Other state and federal agencies and interest groups would be involved as appropriate.

AUTHORITIES APPLIED TO IMPLEMENT THE RECOMMENDATION

The authorities under which this will be implemented are the CWA and ADEC's general statutory authority (AS 46) to protect water quality.

POTENTIAL CONSTRAINTS TO IMPLEMENTATION

One potential constraint will be the lack of staff time to participate in the group and the amount of work necessary to complete the tasks required for implementation. A second possible constraint is inadequate priority given by the participating agencies to carry out the strategy. Another possible constraint is the perception by other agencies, industry, or interest groups that the composition of the core working group should be expanded to include more representatives of the various interest groups. The core working group should be kept small and involve other affected parties as needed.

POTENTIAL FUNDING SOURCES

The need for additional funding is dependent on the level of work required of the working group. The group could probably operate under existing funding and staff if the work is limited to monitoring the implementation of the nonpoint-source pollution control strategy. If greater participation in evaluation of other forest practices issues is required, additional funding may be needed. The most probable source of funding is the EPA Section 319(h) grant program or additional appropriations from the Alaska Legislature.

SCHEDULES OR MILESTONES

The working group should be established and commence work on implementation in January 1989.

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Recommendation 9:
Document Anadromous Fish Habitat

OBJECTIVE

To survey streams for anadromous fish in areas where timber harvests and logging road construction are proposed.

DESCRIPTION

The Anadromous Fish Act is currently one of the most effective means for protecting fish from some nonpoint-source pollutants. The chief limitation of the Anadromous Fish Act is its limited applicability outside of documented anadromous fish habitat. Water quality and fish resources on forest lands could be better protected by funding and implementing a systematic stream survey program in areas slated for logging.

Habitat biologists would survey streams in areas proposed for logging. A helicopter would shuttle teams between potential upstream limits of anadromous fish distribution. The presence of anadromous fish would be documented in the ADF&G's anadromous fish waters catalog. This information could then be used to locate road crossings, identify buffer strips, or other BMPs as appropriate. Water quality samples (e.g., turbidity, suspended sediment concentration, temperature, dissolved oxygen) could also be collected, under the general supervision of ADEC staff. This would assist the ADEC in determining baseline information for comparison with post-logging samples.

AGENCIES OR PARTIES RESPONSIBLE FOR IMPLEMENTATION

The Habitat Division, ADF&G, has the authority and expertise to survey streams to determine anadromous fish distribution.

AUTHORITIES APPLIED TO IMPLEMENT THE RECOMMENDATION

The Anadromous Fish Act (16.05.870) gives the ADF&G the necessary authority to conduct fish stream surveys and document anadromous fish distribution.

POTENTIAL CONSTRAINTS TO IMPLEMENTATION

One potential constraint is limited staff. Existing staff may be required for more extensive surveys. A second constraint is funding. The single greatest expense in conducting stream surveys in remote areas is transportation of staff and equipment. Stream surveys conducted by ADF&G in 1988 cost approximately \$3,000 per day for helicopter transport alone. Budget reductions in recent

years have obviated requests for additional funding to conduct stream surveys. A third constraint is the immediate need for stream surveys in many areas. Many native and village corporations in southeast Alaska will probably have harvested their marketable timber by the mid-1990s (Rae 1988). Corporations in southcentral Alaska are not far behind. Large-scale operations are also being planned for state lands in the Susitna Valley and other areas (ADNR 1988). Annual harvests of old-growth timber, including many high-value riparian areas, may peak in the next decade. Stream surveys are needed before the timber is cut.

POTENTIAL FUNDING SOURCES

Funding for ADF&G 1988 stream surveys came from a special legislative appropriation. Special appropriations should continue to be pursued, but they are not a reliable future funding source. A critical component of planning and management of timber harvests is locating and protecting the water quality of anadromous fish streams. The Legislature should designate a specific amount or percentage of its annual appropriation to state agencies for management of the timber industry for conducting stream surveys. Appropriations should be sufficient to survey those watersheds where timber harvests are likely to occur in the following year.

SCHEDULES OR MILESTONES

In light of accelerating timber harvests on private and state lands, funding should be sought for additional staff and contractual services in the upcoming legislative session. Stream surveys should be conducted during late summer and fall 1989.

Recommendation 10:
Determine Applicability of Existing Research to Alaska

OBJECTIVE

To determine applicability of research and recommendations from other areas to Alaskan conditions.

DESCRIPTION

Extensive research conducted in other states and provinces has determined the effects of logging on nonpoint-source pollution of fish-bearing streams. Results and recommendations of these studies may or may not be applicable to maintaining water quality in Alaskan streams. This project would compare the similarities and dissimilarities between forest lands in Alaska and other areas. For example, the rocks underlying forests erode at different rates, and precipitation and gradient are contributing factors. This project would compare the factors which contribute to erosion rates in Alaska with other areas. The final product would be a detailed, comprehensive, and area-specific report.

AGENCIES OR PARTIES RESPONSIBLE FOR IMPLEMENTATION

The agency or party responsible for a project such as this would have to have a working knowledge of meteorology, geology, soils, hydrology, forestry, fisheries and wildlife ecology, and the sources and effects of nonpoint-source pollution. Thus, it may best be accomplished by a joint effort by the ADNR, ADEC, and ADF&G, or consulting firms or federal agencies with this expertise.

AUTHORITIES APPLIED TO IMPLEMENT THE RECOMMENDATION

The recommendation could be implemented under AS 46 and the Clean Water Act.

POTENTIAL CONSTRAINTS TO IMPLEMENTATION

Difficulty in obtaining funding is a major constraint. Another constraint might be the reluctance of one or more agencies to participate in such a project.

POTENTIAL FUNDING SOURCES

Potential funding sources are federal funding through the EPA Section 319(h) grant program and state funding through a special legislative appropriation.

SCHEDULES OR MILESTONES

A clear understanding of how studies in other areas apply to Alaskan conditions is a key to recognizing real data gaps. This information is essential in designing and prioritizing research projects and in identifying and controlling nonpoint-source pollution in Alaska. Therefore, funding should be sought as soon as possible.

Recommendation 11:
Develop an Effective Sediment Sampling Methodology

OBJECTIVE

To develop and implement field methods which differentiate between natural and elevated concentrations of sediments.

DESCRIPTION

Relatively subtle changes in suspended sediment concentrations, proportion of fine sediments in spawning gravels, and turbidity can adversely affect water quality and productivity of streams. Responses vary between and within streams and through time. Many violations of the AWQS for sediment cannot be detected without a well designed sampling scheme that is conducted before, during, and after logging road construction and timber harvests. Following a review of the literature and development of appropriate field sampling methods, ADEC staff would sample streams before, during, and after timber harvest and road building.

AGENCIES OR PARTIES RESPONSIBLE FOR IMPLEMENTATION

The ADEC has the statutory and regulatory authority and expertise to develop sampling methods and conduct sampling in the field.

AUTHORITIES APPLIED TO IMPLEMENT THE RECOMMENDATION

This recommendation can be implemented under AS 46 and the CWA.

POTENTIAL CONSTRAINTS TO IMPLEMENTATION

Sampling streams before, during, and after timber harvest operations will necessitate a much greater field presence for the ADEC. Thus, staff and funding must be increased.

POTENTIAL FUNDING SOURCES

The most likely sources are federal funding through the EPA Section 319(h) grant program and state funding through a special legislative appropriation.

SCHEDULES OR MILESTONES

This information is essential for identifying and controlling nonpoint-source pollution in Alaska. Therefore, funding should be sought through the Section 319(h) grant program and in the upcoming

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legislative session, and the project should be initiated as soon as possible.

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STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

DIVISION OF HABITAT

STEVE COWPER, GOVERNOR

BOX 3-2000
JUNEAU, ALASKA 99802
PHONE: (907) 465-4106

January 13, 1989

Mr. Robert Loescher
Senior Vice President
Resource Management
SEALASKA Corporation
One Sealaska Plaza
Juneau, AK 99801

Dear Mr. Loescher:

Your January 11 letter requests that, pursuant to the Freedom of Information Act, we provide you a copy of our draft fish habitat regulations.

I have enclosed the requested copy. It is important to understand that this package is a very preliminary draft. It is just now being reviewed by other division of this department, with their comments due to us by January 30. A copy of the draft has not been released for review by other state agencies or the public. These two separate reviews are scheduled to begin later this winter, and ample time will be provided for each.

I hope you will treat our release of this very preliminary draft document to Sealaska accordingly. Incidentally, one item that we plan to provide with the agency and public review drafts is a list of the review comments we received on the 1986 version of the regulations, and our response to each vis-à-vis the 1988 draft. This document is still in preparation.

As we have stated before the Forest Practices Steering Committee, we have always intended to provide our draft regulations to all Steering Committee members as soon as the ADF&G divisions' comments are incorporated and the state "agency review" period begins. We believe this sequence of events will facilitate review and development of our "Title 16" regulations on a path that is parallel with the FPA amendment process. Frankly, we are as anxious as any other party to ensure that our draft regulations receive adequate review by the Steering Committee members and do not duplicate any elements that would be covered under FPA regulations administered by the Alaska Department of Natural Resources.

Mr. Robert Loescher

-2-

January 13, 1989

Please feel free to call me if you would like to discuss this matter further.

Sincerely,

A handwritten signature in cursive script that reads "Frank". The signature is written in dark ink and extends to the right with a long horizontal stroke.

Frank Rue
Director

Enclosure

cc: Steering Committee Members

MEMORANDUM

State of Alaska

DEPARTMENT OF FISH AND GAME

TO: Division Directors

DATE: December 30, 1988

FILE NO.:

TELEPHONE NO.: 465-4105

SUBJECT: Inhouse Review of
Proposed Fish
Habitat Regulations

Frank H. Rue
FROM: Frank Rue
Director
Habitat Division
Department of Fish and Game

The Habitat Division is seeking inhouse review and comment on the enclosed draft of its proposed fish habitat regulations. A prior draft of these regs went public in January, 1986, but the previous administration decided shortly thereafter to suspend work on them. We believe that fish habitat regulations are needed in order to 1) fully implement the department's authorities under AS 16.05.840 and 16.05.870 (see enclosed fact sheet); and 2) make explicit the standards we use in issuing fish habitat permits. We also want to encourage public discussion of these standards.

No new permit program is being introduced, and the time required to obtain a fish habitat ("Title 16") permit is not being increased. However, the current draft indicates that we propose to require permits for some uses and activities that not all habitat regional offices have required permits for in the past. Basically, these are uses or activities occurring upstream of or adjacent to (but above the high water mark of) cataloged anadromous reaches and that are expected to "affect" (i.e., adversely impact) anadromous fish or their habitat. Although some members of the public will strongly oppose the "affecting" concept, an Attorney General's opinion indicates that it is within the scope of our statute, provided we promulgate regulations.

To assist in your review of the draft regs, we have also enclosed the following: 1) a table of contents listing all sections of the regulations and indicating which statute (AS 16.05.840 or 16.05.870) they are being proposed under; 2) a short but thorough section-by-section analysis of the proposed regulations; and 3) rationale documents giving explanatory narrative and citations for the proposed water intake and blasting standards. A rationale document for our culvert installation standards is being prepared but is not expected to be available for several weeks.

During your review, if you have questions or comments on the water intake, blasting, or culvert installation standards or the pertinent rationale documents, please call the

December 30, 1988

appropriate person as follows: for blasting, Kim Sundberg (344-2334); for water intakes, Gary Leipitz (344-2281); and for culvert installation, "Mac" McLean (451-6192). Please direct any other questions or comments, as well as your final written review comments, to Ellen Fritts here in Juneau.

In order to continue our forward momentum and get revised draft regs out for interagency review by early to mid-February, we need comments from you no later than January 30, 1989. Incidentally, the fish habitat regulations have been put on the agenda for discussion at the January 16 Director's meeting. We look forward to addressing your concerns at that time if you have not contacted us before then. Thanks very much for your help.

Enclosures

cc: Norman Cohen
Bruce Baker
Habitat Regional Supervisors
Ellen Fritts
Larri Spengler

ALASKA DEPARTMENT OF FISH AND GAME
Fish Habitat Permit
(AS 16.05.840 and AS 16.05.870)

PURPOSE: The fish habitat statutes were enacted to protect and conserve Alaska's fish and game populations and their habitats within anadromous fish streams and to ensure that human activities within all fish streams do not impede the free and efficient passage of fish. An anadromous fish means fish that enter freshwater from the sea for spawning purposes. These include the anadromous forms of char, Dolly Varden, rainbow trout (steelhead), sheefish, smelt, lamprey, whitefish, sturgeon, cutthroat trout, and salmon.

DESCRIPTION: Alaska Statute 16.05.840 (Fishway Act) requires that an individual or governmental agency notify and obtain authorization from the Alaska Department of Fish and Game (ADF&G) for activities within or across a stream used by fish if the department determines that such uses or activities could represent an impediment to the efficient passage of fish. Culvert installation; stream realignment or diversion; dams; low-water crossings; and construction, placement, deposition or removal of any material or structure below ordinary high water all require approval from the ADF&G.

Alaska Statute 16.05.870 (Anadromous Fish Act) requires that an individual or governmental agency provide prior notification and obtain approval from the ADF&G "to construct a hydraulic project or use, divert, obstruct, pollute, or change the natural flow or bed" of a specified anadromous waterbody or "to use wheeled, tracked, or excavating equipment or log-dragging equipment in the bed" of a specified anadromous waterbody (Quoted portions from AS 16.05.870(b)). All activities within or across a specified anadromous waterbody and all instream activities affecting a specified anadromous waterbody require approval from the ADF&G, including construction; road crossings; gravel removal; placer mining; water withdrawals; the use of vehicles or equipment in the waterway; stream realignment or diversion; bank stabilization; blasting; and the placement, excavation, deposition, disposal, or removal of any material. Recreational boating and fishing activities generally do not require a permit.

The description and location of specified anadromous waterbodies is contained in the "Catalog of Waters Important for the Spawning, Rearing and Migration of Anadromous Fishes." Copies of the catalog may be obtained by writing ADF&G at one of the addresses listed below or reviewed in person at the closest ADF&G office.

REQUIREMENTS: Application instructions and specific requirements for fish habitat permits may be obtained from the ADF&G office in your region. No application fee is required. Public notice and hearings are not usually required. Please be advised, however, that certain activities within waterbodies may also require additional authorizations from other state and federal agencies, including the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Alaska Department of Environmental Conservation, and the Alaska Department of Natural Resources. Information about these other permit requirements may be obtained directly from the individual agencies.

For additional information, please contact the Alaska Department of Fish and Game - Habitat Division Regional Office with geographic responsibility for your project location:

Region 1 - Southeast (Juneau)
Region 2 - Southcentral/Alaska (Anchorage)
Region 3 - Arctic/Interior (Fairbanks)



HEADQUARTERS OFFICE
ADF&G - Habitat Division
P.O. Box 3-2000
Juneau, AK 99802
(907) 465-4105

REGION 1 OFFICE
ADF&G - Habitat Division
P.O. Box 20
Douglas, AK 99824
(907) 465-4290

REGION 2 OFFICE
ADF&G - Habitat Division
333 Raspberry Rd.
Anchorage, AK 99502
(907) 344-0541

REGION 3 OFFICE
ADF&G - Habitat Division
1300 College Rd.
Fairbanks, AK 99701
(907) 451-6192

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¹ AS 16.05.840 and AS 16.05.870

² "P" indicates that part, but not all of the section, applies to .840 permits; see 5 AAC 94.200(a)(1) for details.

³ Articles 3 and 4 are somewhat similar to Articles 8 and 9 which were distributed for public review with the January 1986 version of the habitat regs. In June 1986, the text of Articles 8 and 9 was adopted in the department's special area regulations (5 AAC 95), which pertain to both fish and wildlife. In revising Articles 3 and 4, we have moved mitigation to Article 1, deleted reference to wildlife, corrected typos, improve readability, and expanded the appeals to include procedures for appealing directly to the department on any decision made under 5 AAC 94.

TITLE 5. FISH AND GAME
PART 6. PROTECTION OF FISH AND GAME HABITAT.
CHAPTER 94. PROTECTION OF FISH AND GAME HABITAT.

ARTICLE 1. FISH HABITAT PERMITS.

5 AAC 94.100. IMPLEMENTATION OF AUTHORITY. The commissioner will implement the authorities vested in AS 16.05.840 and 16.05.870 according to procedures set out in this chapter.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.110. PERMIT TO ENSURE EFFICIENT FISH PASSAGE.
(a) No person including a governmental agency may engage in the following uses or activities in or across a stream frequented by fish without first notifying the commissioner and, if ~~the~~ commissioner finds that the use or activity ~~could present~~ an impediment to efficient passage of fish, ~~without~~ first obtaining a fish habitat permit following the procedures of 5 AAC 94.400--5 AAC 94.460:

- (1) construction of a dam or impoundment;
- (2) installation of a culvert;
- (3) construction, placement, deposition, or removal of any material or structure, including an instream cross-channel structure, below ordinary high water; or
- (4) diversion or alteration of the natural water flow or stream bed.

(b) Unless listed in (a) of this section, an activity in or across a stream frequented by fish will not require a fish habitat permit to assure fish passage.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.120. PERMIT TO CONDUCT ACTIVITIES IN OR AFFECTING ANADROMOUS FISH WATERS. (a) No person including a governmental agency may engage in the following uses or activities in, across, or affecting anadromous fish waters without first notifying the commissioner and obtaining a fish habitat permit following the procedures of

5 AAC 94.400--5 AAC 94.460:

(1) construction, placement, excavation, deposition, disposal, or removal of any material or structure;

(2) use of excavating or log-dragging equipment;

(3) use of any other wheeled or tracked equipment including all-terrain vehicles (ATVs), except where

(A) the use occurs at a location and in a manner authorized by the commissioner on a general permit;

(B) the vehicle has a gross weight of less than 5000 pounds and it is operated over firm ice; or

(C) the vehicle has a gross weight of less than 5000 pounds and the following conditions are all met:

i) the crossing is made from one bank directly to the other bank in a direction perpendicular to the water flow;

ii) no bank alteration occurs that creates conditions which have been found to result in the reduced productivity or loss of fish habitat; and

iii) the crossing is not in or across any area that, in the commissioner's determination, is used for fish spawning.

(4) construction of a permanent or temporary crossing including a bridge, ice bridge, culvert, or constructed low water crossing (ford);

(5) blasting or use of explosives that produces or is likely to produce (A) an instantaneous pressure change greater than 2.5 pounds per square inch (psi) in the swim bladder of an anadromous fish or (B) a peak particle velocity greater than 0.5 inches per second (ips) in a spawning bed during the early stage of egg incubation; or

(6) any action that may result in withdrawal, diversion, pollution, or alteration of anadromous fish waters, including any action which is likely to affect anadromous fish waters.

(b) Unless listed in (a) of this section, an activity in or affecting anadromous fish waters will not require a fish habitat permit.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.870
AS 16.05.890

5 AAC 94.130. REQUIREMENT TO MITIGATE. (a) Each permittee shall mitigate any adverse effect on fish or their habitat that the commissioner finds may be expected to result from, or which actually results from, the permitted activity.

(b) The commissioner will require one or more of the following mitigation techniques, listed in order of general priority:

(1) avoid an impact altogether by not taking a certain action or parts of an action;

(2) minimize an impact by limiting the degree of magnitude of the action;

(3) rectify the impact by repairing, rehabilitating, or restoring the affected environment;

(4) reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action;

(5) compensate for the impact by replacing providing substitute resources or environments.

(c) The permittee's responsibility to mitigate in (a) of this section does not apply to unavoidable adverse effects on fish populations or their habitat arising from an overwhelming force of nature with consequences not preventable by due and reasonable precautions.

ARTICLE .. FISH HABITAT PERMIT STANDARDS.

5 AAC 94.200. APPLICATION OF STANDARDS. (a) If the procedural requirements of 5 AAC 94.400--5 AAC 94.460 are met, the commissioner will use the following standards to decide whether to condition, approve, or deny a permit. All the standards apply to a permitted activity unless they are specifically waived in the permit.

(1) To provide for efficient passage of fish, for a use or activity listed in 5 AAC 94.110(a), in or across a stream frequented by fish, only the standards of 5 AAC .220, 5 AAC 94.230(1)-(5), and 5 AAC 94.240--5 AAC 94.260(d) apply.

(2) To provide for proper protection of anadromous fish or their habitat, for a use or activity listed in 5 AAC 94.120(a), in, across, or affecting anadromous fish waters, the standards of 5 AAC 94.220--5 AAC 94.290 apply.

(b) In his or her discretion, the commissioner will:

(1) add to a fish habitat permit additional conditions that (A) are needed to ensure efficient passage of fish or the proper protection of anadromous fish or their habitat and (B) relate to aspects of the use or activity not covered by the standards listed in (a)(1) or (a)(2) of this section, respectively; and

(2) include conditions on a permit required by 6 AAC 50 that are needed to make the use or activity consistent with the Alaska Coastal Management Program.

(c) The standards in 5 AAC 94.220--5 AAC 94.290 do not apply to any permittee who obtained, prior to the effective date of these regulations, a permit from the commissioner to conduct a use or activity in fish-bearing waters. However, no use or activity listed in this chapter that was permitted prior to the effective date of these regulations may be significantly changed or expanded without first getting a new permit under 5 AAC 94.400-- 5 AAC 94.460.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.210 WAIVER PROVISION. In his or her discretion, the commissioner will waive or alter the standards in 5 AAC 94.220--5 AAC 94.290 in site-specific instances if he or she finds that there is substantial evidence that granting the waiver or alteration

(1) will not adversely affect fish spawning, rearing, or migration in the affected system; or

(2) will maximize conformance with the standards in this chapter and that all adverse effects on fish or their habitat will be mitigated under 5 AAC 94.500.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.220. STANDARDS FOR EFFICIENT PASSAGE OF FISH. Efficient passage and movement of fish, both upstream and downstream of the permitted use or activity, must be assured. To determine if a use or activity provides for efficient passage of fish, the commissioner will evaluate pertinent site-specific information such as: fish species and life stage present; size of the fish present; water velocity; water temperature; channel profile; substrate composition; or other factors, as appropriate.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.230. STREAM, RIVER, AND LAKE BED PROTECTION STANDARDS. Unless authorized by the commissioner on a permit, no person or governmental agency may:

- (1) conduct an activity that creates a potential fish entrapment basin;
- (2) construct a stilling basin or settling pond in the portion of the streambed that is covered by ordinary high water;
- (3) place, stockpile, discard, or otherwise dispose of material of any type, including excavated material, in waters frequented by fish;
- (4) divert or channelize a stream frequented by fish;
- (5) remove a human-made inwater structure unless the bed is restored to a stable, approximately original condition; or
- (6) excavate material from anadromous fish waters that are used for spawning or, in the commissioner's determination, have significant use for rearing.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.240. DIVERSION CHANNEL STANDARDS. (a) If approved by the commissioner in a permit, a temporary stream diversion channel must be constructed, controlled, and rehabilitated as follows:

- (1) the diversion channel must be of sufficient width, depth, length, and gradient to pass a mean annual flood event without overtopping the channel banks unless a channel of different dimensions and slope is authorized by the commissioner upon finding that there is a strong likelihood that the mean annual flood will not occur during the operating period of the temporary diversion;
- (2) during excavation or construction, the diversion channel must be isolated, at its upstream and downstream ends and at all expected flows, from the stream to be diverted;

(3) the diversion channel must be constructed so that the bed and banks will not significantly erode at expected flows;

(4) after use, the diversion channel and the natural stream must be stabilized and rehabilitated as may be specified by permit conditions;

(5) fish that become stranded in dewatered channels must be captured and returned to the active stream channel without further harm; and

(6) efficient passage of fish must be maintained at all times in a diversion channel unless the commissioner finds that a temporary impediment is not harmful to fish.

(b) In his or her discretion, the commissioner will allow permanent diversions only where there is no feasible alternative and he or she finds that it is in the public interest.

(c) If approved by the the commissioner on a permit, a permanent diversion will, at a minimum, be constructed to replicate the original unaltered stream characteristics.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.250. WINTER ACTIVITIES. (a) If a person or governmental agency wishes to provide access across a frozen fish-bearing waterbody, the commissioner will, in his or her discretion, require that a snow ramp, ice bridge, or approved cribbing be constructed so as to preclude cutting, eroding, or degrading of river, lake, or stream banks according to the following conditions:

(1) each snow ramp or ice bridge must be made only of snow, ice, or cribbing, or a combination of these materials, and must be largely free of soil and debris; and

(2) if required by the commissioner, each ice bridge must be removed, or breached, and cribbing must be removed before breakup or by the time specified on the permit, whichever is earlier.

(b) Water extraction or removal of snow cover is prohibited from water bodies and locations where the commissioner finds that either activity would impede efficient passage of fish or would be harmful to the survival of overwintering fish.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.260. CULVERT INSTALLATION STANDARDS. (a) Each culvert must be designed, installed, and maintained according to the standards of this section and the terms of a permit issued by the commissioner such that efficient passage of fish, as required in 5 AAC 94.220, is assured. When a culvert battery is proposed, the commissioner will, in his or her discretion, require one or more of the individual culverts to comply with the requirements of (c) of this section.

(b) In his or her discretion, the commissioner will waive or alter the standards of this section or approve an alternative drainage structure under 5 AAC 94.210 if the technical requirements of (c) or (e) of this section cannot be met due to site-specific conditions or if he or she finds that there is substantial evidence that an alternative structure will satisfy the requirements of 5 AAC 94.220 and maximize conformance with the standards of this chapter. An alternative drainage structure may include a bridge, bottomless arch structure, modified or baffled culvert, or downstream tailwater control structure approved by the commissioner on a site-specific basis.

(c) Unless otherwise approved by the commissioner on a permit, each culvert must be designed, installed, and maintained so that the following three conditions are all met.

(1) At least one fifth of the diameter or 18 inches, whichever is less, of each round culvert or at least 12 inches of the height of each elliptical or arch type culvert is buried below the stream thalweg at both the inlet and outlet of the culvert. This requirement does not apply to a bottomless culvert.

(2) The effective slope of the culvert does not exceed 1.0 percent for culverts shorter than or equal to 80 feet or exceed 0.5 percent for culverts longer than 80 feet.

(3) Culvert water velocities and flows, and any resulting drop in the water surface profile at any point within the culvert influence, do not impede the efficient passage of the slowest swimming fish group indigenous to the waterway at a mean annual flood design discharge with a two day duration. Table 1 presents water velocities through different culvert lengths that will ensure the efficient passage of the fish groups listed.

(d) Each bank cut, slope, fill, or exposed earth work arising from culvert installation or maintenance must be

**TABLE 1: MAXIMUM ALLOWABLE
CULVERT INLET, OUTLET, AND BARREL WATER VELOCITIES
IN FEET PER SECOND
FOR EFFICIENT FISH PASSAGE. ^{1/}**

Velocities in feet/second

<u>Length of Culvert in Feet</u>	<u>Group I Fish^{2/}</u>		<u>Group II Fish^{3/}</u>		<u>Group III Fish^{4/}</u>	
	<u>Avg. Inlet & Outlet</u>	<u>Mean Barrel</u>	<u>Avg. Inlet & Outlet</u>	<u>Mean Barrel</u>	<u>Avg. Inlet & Outlet</u>	<u>Mean Barrel</u>
30	9.2	4.6	12.0	6.8	12.0	9.9
40	9.0	4.5	11.6	5.8	12.0	8.5
50	8.0	4.0	10.0	5.0	12.0	7.5
60	7.2	3.6	9.2	4.6	12.0	6.6
70	6.6	3.3	8.4	4.2	12.0	6.0
80	6.0	3.0	7.8	3.9	11.0	5.5
90	5.6	2.8	7.4	3.7	10.2	5.1
100	5.0	2.5	6.8	3.4	9.6	4.8
150	3.6	1.8	5.6	2.8	7.4	3.7
200	3.6	1.8	4.8	2.4	6.2	3.1
200+	3.6	1.8	4.8	2.4	6.0	3.0

^{1/} Average inlet and outlet velocity equals the discharge divided by the cross-sectional area at the inlet and outlet, respectively. Mean barrel velocity is the average, weighted velocity within the entire barrel length, excluding the inlet and outlet zones.

^{2/} Group I Fish -- Adult and juvenile-low performance swimmers: includes such species as Arctic grayling, longnose sucker, whitefish, burbot, sheefish, Northern pike, Dolly Varden/arctic char, stickleback, smelt, sculpin, and upstream migrant salmon fry.

^{3/} Group II Fish -- Adult moderate-performance swimmers: includes such species as pink salmon, chum salmon, rainbow trout, and cutthroat trout.

^{4/} Group III Fish -- Adult high-performance swimmers: includes such species as chinook salmon, coho salmon, sockeye salmon, and steelhead.

stabilized with materials previously approved by the commissioner and properly installed to prevent erosion during and after culvert installation. In his or her discretion, the commissioner will require revegetation or other appropriate measures as a bank stabilization technique and to restore fish habitat.

(e) No person or governmental agency may install a culvert in anadromous fish waters at locations that are used for spawning or, in the commissioner's determination, have significant use for rearing.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

Editor's Note: The Alaska departments of Fish and Game and Transportation and Public Facilities, in conjunction with the University of Alaska-Fairbanks, established an Interagency Fish Passage Task Force in 1985 to address fish passage concerns. The Interagency Task Force is presently under contract to the Federal Highways Administration to evaluate the swimming performance of Arctic grayling (Group I design fish) through culvert structures and to develop design information for providing fish passage through culvert structures. A culvert design manual for Alaska will be jointly prepared and is scheduled to be released in December 1989; subsequent regulatory amendments to this section are anticipated subject to the final conclusions and recommendations of the design manual.

5 AAC 94.270. WATER INTAKE STANDARDS. (a) Any water intake structure, including a screened enclosure, well-point, sump, or infiltration gallery, must be designed, operated, and maintained to prevent fish entrapment, entrainment, or injury.

(b) To prevent entrapment, entrainment, or injury to fish, each water intake having a withdrawal rate of up to 5 cubic feet per second (cfs) and which is directly accessible by fish must be enclosed and centered in a screened structure that complies with this section. The appropriate screen mesh size and through-screen water velocity for each water withdrawal shall be defined by the commissioner on a permit issued under 5 AAC 94.120. The specific screen mesh size and approach velocity specified for a permitted water withdrawal will be based on the fish species occurring in the stream reach where the water will be extracted and will consider age, size, and swimming ability of the fish likely to be present during the intake operation. Table 2 outlines screen mesh/velocity options for withdrawals, up to 5 cfs, that provide adequate fish protection.

(c) Design criteria for water withdrawals greater than 5 cfs that will meet (a) of this section will be set on a project-specific basis by the commissioner.

TABLE 2: MAXIMUM ALLOWABLE SCREEN MESH SIZE
AND WATER VELOCITIES THROUGH A SCREENED
INTAKE FOR WATER WITHDRAWALS
IN ANADROMOUS WATERS
(Up to 5 cubic feet per second)

Criteria	Group A <u>1/</u>	Group B <u>2/</u>	Group C <u>3/</u>	Group D <u>4/</u>	Group E <u>5/</u>
screen mesh in inches (millimeters)	0.04 (1.0)	0.04 (1.0)	0.1 (2.4)	0.25 (6.4)	0.25 (6.4)
* water velocity in feet per second	0.1	0.5	0.5	2.0	---

1/ Group A - Fry Stage: whitefish

2/ Group B - Juvenile Stage: smelt, whitefish
- Fry or Juvenile Stage: sheefish, pink salmon, chum salmon.

3/ Group C - Juvenile Stage: coho salmon, chinook salmon, sockeye salmon, Arctic char, Dolly Varden.

4/ Group D - Adult Stage: whitefish, Arctic char, Dolly Varden

5/ Group E - Adult Stage: chinook salmon, coho salmon, sockeye salmon, chum salmon, pink salmon. These criteria shall be used to prevent entrapment of Group V fish in off-stream pumping ponds. No velocity criteria apply.

* Water velocity as measured on the downstream side of the enclosure.

(d) For water withdrawals in waters where no fish are present or are likely to be present during the intake operation, no screen mesh or velocity criteria apply.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.870

5 AAC 94.280. BED AND BANK STABILIZATION STANDARDS FOR ANADROMOUS FISH WATERS. (a) For uses or activities listed in ~~5 AAC 94.120~~ that are conducted below ordinary high water or that affect or disturb the bed or bank, the commissioner will, in his or her discretion and in accordance with 5 AAC 94.130, require revegetation or other appropriate measures to prevent damage to fish habitat and to stabilize the bed or bank.

(b) Bed or bank stabilization material must be approved by the commissioner. Approved materials must be properly installed to stabilize the bed or bank during and after the project's design life and to help restore fish habitat in disturbed areas without causing more bank erosion or bed scour either upstream or downstream of the project.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.870

5 AAC 94.290. BLASTING STANDARDS. No person or governmental agency may discharge an explosive that produces or is likely to produce 1) an instantaneous pressure change greater than 2.5 pounds per square inch (psi) in the swim bladder of an anadromous fish or 2) a peak particle velocity greater than 0.5 inches per second (ips) in a spawning bed during the early stage of egg incubation.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.870

Editor's Note: A summary of the most recent information concerning setbacks from fish-bearing waters that will ensure that buried explosive charges meet the 2.5 psi standard for various materials and the 0.5 ips standard for distance from a spawning bed is available from department offices.

5 AAC 94.300. STATUTORY INTERPRETATION. (a) As used in AS 16.05.840:

(1) "across" means physically, or physically and by its effects, reaching from one side of a waterbody to the

other, with at least one element of the activity or use affecting or occurring at or below the ordinary high water level;

(2) "built" means to be or cause to be created, constructed, deposited, or placed in a fish-bearing waterbody;

(3) "durable and efficient fishway" means a natural channel or a fish ladder, raceway, culvert, chute, or artificial channel, or other means that provides fish of all age classes, including migrating adults of anadromous species, with unobstructed passage both upstream or downstream.

(4) "obstruction" means a dam, impoundment, thermal plume, pollutant mixing zone, or other object or material that precludes or reduces efficient passage of fish.

(b) As used in AS 16.05.895:

(1) "material damage to the spawning beds" means, in anadromous fish waters, a change in the spawning beds or in the water over the spawning beds that interferes with or prevents the successful reproduction of anadromous fish, as shown by documented

(A) unnatural mortality of anadromous fish that return to spawn;

(B) mortality of eggs, embryos, or alevins within the spawning beds in excess of that naturally occurring in comparable undisturbed spawning beds;

(C) conditions known to interfere with or prevent spawning, or known to cause increased mortality of eggs, embryos, or alevins while they reside in the spawning beds; or

(D) physical disruptions or removal of spawning substrate; and

(2) "prevents or interferes with the migration of anadromous fish" means halting or inhibiting the movement of anadromous fish as shown by documented

(A) unnatural mortality of anadromous fish at any life stage;

(B) conditions known to result in the mortality of anadromous fish at any life stage;

(C) conditions known to reduce or limit the ability of anadromous fish to migrate at any life stage; or

(D) physical blockage of fish passage.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

ARTICLE 3. PERMIT PROCEDURES.

5 AAC 94.400. APPLICATION PROCEDURES. (a) An applicant for a permit shall submit a completed application on a form or in a manner approved by the commissioner. The application must be correct and complete to the best of the applicant's knowledge and be signed and dated by the applicant or the applicant's designee. Submission of a completed application satisfies any related notification required by AS 16 and this chapter. An application form is available from the department's offices.

(b) A permit applicant need not submit an application to the commissioner if the commissioner receives a completed application through:

(1) a forest practices notification submitted under the procedures of AS 41.17.090 for activities conducted in conjunction with timber harvest on private, state, or municipal land;

(2) an Annual Placer Mining Application submitted to the Alaska Department of Natural Resources; or

(3) a Public Notice of Application for Permit submitted to the U.S. Army Corps of Engineers for the discharge of dredged or fill material into waters of the United States under 33 USC 1344 or for the performance of work in or affecting navigable waters of the United States under 33 USC 403.

(c) A completed application, including items submitted under (b), must include: a description of the proposed use or activity, including the expected commencement date and duration; the name of the waterbody or waterbodies that the proposed use or activity will affect and their exact location, including a scaled map; and other information needed for the commissioner to decide if the proposed use or activity will comply with the applicable provisions of this chapter.

(d) Applications for projects in or across a stream frequented by fish or affecting anadromous fish waters,

where the waterbody is located in a legislatively designated state game refuge, game sanctuary, or critical habitat area must follow the procedures and provisions of 5 AAC 95.700--5 AAC 95.770 and 5 AAC 95.900--5 AAC 95.990 and must meet the standards found in 5 AAC 95.430--5 AAC 95.440 in addition to the standards found in this chapter.

(e) A completed application must be submitted to the department's habitat division office managing the region or area in which the proposed activity will occur.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

Editor's Note: Habitat Division office addresses are:

Regional Offices:

*Fairbanks: 1300 College Road, Fairbanks, AK 99701-1599
(451-6192)*
*Anchorage: 333 Raspberry Road, Anchorage, AK 99518-1599
(267-2285)*
*Juneau: P.O. Box 20, Douglas, AK 99824-0020
(465-4290)*

Area Offices:

*Ketchikan: 2020 Sea Level Drive, Suite 205, Ketchikan, AK 99901
(225-2027)*
*Petersburg: P.O. Box 667, Petersburg, AK 99833-0667
(772-3801)*
*Sitka: 304 Lake Street, Room 103, Sitka, AK 99835-7563
(747-7563)*

5 AAC 94.410. PERMIT DECISION. (a) The commissioner will issue a permit if he or she finds that the requirements of this chapter are met.

(b) Permit applications for uses or activities proposed in the coastal zone will be reviewed and permit decisions will be made according to review periods and deadlines listed in 6 AAC 50.

(c) Permit applications for uses or activities proposed outside the coastal zone will be approved or denied, or more information will be requested, within 30 days of the receipt of a completed application.

(d) The commissioner will notify an applicant in writing of the permit decision. If the permit is denied,

this notice will include the reason for denial. An applicant may appeal the permit decision under 5 AAC 94.510 or submit new or additional material and ask for reconsideration under (e) of this section.

(e) In his or her discretion, the commissioner will reconsider an application if the applicant submits within 30 days, to the appropriate Habitat Division office, factual information that is new or additional to materials supplied with the original application. An applicant may submit new or additional information as an amendment to the original application, or the applicant may submit a new application. The procedures of 5 AAC 94.400--5 AAC 94.460 apply to reconsideration.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.420. PERMIT CONDITIONS AND ASSIGNMENT. (a) To provide for proper protection and management of fish and their habitat, the commissioner will consider and will, in his or her discretion, include as conditions of a permit

(1) the duration of the proposed activity including any provision for changing the time period during which the permit is valid;

(2) any other seasonal use restrictions on a specific activity;

(3) limits on an activity's areal extent;

(4) any provision for mitigating damage to fish or their habitat;

(5) any provision to allow periodic monitoring, including inspection and sampling, of the proposed land or water use or activity by an authorized representative of the state;

(6) reporting requirements; and

(7) any other condition needed to comply with 5 AAC 94.220--5 AAC 94.290 or 5 AAC 94.540.

(b) A permit may not be transferred or assigned without prior written consent of the commissioner.

(c) In his or her discretion, the commissioner will require a permit applicant to sign and date the permit before its validation.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.430. PERMIT TERM. (a) Except as provided in (b) of this section, the commissioner will, in his or her discretion, issue a permit subject to the provisions of this chapter for a fixed term not to exceed two years.

(b) In his or her discretion, the commissioner will issue a permit for a fixed term exceeding two years if he or she finds that the activity meets the purposes and requirements of this chapter and that the activity is permanent in nature.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.440. AMENDMENTS TO THE PERMIT. (a) In his or her discretion, the commissioner will amend a permit to change any method the permit authorized or to mitigate for any condition that was reasonably unforeseeable when the permit was approved, and which threatens to cause a substantially adverse effect on fish or their habitat.

(b) Any action a permittee wants to take that increases the project's overall scope or that negates, alters, or minimizes the intent or effectiveness of any condition contained in a permit is a deviation from the approved plan and requires an amendment before beginning the action.

(c) A permittee may request a permit amendment by submitting a written statement to the department's habitat division office where the permit was issued; the statement must explain why the amendment is needed and include an amended plan plus the location, commencement time, duration, and type of activity requiring amendment.

(d) The commissioner will issue a permit amendment if he or she finds that the requirements of this chapter will be met. Review of a request for amendment will not exceed 30 days after receipt of the written statement in the appropriate habitat division office. The procedures of 5 AAC 94.400--5 AAC 94.460 apply to a request for amendment.

(e) An amendment approved by the commissioner becomes effective upon receipt by the permittee, or at a later date

specified by the amendment. An amendment is valid for the duration of the permit or for a shorter specified period.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.450. PERMIT RETENTION AND SITE INSPECTIONS.

(a) A permittee shall keep a copy of the permit, including any amendments, at the site of the activity authorized by the permit until completion of the project and shall make the permit available for inspection upon request by an authorized representative of the state.

(b) A permittee shall give an authorized representative of the state free and unobstructed access to the site of the permitted activity for the purpose of inspecting or monitoring compliance with any condition of the permit or the requirements of this chapter. A permittee shall furnish whatever assistance and information the representative reasonably requires for monitoring and inspection purposes. Authorized representatives of the state will make every reasonable effort to give a permittee the opportunity to accompany them during an inspection; however, this does not preclude unannounced inspections.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.460. RENEWAL OF PERMIT. (a) If no action will be taken that increases a project's scope or alters the intent or effectiveness of any action contained in his or her permit, a permittee may request renewal of an existing permit before the current term of the permit expires. Procedures in this chapter apply to renewal, except that the filing of a new application under 5 AAC 94.400 is not required.

(b) If a permittee wants to take any action that increases a project's overall scope or that negates, alters, or minimizes the intent or effectiveness of any condition contained in a permit, amendment of the permit is required before renewal can be requested under this section.

(c) If an existing permit expires or is revoked, a permittee may obtain a new permit only by filing a new completed application according to 5 AAC 94.400.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.470. GENERAL PERMITS. Regardless of whether the requirements of 5 AAC 94.400 and 5 AAC 94.450--5 AAC 94.460 are met, the commissioner may issue a permit to the public at large for a specific activity for an area listed in the permit.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

ARTICLE 4. GENERAL PROVISIONS.

5 AAC 94.500. FAILURE TO ADHERE TO PERMIT CONDITIONS. In his or her discretion, the commissioner will require in writing that a permittee 1) correct a condition; 2) undertake further mitigation specified by the commissioner; or 3) correct a condition and undertake further mitigation specified by the commissioner, in order to minimize or prevent damage to fish populations or their habitat that results from the permittee's failure to comply with a permit condition.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.510. APPEAL PROCEDURES. (a) An applicant or a permittee may appeal in writing directly to the director of the department's Habitat Division (at P.O. Box 3-2000, Juneau, AK 99802) regarding any decision or action made under this chapter. The department will, within 30 days after receiving a written appeal, take one of the following actions:

(1) render a final written decision on the basis of the documents in the case file and any other pertinent documents;

(2) schedule an informal conference with the applicant or permittee at a time convenient to the applicant or permittee;

(3) under 5 AAC 94.512, schedule a hearing before a hearing officer, who may be an employee of the department; or

(4) summarily deny the appeal request.

(b) The department will elect one of the procedures in subsection (a) based on the dispute's complexity, the existence of factual issues, the urgency of the need for a decision, the request of the parties, or other relevant factors, consistent with due process of law.

(c) The department need not hold a hearing under this section when it has denied a permit or given notice of a revocation action on the grounds that the department lacks legal authority to grant the permit or take the action, or when the only arguments or claims an applicant or permittee makes relate to the constitutionality of statutes, the legality of regulations, the correct legal interpretation of statutes or regulations, or if the applicant or permittee does not want a hearing.

(d) In its discretion or at the request of the affected applicant or permittee, the department may extend the time period set under (a) of this section.

(e) Notwithstanding (a) of this section, an applicant or permittee may, under the provisions of AS 44.62.330--44.62.630, initiate an appeal of the issuance or denial of a permit required under 5 AAC 94.120 by requesting a hearing under AS 44.62.370.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.511. INFORMAL CONFERENCE. The department may not make a final and binding decision based on an informal conference unless the decision is reduced to writing. If a party objects to an informal conference at any time before an approved written decision is issued, the department will adjourn the conference and proceed under 5 AAC 94.510(a)(1), (3), or (4).

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.512. HEARING OFFICER. (a) In an oral hearing procedure called under 5 AAC 94.510(a)(3), a party may submit the testimony of witnesses, written factual materials, and arguments in writing. Formal rules of evidence need not apply. The hearing may be held by telephone and, at the request and expense of a party, may be tape recorded. It may also be stenographically transcribed, again at the expense of the requesting party.

(b) The department may elect to conduct a formal hearing under the procedures set forth in the Administrative Procedure Act, AS 44.62.450--44.62.470.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.513. DECISION. Except as set out in 5 AAC 94.514, in a case decided under 5 AAC 94.510(a), the department shall issue and serve by mail or in person a written decision stating:

- (1) the requested action;
- (2) the chronology of the facts;
- (3) the disputed factual issues;
- (4) the pertinent statutes and regulations, permits, notices, and plans;
- (5) the documents comprising the administrative record;
- (6) the reasons for the decision;
- (7) the decision; and
- (8) any further rights of appeal, including applicable time limits for appeal, a person may have.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.514. SUMMARY JUDGEMENT. In a case summarily dismissed under 5 AAC 94.510(a)(4), the department shall issue and serve by mail or in person a written decision stating the grounds upon which the dismissal is based. A decision summarily dismissed under 5 AAC 94.510(a)(4) may be remanded for reconsideration.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.520. PERMIT SUSPENSION OR ABATEMENT OF ACTIVITY. (a) The commissioner will notify a permittee that the term of the permit is or will be interrupted for a specified period, or that abatement will be required, if the commissioner finds that

(1) an environmental condition exists that was reasonably unforeseeable at the time of permit approval and the permitted activity, if allowed to continue, threatens to cause a substantial adverse impact;

(2) the permittee has failed to implement a required mitigating or preventive measure; or

(3) the permittee has failed to comply with a provision of this chapter or a condition of the permit.

(b) The initial exclusion period set under (a) of this section will not exceed five days. However, the commissioner may extend the exclusion period to a total of 30 days in any calendar year if required for abatement of

the condition, completion of the required mitigating or preventive measure, or compliance with the permit condition or the provisions of this chapter. The exclusion period may be further extended with the consent of the permittee.

(c) By notice to the permittee, the commissioner will terminate an exclusion period after the permittee demonstrates compliance, implementation of the required mitigating measures, or abatement of the activity.

(d) If the commissioner finds, before or during an exclusion period, that corrective action is unlikely to be completed within any available exclusion period, the commissioner will, in his or her discretion, begin a revocation proceeding under AS 44.62.330--44.62.630.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.860
AS 16.05.870
AS 16.05.880

5 AAC 94.530. EXEMPTION FOR EMERGENCY AND POLICE POWER ACTIONS. In an emergency, the commissioner will, in his or her discretion, issue an oral permit for emergency or police power actions before receiving the completed application required in 5 AAC 94.400. A completed application must be submitted within the time specified by the commissioner, whether before or after the emergency or police power action takes place.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.540. BONDING OR SECURITY. (a) In his or her discretion, the commissioner will require a performance bond with a surety company authorized to transact business in Alaska, or other specified security to secure the performance of the terms and conditions of a permit issued under this chapter.

(b) A performance bond or security required under (a) of this section is limited to an amount reasonably necessary to ensure compliance with the provisions of this chapter or the terms and conditions of a permit issued under this chapter.

(c) The commissioner will inspect or review action taken under each applicable term or condition of a permit issued under this chapter, and will make a written finding that each applicable term and condition of the permit has been completed, before the permittee's performance bond or security is released.

(d) The posting of a performance bond or the taking of other security under (a) of this section does not limit the department's right, under applicable law, to seek further compensation from the permittee for actual damages to fish or their habitat, or for a violation of the permit.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.550. VIOLATIONS. (a) A violation of this chapter is a violation of AS 16.05.840 or 16.05.870, subject to the penalties set out in AS 16.05.860 and AS 16.05.880--16.05.895.

(b) A violation of the terms and conditions of a fish habitat permit is a violation of this chapter.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

5 AAC 94.590. DEFINITIONS. Besides the definitions set out in AS 01.10.060 and AS 16.05.940, as used in this chapter,

(1) "across" means across as defined in 5 AAC 94.300;

(2) "affecting" means causing the withdrawal, diversion, impoundment, obstruction, pollution, or alteration of the natural flow or bed of anadromous fish waters so as to actually or potentially (A) injure, molest, or otherwise cause conditions known to interfere with or prevent spawning or to cause increased mortality or harmful effects to fish at any life stage; or (B) deter or divert migrating anadromous fish from their natural migration pathways at any life stage;

(3) "anadromous fish" means fish that enter fresh water from the sea for spawning purposes; these include the anadromous forms of char, rainbow trout, sheefish, smelt, lamprey, whitefish, sturgeon, cutthroat trout, and salmon;

(4) "anadromous fish waters" means a river, lake, or stream containing anadromous fish, including its bed, from its mouth to its uppermost reach as listed under 5 AAC 95.010 and includes all distributaries, sloughs, and backwaters and other water courses adjoining the listed waters below the ordinary high water level of the listed waters; in that portion below the mean high tide line, anadromous fish waters means only the waters and bed between the tideland banks exposed at mean lower low water;

(5) "atlas" means The Atlas to the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes;

(6) "authorized representative of the state" means a person who is legally empowered to enforce a statute under which regulations in this chapter are promulgated;

(7) "bank" means that portion of a waterbody's cross section that restricts lateral movement of water at normal water levels, including normal high water levels;

(8) "catalog" means the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes;

(9) "channelize" means to excavate any course, trench, canal, or furrow in or from the bed of a stream or river for the purpose of redirecting the water flow;

(10) "completed application" means the submission of full plans, specifications, and notifications required by AS 16.05.840 and AS 16.05.870 and includes one or more forms, letters, or other documents that provide all of the information needed for the commissioner to issue, condition, or deny a permit;

(11) "early stage of egg incubation" means the period of egg incubation from egg deposition until the eyed stage begins;

(12) "efficient passage of fish" means the upstream and downstream movement of fish or fish populations, or escapement of juvenile fish from their natal spawning bed, in the absence of human-created delays or barriers; the standards and requirements of this chapter, if met, will provide for the efficient passage of fish;

(13) "emergency" means an unforeseeable situation that presents an imminent threat to life or property;

(14) "explosive" means any chemical mixture or compound that decomposes or combusts to generate gas with such rapidity that it can be used for blasting;

(15) "firm ice" means ice of sufficient strength to support crossing vehicles or equipment without breaking or causing the ice to further contact the bottom of the waterbody;

(16) "fish habitat" means the aquatic environment that supports fish and includes the bed, banks, and water column of a freshwater body frequented by fish;

(17) "frequented by fish" means containing fish at any time of the year;

(18) "governmental agency" means a unit of federal, state, or local government created to carry out a governmental function or to implement a statute;

(19) "incubation" means the life phase, during rearing, of a fish from egg deposition through the larval stage;

(20) "mean annual flood" means, for a given site, the mean of all annual floods (annual peak discharge) which has a statistical recurrence interval of 2.33 years;

(21) "migration" means the predictable, purposeful, or seasonal movement of fish, unrestricted by other than natural influences;

(22) "mouth" means a line drawn between the seaward extremes of the exposed tideland banks or beds of any stream channel at mean lower low water; a stream or river may have more than one mouth by virtue of having more than one channel that enters the sea;

(23) "ordinary high water" means the height reached by seasonally high water, including tidally influenced fresh waters, as indicated by the point along the bank or shore up to which the presence and action of water are so common and usual, and so long continued in all ordinary years, as to leave a natural impression on the bank or shore as shown by erosion, shelving, changes in soil characteristics, disturbance of terrestrial vegetation, or other distinctive physical attributes;

(24) "permanent" means with a duration of greater than two years;

(25) "permittee" means a permit holder and includes anyone employed, contracted, or assigned by the person or organization to whom the permit was issued;

(26) "permit" means the approval of plans and specifications required by AS 16.05.840 or AS 16.05.870;

(27) "pollution" means, in making more explicit the definition under 18 AAC 70.110(34), human-induced alteration of the chemical, physical, or biological integrity of fish-bearing waters in a manner that creates a nuisance or makes the waters unclean, noxious, impure, or unfit so as to

A) actually or potentially injure or otherwise cause harmful effects to fish at any life stage;
or

B) actually or potentially deter or divert migrating anadromous fish from their natural migration pathways at any life stage;

(28) "rearing" means the developmental life phase of a fish from egg incubation to adult;

(29) "spawning" means egg deposition or fertilization, including preparation for those activities;

(30) "spawning bed" means the portion of a water body where spawning and egg incubation occurs;

(31) "temporary" means with a duration of two or fewer years;

(32) "temporary stream diversion" means a diversion of all or part of the flowing portion of a stream in order to allow a transient instream activity;

(33) "thalweg" means the imaginary line that extends down a stream channel and follows the lowest or deepest points along the bed.

Authority: AS 16.05.020
AS 16.05.050
AS 16.05.840
AS 16.05.870

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Revised 12/30/88

Sectional Analysis: Regulations for the Protection of Fish and Their Habitat

ARTICLE 1. FISH HABITAT PERMITS

5 AAC 94.100 IMPLEMENTATION OF AUTHORITY.

This section states that the Commissioner will carry out the requirements of AS 16.05.840 (fish passage) and AS 16.05.870 (anadromous fish waters) according to procedures which can be found in 5 AAC 94.400--5 AAC 94.470, the technical standards found in 5 AAC 94.220--5 AAC 94.290, and with the general provisions found in 5 AAC 94.500--5 AAC 94.590.

5 AAC 94.110 PERMIT TO ENSURE EFFICIENT FISH PASSAGE.

This section clarifies that no person or agency may undertake any of the listed uses or activities in or across a stream frequented by fish if the use or activity could impede fish passage, unless the commissioner has been notified and has issued a permit. Uses or activities not listed in this section do not require a fish habitat permit to assure fish passage. However, if the stream contains anadromous fish, additional permit requirements apply; these are discussed in 5 AAC 94.120.

Permits are currently being required for the uses and activities listed in this section. The major change in this procedure to this section is that a fish habitat permit to assure fish passage may now be required if a water intake (screened or unscreened) is placed in a non-anadromous stream small enough that the intake, either physically through its own presence, or by increasing the water velocities on either side of itself, may constitute an impediment to the efficient passage of fish.

5 AAC 94.120 PERMIT TO CONDUCT ACTIVITIES IN OR AFFECTING ANADROMOUS FISH WATERS.

This section clarifies that no person or agency may undertake any of the listed uses or activities in, across, or affecting anadromous fish waters unless the Commissioner has been notified and has issued a permit. Permits are currently being required for all of the uses and activities listed in this section, though not in all regions.

Activities that "affect" anadromous waters can be activities located upstream of or adjacent to anadromous waters and which a reasonable person would conclude may have an adverse impact on anadromous fish or their habitat. Generalized examples of activities that a reasonable person would expect to have an effect on an anadromous waters are described below. These examples are drawn from our case files and are activities we have in the past or will in the future require to get a permit.

- 1) Material pits located in the floodplains of anadromous streams. Flooding of these sites can cause channelization, with subsequent erosion and sedimentation problems downstream, or can cause stranding of anadromous fish once flood flows recede.
- 2) Dewatering of flooded gravel pit adjacent to anadromous waters. Dewatering can cause lowering of the groundwater table and drying up of an anadromous water nearby.
- 3) A material site or placer mine located upstream of an anadromous reach; suspended sediment from poorly designed or inadequately reclaimed sites can damage spawning beds and reduce stream productivity in the anadromous reach.
- 4) Clearing land adjacent to an anadromous stream in order to build a restaurant and gravel parking lot. Without retention of adequate vegetation along the stream, in-water temperature changes and sedimentation from parking lot erosion or snow plowing could adversely affect adjacent spawning beds.

The "affecting" clause included in these regulations is not intended as a means to impose "buffer strips" on commercial timber harvesting operations. We expect this issue will be discussed and addressed in the interagency Forest Practices Act revision process that is currently underway.

Activities that occur in anadromous fish waters and which are not listed in this section or in section 5 AAC 94.110(a) do not require a fish habitat permit. The use of snowmobiles and some all-terrain vehicles in or across anadromous fish waters is exempt from the permit requirements under certain conditions which are listed.

5 AAC 94.130 REQUIREMENT TO MITIGATE.

This section discusses mitigation requirements and lists five mitigation techniques. Each permittee shall mitigate adverse effects on fish and their habitat that actually result or will likely result from the permittee's activity, although damage caused by an overwhelming force of nature is not included. The

Commissioner may also specify by permit amendment additional provisions for mitigating damage to fish populations or their habitat that results from the permittee's activity or the permittee's failure to comply with a permit condition.

ARTICLE 2. FISH HABITAT PERMIT STANDARDS

5 AAC 94.200 APPLICATION OF STANDARDS.

This section indicates that, besides the procedural requirements of 5 AAC 94.400 -- 5 AAC 94.460, certain standards will be used by the Commissioner to decide whether to condition, approve, or deny a permit. All the standards apply to a permitted activity unless the standards are specifically waived in the permit. The standards that specifically apply to AS 16.05.840 (fish passage) permits and to AS 16.05.870 (anadromous fish waters) permits are identified. Only those standards found in 5 AAC 94.220, 5 AAC 94.230(1)-(5), and 5 AAC 94.240--.260(d) apply to AS 16.05.840 permits, while any of the standards found in 5 AAC 94.220--.290 apply to AS 16.05.870 permits.

The Commissioner may add additional conditions to the permit for aspects of the use or activity that are not covered by the standards in this article and that are necessary for 1) the efficient passage of fish, 2) the protection of anadromous fish or their habitat, or 3) to make the use or activity consistent with the requirements of the Alaska Coastal Management Program.

Until his or her permit or any of its conditions expire, a permittee who obtained a fish habitat permit before the effective date of these regulations is not required to meet the standards of this article. However, no prior approved activity may be significantly changed or expanded without first obtaining a new permit under the procedures of 5 AAC 94.400--.460.

5 AAC 94.210 WAIVER PROVISION.

This section says that the standards in Article 2 may be waived by the Commissioner in cases where alternative approaches will achieve the results intended by the standards and will not adversely impact fish spawning, rearing, or migration in the affected system.

5 AAC 94.220 STANDARDS FOR EFFICIENT PASSAGE OF FISH.

Intended to interpret the statutory mandate of AS 16.05.840, this section indicates that efficient passage and movement of fish, both upstream and downstream of the permitted use or activity, must be

assured. For information purposes, it also lists some of the factors that the Commissioner may evaluate to determine if efficient passage of fish will be provided.

5 AAC 94.230 STREAM, RIVER, AND LAKE BED PROTECTION STANDARDS.

This section states that, unless authorized by the Commissioner on a permit, no person or agency may perform the following activities in streams subject to jurisdiction of AS 16.05.840 or 16.05.870:

- 1) conduct an activity that creates a potential fish entrapment basin;
- 2) construct a stilling basin or settling pond in the portion of the streambed that is covered by ordinary high water;
- 3) place, stockpile, discard, or otherwise dispose of any material in waters frequented by fish;
- 4) divert or channelize a stream frequented by fish;
- 5) remove human-made inwater structures unless the beds are restored to a stable, approximately original condition; or
- 6) excavate material from anadromous fish waters that are used for spawning or which have a significant use for rearing.

5 AAC 94.240. DIVERSION CHANNEL STANDARDS.

This section indicates that a temporary stream diversion channel may be allowed if approved by the Commissioner, and if the channel is constructed, controlled, and rehabilitated in the manner specified in this section. Temporary stream diversions are to be designed to withstand a mean annual flood event without overtopping the channel banks. The other requirements are listed.

This section also indicates that a permanent diversion will be allowed only where no feasible alternative exists and if it is in the public interest. Such diversions must be constructed to, at a minimum, replicate the original unaltered stream characteristics.

5 AAC 94.250 WINTER ACTIVITIES.

This section states that a snow ramp, ice bridge, or approved cribbing that may be required to provide

access across a frozen fish-bearing waterbody must be constructed so as to preclude cutting, eroding, or degrading of river, lake, or stream banks. Standards for snow ramps and ice bridges are listed. To prevent fisheries damage from freeze-down, water extraction and removal of snow cover are prohibited from waterbodies or locations where the Commissioner determines that this would be harmful to the survival of overwintering fish.

5 AAC 94.260 WATER INTAKE STANDARDS.

This section clarifies that all water intake structures must be designed, operated, and maintained to prevent fish entrapment, entrainment, or injury.

Specifications are also listed indicating how each water intake directly accessible by fish shall be enclosed and centered and what water screen mesh size and water velocity are allowed. A table outlines screen mesh/velocity options that the Commissioner has determined will provide adequate fish passage. These options are based upon the species of fish occurring with the stream reach where water will be extracted, as well as the age, size and swimming ability of the fish species. Under the waiver provision, 5 AAC 94.210, variations of these options may be allowed as field conditions dictate. The screen mesh and velocity criteria do not apply to water withdrawals where no fish are present during the intake operation.

5 AAC 94.270 CULVERT INSTALLATION STANDARDS.

This section indicates that all culverts must be designed, installed, and maintained such that the efficient passage of fish, both upstream and downstream, is assured. It lists culvert installation standards that describe how culverts should generally be selected, installed, and stabilized. A table identifies the maximum allowable cross-sectional water velocities through different culvert lengths that can be successfully negotiated by several Alaska fish species; factors to be considered in the application of the data are also listed.

This section also indicates that culverts may not be installed in anadromous fish waters that are used for spawning or that have significant use for rearing.

An editor's note states that a culvert design manual is being jointly prepared by the Alaska departments of Fish and Game and Transportation and Public Facilities; it is scheduled for release in December 1989. Subsequent regulatory amendments to this section will probably follow release of the design manual.

5 AAC 94.280 BED AND BANK STABILIZATION STANDARDS FOR ANADROMOUS FISH WATERS.

This section states that for uses or activities conducted below ordinary high water that may disturb the bed or bank, the Commissioner may require revegetation or other appropriate measures to restore fish habitat and stabilize the bed or bank. Bank stabilization material must be approved by the Commissioner. In addition, approved materials must be properly installed to stabilize the bank over the design life of a project and must help restore fish habitat in disturbed areas without causing more bank erosion or bed scour either upstream or downstream of the project.

5 AAC 94.290 BLASTING STANDARDS.

This section states that no person or agency may discharge explosives that produce, or are likely to produce, an instantaneous pressure change greater than 2.5 pounds per square inch (psi) in the swim bladder of an anadromous fish, or a peak particle velocity greater than 0.5 inches per second (ips) in a spawning bed during the early stages of egg incubation. An editor's note states that a summary of the most recent information concerning setbacks from fish-bearing waters which will ensure that buried explosive charges meet these standards is available from department offices.

5 AAC 94.300 STATUTORY INTERPRETATION.

This section constitutes an agency interpretation of language used in AS 16.05.840 (Fishway required) and AS 16.05.895 (Penalty for causing material damage). Defined are: 1) "across," 2) "built," 3) "durable and efficient fishway," 4) "obstruction," 5) "material damage to the spawning beds," and 6) "prevents or interferes with the migration of anadromous fish." A Department of Law publication indicates that definitions for statutory terms should be kept separate from definitions for regulatory terms, hence the need for this section.

ARTICLE 3. PERMIT PROCEDURES

5 AAC 94.400 APPLICATION PROCEDURES.

This section discusses the application procedures and indicates that each applicant must submit a completed application on a form or in a manner approved by the commissioner. The department has developed its own application form but will also accept the forest

practices notification, the Annual Placer Mining Application, or a Public Notice of Application for Permit submitted to the U.S. Army Corp of Engineers; if it meets the criteria stated in this section as to what must be included in a completed application. (Sometimes these "alternative applications," particularly forest practices notifications, do not contain enough detail to be considered a "completed" application when they are first submitted.)

This section goes on to indicate that a completed application must be submitted to the department's habitat division office managing the region in which the proposed activity will occur. Finally, applications for uses or projects in, across, or affecting waterbodies located in legislatively designated special areas follow the permit procedures, general provisions, and standards of Chapter 95 in addition to the standards of Chapter 94.

5 AAC 94.410 PERMIT DECISION.

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This section indicates that the Commissioner will issue a permit if he or she determines that the requirements of this chapter are met. The Commissioner will notify an applicant in writing if the application is denied. Denied applications may be resubmitted, with new or additional materials, to the Commissioner for reconsideration or the applicant may appeal the decision.

5 AAC 94.420 PERMIT CONDITIONS AND ASSIGNMENT.

This section states that certain permits may be conditioned and indicates the types of conditions that may be required. Further, a permit may not be transferred or assigned without prior written consent of the Commissioner, and a permit applicant may be required to sign and date the permit prior to its validation.

The prohibition against permit transfer or assignment without prior consent is designed to prevent a parent company from abrogating responsibility for a subcontractor's performance under the terms of a permit by assigning the permit to the subcontractor. On the other hand, the department would likely have no objection to, and would quickly approve, the transfer of an existing fish habitat permit to a company that is buying out an existing permittee's assets and liabilities.

5 AAC 94.430 PERMIT TERM.

This section states that the term of a permit will be fixed and will not exceed two years, except that

permits for activities that are permanent in nature may be issued for longer than two years. Definitions of "permanent" and "temporary" are provided in 5 AAC 94.590.

5 AAC 94.440 AMENDMENTS TO THE PERMIT.

This section describes what constitutes an amendment to the permit, the conditions under which an amendment will be issued, the procedures for applying for an amendment, and the term of a permit amendment. The Commissioner may require, and the permittee is required to obtain, an amendment in certain circumstances described in this section.

5 AAC 94.450 PERMIT RETENTION AND SITE INSPECTIONS.

This section indicates that a copy of the permit must be retained at the work site and that authorized representatives of the state must be allowed to inspect the permitted activity. Authorized representatives of the state will make every reasonable effort to give the permittee the opportunity to accompany them during an inspection, but this does not preclude unannounced inspections.

5 AAC 94.460 RENEWAL OF PERMIT.

This section discusses permit renewal. If a permittee requests renewal of an existing permit before it expires, and no substantive changes in project scope or circumstances are expected, filing of a new application is not required. If such changes are anticipated (and filing of a new application is to be avoided), a permittee must seek amendment of the existing permit before a renewal can be requested. If an existing permit expires or is terminated, a new permit may be obtained only by filing a new application.

5 AAC 94.470 GENERAL PERMITS.

This section indicates that the Commissioner may issue a permit to the public at large for a specific activity in an area listed in the permit.

ARTICLE 4. GENERAL PROVISIONS

5 AAC 94.500 FAILURE TO ADHERE TO PERMIT CONDITIONS.

This section indicates that the Commissioner may require that a permittee correct a condition, undertake further mitigation specified by the Commissioner, or both, in order to minimize or prevent adverse effects to fish or their habitat that result from activity that is not in accordance with a provision of the permit.

5 AAC 94.510 APPEAL PROCEDURES

This section outlines procedures under which an affected applicant or permittee may appeal directly to the department regarding any decision or action made under 5 AAC 94. It states that the department will, within 30 days of receiving a written appeal, take one of four listed actions--either render a final written decision based on the existing case files, conduct an informal conference, schedule a hearing, or summarily deny the appeal request. The following four sections provide more detail on these potential departmental actions. Section 94.510 also states that an interested person may initiate an appeal of the issuance or denial of a permit required under 5 AAC 94.120 by following procedures outlined in the state's Administrative Procedure Act, AS 44.62.330--44.62.630.

5 AAC 94.511 INFORMAL CONFERENCE.

This section provides that the department may not make a final and binding appeal decision based on an informal conference unless the decision is reduced to writing. This guarantees that, in the event that an informal conference is the basis upon which a binding decision is made, the applicant or permittee will receive a written document that provides the information specified under 5 AAC 94.513. Section 94.511 also says that, if a party objects to an informal conference at any time before a binding decision has been made, the department may suspend the informal conference and proceed with the appeal by choosing one of the three other alternatives listed in 5 AAC 94.510.

5 AAC 94.512 HEARING PROCEDURE.

This section describes the procedures for conducting an oral hearing, one of the alternatives allowed under 5 AAC 94.510. It also gives the department the option of electing to hold a formal hearing under the Administrative Procedure Act for any appeal of a decision made under this chapter.

5 AAC 94.513 DECISION.

This section specifies the eight categories of information that will be provided by the department in its decision of an appeal. This decision will be written, will be served either via mail or in person, and will state what further rights of appeal, including applicable time limits for appeal, that a person may have.

5 AAC 94.514 SUMMARY JUDGEMENT.

This section indicates that in any appeal that is summarily dismissed under 5 AAC 94.410, the department must issue and serve by mail or in person a written decision indicating the reasons for the dismissal. 5 AAC 94.510 to be remanded for reconsideration.

5 AAC 94.520 PERMIT SUSPENSION OR ABATEMENT OF ACTIVITY.

This section describes under what conditions and procedures the Commissioner may interrupt the term of a permit, require abatement, or initiate revocation proceedings.

5 AAC 94.530 EXEMPTION FOR EMERGENCY AND POLICE POWER ACTIONS.

This section clarifies that in an emergency the Commissioner can issue oral permits but a completed application must be submitted as soon thereafter as possible.

5 AAC 94.540 BONDING OR SECURITY.

Except that it excludes reference to wildlife or their habitat, this section is nearly identical to 5 AAC 95.950, which became effective June 5, 1986, as part of the department's special areas regulations. Section 5 AAC 94.540 allows the Commissioner, in his or her discretion, to require a performance bond or other surety to secure the performance of the terms and conditions of a fish habitat permit. The section describes amount, review, and release of bonds, and does not limit the department's right to seek further compensation for permit violations or damage to fish or their habitat.

5 AAC 94.550 VIOLATIONS.

This section clarifies that: 1) a violation of this chapter is a violation of AS 16.05.840 or 16.05.870, subject to certain penalty provisions that are listed; and 2) a violation of the terms and conditions of a fish habitat permit is a violation of this chapter.

5 AAC 94.590 DEFINITIONS.

This section defines terms used in these regulations.

Rationale for Blasting Standards (5 AAC 94.290)
Developed to Prevent Explosive Injury to Fish

Introduction

Attendant with the development of Alaska's resources has been the increased use of high explosives especially in conjunction with seismic exploration, rock quarrying and road construction. Indiscriminate use of explosives in or near waterbodies is potentially harmful to fish. In light of conserving Alaska's anadromous fish resources pursuant to AS 16.05.870, the Alaska Department of Fish and Game has developed Blasting Standards for use in areas where protection of fish resources is a consideration.

Physical Phenomena Associated with Blasting

Explosives are a chemical substance which, when detonated, release large quantities of energy over a minute interval of time (DuPont, 1980). Common explosives derive their energy from chemical reactions such as the oxidation of black powder or breaking of high energy chemical bonds as in trinitrotoluene (TNT). Energy is released as pressure, light, and heat (Figure 1). The pressure generated produces a shock wave in the surrounding medium (air, soil, water). As the spherical wave spreads out from the source, its energy is distributed over an area that is proportional to the square of the sphere's radius. Thus, the energy per unit area varies inversely to the square of the distance from the source, which partially explains the attenuation of shock waves by distance.

Explosives detonated underground produce pressure or seismic waves within the earth (Figure 2). Two modes of seismic wave propagation have been identified, body waves and surface waves. Body waves are propagated through the earth and two kinds are recognized: compressional (P) waves and shear (S) waves. Compressional waves have higher velocities than shear waves. The P designation refers to the primary arrival of compression waves at any given point as opposed to the secondary (S) arrival of shear waves. Of concern here is that compressional seismic waves will be propagated from the earth into water bodies.

The second mode of wave propagation is along the earth's surface. Surface waves are usually produced when a body wave travels to the surface and is reflected back. Surface waves contribute to production of ground vibrations that are of concern to incubating fish eggs.

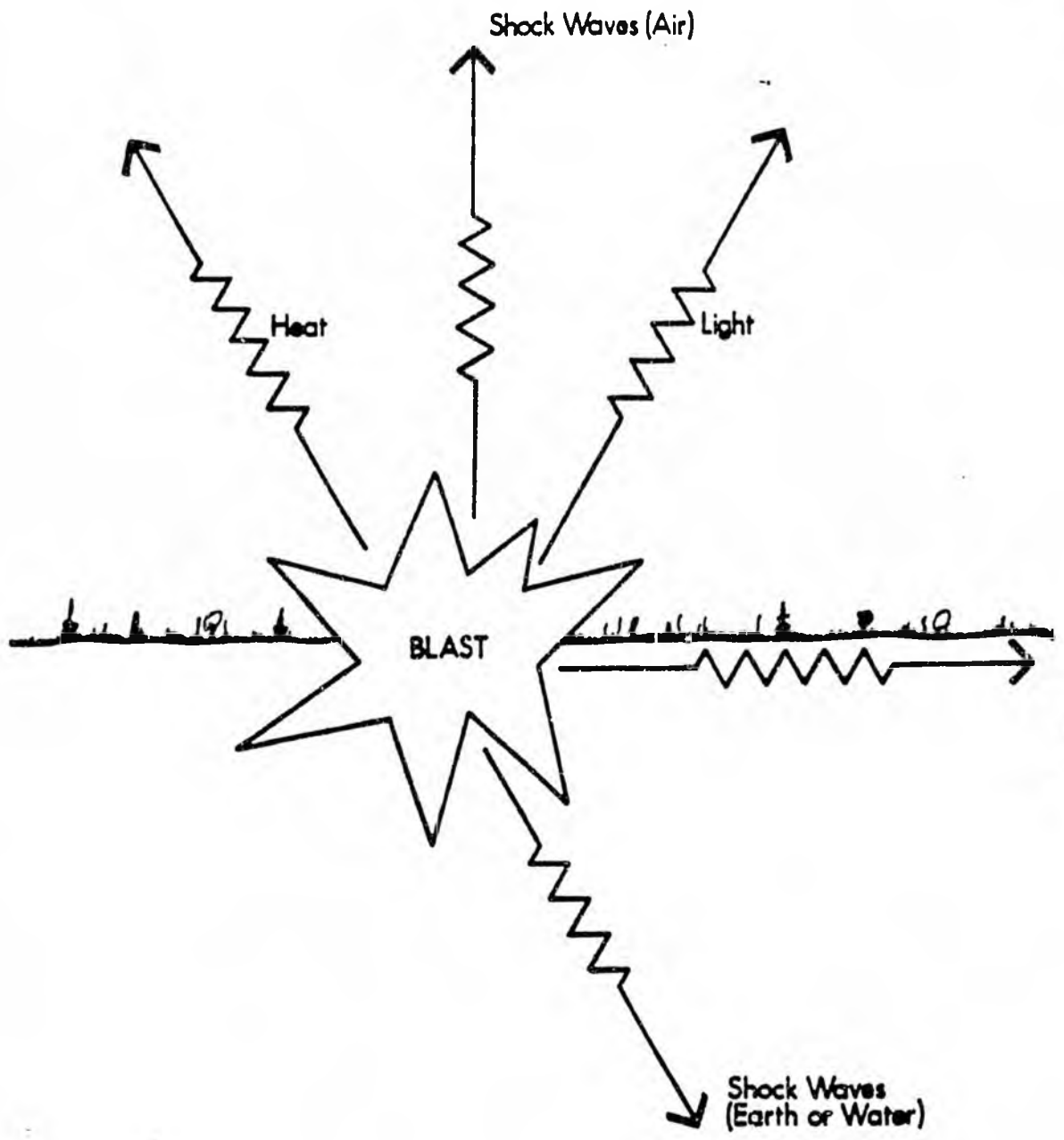


FIGURE 1. DISSIPATION OF EXPLOSIVE ENERGY

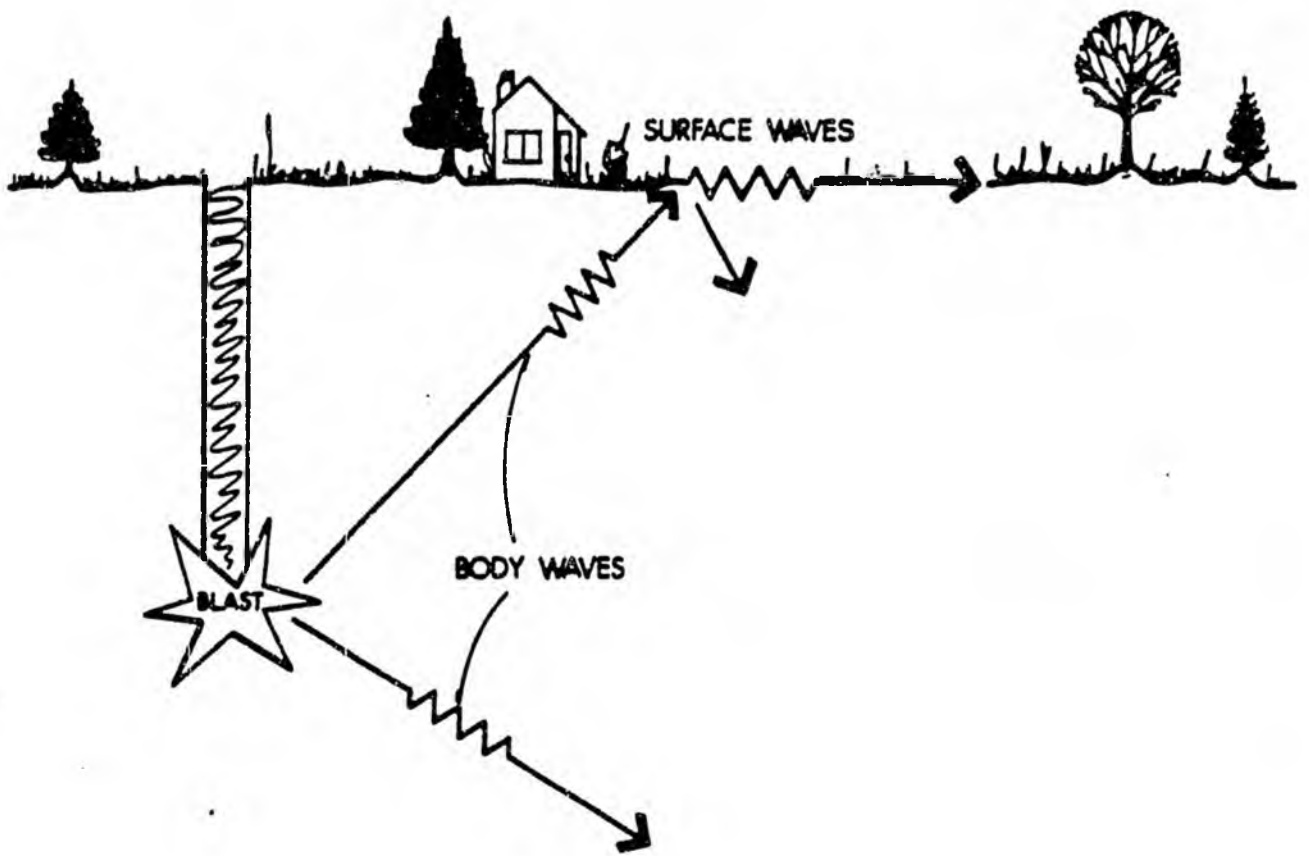


FIGURE 2. SEISMIC WAVES

Underwater shock waves generated by explosives are compressional waves that have almost instantaneous rise times to peak pressure followed by an exponential decay and rarefaction or drop below ambient pressure (Cole, 1948; Figure 3). In terms of their effect on fish, shock waves generated by inwater explosions have a greater lethal effect than waves propagated from the ground into water because they have a sharper pressure-time signature and, in underground explosions, part of the energy is reflected back into the ground at the ground-water interface.

Effect of Compression Waves on Fish

High peak pressures with instantaneous rise times followed by rarefaction of the surrounding medium are known to be responsible for traumatization of fish (Hubbs and Rechnitzer, 1952).

The effects of sudden changes of hydrostatic pressure resulting from explosions may result in trauma and death of fish. Injuries range from ruptured internal organs to loss of scales. While the heart, kidney, vessels, liver, and gonads may be injured, the swim bladder is the most sensitive organ to pressure changes. Fish without swim bladders are relatively insensitive to underwater shock waves. However, except for Arctic lamprey, all anadromous fish that are important to sport, commercial, and subsistence fisheries in Alaska have swim bladders.

The swim bladder is a hydrostatic organ that maintains the buoyancy and stability of the fish. Swim bladders are generally adapted to a great range of pressure changes; however, exposure to rapid pressure variations generated from explosions cannot be accommodated. When subjected to pressure variations greater than the limits of accommodation, the swim bladder will experience trauma ranging from slight tissue strain to complete rupturing with massive hemorrhaging of the internal organs. Fatalities are caused either directly by trauma or indirectly through loss of equilibrium resulting in increased predation or inability to feed. Body shape and orientation with respect to the wavefront affect susceptibility to pressure changes. Fish with cylindrical bodies are less likely to be injured by rapid pressure changes than those with dorsoventrally flattened bodies exhibiting a high surface area to volume ratio. Body size also has been correlated to injury (Yelverton, 1975). Smaller fish are more likely to be injured than the larger fish. No difference in response has been noted between fish having ducted bladders (physotomatous) and those with closed swim bladders (physoclistous).

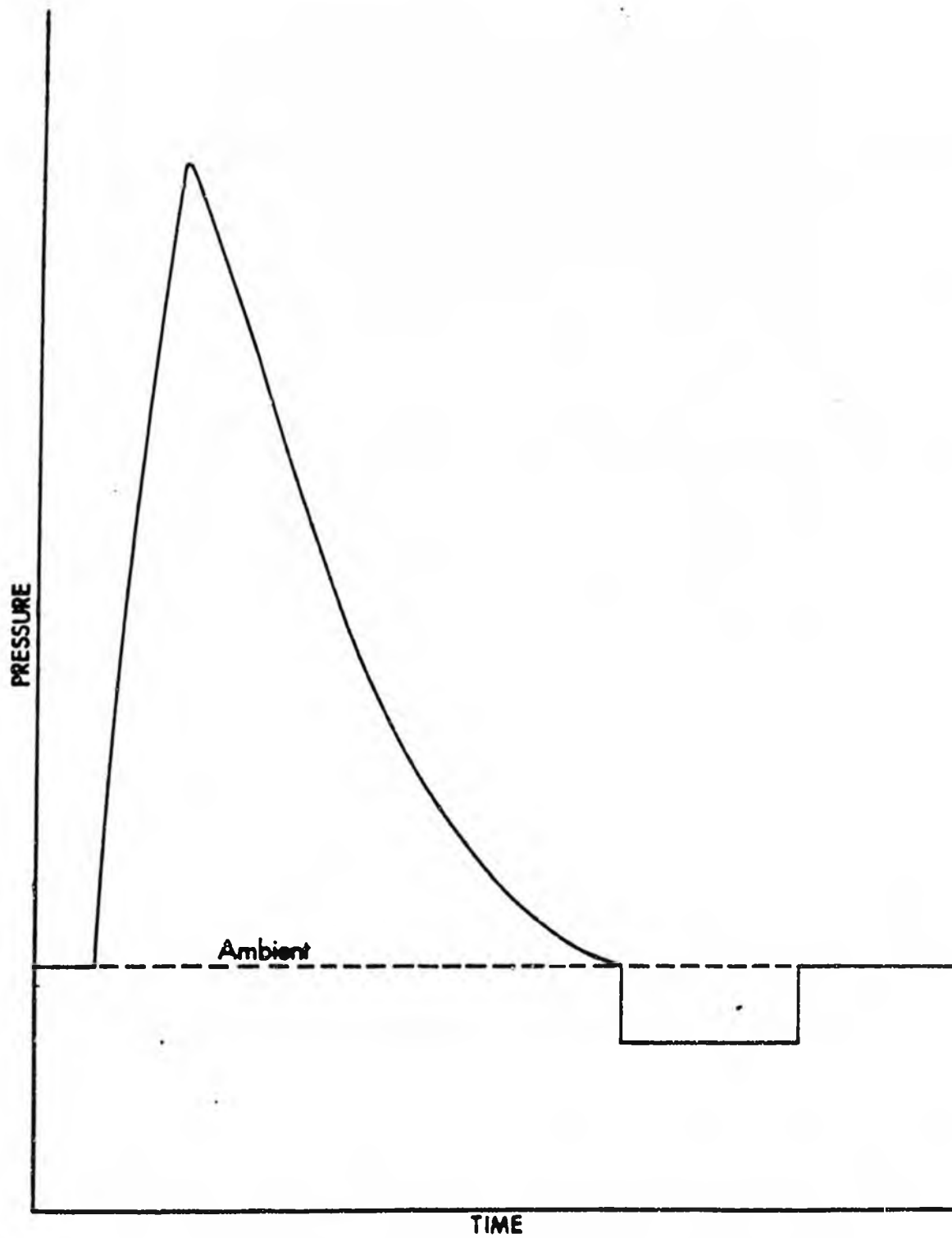


FIGURE 3., SIGNATURE OF UNDERWATER PRESSURE WAVE PRODUCED BY EXPLOSION.

Effect on Larvae

Larval stages of swim bladder fish do not develop a swim bladder until they have absorbed their yolk sack and have left the spawning bed. Therefore, it is expected that they would be fairly resistant to rapid pressure changes. This has, in fact, been shown by investigations on the effects of pressure changes associated with hydroelectric turbines.

One study (Bishai, 1961) reported that newly hatched salmon and herring can withstand pressures of 71.0 psi and return to ambient pressure without suffering ill effects. When the same fish reached 3-6 months of age, they died within 24 hours when exposed to pressures exceeding 2.8 psi.

Effects on Fish Eggs

The sensitivity of salmonid eggs to shock or agitation has been recognized by fish culturists for many years. Research (Smirnov, 1954; 1955) has revealed that sensitivity varies with the stage of development. Table 1 shows the results of agitating pink salmon eggs at various stages of development (Smirnov, 1954). The magnitude of agitation produced by Smirnov's testing approximates ground vibrations with a displacement of 0.12 inches and a frequency of three cycles per second. This is within the range of ground vibrations generated by blasting activities.

Table 1. Mortality of pink salmon subjected to mechanical agitation during incubation (at temperatures between 46° to 49°F).

Age after Fertilization	Stage	Loss in Percent
0	Prior to placing eggs in water	1
30 min.	During water absorption	95
2 hours		16
3 hours		5
1 day		24
2 days		26
3 days		56
9 days	Embryonic streak 2 mm.	75
18-19 days	Blastopore closing	30
22-24 days	Pigment in eyes	2
28-30 days	Eyes grey	0
39-40 days	Appearance of abdominal fins	0
51 days	Beginning of gill formation	0
63 days	Prior to hatching	0

Table 1 shows that there is a high degree of sensitivity to shock and vibration until the closing of the blastopore. This confirms fish culturists' observations that eggs become shock resistant with "eyeing-up," the stage of development just following blastopore closing. It is important to note that salmonid embryonic development is controlled by thermal input; eggs developing in cold Alaska waters will require a greater length of time to reach the various developmental stages shown in Table 1. Generally, 250-300 T.U. (1 T.U. = 1 centigrade degree day) are required by salmon to reach the eyed stage.

Rationale for Blasting Standards

Numerous physical models have been advanced to predict and relate fish trauma to explosive shock waves. All of the models have inherent weaknesses in predicting what will happen under actual field conditions. This is particularly true for blasting adjacent to waterbodies where soil conditions, the geometry between the blast source and the waterbody, and the soil-water interface act to attenuate, reflect and refract shock waves. Until further research develops a consistent model for predicting fish mortality, protection of fish populations can be achieved by limiting the instantaneous hydrostatic pressure change in the fish habitat to very low levels. A pressure change of 2.5 pounds per square inch (psi) appears to be the lower limit where adverse effects on fish have been measured (Rasmussen, 1967). Protection to incubating fish eggs can be achieved by limiting ground vibrations in spawning beds during the early stage of egg incubation to low levels also. Ground vibrations with a peak particle velocity of 0.5 inches per second (ips) are perceptible to humans but are four times below the vibrations which Smirnov found caused egg mortality. Interestingly, Smirnov's tests correspond to the safe limit established by the U.S. Bureau of Mines for structural vibrations from blasting (Nicholls, et al., 1971). Until additional research further defines the precise relationship between vibration and egg mortality, a 0.5 ips standard should provide adequate protection to incubating eggs during the sensitive stage of development.

Analysis

The following analysis was used to derive the charge-distance setbacks necessary to protect aquatic life in fish-bearing waters. The equations were taken from Dupont, 1977 and Nicholls et al., 1971 and were adapted to meet the standards described in the above rationale.

Equation (A) is used to describe the transfer of shock pressure from the soil to a waterbody:

$$(A) \quad P_w = \frac{2 \times \frac{Z_w}{Z_r} \times P_r}{1 + \frac{Z_w}{Z_r}}$$

where P_w = pressure in water in pounds per square inch (psi)

P_r = pressure in the soil in psi

Z_w = acoustic impedance of water

Z_r = acoustic impedance of the soil

Equation (B) is used to describe the relationship between acoustic impedance and the density and velocity of the medium through which the compressional wave travels:

$$(B) \quad \frac{Z_w}{Z_r} = \frac{D_w \times C_w}{D_r \times C_r}$$

where D_w = density of water = 62.5 pounds per cubic foot (lbs/ft³)

D_r = density of the soil in lbs/ft³

C_w = compression wave velocity in water = 4800 feet per second (fps)

C_r = compressional wave velocity in the soil in fps

The following values were used for D_r and C_r for various soil types:

	D_r		C_r
	lbs/ft ³	g/cm ³	fps
Rock	165	2.64	15,000
Frozen Soil	120	1.92	10,000
Ice	61	0.98	10,000
Saturated Soil	130	2.08	4,800
Unsaturated Soil	120	1.92	1,500

Equation (C) describes the relationship between the peak particle velocity (V_r) and the pressure, density and compressional wave velocity in the soil:

$$(C) \quad V_r = \frac{2 \times P_r}{D_r \times C_r}$$

Equation (D) is known as the scaled distance relationship and is used to equate the peak particle velocity to charge weight and distance:

$$(D) \quad V_r = 160 \left(\frac{R}{W^{1/3}} \right)^{-1.6}$$

Where V_r = peak particle velocity in inches per second (ips)

R = the distance to the blast in feet

W = the charge weight in pounds

Example solution for calculating charge-distance setbacks to meet 2.5 psi limit for blasting in rock

1. From equation (B): $\frac{Z_w}{Z_r} = \frac{62.5 \times 4,800}{165 \times 15,000} = 0.12$

2. From equation (A): $P_w = \frac{2 \times 0.12 \times P_r}{1.12} = 0.21 P_r$

3. Limit P_w to 2.5 psi: $P_r = \frac{2.5}{0.21} = 11.9$ psi

4. Convert psi to dynes/cm²: 11.9×68947
 $= 8.2 \times 10^5$ dynes/cm²

Note: dynes are expressed as gram-centimeters per second-squared (gcm/sec²) in step 5.

5. From equation (C):

$$V_r = \frac{2 \times P_r}{D_r \times C_r} = \frac{2 \times 8.2 \times 10^5 \text{ gcm/sec}^2}{2.64 \text{ g/cm}^3 \times 15,000 \text{ ft/sec} \times 30.48 \text{ cm/ft}}$$

$$= 1.4 \text{ cm/sec}$$

6. Convert cm/sec to ips: $1.4 \times 0.39 = 0.55$ ips

7. From equation (D): $V_r = 160 \left(\frac{R}{W^{1/3}} \right)^{-1.6}$

$$R = W^{1/3} \times \left(\frac{V_r}{160} \right)^{-0.625}$$

$$= W^{1/3} \times \left(\frac{0.55}{160} \right)^{-0.625}$$

$$= W^{1/3} \times 35$$

Example solution for calculating charge-distance setbacks to meet 0.5 ips limit in spawning beds

1. From equation (D): $V_r = 160 \left(\frac{R}{W^2} \right)^{-1.6}$

$$R = W^{\frac{1}{2}} \times \left(\frac{V_r}{160} \right)^{-0.625}$$

$$= W^{\frac{1}{2}} \times \left(\frac{0.5}{160} \right)^{-0.625}$$

$$= W^{\frac{1}{2}} \times 38$$

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Rationale for Water Intake Standards (5 AAC 94.270)
For Water Withdrawal Operations
Up to 5 cubic feet per second

Introduction

Water withdrawals from fish-bearing waters pose a potential problem for adult and young fish swimming in the proximity of an intake structure. Most water withdrawal operations use a screened intake to avoid entraining gravel or debris, which can result in damage if a pump is being used. Generally, 0.25-inch mesh screen is used to provide protection for a pump. However, this screen mesh size allows for the entrainment of fish into the pump or intake. In addition, the use of large intakes and high flow rates can result in fish mortality by drawing the fry up and holding them against the screened intake surface. This action results in suffocation or physical damage of the impinged fish. In an effort to preclude the entrapment, entrainment, or impingement of fish, especially slow- or weak-swimming fish, the Alaska Department of Fish and Game (ADF&G) has developed screening and velocity criteria for water intakes. These criteria are based upon the size and swimming (avoidance) abilities of the fish species present during the water withdrawal operation.

Upon completion of a review of available literature and communication with representatives from the Salmon Enhancement Program, Government of Canada (Attachment I), the ADF&G has identified five fish screen options designed to prevent fish entrainment or entrapment (see Table 2, 5 AAC 94.270). The decision as to which criteria apply to a proposed intake operation will be made by the ADF&G and will be based upon the species of fish present and their age and swimming ability.

Two major considerations must be evaluated in the design of intake screening that will protect fish resources. These include: (1) the approach velocity of the water through the intake to prevent impingement of fish against the screen resulting in suffocation of or physical damage to the fish; and (2) the maximum allowable mesh size of the screen (to preclude fish passing through the screen and into the intake).

Approach Velocity

The 0.1 foot per second (fps) standard cited under the most stringent of the five alternative criteria in the proposed regulations was originally recommended by the ADF&G's Fisheries Rehabilitation, Enhancement and Development Division (FRED). Their experience with water intakes associated with fish hatchery operations has shown that unless approach velocities were 0.1 fps or less, very young

whitefish can be entrained in intake structures. Their recommendation did not specifically address impingement.

Information reviewed during our literature search was used to determine whether or not this recommended approach velocity was reasonable based on the experience of published researchers. Following is a summary of the information reviewed during our literature search.

Clay (1961), citing fish swimming ability studies of Kerr (1953) on chinook salmon ranging from 1-7 inches in length and striped bass; Brett, Holland, and Alderdice's (1958) work on sockeye and coho salmon 2-6 inches in length; and Bainbridge's (1960) work on dace, trout, and goldfish 2.5-6 inches in length; concluded that, "for practical purposes the smallest Pacific salmon fry might be expected to cruise at speeds of 0.5 fps for the longer intervals necessary to keep themselves away from screens and to find a safe bypass." Clay also recommended that it would be desirable to use an approach velocity of 0.4 fps as a safety factor for screens which are "properly maintained and in a clean condition." He also noted that in experiments performed in Canada where screens were placed in irrigation ditches, approach velocities above 0.4 fps impinged the "smallest salmon fry," those having just emerged, against screens, causing their deaths.

Fisher (1981) conducted experiments to determine the long-term (6-hour) swimming abilities of juvenile (mean fork length* 1.5 inches) chinook salmon. He found that, once accustomed to their surroundings, salmon were not reluctant to rest on retaining screens at the lowest velocity used (0.2 fps). At 0.4 fps, the smaller fish rested for greater lengths of time but were capable of movement off the screens. At 0.6 fps definite impingement occurred with resulting mortality. Several investigators have suggested relationships between body length and swimming capability. Bainbridge (1960) suggested a general relationship of four times the fish's length per second as the predicted speed which can be maintained for periods of at least 20 seconds. Brett (1967), investigating sockeye salmon, determined the 5% and 95% fatigue velocities to be 3.1 and 4.8 body lengths per second, respectively. Fisher (1981) observed that Brett's relationship applied favorably to his observed results with chinook salmon and with other researchers' observations related to juvenile salmon.

Application of Brett's and Bainbridge's relationships to fish of varying body lengths is shown in the following table:

* Fork length means the length of a fish from the tip of the snout to the notch in the tailfin of fork-tailed fishes (or to center of fin when tail is not forked).

Swimming Ability

Body Length (in)	Brett (1967)		Bainbridge (1960)
	5% Fatigue	95% Fatigue	20 Second Duration
0.50	0.13 fps	0.20 fps	0.17 fps
0.75	0.19 fps	0.30 fps	0.25 fps
1.00	0.26 fps	0.40 fps	0.33 fps
1.50	0.39 fps	0.60 fps	0.50 fps

Velocity distribution across the screen face can also be quite critical to whether or not fish will become impinged. While the average velocity ($V=Q/A$, where V = average velocity of water in ft/sec, Q = rate of flow in ft³/sec and A = the cross sectional area of a waterbody in ft²) may be acceptable there may not be uniform distribution; through-screen velocities may be markedly higher on some portions of the screen. Unequal velocity distribution is most pronounced in cylindrical-well type screens. The velocities are greatest at the intake (proximal) end where the screen is attached to the intake pipe and drop off rapidly toward the outflow (distal) end. This effect can be lessened somewhat by placing a perforated intake pipe sleeve within the screen. For screened boxes, desirable results can be obtained by placing the intake equidistant from the wetted sides.

Another aspect of approach velocity that has only been discussed briefly here is mortality from impingement. Fisher and Clay both cite 0.4 fps as being the highest velocity at which young salmon fry can be impinged against a screened surface without significant mortality. The relative body size and predicted swimming capabilities of whitefish suggests that their impingement mortality would be higher at velocities that are considered safe for Pacific salmon.

Screen Opening Size

Where approach velocities have been limited to levels where fish are not being actively transported in pumped water and may freely move away from screened intakes, screen opening size becomes one of the governing factors in exclusion of fish. Bell (1973) suggests the following formulas may be used with care to compute M , the maximum mesh opening size for various shapes of fish:

with M = Maximum opening size in inches;
 L = Length of fish in inches;
 D = Depth of fish in inches; and
 L/D = F (Fineness Ratio):

M = $[0.4+(L-2.35)0.04]F$ where F is 5* to 6.5.
 M = $[0.03+(L-1.86)0.03]F$ where F is 6.5 to 8.
 M = $[0.02+(L-1.6)0.02]F$ where F is 9+.

The typical F for presmolt Pacific salmon = 5.

However, application of this formula using fish lengths typical for juvenile anadromous fish results in the following:

<u>L(in)</u>	<u>M(in)</u>
0.50	-0.17
0.75	-0.12
1.00	-0.07
1.25	-0.02
1.50	-0.03

The formula, therefore, does not appear applicable to small fish since the screened opening size cannot have negative values.

Clay (1961) suggests the following opening sizes based on live tests:

<u>Size and Species</u> (one side of square)	<u>Size of Mesh Opening</u>
Pink salmon fry immediately after emergence from gravel (about 1 inch long)	0.10 inches
Sockeye salmon fry, chinook salmon fry, (about 1.2 inches long)	0.12 inches
Larger chinook and coho salmon fry (about 2 inches long)	0.15 inches
Yearling salmon (about 3.5-6 inches long)	0.25 inches

Clay also recommends that open area comprise at least 50% of the screen areas, otherwise velocities at the openings may be high enough to entrap fish even though the approach velocity may be acceptable. The effective open area of the screened intake is a serious consideration related to hydraulic head loss for the water intake operation. The head loss through a clean screen is relatively insignificant. A more important consideration is head loss incurred by collection of debris. For vertical screens without automatic cleaning, the head loss of the clean

screen is the minimum that can be expected. Under normal operating conditions, even with frequent manual cleanings, head loss can be expected to be many times greater than with a clean screen. The amount of head loss that can be tolerated depends upon the application. In ditches where flow is supplied by gravity, a small amount of head loss can greatly decrease the amount of water passing through the screen. In submerged pump intakes, the same amount of head loss might be considered insignificant. The Department of Fisheries of Canada specifies a gross screen area of 10 ft² for each cubic foot per second (cfs) pumped for manually cleaned screens and all screens must have at least 50% open area (Clay 1961).

Summary

Based on the preceding discussion, we believe that the following points support the five currently proposed options for screened pump intake structures:

1. Approach velocities of greater than 0.4 fps exceed the sustained swimming speed of small juvenile salmon and, probably, small juvenile whitefish.
2. The Department of Fisheries of Canada specifies a gross screen area of 10 ft² for each cfs for manually cleaned screens (Clay 1961). This standard results in an approach velocity of 0.1 fps.
3. Approach velocities of greater than 0.5 fps will result in mortality of Pacific salmon juveniles and, probably, whitefish juveniles impinged on screens.
4. Experience and tests by the ADF&G at the Clear Hatchery have shown that square screen openings of 0.1 inches on a side are effective in excluding young salmon fry; however, they may be too large to exclude young whitefish.
5. Where head loss is a critical factor, fouling of manually cleaned screens will be a problem but may be compensated for by increasing screen area.

Recommendations

The screen intake criteria contained in Table 2 of 5 AAC 94.270, have been developed by ADF&G for incorporation into the fish habitat regulations and are necessary to protect fish from entrapment or entrainment.

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ALASKA FOREST PRACTICES ACT REVIEW

Final Report

June, 1989

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Alaska Department of
**NATURAL
RESOURCES**



Department of
Fish and Game



Department of
Environmental
Conservation

Alaska Forest Practices Act Review

Preface

INTRODUCTION

This document reflects over five months of work by the Alaska Forest Practices Review Steering Committee. The committee was formed at the direction of Governor Cowper to facilitate an objective and balanced review of the forest practices act, regulations, implementation.

The committee drafted an agreement-in-principle that includes recommendations for legislative and administrative changes in Alaska's forest practices program. The committee also drafted legislation to implement the agreement in principle. Not all of the changes in the state's forest practices program requires legislative change. Those that are not in the legislation will be reflected in regulations, or in the department's implementation of the regulations.

A description of the review process, including a list of ground rules and participants, is in Chapter 1 of the agreement-in-principle (page 1). A summary of the main points of the agreement and legislation begins on page iv.

A LACK OF CONSENSUS...

The committee attempted to operate by unanimous consent. Unanimous consent ensured that the committee's decisions respected all interests. Unfortunately, the committee did not achieve unanimous consent on its recommendations. Of the many difficult issues addressed, the disagreement in the final package focused on the effect of the state's forest practices act on harvest of federal timbered land.

The committee operated under five ground rules. Rule #5 specified that if all parties came to agreement, the agreement would be for the entire package, but that not to individual parts. Therefore, if any part was changed, the committee members would no longer be bound to support the package.

Those committee members who endorsed the legislation, did so only for the duration of the 1989 legislative session.

...WORK CONTINUES

In spite of the lack of consensus, the state agencies feel that this document reflects a tremendous advance over the disagreements that preceded the project. The review dramatically narrowed the areas of disagreement concerning the state's forest practices program and created a common understanding of the interests and problems of all groups. In addition, it provided avenues of communication and cooperation that previously did not exist.

At the urging of many steering committee members, state agencies will draft regulations as if the legislation had passed. If the act passes early in 1990, the regulations would become effective before the 1990 logging season as was originally envisioned. In addition, the Alaska Loggers Association has voluntarily offered to tailor its 1989 harvests, to the extent possible, to the riparian standards in the agreement.

State agencies hope these developments indicate the durability of the agreement. They feel that the areas of disagreement with the legislation are minor when compared to the areas of agreement. It is possible that forest practices act legislation will pass during 1990.

WHAT IS IN THIS DOCUMENT, AND WHO WROTE IT.

This preface was reviewed by the state resource agencies: DNR, DF&G, DEC, DGC. The remainder of this report contains the following parts.

1. Agreement-in-Principle, prepared by the steering committee.
2. Legislation, prepared by the steering committee. The legislation contains the statutory changes necessary to implement the agreement-in-principle. The agreement-in-principle was written before the legislation, and in a few cases, significant changes in intent were made during the legislative drafting process. Where this occurred, it is indicated in this copy of the agreement-in-principle.
3. Bill Analysis, prepared by DNR for the legislature.

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Agreement-in-Principle Summary

These pages summarize the main points of the agreement-in-principle of the Alaska Forest Practices Act Steering Committee. The remainder of the report contains the details of the agreement. However, the committee did not reach consensus on this document. See the preface for further details.

Major Points of the Agreement

I. Riparian Management

The agreement proposes a streamside management program for the protection of fisheries habitat and water quality.

Region I¹ - Private Land

On private land, a riparian management system is proposed that includes development of a channel typing system and riparian management prescriptions for each channel type. Of the nine channel types, six require a 15-meter (50-foot) conditional harvest zone within which timber harvest would require state agreement, and an additional 15-meter (50-foot) riparian management zone within which an operator would be required to leave 50% of the timber consistent with the existing size distribution of the timber stand within the zone. In addition, any timber taken from the conditional harvest zone or the riparian management zone in excess of timber retention standards must be replaced by comparably sized timber either in other sections of the riparian zone or in an area outside the riparian zone agreed to by DNR with due deference to DF&G. However, timber operators would not be required to leave more than 5% of the basal area in a landowner's operating area without compensation. (Basal area is the total cross-sectional area of trees measured 4.5 feet above the ground.)

Of the remaining three channel types, two require a 30-meter riparian zone, and one a 15-meter zone. In these zones, special prescriptions will apply to limit the impact of timber harvest on the riparian habitat. In addition, all activities will be subject to regulations to prevent slope instability and to prevent nonpoint source water pollution.

Region II² - Private Land

As an interim standard, a 30-meter special management zone (SMZ) will be used on all anadromous and high value resident fish waters. A SMZ is a shoreline or streamside area that will be managed primarily to protect anadromous and high value resident fish habitat and water quality. Timber harvest may occur in SMZs if it is sited and designed to be consistent with these fish habitat and water quality goals. Timber harvest decisions in the SMZ require DNR agreement with review and due deference to DF&G.

Region II groups will develop riparian standards within the next 12 months for Region II.

¹ Region I includes the Coastal Sitka Spruce-Hemlock Forest. Its boundaries are approximately all of Southeast, Prince William Sound, and portions of Cook Inlet and the Kenai Peninsula.

² Region II includes the boreal forest. It is north and west of Region I. It includes the Susitna Basin, the Cooper River Basin, and all of interior Alaska.

DNR will form a committee representing interested groups similar to the current forest practices steering committee. The recommendations of the group will be given to the Board of Forestry for review and then to DNR for adoption.

State Land³

On state land north of the Alaska Range, a 30-meter special management zone (SMZ) along all anadromous and high value resident fish waters will be managed primarily to protect anadromous and high value resident fish habitat and water quality. Timber harvest may occur in SMZs if it is sited and designed to be consistent with these fish habitat and water quality goals. (This standard is the same as the interim standard for private land in Region II.)

On state land south of the Alaska Range, there will be a no-cut zone within 30-meters of all anadromous and high value resident fish waters. Between 30- and 90-meters, timber harvest must be consistent with the maintenance of important fish and wildlife habitat.

Other Public Land

Borough, municipal, and other public land not managed by DNR (including trust lands such as mental health and university lands) will require a special management zone along all anadromous and high value resident fish waters. Timber harvest in this zone will follow the same requirements as those of the interim standards for private land in Region II, explained above.

II. The Enhanced Notification Process

The enhanced notification process is the proposed method for efficient state review of timber harvest plans on private and municipal land to determine the plan's conformance with forest practice standards. It includes the following points:

- * A system of enforceable standards that harvest operations must follow. These standards will be written to satisfy the requirements of the forest practices act, to address forest water-quality related standards portion of DEC non-point source pollution programs and, on private land, to serve as the Alaska Coastal Management Program.
- * A system of agency office and field review in which the agencies have an enforceable disapproval of proposed activities that would violate a forest practice standard.
- * Public review of proposed harvest plans.
- * Provision for "stop work orders" to halt proposed or ongoing work where agency personnel perceive a threat of imminent significant harm to the environment.
- * A voluntary annual plan to give agencies and the public earlier information, and to give the landowner earlier feedback.

³ This standard was changed during legislative drafting. The proposed legislative language is summarized here. The language of the April 10th agreement-in-principle is given on page 23.

- * DF&G retains all previous authority under Title 16.
- * DNR remains lead agency for forest practices activities outside streams. DNR will accord due deference to the expertise of DF&G concerning activities within the riparian zone. DNR will accord due deference to the expertise of DEC concerning water quality issues.
- * DEC retains authority as lead agency for non-point source pollution control and water quality as in existing statutes.

III. Enforcement

The proposed agreement would add the following to the existing enforcement system:

- * Procedures for imposing existing civil penalties are streamlined, and criminal penalties are added. DNR will also have the ability to issue a remedial order to correct violations of forest practice standards.
- * Hearings will be conducted by an employee of the Division of Forestry with appeals to the Commissioner.
- * State agencies are required to develop and implement a single state enforcement strategy for forest practices that violate forest practices act standards and other state requirements.

IV. Wildlife and Planning

DNR's forest planning process is changed in the following manner:

- * New statutory and regulatory emphasis on wildlife habitat and other non-timber uses.
- * Five-year sale schedule and enhanced public participation.
- * Best interest finding under AS 38.05.035 for all sales, including increased analysis in the development of individual timber sale provisions.
- * Enhanced opportunities for public participation at each of the forest planning stages.
- * Planning for public lands will be required to allow for scenic quality and wildlife habitat, in addition to other considerations.
- * On private lands, the landowners are encouraged to enter into cooperative agreements with DF&G to identify wildlife habitats, and management options to minimize adverse impacts.

V. Board of Forestry

The Board of Forestry is restructured to a smaller, balanced board with authority to provide advice concerning research and implementation of the Forest Practices Act and regulations. The board will include a member or representative of a fishing organization, a Native corporation, an environmental organization, and a forest industry trade association; and a professional fish or wildlife biologist, and a professional forester.

VI. Other Issues.

- * Log storage and rafting -- a task group has been formed to develop guidelines for log rafting and in-water log storage, including review of meteorological and oceanographic factors, review of applied industry technology, and recommended construction and log handling and bundling standards.
- * Reforestation -- the steering committee has recommended funding of the Reforestation Fund as provided by law.
- * Consultation, education, and training -- the Division of Forestry will undertake new efforts to ensure that the public, landowners, operators, and agency personnel become fully informed of the state planning process and of proper practices for timber harvesting. Field workshops and interdisciplinary training will be used to ensure that the regulatory agencies, the public, and the timber industry understand each other's objectives, methods, and practices.

VII. Funding

Funding of \$1.2 million will be required to implement the act. The funding will provide the agency review and field presence necessary to strengthen resource protection using a strong forest practices act while retaining a strong timber industry. The legislation should provide that funds come from receipts derived from timber sales on state lands, 25% of which would go to reforestation. If additional funds are required, the legislature should look to funds to be derived from other sources, in light of the standing timber and other costs contributed from the forest products industry through the terms of the proposed agreement, and contributions made from other forest users.

VIII. Future Review of the Forest Practices Program

This agreement-in-principle and the recommended legislation are intended to be reviewed within three years. This three-year time is intended to allow for further research, to gain experience implementing the act's regulatory and administrative standards -- especially the riparian standards and the enhanced notification system. It is presumed that a representative group will be convened for the review, or that the review will be conducted by the restructured Board of Forestry. The review will occur with full public input and participation.

Alaska Forest Practices Act Review

Agreement-in-Principle

The agreement-in-principle in this document is the same as the April 10th version drafted by the steering committee except where significant changes were made during the drafting of the legislation. Where those changes occurred, they are made in this document, and the April 10th version is placed in a footnote. The most significant change is in the riparian standards for state land.

PART I - Introduction

I. Purpose of the Alaska Forest Practices Act Review

In response to criticisms of the Alaska Forest Practices Act, and to improve resource protection while retaining a viable timber industry, the governor directed the Departments of Natural Resources, Fish and Game, and Environmental Conservation to conduct a public review of the act and make recommendations for improvements in the act, its regulations, and implementation. The Forest Practices Act (AS 41.17) and its regulations (11 AAC 95) governs forest practices on state, municipal, and private lands.

To achieve an objective and balanced review, the review process included representatives of timber land owners, state agencies, and users of public resources affected by forest practices. Recommended changes in legislation will be submitted by the Governor to the legislature during the 1989 legislative session. Any recommended changes in regulation and enforcement procedures will be promulgated by the appropriate departments.

The paragraphs below identify how different groups participate in this process.

The Steering Committee. The steering committee was the body responsible for guiding the review process and recommending changes in legislation, regulations, and implementation. The steering committee operates by unanimous consent to develop its recommendation. The public steering committee members were not picked by the governor or by the state agencies. They were chosen by the public groups.

Working Groups. Two working groups were formed by the steering committee to flesh out issues and make recommendations for resolution. Most of the work for the project occurred in working groups. For different issues, certain steering committee members were more active than others. For some issues, steering committee members may call on members of interest groups not represented on the steering committee. Final decisions were made by the Steering Committee.

Mediators. The mediators guided the mediation process but did not make decisions. The mediators were hired from outside state government to ensure an objective process. The mediators were selected by a committee composed of representatives of DNR, DF&G, and DEC. The mediators chaired working group and steering committee meetings. The mediators were Jim Waldo and Frank Gaffney of the Northwest Renewable Resources Center.

Public and Special Interest Groups. Interested groups not represented on the steering committee helped pick steering committee representatives; gave comments on issues and recommendations through telephone conversations or other formal and informal contact; and some participated on working groups for all of some or the issues.

The General Public. The general public is involved through the legislative process and standard agency process for promulgation of new or conforming regulations.

II. The Steering Committee

- A. Make-up of the Steering Committee. Membership on the steering committee was a compromise of representation for all who are affected by the Forest Practices Act, and having a group size that allowed a workable process. In addition, the committee included equal representation from timber groups and non-timber groups. To achieve these objectives, the steering committee included thirteen members as indicated below:

5 representatives of forest owners and operators (i.e., those who are regulated by forest practices): three representatives of private timber land owners; one municipality with timber ownership; and a representative of the Alaska Loggers Association

5 representatives of users of public resources affected by forest practices (i.e., those who may advocate regulations: fishing groups, environmental groups, etc.)

3 representatives of the state agencies:
Department of Natural Resources
Department of Fish and Game
Department of Environmental Conservation

Total: 13 Members

Other agencies were also involved. The Division of Governmental Coordination ensured that concerns of the local coastal districts were considered by the steering committee. The Department of Commerce and Economic Development provided technical assistance.

- B. Selection of the Steering Committee Members. To ensure a credible process, it was important that the various interest groups felt well represented by the steering committee. Therefore, the state asked timber land owners, timber operators, and public resource users to select their own representatives. These steering committee members were not picked by the governor nor by the state agencies.

III. Steering Committee Membership

Agency Members

Norman Cohen
Deputy Commissioner
Department of Fish and Game

Tom Hawkins
Assistant Commissioner
Dept. of Natural Resources

Amy Kyle
Deputy Commissioner
Dept. Environmental Conservation

Public Members

John Duffy/Ted Smith

Bob Ellis

Other Involved Agencies

Jan Caulfield
Coastal Program Coordinator
Div of Governmental Coordination

Gerry Engle, Program Manager
Minerals and Forest Products
Division of Business Development
Dept. of Commerce & Economic Development

Affiliations

Matanuska-Susitna Borough

Southeast Alaska Conservation Council
Sitka Fish and Game Advisory Committee
Northern Southeast Regional Aquaculture Board
Sitka Conservation Society

Pete Isleib/Dennis Eames

United Fishermen of Alaska
Southeast Seiners Association

Nancy Lethcoe

Prince William Sound Conservation Alliance
Cordova District Fishermen United

Bob Loescher

Sealaska Corporation
Alaska Loggers Association

Robert Loiselle

Klukwan Forest Products, Inc.
Alaska Loggers Association

Alan Phipps

Susitna Valley Association
Alaska Center for the Environment

Larry Smith

Southcentral Council of Fish and Game
Advisory Committees
Association of Regional Councils

John Sturgeon

Koncor Forest Products
Alaska Loggers Association

George Woodbury

Chairman, Timber Issues Committee
Alaska Loggers Association

IV. Ground Rules

The steering committee adopted the following five ground rules to guide the mediation process:

1. This effort will receive priority attention, staffing, and time commitment.
2. All parties agree to negotiate in good faith and to try to reach an agreement by consensus.
3. All participants in the negotiation bring with them the legitimate purposes and goals of their organizations. All parties recognize the legitimacy of the goals of others and assume that their own goals will also be respected.
4. Anyone may leave the process and the above ground rules, but only after telling the entire group why and seeing if the problem(s) can be addressed by the group.
5. All parties agree to be an advocate for an agreed-upon plan. However, interim agreements are not binding until a final plan is agreed-upon by all.

V. The Consensus Agreement

This section lists the steering committee's obligations to the consensus agreement.

The fifth ground rule adopted by the steering committee is, "All parties agree to be an advocate for an agreed-upon plan. However, interim agreements are not binding until a final plan is agreed-upon by all." This agreement-in-principle, if ratified by all the steering committee groups, is the agreed-upon plan.

final plan is agreed-upon by all." This agreement-in-principle, if ratified by all the steering committee groups, is the agreed-upon plan.

The parties' agreement is to the entire plan -- not to individual parts of it. Thus, if the agreement is changed, including failure to pass funds to implement it, the parties are not bound to continue their support.

The parties to this consensus will support this agreement through the end of the 1989 legislative session, but their consensus expires at the end of the session. If the legislation is not passed during the 1989 session, the parties will meet before July 1, 1989 to reauthorize (or reject) consensus for the following session.

Part II - Agreement on Issues

Chapter 1. Riparian Management

A. Private Land

1. Background & Riparian Standards for Region I

Introduction and General Summary

The riparian or streamside areas within Alaska's forest lands and the management of those areas was perhaps the most difficult of all the issues dealt with by the Alaska Forest Practices Act Review Committee. These areas are critical for the protection of water quality, and fisheries and wildlife habitat, and they are also some of the most productive areas for timber production. Therefore these areas are of high interest to all parties involved in this forest practices review. In order to develop Riparian Management Standards, a working group made up of Steering Committee members was formed to deal specifically with streamside issues. They quickly learned that while there was scientific information available to guide their decisions, it was incomplete. Some decisions would have to be based on assumptions.

A technical committee was convened to complete the following:

Frame the issues.

Develop a stream channel typing system.

Resolve the scientific questions to the extent possible.

Identify areas where appropriate scientific information was unavailable and where further research needed.

Examine the effects of various streamside leave tree requirements and the attendant risks to fish habitat, water quality, and the economic impacts to timber owners and operators.

Provide the steering-committee working group with recommendations if the technical committee could not agree on standards.

The steering-committee working group used the technical committee's report for reference during negotiations. They also agreed that because of lack of scientific certainty, four principles were necessary components of any system that would balance the needs of all the resources at stake. Those principles were

1. Fairness

Any successful system must be based on shared risk and incentives for both timber owners and regulators to make it work.

2. No "Big Hit"

Neither fish nor timber should bear an inordinate share of the burden; that a balance must be found. No private landowner should have to bear an unusually large burden.

3. Enforceable

Standards and regulations should be understandable and measurable for ease in implementation.

4. Professional Management

To provide optimum utilization of manpower and some system flexibility for fish and water quality protection, and timber management, the new system would require careful planning and targeted field effort.

The interim riparian standards described later in this section resulted from negotiations based on these principles and information developed by the technical committee. They are intended to protect fish and water quality within the streamside zone while providing some opportunity for timber harvest. Other forestry related upland activities, such as roading and timber harvest, will be covered in standards to be developed as a result of this agreement.

The agreement-in-principle and the recommended legislation are intended to be reviewed within three years. This three year time is intended to allow for further research and to gain experience implementing the act's regulatory and administrative standards -- especially the riparian standards and enhanced notification system. It is presumed that a representative group will be convened for the review, or that the review will be conducted by the restructured Board of Forestry. In either event, this review will be done with full public input and participation. In addition, DNR, DF&G, and DEC will each present an annual report, independently, to the Board of Forestry and the legislature on the resources for which they have statutory expertise and make recommendations for any improvements to rectify procedural or substantive problems. For more information concerning review of the act, see page 64.

Technical Committee Work Summary

Stream Channel Typing System

The first task of the riparian-technical committee was to develop a stream channel typing system. The committee examined a U.S. Forest Service classification system and consolidated over 50 categories into a nine channel types. A description of these channel types is included in the chart on the next page.

These nine stream channel types are used as a framework for forest practices regulations. Each channel type applies to a segment of either flowing (i.e., streams) or standing (i.e., lakes and ponds) waters that have specific physical characteristics. Physical characteristics used to define channel types are channel gradient expressed as percentage slope, presence or absence of channel incision greater than 2 meters, perennial or intermittent stream flow, size of the dominant substrate, and stream width at the ordinary high-water mark. In addition to these five physical characteristics a functional group name has been listed, which describes each channel type.

Channel types are determined by comparing the physical characteristics of the water segment in question with the channel typing criteria listed in the chart on the following page. The category with criteria most similar to the physical characteristics of the segment in question is defined as the channel type.

STREAM CHANNEL TYPES

PHYSICAL CHARACTERISTICS

STREAM CHANNEL	GRADIENT	INCISION	STREAM FLOW	*SUBSTRATE	CHANNEL WIDTH
1. MOUNTAIN SLOPE	HIGH 8%	YES >28*	PERENNIAL	RUBBLE TO BEDROCK	<30'
2. SMALL CONTAINED MID-SLOPE	2-8%	YES	PERENNIAL	RUBBLE TO BEDROCK	<20'
3. SMALL UNCONTAINED MID-SLOPE	2-8%	NO	INTERMITTANT & PERENNIAL	GRAVEL TO RUBBLE	<70'
4. LARGE CONTAINED	<6%	YES	PERENNIAL	RUBBLE TO BEDROCK	>20'
5. LARGE LOW GRADIENT	<2%	NO	PERENNIAL	GRAVEL TO SAND	>20'
6. VERY LARGE MULTIPLE CHANNEL	<2%	NO	PERENNIAL	GRAVEL	>200'
7. SMALL LOW GRADIENT	<2%	NO	INTERMITTANT & PERENNIAL	GRAVEL TO SILT	<20'
8. ESTUARINE - SALT TOLERANT VEG. (SEDGE TO FUCUS)	<.1%	NO	PERENNIAL	GRAVEL TO SILT	VARIABLE
9. PLACID (LAKE, OUTLET & WETLANDS)	<2%	NO	PERENNIAL	SILT TO GRAVEL	VARIABLE

* Substrate size is in order of dominance.

DEFINITIONS:	Bedrock	=	>3'
	Rubble	=	2.5" - 3"
	Gravel	=	4mm - 2.5"
	sand	=	.1mm - 4mm
	silt	=	<.1mm

Fisheries Habitat Components

The technical committee agreed that the riparian management standards should address the following fish habitat components:

- *1. Streambank Stability and Channel Morphology (form)
- *2. Large Woody Debris
- *3. Temperature
- *4. Turbidity and Sedimentation
5. Discharge Peaks and Streamflow
6. Nutrients
7. Other Water Quality
8. Food Resources
9. Gravel
10. Sunlight

*Components to address first. Whatever riparian management system could address these four components would likely also be sufficient for the remaining six (this assumption should be verified through experience, research and monitoring).

Timber Operational Components

The technical committee also agreed that the riparian standards should also take into account the following timber operational components:

1. the volume of the merchantable timber required to be left standing;
2. the operational costs within and adjacent to the riparian zone;
3. the impact on the ability to harvest adjacent timber; and
4. the safety of those working in the woods.

In addition, the technical committee received several presentations assessing the economic impacts of various leave requirements on a variety of tracts of timberland large and small, private and public. Depending on site circumstance, the width and configuration of the leave requirements, and the area rendered inoperable by those leave requirements, the estimated impact to timber owners and operators varied from 1% to 40% of the standing timber base and increased operational cost. These presentations and the discussions that followed were combined with the fish habitat components to prepare matrix on the following page.

Summary

Based on fisheries considerations alone, the riparian technical committee agreed that a 30-meter "no harvest" buffer zone provides acceptable protection for fish. Based on a variety of studies by the National Marine Fisheries Service and others, a 30-meter "no harvest" zone (15 meters in channel type 1) is recommended by some members of this committee as providing acceptable protection for fish, assuming normal forestry operations outside the zone. After reviewing impacts of such a zone on timber operations, some members of the technical committee feel that a flexible zone based on the values in the risk matrix should dictate the management recommendations.

The technical committee agreed that site specific decisions by appropriate interdisciplinary teams provide the most flexible management system to meet the needs of all interests involved in forest/fishery management.

MATRIX OF RIPARIAN RISK ASSESSMENT

Stream Channel Type	Fish Production Capability	Timber Production Capability	Potential for Erosion from Timber Harvest	Risk to Slope Stability	Susceptibility for Bank Erosion	Importance of Bank for Fish Habitat	Risk of High Temperature Problems for Fish	Risk to Channel Stability	Canopy Closure Concerns in Second Growth Forest	Importance of LWD to Fish Habitat	Conflict Indicator Number*
① <i>almost nonexistent</i>	<u>Low</u>	<u>Med</u>	High	High	Low	Low	Low	Low	Low	Low	14
②	<u>Med</u>	<u>High</u>	Med	High	Low	Low	Low	Low	Med	Low	17
3	High	High	Med	Med	Med	Med	Med	High	High	High	25
④	<u>Med</u>	<u>High</u>	Med	High	Med	Low	Low	Low	Low	Low	17
5	High	High	Med	Low	High	High	Med	High	Low	High	24
6	High	Med	Low	Low	High	Med/High	Low	Low	Low	High	18/19
7	High	High	High	Low	Med	High	High	High	High	High	27
8	High	Low	Low	Low	High	High	Med	Med	Low	High	20
9	High	Med	Low	Low	Med	Med	High	Low	Med	High	20

* Low = 1
 Med = 2
 High = 3

Site specific decisions are a manpower/cost-intensive decision-making process, and that fact created a reluctance by some technical committee members to tailor standards to different stream channel types.

However, the committee did agree that specific standards for stream channel types can be developed that will potentially provide an acceptable level of protection to fish, assuming specific data needs are satisfied.

The committee also agreed that interim standards are necessary until appropriate long-term standards can be developed.

Data Needs

The technical committee identified seven areas for further research on the interaction of forestry and fish.

1. Probability of riparian leave trees to provide large woody debris.
2. Probability of second growth timber to provide large woody debris.
3. Depletion/recruitment rates of large woody debris for interior Alaska streams.
4. Information on temperature sensitive streams throughout Alaska.
5. Information on winter water temperature effects on fish.
6. Second growth canopy closure effects on fish production.
7. Stand characteristics of trees next to streams: age, size, volume, species, etc.

The committee estimated 2-5 years to conduct the research necessary to address these seven areas.

Riparian Working Group Conclusions

In discussing the issues surrounding riparian standards, the riparian working group used the technical committee's work and also discussed the number of Alaskan streams that are not catalogued for fish and that do not appear on maps. To deal with this uncertainty, the group developed a double cap riparian system. Using the technical committee's stream channel typing system, a riparian standard was agreed to for types 1-9, with specific size and retention standards and operational requirements. The group also agreed that in no case will the retention requirements exceed 5% of the basal area of the standing timber in an operating area without adequate compensation to the private land or timber owner. Subject to the 5% cap, stream channel type standards will apply in all cases unless otherwise agreed by the land or timber owner and DNR with due deference to DF&G.

The Alaska Department of Natural Resources (DNR) will continue as lead agency for forest practices, but will provide due deference to Alaska Department of Fish and Game (DF&G) on requests for an alternative plan from the riparian standards. DNR will work with DF&G to assess the riparian retention standards against the 5% operational area cap, where applicable, with DNR maintaining the record. Field decisions regarding requests for alternative plans from the riparian standards shall be kept in writing by DNR. A key to this process can be found in the section on enhanced notification.

An early exchange of information between land or timber owners and the state through the voluntary release of annual plan and the subsequent mandatory detailed plan of operations, will allow state agencies to concentrate their field effort on those areas of highest concern.

The provisions of this agreement and the riparian standards listed in this section are intended to apply to private land in DNR's Region I.¹ Riparian standards for private land in Region II² are explained on page 18.

General Provisions

There will be a riparian management zone (RMZ) adjacent to each stream or shore of anadromous waters; the standards will vary depending on stream channel type. Cooperative methods for protection of particular high value resident fish habitat should be developed, where appropriate, between DF&G and individual private landowners.

A RMZ is an area adjacent to a stream or shore which requires special management attention to protect water quality and fish habitat. Within an RMZ, special management practices will apply such as timber retention requirements.

For some stream classes, there is a conditional harvest zone (CHZ) in which greater attention is required. Any harvesting within the CHZ requires written DNR agreement with (DF&G review and with) due deference provided to DF&G.

Any timber taken from the CHZ or RMZ in excess of the timber retention standards must be replaced by comparably sized timber either in other sections of the riparian zone or from an area outside the riparian zone agreed to by DNR with due deference to DF&G.

Trees left as part of the CHZ or RMZ timber retention standards must be live and without significant damage upon completion of the harvest. In the case of blowdown, salvage operations may occur in the CHZ and RMZ with agreement from DNR with due deference to DF&G.

In the channel types that provide for a conditional harvest zone, it shall be the first 15 meters bordering a stream or shore as measured at a 90° angle from the ordinary high water mark.

Riparian stream channel type standards will apply in all cases unless the retention area is modified by agreements between DNR and the land or timber owner.

In no case will the retention standards exceed 5% of the basal area of the standing timber in a given operating area without adequate compensation at fair market value to the land or timber owner. Fair market value will be computed on the basis of the current market value of the trees to be harvested from the operating area. In some cases basal area retention of 7 1/2% or 10% may be required for timber harvest outside of an operating area. See pages 16 and 17 for details.

Basal area is the square footage of the diameter at breast height (dbh) of standing timber (dbh is four and a half feet above the ground). Basal area is computed by standardized procedures to be developed in regulation using, where practical, accepted timber cruising techniques.

¹ Region I is the Coastal Sitka Spruce-Hemlock Forest. Its boundaries are approximately all of Southeast, Prince William Sound, and portions of Cook Inlet and the Kenai Peninsula.

² Region II includes the boreal forest. It is north and west of Region I. It includes the Susitna Basin the Cooper River Basin, and all of interior Alaska.

Riparian retention standards are applied to stream or shore segments of 100 meters unless otherwise agreed to by DNR with due deference to DF&G.

All trees left due to the application of riparian standards within the CHZ and RMZ will count towards the 5% basal area cap. Trees left in channel types 1, 2, and 4, do not count towards the 5% cap. If inoperable areas are created by the riparian standards, those trees will count towards the 5% basal area cap.

Except for stream crossings, roads will not be built within the RMZ or CHZ without agreement by DNR with due deference to DF&G.

DF&G retains jurisdiction over stream crossings in accordance with Title 16 of the Alaskan Code. DF&G makes final determination of stream channel types.

DF&G Habitat Regulations. DF&G retains its current jurisdiction and will continue to exercise its current authorities. DF&G habitat regulations adopted under AS 16.05.840 and AS 16.05.870 will be cross-referenced and reprinted in the forest practices regulations (11 AAC 95) for the convenience of the forest industry. Habitat regulations adopted by DF&G and forest practices regulations adopted by DNR will be complementary and not duplicative. Standards for forest practices activities in riparian zones will be developed by DNR in consultation with DF&G and DEC.

DEC 319 Process. Standards for forest practices for DEC's 319 nonpoint source water pollution program will be addressed through riparian and other standards incorporated with the forest practices regulations. Such standards may be adopted or referenced in DEC's regulations. DNR will accord due deference to DEC on issues concerning water quality.

RIPARIAN STANDARDS - INTENT

The Commissioner shall protect riparian areas from adverse impacts of logging on fish habitat. The management goals for riparian areas will be the adequate preservation of their function as fish habitat by maintaining: a short- and long-term source of large woody debris; streambank stability and channel morphology; water temperatures; streamflows; water quality; adequate nutrient cycling; food sources; clean spawning gravels; and sufficient solar influx. The Commissioner shall adopt regulations. The regulations may include higher standards of protection for fish and other public resources on public lands than private lands. These regulations may vary by region of the state and shall take into consideration reasonable classification of waterbodies.

RIPARIAN STANDARDS TABLE

The riparian standards in this table apply only to anadromous waters in DNR Region I. (Standards also apply to type 1 channels that are tributary to an anadromous fish channel). Standards apply to each side of a stream.

<u>Channel Type</u>	<u>Riparian Standard</u>
1	15-meter RMZ or to slope break, whichever is first; no large woody debris (LWD) requirement; meet slope stability standards
2	30-meter RMZ or to slope break, whichever is first; meet slope stability standards.
3	15-meter CHZ and 15-meter RMZ with 50% retention ³ per size distribution ⁴
4	30-meter RMZ or to slope break, whichever is first; meet slope stability standards.
5	15-meter CHZ and 15-meter RMZ with 50% retention ³ per size distribution ⁴
6	15-meter CHZ and 15-meter RMZ with 50% retention ³ per size distribution ⁴
7	15-meter CHZ and 15-meter RMZ with 50% retention ³ per size distribution ⁴
8	15-meter CHZ and 15-meter RMZ with 50% retention ³ per size distribution ⁴
9	15-meter CHZ and 15-meter RMZ with 50% retention ³ per size distribution ⁴

*Never
type 11*

Stream channel type standards will apply. However, in no case will the basal area retained be more than 5% of the basal area of the standing timber in a given operating area without adequate compensation at fair market value. The 5% retention cap will be applied within the RMZs and CHZs unless the retention area is modified by agreements between DNR with due deference to DF&G, and the land or timber owner.

Abbreviations: CHZ = Conditional Harvest Zone
RMZ = Riparian Management Zone

³ Retention of any tree species may satisfy the requirement.

⁴ A field committee composed of a representative of DOF, DF&G, and a landowner will work out methods to implement the retention per size distribution requirement, using basal area or other means to ensure protection for fish habitat and harvest opportunities for the land owner.

Determining the Operating Area and 5% Cap

This section lists the method for defining an operating area.

Definitions

Planning Area. All contiguous land under the ownership of an individual, a corporation, or group of corporations under common control within an entire drainage, a sub-drainage in a large drainage, or a major reach of a large river.

Operating Area. The operating area includes all current and future harvest areas within the planning area. It includes all trees that could be cut within that area using conventional logging methods. It includes all such trees regardless of whether application of riparian standards would preclude cutting.

Process

1. Operator designates operating area. Portions of planning area not included within operating area cannot be logged until the next rotation, unless the operator complies with the guidelines outlined in the section titled "Harvesting Timber Outside the Operating Area," on the next page. This provision does not apply to land conversions.
2. Operator calculates basal area within the operating area using methods defined in regulation.
3. Operator calculates 5% of the basal area within the operating area. As explained earlier in this chapter, the landowner is not required to leave more than 5% of the basal area in the operating area without compensation. The 5% cap applies to all trees within the operating area that are left because of the riparian standards plus all tree stands made inoperable by application of those standards.
4. DNR evaluates proposal to determine whether basal area is accurate (plus or minus 10%).
5. Operator proposes actual harvest layout incorporating riparian management standards.
 - * If the 5% cap is not exceeded, DF&G may recommend different configuration of the riparian zone to maximize protection of fish habitat. However, the landowner makes the final decision whether to apply the riparian standards or to follow DF&G's suggestions.
 - * If the 5% cap is exceeded, the 5% retention shall be distributed through the riparian areas by agreement with DNR with due deference to DF&G.
6. If the State wants the landowner to leave more trees in the riparian zone than is required under riparian standards, the state may offer to the landowner adequate compensation at fair market value. Fair market value is computed on the basis of the current market value of the trees to be harvested from the operating area. (See also, Harvesting Timber Outside the Operating Area, on the next page.)

Harvesting Timber Outside the Operating Area. In order to discourage gerrymandering of the operating area, the following procedures will apply.

If the 5% cap has not been reached. The operator may harvest timber outside the original operating area if the 5% cap has not been reached and previous operations have complied with riparian standards or DF&G's recommended configurations as agreed to by the operator. The operator must comply with riparian standards in the new operating area.

If the 5% cap has been reached. If the 5% cap has been reached and the operator has not included all harvestable timber in the operating area, the timber not included may not be harvested until the next rotation, unless the operator and DNR (in consultation with DF&G) agree on additional riparian habitat enhancement or protection under the guidelines outlined below.

The amount of the new operating area's basal area required for fish habitat protection or enhancement is dependent on the new operating area's size, relative to the original operating area's size.)

* If the basal area proposed to be harvested is less than 10% of the basal area of the original operating area, the basal area of timber required for additional protection and enhancement will be 7 1/2% of the basal area of the new operating area.

* If the basal area proposed to be harvested is more than 10% of the basal area of the original operating area, the basal area of timber required for additional protection and enhancement will be equal to 10% of the basal area of the new operating area.

The additional protection and enhancement may be in other watersheds in areas of value for anadromous fish habitat.

SIDE-SLOPE STABILITY STANDARDS

The standards below are the side-slope stability standards referenced in the riparian standards table on the previous page.

For channel types 1, 2, and 4, in addition to the general forest practices act standards covering forest practices activities, the following slope stability requirements shall apply:

1. Slopes in excess of 60% are slopes considered to be of high risk to slope failure.
2. Avoid undercutting the toe of slopes with a high risk to slope failure by road construction.
3. At the discretion of the operator, leave standing low value and non-merchantable timber where feasible to reduce risk of debris torrents.
4. Full or partial log-suspension will be achieved.
5. Fall and yard timber away from streams in "V" notches.
6. In these areas, side casting of displaced soil from road construction will be avoided to the maximum extent practicable.

2. Interim Riparian Standards for Region II (Private Land)

The standards outlined in the previous pages apply to private land in Region I. The standard outlined on this page applies to private land in Region II.

A 30-meter special management zone (SMZ) will be used on all stream types. (See channel type chart on page 9.) A SMZ is a shoreline or streamside area that will be managed primarily to protect anadromous and high quality resident fish habitat and water quality. Timber harvest may occur in SMZs if it is sited and designed to be consistent with these fish habitat and water quality goals. Timber harvest decisions in the SMZ require DNR approval with review and due deference to DF&G. A SMZ will be used on any waterbody in which anadromous fish or high value resident fish are found. These may include rivers, streams, lakes, estuaries, and wetlands.

A Region II group will develop riparian standards within the next 12 months for Region IIa and IIb. DNR will form a committee representing interested groups similar to the current forest practices steering committee. The riparian standards and stream types will be studied, with special emphasis on stream type 6's. The group should address all stream types, operating and planning definitions, the size and existence of a cap, and the size of and management within riparian zones. The recommendations of the group will be given to the Board of Forestry for review, and then to DNR for adoption.

3. Definitions

Special Zones Along Streams.

Riparian Management Zone (RMZ). An RMZ is a shoreline or streamside area which requires special management attention to protect water quality and fish habitat. Within the RMZ, special management practices such as timber retention requirements or slope-stability standards may apply. Timber harvest within the RMZ does not require agreement by DNR as long as it follows the standards.

Special Management Zone (SMZ). A SMZ is a shoreline or streamside area that will be managed primarily to protect anadromous and high value resident fish habitat and water quality. Timber harvest may occur in SMZs if it is sited and designed to be consistent with these fish habitat and water quality goals. Timber harvest decisions in the SMZ require DNR approval with review and due deference to DF&G.

Conditional Harvest Zone (CHZ). A CHZ is a shoreline or streamside area which requires special management attention to protect water quality and fish habitat. Any harvesting within a CHZ requires written DNR approval with DF&G review and with due deference provided to DF&G. Any timber taken from a CHZ in excess of the standards must be replaced by comparably sized timber either in other sections of the riparian zone (an adjacent RMZ) or from an area outside the riparian zone agreed to by DNR with review and due deference provided to DF&G.

No-cut Buffer. A no-cut buffer is a shoreline or streamside area in which timber harvest is not allowed.

RMZs, SMZs, CHZs, and no-cut buffers may be applied adjacent to rivers, lakes, estuaries, or wetlands. (See channel typing chart on page 9 and riparian prescription for the locations where these zones apply.)

Other useful Definitions.

High Value Resident Fish. For private lands, high value resident fish means resident fish populations which are accessible to the public and are or have historically been important for recreational, personal use, commercial or subsistence purposes.

Anadromous Fish Stream. In lieu of site-specific determinations that a stream does or does not contain anadromous fish, it should, for planning purposes, be presumed that a stream is anadromous if it is connected to anadromous waters without DF&G documented physical blockage and has a stream gradient of 8% or less. Where a previous site visit has not been made, DF&G will, at the operator's request, conduct a field review to document the presence of an anadromous fish. The field review to document the presence of anadromous fish will be scheduled when the anadromous fish are likely to be present and the site is accessible.

Class I Waters. Class I waters are those rivers, streams, lakes, estuaries, and wetlands that contain anadromous or high value resident fish.

Ordinary High Water Mark. The mark along the bank or shore up to which the presence and action of the nontidal water are so common and usual, and so long continued in all ordinary years, as to leave a natural line impressed on the bank or shore and indicated by erosion, shelving, changes in soil characteristics, destruction of terrestrial vegetation, or other distinctive physical characteristics [from 11 AAC 53.900(23)]. In tidal zones, the measurement is from mean higher high water.

Basal Area. Basal area is the cross-sectional area at breast height of standing trees expressed in square feet. Diameter at breast height (dbh) is measured four and a half feet above the ground. Basal area is computed by standardized procedures to be developed in regulation using, where possible, accepted timber cruising techniques.

Planning Area. All contiguous land under common ownership within an entire drainage, a sub-drainage in a large drainage, or a major reach of a large river.

Operating Area. The operating area includes all current and future harvest areas within the planning area. It includes all trees that could be cut within that area using conventional logging methods. It includes all such trees regardless of whether application of riparian standards would preclude cutting.

Due Deference. DNR will give due deference to DF&G and DEC as defined in 6 AAC 50.120. For decisions regarding variations to the riparian management standards, the habitat requirements shall be the paramount values within the riparian zones. If DNR does not agree with DF&G, it will prepare a written finding documenting their differences and elevating the issue as appropriate.

DF&G also receives due deference on road location decisions within streamside zones, and DEC receives due deference on the application of water quality standards. DF&G also makes final determination of stream channel types.

From 6 AAC 50.120: " 'Due deference' means that deference which is appropriate in the context of the commenter's expertise and area of responsibility, and all the evidence available to support any factual assertions."

Conventional Logging Methods. Conventional logging methods include shovel yarding, tractive means of skidding, and cable means of yarding such as high lead or skyline. Conventional logging methods do not include helicopter logging or balloon-assisted yarding.

Chapter 1. Riparian Management

B. State Land

I. Background Information: Existing State Plans

On state land managed by DNR, area plans, state forest plans, and management plans have determined buffer widths and management adjacent to streams and water bodies. These policies have been determined in consultation with DF&G and with significant public review and comment. Policies vary among plans, but are generally consistent within regions of the state. Three examples follow:

From the Draft Prince of Wales Island Area Plan:

Anadromous fish streams: There will be a fish habitat management zone that is 300 feet wide, as measured from the ordinary high water mark, on each side of all catalogued anadromous fish streams. Site specific circumstances may sometimes dictate the establishment of a fish habitat management zone that is wider than 300 feet. The primary management objectives for a fish habitat management zone will be to maintain or enhance anadromous fish habitat. Only activities which are or can be made compatible with this objective will be allowed in these zones. DNR will consult with ADF&G before and throughout project planning to determine the appropriateness of a project, appropriate buffers and their width, and the appropriate design and maintenance of projects that meet objectives of the management zone.

Area plans written for southcentral and northern Alaska:

Generally these plans require that to the extent feasible and prudent, there will be setback a minimum of 100-foot landward of ordinary high water mark between designated anadromous fish waters and non-water dependent uses. The department interprets this language to indicate that there will be, to the extent feasible and prudent, a 100-foot no-cut zone between designated anadromous fish waters and timber harvest. (A smaller zone exists in the Willow Subbasin Plan: a minimum of 50-feet each side of the ordinary high water mark. Stream buffers in both the Susitna Area Plan and the Willow Subbasin Plan may be updated by the Susitna Regional Forest Plan, currently in progress.)

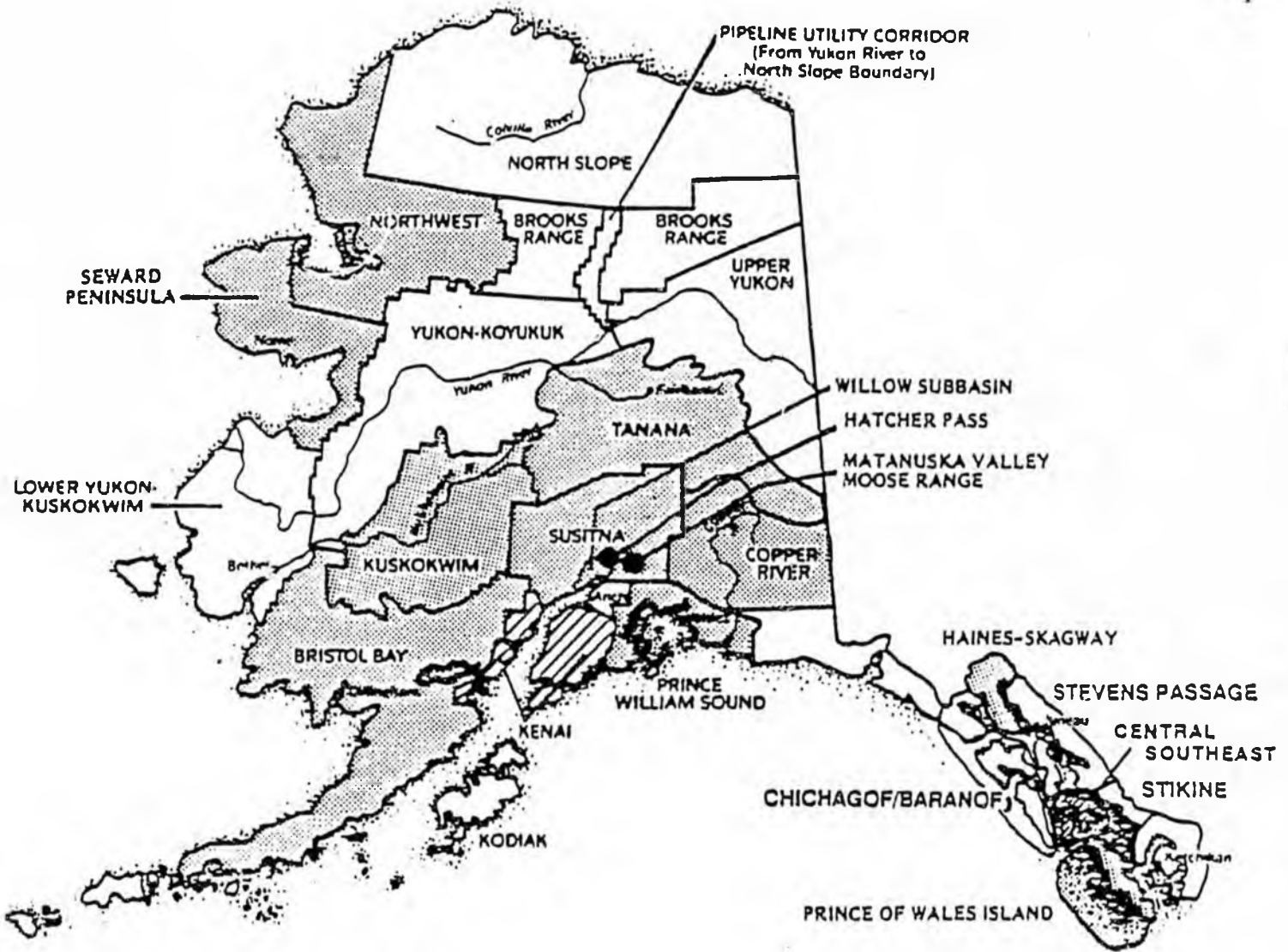
The Tanana Valley State Forest Plan:

The State Forest Plan requires a Special Management Zone (SMZ) adjacent to a stream or lake that will be managed primarily to protect or enhance recreation values, significant fish and wildlife habitat and human uses, and water quality. Its width will be determined on a case-by-case basis but will at a minimum extend 100 feet landward from the ordinary high water mark. Timber harvest may occur in the SMZ if it is sited and designed to be consistent with the primary recreation, fish and wildlife, and water-quality goals stated above.

The general areas and status of state area plans are shown on the map on the following page.

Alaska Department of Natural Resources

AREA PLANS






MARCH 1989



Alaska Department of
**NATURAL
RESOURCES**

AREA PLANNING STATUS

-  Completed area plans
-  Area plans in progress
-  Not scheduled for area plans at this time

II. Riparian Standards for State Land⁵

On state land north of the Alaska Range, a 30-meter special management zone (SMZ) along all anadromous and high value resident fish waters will be managed primarily to protect anadromous and high value resident fish habitat and water quality. Timber harvest may occur in SMZs if it is sited and designed to be consistent with these fish habitat and water quality goals. (This standard is the same as the interim standard for private land in Region II.)

On state land south of the Alaska Range, there will be a no-cut zone within 30-meters of all anadromous and high value resident fish waters. Between 30- and 90-meters, any timber harvest must be consistent with the maintenance of important fish and wildlife habitat.

Riparian requirements in addition to those listed above may be required during the sale design or planning process.

Nothing in this section alters the terms of any existing contract or the outcome of any pending litigation, but an amendment to or renewal of an existing state timber contract must be consistent with these standards.

⁵ Editor's Note. this standard was changed during legislative drafting. In the April 10th draft, it contained the standard below.

All future state land use plans and revisions to existing plans will include at a minimum a 100-foot conditional harvest zone along class I waters (anadromous and high value resident fish waters). Any additional riparian management zone requirements will be addressed during the planning process.

Until an area plan, forest management plan, or site-specific plan is developed, the department will include a 100-foot no-cut buffer with an additional 200-foot conditional harvest zone along all lakes and streams. This provision, however, will not require the renegotiation of existing contracts. Also, this agreement and the proposed revisions to the act are not intended to affect on-going litigation in any way.

Chapter 1. Riparian Management

C. Other Public Land

The first two sections of this chapter describe riparian management prescriptions for private and state land. Other public land, including trust lands such as mental health lands, school lands, and university lands, will, if managed by DNR, follow the state land prescription. Borough, municipal, and other public lands not managed by DNR will follow the prescription below.

A 30-meter special management zone (SMZ) will be used on all stream types. (See channel type chart on page 9.) A SMZ is a shoreline or streamside area that will be managed primarily to protect anadromous and high value resident fish habitat and water quality. Timber harvest may occur in SMZs if it is sited and designed to be consistent with these fish habitat and water quality goals. Timber harvest decisions in the SMZ require DNR approval with review and due deference to DF&G. A SMZ will be used on any waterbody in which anadromous fish or high value resident fish are found. These may include rivers, streams, lakes, estuaries, and wetlands. This prescription is the same as the interim prescription for private lands in Region II.

Chapter 2. The Enhanced Notification System

This section describes the enhanced notification system. It applies to all lands which are not owned and managed by the state (DNR). For state land, the DNR forest planning process applies (see DNR planning process, Chapter 5, Section A). The way the new system would operate is shown on pages 30-32 at the end of this section. This section includes the following provisions:

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Public Information	25
Standard of Review	26
Agency Review	26
Variations from Standards	28
Coordination	28
Appeals	29
Administrative Record	29
Diagram of the Proposed Process	30

REVIEW PHASES. There will be three tiers of review. Information provided during the first and second tiers of review is described in Appendix A. Specific field information will be provided as available and necessary.

1. Annual Plan of Operation (Voluntary).

The annual plan is voluntary and will be useful for the agencies, the public, and the landowner. It provides information about annual (or longer term) activities the landowner expects to begin. It gives the agencies early notice and review of the probable harvest areas and allows the agencies to provide early information, suggestions, and potential problem areas to the landowner. For the public, it provides early notice and information, and an opportunity to provide local knowledge to the agencies and the landowner.

2. Detailed Plan of Operations (Required).

This plan provides the agencies with details of cutting units, road alignments, and other information necessary for review against the standards of the forest practices act.

3. Field Review (where necessary). Where the agencies are unsure about determinations based only on the detailed plan of operation, the agencies may require a field review. DF&G and DEC may request a field review, and DNR will require a field trip.

PUBLIC INFORMATION. Information from tiers 1 and 2 (or a synopsis of the information) will be distributed to a regional or some geographically based mailing list by DNR. Coastal districts affected by the proposed harvest will be given notice during this distribution. The comment period will be identified in the packet. DNR will provide comments received to the landowner. Field decisions will not be subject to public comment because of the operational problems of injecting a 30-day or longer delay into the field process. (Field decisions will, however, be documented for review. See Administrative Record, at the end of this draft.)

STANDARD OF REVIEW

1. A system of enforceable standards. The forest practices review system would have enforceable statutory and regulatory standards that harvest operations must follow. Where possible, these would be design standards; where that is not possible, they would be performance standards. The statute should also contain some guidance for DNR to use in its decisions whether to agree to a variation from these standards. These statutory and regulatory standards will be developed to satisfy DEC 319 requirements, and to serve as the Alaska Coastal Management Program (ACMP) standards on private land. For further details concerning ACMP, see page 55.
2. Scope of review. The scope of agency review is to determine whether forest practices statutory and regulatory standards will be met by the proposed activities. There is no general best interest finding. While the public can comment on anything they choose, the agencies would only have the discretion to consider those comments as they concern a violation of a forest practices standard or proposed variations from the standards.

AGENCY REVIEW - Review of Conformance of Activities to FPA Standards. (Discussion below does not include review of annual plan of operations. For discussion of that process, see REVIEW PHASES, above.) In all cases, DNR decisions will be based on appropriate consultation, coordination, or due deference as discussed on pages 28 and 29.

1. Office Review (i.e., Tier 2 - Review of Detailed Plan of Operations). Agencies review landowner's detailed plan of operations to determine if proposed activities will violate a forest practice standard.
 - a. *Proposed Activity Consistent with Standards.* If an activity meets the applicable standards, the activity would continue as planned.
 - b. *Field Review Needed.* If a field review is necessary for DNR to determine whether the activity would be consistent with the standards, then DNR notifies the landowner that field review is required before the activity can occur. A field review may also be requested by the landowner.
 - c. *Activity Violates Standard.* If DNR finds the activity, as proposed, would violate a standard, then DNR can issue a directive or a stop work order (for difference between them, see section below). One of the following would apply.
 - (1) the landowner could propose a different method of performing the activity for the agencies to evaluate;
 - (2) the landowner could conform to the agencies' recommended method for performing the activity;
 - (3) the landowner and agencies could discuss and agree on a method consistent with the standard; or
 - (4) the landowner can appeal the directive or stop work order.

2. Field Review. A field review will be conducted when necessary to determine whether a proposed activity is consistent with forest practices act standards.

If, after the field review, DNR felt an activity would not violate a standard, the activity would continue as planned. If DNR felt the activity, as proposed, would violate a standard, then DNR can issue a directive or a stop work order (for difference between them, see section 4, below). After the directive or stop work order, one of the four options would apply that are listed in 1.c. (1) through (4) above.

3. Review Schedule

- a. *Detailed Plan of Operations.* Agencies would complete review and DNR would respond to the landowner within 30 days. If DNR does not respond, the activity could continue as planned. An additional 10 days may be added for agency elevations.
- b. *Field Review.* The landowner would give DNR 21-days notice to conduct a field review prior to conducting any activity at the site identified as needing a field review. The landowner would not give the notice until site conditions were appropriate for the inspection and reasonable access was available. Reasonable access means that the site of the proposed activity has been surveyed or marked, and that the area is free of significant snow cover. At that time, the DNR would have 21 days to complete inspection and make their decision unless an alternate schedule is agreed upon by agencies and the landowner. (DF&G and DEC may also make inspections within the 21-day period.)

4. Directive versus Stop Work Order.

- a. *Directive.* A directive is a letter that DNR writes to the landowner saying how a proposed activity or part of an activity would be out of compliance with a FPA standard. The landowner may appeal a directive; however, the landowner can continue with the activity unless a stop work order is issued or the agency directive is upheld on appeal.
- b. *A stop work order.* A stop work order is similar to a directive -- that is, it's a letter or a form stating that an activity or part of an activity violates a standard. The difference is that a stop work order means that the landowner cannot continue with the activity pending appeal. They must stop pending appeal.

A stop work order is used when the agency believes that significant harm will occur if work continues. The following are some examples of where significant harm would occur if work continues: road building that may cause a landslide, cutting trees that the standard says should remain standing (i.e., once cut, the trees can't be put back), other activities that will cause imminent erosion into a stream.

If delaying compliance will not cause a significant harm (e.g., it won't occur during the time of the appeal process), then a directive is appropriate. The following are some examples of where significant harm might not occur during the time of the appeal: not putting a road to bed properly, cleaning up slash, changing a yarding location (this may not be harmful to delay, if use of the yard location is still 20 days away). In each of these cases, a 10-day delay for appeal of the directive may not cause significant harm because

delaying the activity won't cause the harm.

- c. *When can a stop work order or directive be used?* A stop work order or a directive can be used during the office review, during a field review, or anytime a DNR field inspector sees an operation that will violate a standard.
- d. *Are directives and stop work orders effective before an activity takes place?* Yes. We are using the term "stop work order" to mean that work must stop (or cannot start) pending appeal. We are using them to apply to existing activities and proposed activities. In other words, where DNR reviews a plan and sees that significant harm will occur when the activity begins, they can issue a stop work order. If the activity is already occurring, DNR may also use a stop work order. Both a "directive" and a "stop work order" can apply to existing and proposed activities.

VARIATIONS FROM STANDARDS. The landowner or operator may propose a variation from a design standard in a specific instance. For example, if a design standard was designed to avoid landslides and in this case the design standard was unnecessary because it was solid rock and a landslide was unlikely, or the landowner could provide an alternative design that gave the same degree of landslide protection, then a site-specific variation from the standard would be appropriate. Note, however, that the landowner could not appeal the standard itself, just that its application was not necessary in a particular case to achieve protection of public resources from significant harm.

If a variation was proposed, any one of the following would apply:

- (a) the agencies could agree to the variation as proposed;
- (b) the agencies could modify in the landowner's proposal and the landowner could agree;
- (c) the agencies could negotiate an agreement acceptable to both parties; or
- (d) they could not come to agreement. If they did not come to agreement, the mandatory standard would apply; that is, the mandatory standard would be a fall-back position for both the agencies and the landowner.
- (e) the landowner could appeal the agencies denial of the variation. In this case, the landowner would have to abide by the standard during the time of the appeal (and afterward, if the appeal was denied).

If an agency wanted the landowner to provide protection above and beyond the standard, it could propose a variation from the standard. If the landowner agreed, then the protection would be provided. If the landowner did not agree, then standard would apply.

COORDINATION

1. Coordination of review. DNR will be the coordinating agency for all activities pursuant to the forest practices act (distribution of information, scheduling, field logistics, project status, etc.) DNR will also be the agency charged with implementing the Forest Practices Act with the appropriate consultation, elevation, and due deference.
2. Consultation. For application of all standards to a specific project site, for all review tiers, all agencies and coastal districts (if the project will affect their district) will interact with DNR in a consultative role. Their advice is not binding on DNR but is an effective way to obtain and apply agency and local expertise to a proposal.

3. Due Deference. DNR will give due deference to DF&G and DEC as defined in 6 AAC 50.120. For decisions regarding variations to the riparian management standards, the habitat requirements shall be the paramount values within the riparian zones. If DNR does not agree with DF&G, it will prepare a written finding documenting their differences and elevating the issue as appropriate.

DF&G also receives due deference on road location decisions within streamside zones, and DEC receives due deference on the application of water quality standards. DF&G also makes final determination of stream channel types.

From 6 AAC 50.120: " 'Due deference' means that deference which is appropriate in the context of the commenter's expertise and area of responsibility, and all the evidence available to support any factual assertions."

DNR will assist DEC by identifying areas and proposals where water quality issues are likely to arise. This will allow DEC to focus its limited staff resources on areas and issues where water quality is of greatest concern, reducing the need for DEC to duplicate DNR's level of field presence.

4. Elevation. A DNR decision will not occur if an agency formally requests discussion of the issue at a higher level authority. Any elevation to higher authority will be completed within 10 days. If necessary, DNR will notify the landowner or operator of the additional 10-day waiting period.

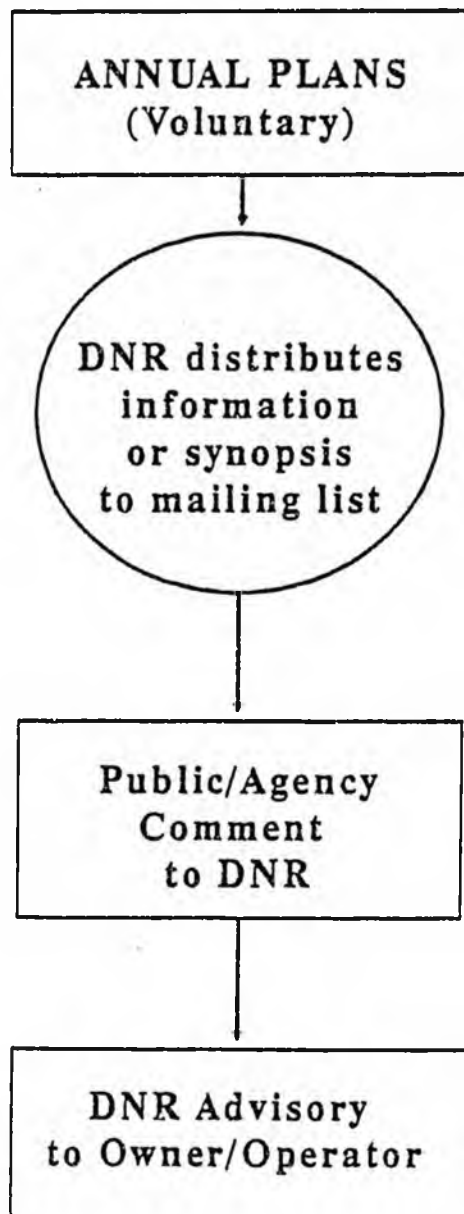
APPEALS. The appeal process would be quick (10-days or less for directives; than 5 working days or less for stop work orders); would be internal to DNR; and would not require the hiring of an appeal officer. The appeal process may be integrated into the agency elevation process.

ADMINISTRATIVE RECORD.

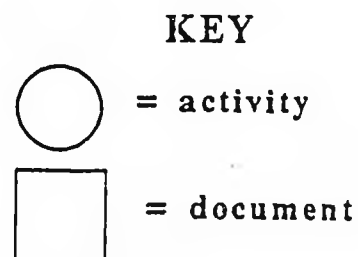
1. Documenting Decisions. All decisions would be in writing. Landowners need written decisions so they know what activities and standards they will be held to. The public and agencies need adequate documentation so that they can review agency actions.
2. Compiling Decisions. DNR will compile and index the decisions including directives, stop work orders, and variations from standards. In this fashion there will be a continuous record for the public or the Board of Forestry to review to determine whether the system is working and if it needs change. Annually, a summary of this record will be submitted to the Board of Forestry for review.
3. Confidential Data. All financial data submitted to DNR to justify compensation or for other purposes will be confidential.

THE ENHANCED FOREST PRACTICE
NOTIFICATION SYSTEM
Diagram of Proposed Review Process
(for non-state lands)

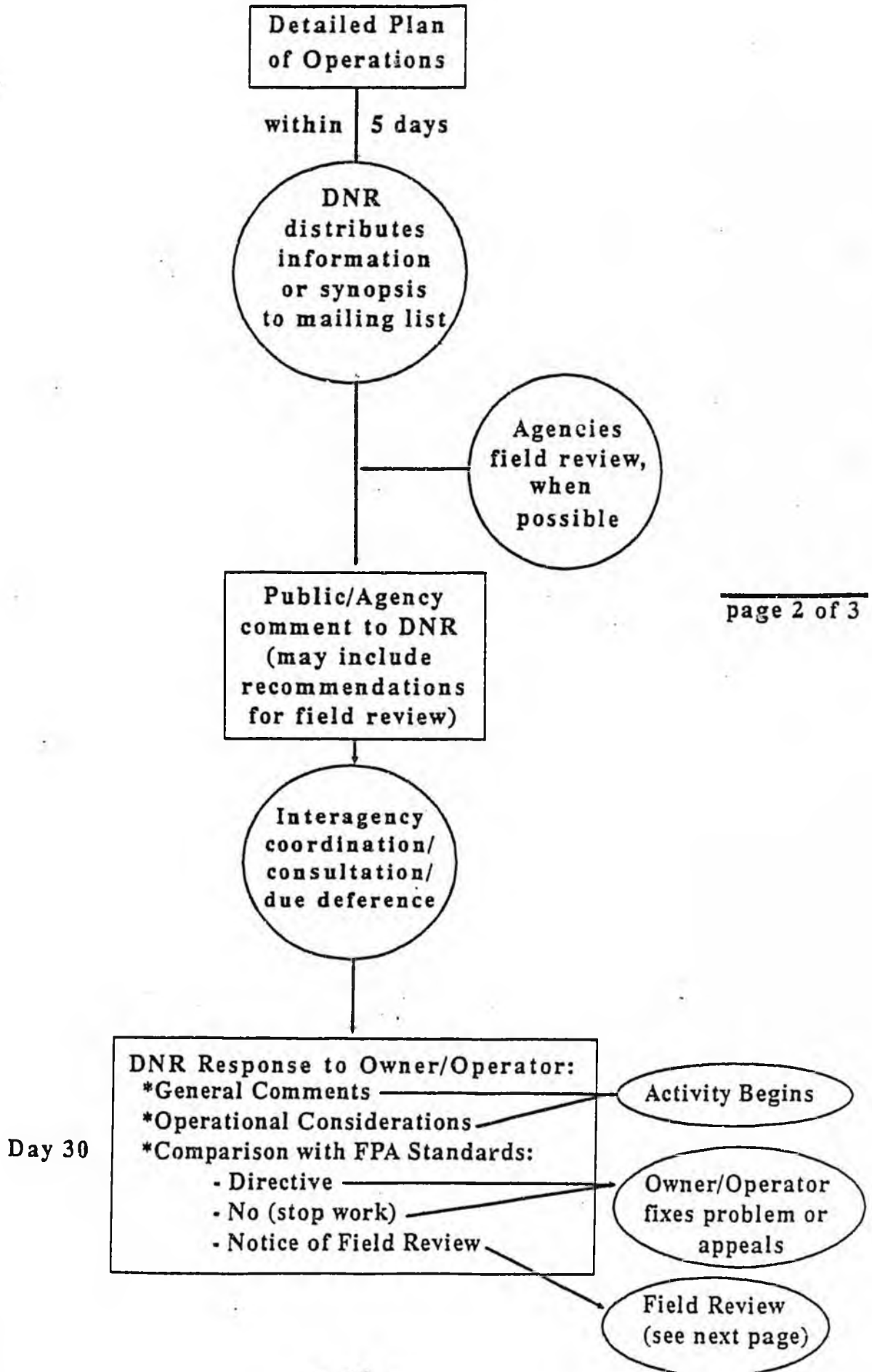
REVIEW OF ANNUAL PLAN



page 1 of 3



OFFICE REVIEW:



FIELD REVIEW

(if not conducted during
initial 30-day period)

Agencies Field Review
Schedule based on:

- * 21-day notice by industry,
weather, site conditions,
reasonable access
or
- * mutually agreed upon
time

Interagency
coordination/
consultation/
due deference

page 3 of 3

DNR response to Owner/Operator:

- * General Comment
- * Operational Comments
- * Comparison with FPA Standards:
 - Directive
 - stop work order

Activity Begins

Agencies Inspect

Owner/Operator
fixes problem or
appeals

21 days max.

Chapter 3. Enforcement

The Forest Practices Act currently provides for stop orders and civil fines. However, in the existing law, both a stop order and a civil fine require a hearing before an independent hearing officer "appointed by the attorney general from among members of the Alaska Bar Association who have been nominated by the Board of Forestry and who are knowledgeable and experienced in the subject matter [AS 41.17.139(a)]." This requirement is expensive and this hearing requires that DOF personnel have legal training that they currently do not have.

The FPA will be amended to provide the following additional enforcement remedies:

1. Violation of the Act, a regulation or an order will be a Class A misdemeanor (existing civil penalties remain available).
2. The requirement for an independent hearing officer will be deleted.
3. DNR will have the authority to issue "stop orders" for actual or threatened violations without previously providing an administrative hearing under the following conditions:
 - a. there must be an imminent threat of significant harm to public resources;
 - b. the order must be written, and the grounds for the order must be stated. At the hearing, the agency must rely on the same grounds stated in the order; and
 - c. the order will be effective for 5 working days after the receipt of a request for a hearing, in which time an agency hearing must be held to uphold or rescind the order.
4. The FPA will require that prior to taking any enforcement action (other than an emergency action) all state agencies with enforcement authority over the matter will establish a uniform state enforcement strategy. All participating agencies must agree to the contents of that strategy. The uniform strategy could include all enforcement strategies available to the agencies. When developing the coordinated enforcement strategy, each agency retains its authority to determine the appropriate remedy under its statutes and regulations. For specific types or classes of violations, procedures to establish that strategy may be established in advance through the procedure in (5) below.
5. The agencies will write procedures for developing these strategies.

In developing the required uniform enforcement strategy, state agencies will accord deference to each agency's statutory authorities, and will respect these authorities to the extent consistent with the strategy's goals of avoiding inconsistent or duplicate enforcement action.
7. The FPA will provide that state agencies must comply with the uniform state enforcement strategy.

Notes from the Steering Committee Meeting:

- * The hearing officer is the deciding officer; the loser may either go to court or request the Commissioner's review or reconsideration based on the existing record. (Specifically relevant to section .133 of the act.) Also, the hearing is based on the facts of the field investigation, and facts presented by the operator and agencies.

* In section .143 of the act, delete the attorney general's function. The agreement in principle will indicate that the commissioner's hearing authority will be delegated to the state forester with the ability to redelegate as appropriate.

* The enforcement remedies are possible on all land ownerships: private, borough, or state.

* There was a question of what constitutes a violation (with respect to civil fines, sec .141). The answer was that the enforcement remedies provided to DNR would use a similar definition to that provided to DEC under its Title 46.

Chapter 4. Board of Forestry

- A. The Board of Forestry should be composed of seven members or representatives of the following:
1. A member or representative of a statewide commercial fishing organization;
 2. A member or representative of a for-profit corporation established under the Alaska Native Claims Settlement Act;
 3. A member or representative of an environmental organization;
 4. A member or representative of a forest industry trade association;
 5. A professional fish or wildlife biologist who is not employed in that capacity by state, municipal, or federal governments (except for university employment).
 6. A professional forester who is not employed in that capacity by state, municipal, or federal governments (except for university employment).
 7. The State Forester is the non-voting chair of the Board.
- B. The members should be selected by the governor. Terms should be staggered to provide continuity between administrations, and removal should be for cause only.
- C. Appropriate technical staff shall be provided at board meetings by DEC, DF&G, DNR. Board staffing by DOF.
- D. In addition to the existing duties in the Forest Practices Act, the board should provide a forum for representatives of concerned parties to discuss and attempt to resolve relevant issues concerning Alaska's forest resources. Additional duties of the Board shall include preparation of an annual report, including any dissenting opinions, to the legislature and the governor on the effectiveness of the act, the need for legislative or regulatory changes, and research and monitoring needs, based on public comment, agency input, and at least one public meeting in each region annually (i.e., Southeast, Southcentral and Interior Alaska).
- DNR, DF&G, and DEC will present an annual report independently to the legislature and the Board of Forestry, on the resources for which they have statutory expertise and make recommendations for any improvements that rectify procedural or substantive problems. (For duties of the board concerning research and monitoring, see page 63.)
- E. The quorum for the operation of the board will be five voting members. Decisions may be made with one member dissenting rather than by simple majority or by unanimous consent.
- F. The chair will work with the board to establish procedures for scheduling and organizing meetings. If a board member cannot attend a meeting, he may send an alternate. The alternate must, however, represent a the same constituency (i.e., be a member or representative of the environmental community; be a professional forester not currently employed in that capacity by state government; etc.)

Chapter 5. Wildlife and Planning

This chapter of the agreement describes the proposed DNR forest planning process. This planning process is the method of implementing wildlife protection during timber harvest on state land managed by the Department of Natural Resources.

As a summary, changes to DNR's forest planning process accomplish the following:

- * New statutory and regulatory emphasis on wildlife habitat and other non-timber uses.
- * Five-year sale schedule and enhanced public participation.
- * Best interest finding under AS 38.05.035 for all sales, including increased analysis in the development of individual timber sale provisions.
- * Enhanced opportunities for public participation at each of the forest planning stages.
- * Planning for public lands will be required to allow for scenic quality and wildlife habitat, in addition to other considerations.
- * On private lands, the landowners are encouraged to enter into cooperative agreements with DF&G to identify wildlife habitats and management options to minimize adverse impacts.

The first part of this chapter (pages 37 through 44) describes the proposed planning process. While DNR's general planning process is described, including area plans, changes are concentrated in the forest planning process: state forest plans, forest management plans, and forest management reports.

The second part of this chapter describes the intent of the committee for wildlife on state land. It is followed by proposed regulations to implement the proposed changes to the planning process, including wildlife protection during timber harvest on state land. The fourth section describes the committee's intent for wildlife on private lands.

The organization of this chapter is outlined below.

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Chapter 5. Wildlife and Planning

A. Department of Natural Resources Forest Planning Process

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Proposals for Statute/regulation Changes	Page 44

Summary

Land use plans are DNR's method for providing general guidance for land management. They have substantial agency and public involvement, generally including three rounds of public meetings.

The department receives agency and public review of timber sale design through its Forest Management Report (FMR). It includes the department's analysis and design details for individual timber sales. The FMR receives public and agency review. The FMR also serves as the Best Interest Finding for each sale.

The Five-Year Timber Sale Schedule, is a technique for getting improved public and agency review of the department's timber sale program. It is intended to give the department early warning of issues from the timber industry, agencies, and the public that may influence the individual sale design or the department's overall sale program. The schedule does not replace other planning and public notice requirements.

LAND USE PLANS GENERAL GUIDANCE FOR LAND MANAGEMENT, INCLUDING FORESTRY

The Department uses land use plans to provide general guidance for land management, including timber harvest. The detail of the guidance can vary substantially between plans and within plans for an area. The guidance can be as general as setting out the primary management values. It can be as detailed as setting out specific timing restrictions and harvest practices, or locating areas where timber harvest is expected and where it is prohibited. The detail of the guidance depends on public and agency concern, the amount of knowledge about the issue, the type of decision required, and the amount of data and time available.

Land use plans include area plans and management plans of which state forest management plans are one example. (Other divisions and agencies also prepare plans -- for example, the Division of Parks prepares plans for state parks -- but these are not described here.)

I. Types of Plans

A. Area Plans

The Department of Natural Resources uses area plans to determine the primary management values on lands managed by the department. The area plan determines whether land will remain in state ownership or be sold. For land that remains in state ownership, the plan determines the classification, management intent, allowable and prohibited uses, and guidelines for the use of state land. For example, an area plan might determine that there are two primary management objectives for the land -- say, forestry and wildlife -- and might provide general guidelines for those two uses to be managed compatibly. In some cases very specific guidance is included.

Area plans exist or are in progress for approximately 60% of state land. Completed area plans include the Susitna, Tanana, Kuskokwim, Copper River Basin, Northwest, Prince William Sound, Prince of Wales Island, and Delta-Salcha Area Plan; and the Bristol Bay Cooperative Management Plan. The department is scheduling the Kenai Peninsula and the Central Southeast Area Plans to begin during 1989. Area plans are required by AS 38.05.065 and 11 AAC 55.030.

B. Management Plans

Management Plans are written to address issues in more detail than the land use designations resulting from an area plan. A management plan generally decides the timing, extent, location, and guidelines for land use activities. Management plans may deal with a smaller area in greater detail or provide direction for a specific land use within a larger area. Management plans are required by Title 41.17 for State Forests. On land not legislatively designated, they are done when the complexity of proposed or existing activities requires more detailed planning.

The Susitna Regional Forest Plan, currently underway, is an example of a forest management plan.

C. State Forest Management Plans.

State Forest Management Plans are management plans required by legislation for state forests. The Tanana Forest Plan and the Haines Forest Plan were completed for the state's two State Forests.

II. Description of the Planning Process

The planning process is essentially the same for area plans, management plans, and state forest plans. It is designed to ensure full participation by the public and government agencies; to provide opportunities for review and revision of the plan; and to include consideration of all comments. The process includes eight major steps.

1. Public and agencies identify issues (usually public meetings)
2. Resource information is compiled.
3. Management alternatives are prepared.
4. Alternatives are reviewed with the public (usually public meetings)
5. Draft plan is prepared.
6. Draft plan is reviewed with the public (usually public meetings)
7. Final plan is prepared.
8. Plan is adopted and implemented.

Steps one and two usually result in a published resource analysis in which resources such as Fish and Wildlife, Forestry, Minerals, Recreation and Transportation are analyzed for issues, concerns, policy, supply and demand, management options, and costs.

An interagency team is responsible for developing the plan. The Department of Fish and Game is always part of the planning team. For example, the planning team for the Tanana State Forest Plan included: Division of Forestry, Division of Geological and Geophysical Surveys, Division of Land and Water Management, Division of Mining, and Division of Parks and Outdoor Recreation; Department of Fish and Game; Department of Environmental Conservation; Department of Transportation and Public Facilities; the Fairbanks North Star Borough; and the USDA Forest Service Institute of Northern Forestry.

In addition, private citizens, citizens' groups, private organizations, and other state, federal and local agencies participate in the planning process by attending workshops and providing comments.

Area plans require between two and a half and three years to prepare, management plans are sometimes quicker. The final plan is adopted by the commissioner of DNR and guides land management actions on DNR-managed land.

III. Differences between Title 41 and Title 38 Plans.

There are essentially no differences in the planning process between land administered under title 38 (i.e., general state land), and that administered under title 41.17 (state forests). Area plans and sometimes management plans are prepared for general state land. State forest plans are always prepared for legislatively designated state forests.

IV. Other General Guidance for State Land

A. The Legislature

The legislature can determine the primary resource values for an area in legislation as when it creates a state forest, state park, state critical habitat area, or other legislatively determined area.

The legislature has created two state forests: Tanana Valley and Haines. "The primary purpose in the establishments of state forests is the perpetuation of personal, commercial, and other beneficial uses of resources through multiple-use management." (AS 41.17.200)

B. Areas where land use plans have not been prepared

Almost all state land outside of either area plans or state forests have been classified. In some cases, there was a classification for a specific purposes (i.e., to recognize a village watershed; or to allow the state to hold a timber sale). In many cases, the classification is general and gives little guidance to subsequent decisions.

DETAILED LAND USE MANAGEMENT, INCLUDING TIMBER SALE DESIGN

I. Nomenclature - Forest Management Report, FMR, .035 finding, preliminary decision, site-specific timber sale plan, and best interest finding.

Title 38, [AS 38.05.035(e)] requires that the state make available a "written finding" before most disposal of state interests. When a draft of this "written finding" is made available for public review, it is sometimes called a preliminary decision, draft best interest finding, or draft .035-finding. After incorporating review comments, the department signs the "written finding" and holds the timber sale. The final version of this "written finding" is sometimes called a final decision, final finding, .035-finding, or best interest finding. They are all the same thing. The mechanism that the department uses to set out this "written finding" for an individual timber sale is the Forest Management Report (FMR).

The department circulates the timber sale design for public review as part of the Forest Management Report. Therefore, the FMR is also a "site-specific timber sale plan."

II. The Forest Management Report

The draft Forest Management Report (FMR) is the Preliminary Decision document prepared for individual timber sale proposals. The FMR is required in the Division of Forestry's Policy and Procedures Manual. It is designed to exceed the requirements of AS 38.05.035 and is designed specifically for disposal that involve forest products. The FMR provides general sale identification information; location data and timber sale design information for effective notice of interested parties; land title details; conformance with other existing plans, department policies, and conformance with regulations (such as those of the forest practices act); access provisions, and a narrative section. The narrative section varies greatly in length with the complexity of the proposed sale.

Points to be addressed in this part of the FMR include the following areas:

- * Statutory Authorities
- * Consistency with 5-year harvest schedule
- * Harvest unit description
- * Access provisions
- * Logging systems/constraints
- * Insect and disease conditions
- * Physical sale area descriptions including topography, soils, wetlands as they influence the sale design
- * Stand descriptions
- * Reforestation and silvicultural provisions (including reforestation cost and proposed methods)
- * Whether an annual operating plan will be required
- * Coastal Zone Management consistency determination (where applicable)
- * Non-timber resources. For these resources the FMR process will include review and description of non-timber resources, activities, and significant impacts, unusual conditions that require special provisions in the sale design; and where appropriate, mitigation. The review of non-timber resources will address the following:
 - (1) fish and wildlife habitat including:
 - (a) identification and protection of important wildlife habitat such as high-density bear use areas; swan nesting areas; moose, deer, and mountain goat winter ranges; and critical marine mammal habitat;
 - (b) design of harvest methods and configurations to provide natural travel corridors and escape cover;
 - (c) retention of snags for cavity dependent wildlife, recognizing worker safety and fire requirements;
 - (d) retention of riparian, wetland, and ocean-shoreline vegetation critical for fish and wildlife habitat;
 - (e) classification of waterbodies according to physical characteristics.
 - (2) uses of the forest for its recreation, tourism and related activities;
 - (3) mining, mining claims, and mineral leasehold location;
 - (4) gravel extraction;
 - (5) uses of fish and wildlife;
 - (6) agriculture, including grazing;
 - (7) soil productivity and water quality;
 - (8) other existing commercial and non-commercial uses;
 - (9) internal/adjacent private lands;
 - (10) other forest products, resources and uses the department considers appropriate.
- * criteria upon which the timber sale decisions are made.
- * air
- * cultural/historic sites
- * visual resources
- * applicable public and agency comments and DNR responses (final FMR only)

Forest Management Reports are generally completed between 5 and 14 months prior to the anticipated auction date. They are advertised and available to the public. Comments to this document are evaluated and responded to in the final FMR. The final sale design, if it proceeds, is modified as needed. Field work is done to put the paper plan on the ground.

Forest Management Reports are sometimes prepared for areas where more general land use planning such as an area plan or a forest management plan does not exist. In these cases, the FMR may include some of the more general planning process steps typical of those plans. For example: scoping meetings, more complete resource inventory, management alternatives, etc. Where no higher level plan exists, the complexity and detail of the FMR, including the extent to which it includes the more general process steps, will depend on the complexity and controversy of the proposed activities.

III. Public and Agency Review.

For large, complex, or controversial sales, agency review is conducted before the FMR is available to the public. For small sales, public and agency review may occur concurrently.

The draft FMR is available and comments taken for at least 30 days. For controversial sales, or sales where communication is difficult (e.g., some remote areas), the review period may be longer. Public meetings may be held, if needed. After changes are made in response to public or agency comments, the final FMR must, by law, be available for at least 21 days before the sale auction is held or the contract signed.

IV. Annual Operating Plans (Post Contract Signing).

Annual Operating Plans (commonly referred to as "logging plans") describe how the purchaser is going to fulfill the timber sale contract. They are not required by regulation but may be included as a contract stipulation (11 AAC 21.300). Logging plans are often required if the sale is complex. What a logging plan must address varies widely from sale to sale. The plans may be as simple as start and stop dates or may require engineering details. The plans are reviewed for consistency with the contract and must be approved by DNR prior to the operation proceeding. Approved annual operating plans become part of the sale contract.

Where annual operating plans are required by the contract there are three scenarios:

- 1) Where no substantial deviation from the contractual provisions are proposed and the plan meets contractual requirements, the Division of Forestry will forward a copy of the annual operating plan to DEC and DF&G so they will be alerted to any required permits from their agencies.
- 2) If the plan proposes actions which are consistent with the FMR, but not the contract, the logging plan cannot be approved without a contract amendment. Contract amendments must be consistent with the actions proposed and reviewed in the FMR, not result in any material change in the contract and be within the limit of changes allowed by regulation. The Division of Forestry shall solicit agency review of this proposed action from the other agencies prior to implementing the contract amendment.
- 3) If an action is proposed which significantly deviates from the FMR, the Division of Forestry will advertize the proposed change for public and agency review for at least 30 days. All comments shall receive a response and be considered prior to consummating the specific contract amendment and allowing implementation of the annual operating plan as amended.

Regardless of the required level of review, DNR must approve every annual operating plan prior to the operator proceeding.

THE FIVE-YEAR TIMBER SALE SCHEDULE

The Five-Year Timber Sale Schedule, is a policy technique and scoping process for getting improved public and agency review of and input into the department's timber sale program. It is intended to give the department early review of issues from the timber industry, agencies, and the public that may influence the individual sale design or the department's overall sale program. The schedule does not replace other planning and public notice requirements.

The narrative is written with Year 5 being the year of the sale with Year 1 four years prior.

I. General Description of the Schedule

A. Years 1-3.

The objectives of Years 1 through 3 of the schedule are to identify issues early in the process; direct DNR's and DF&G's field work and data collection; to direct the environmental and economic analysis; and to inform the public and forest industry where the department's timber sale program is headed. Years 1 through 3 are primarily informational -- for both the department and the public.

B. Years 4 and 5

The objectives of these years of the sale schedule are to gather public and agency review and comment on specific timber sale design prior to Division personnel completing cruising, boundary marking, road design, harvest design, etc. Division personnel complete detailed harvest and environmental design to ensure that the sale balances the needs of the timber industry, agencies, and the public. Work will concentrate on sales in year four of the sales plan and changes that may be required in year five of the sale schedule.

During this time the draft Forest Management Report is completed and made available for public review. The report contains timber sale design information. After incorporating changes made on the basis of public comment, the final report is distributed before the sale auction. (The Forest Management Report serves as the ".035 finding," "site-specific timber sale plan," "best interest finding," or preliminary decision." See description of Forest Management Report on pages 40-42.) The sale occurs and harvest may begin during year 5.

As the five-year schedule is amended from year to year, sales will move from one year to another. However, sales with cutting units totaling greater than 160 acres must be on the schedule for two years before sale.

II. Specific Provisions of the Sale Schedule

A. Duration on the sale schedule

Sales with cutting units totaling greater than 160 acres must appear on the sale schedule for two years before they are sold. Exceptions to this requirement may be made for emergencies such as salvage, re-offerings of old sales, or providing a temporary supply to an operator to take advantage of developing markets while a larger sale is being prepared. Our intent is that smaller sales will be on the schedule,

but it is not required. Every competitive bid sale must, however, comply with all public and agency review requirements (see description of Forest Management Report).

B. A 160-acre threshold?

The department needs to respond with small sales for operators who cannot always plan two years in advance. In addition, small sales generally have less impact on public resources than larger sales. The 160-acre threshold was picked to allow the department that flexibility. (Forest Management Reports and public notice will be required for less than 160-acre sales.)

C. Public and agency review.

The five year schedule will be sent for annual public and agency review. Comments will be compiled and the schedule will be amended as necessary on the basis of those comments.

D. Start-up.

To prevent this schedule from placing a one-year delay in the department's timber program, the requirement that sales be on the schedule for two years will not apply in the schedule's first year of publication. However, first year sales will comply with other requirements for agency and public review. (See description of Forest Management Report).

III. Title 41 and Title 38

The Five-year Timber Sale Schedule applies equally to land administered under title 38 (general state land), and under title 41.17 (State Forests). There are no differences.

PROPOSALS FOR STATUTE/REGULATION CHANGES

Statute and regulation changes to implement the proposed changes are listed on pages 46 and 47.

Chapter 5. Wildlife and Planning

B. Wildlife Habitat, State Lands

The forest resources of Alaska are among the most valuable natural resources of the state, and public lands furnish timber and wood products, fish and wildlife, tourism, outdoor recreation, water, soil, air, minerals and general health and welfare. On public lands, it is the objective of the state to a) provide timber for the forest products industry, b) protect, maintain, and where possible enhance fish and wildlife habitat, and c) protect, maintain, and where possible enhance⁶ commercial, recreational, subsistence, and personal use and enjoyment of these resources to best meet the needs of the public.

The next two pages contain statute and regulation changes for DNR's forest management planning process that implement this intent on state land.

⁶ Note to drafter: The words "where possible" are only meant to modify "enhance", not protect or "maintain."

Chapter 5. Wildlife and Planning

C. Forest Planning & Wildlife on State Land Proposed Statutory and Regulatory Changes

I. Proposed Statute Changes.

Forest Management Plans. This section applies only to land managed by the Department of Natural Resources and classified forestry or managed for long-term forestry.

- (a) On state land, before timber harvest begins, the following will be addressed by either a forest management plan or a forest management report:
 - (1) commercial timber harvest and related activities
 - (2) harvest of forest products for personal use
 - (3) fish and wildlife habitat including:
 - (a) identification and protection of important wildlife habitat;
 - (b) retention of riparian, wetland, and ocean-shoreline vegetation critical for fish and wildlife habitat; and
 - (c) classification of waterbodies according to physical characteristics.
 - (4) uses of the forest for recreation, tourism, and related activities;
 - (5) mining, mining claims, mineral leasehold location, and mineral leasing;
 - (6) material extraction;
 - (7) uses of fish and wildlife;
 - (8) agriculture, including grazing;
 - (9) soil productivity and water quality;
 - (10) other resources and uses the department considers appropriate;
 - (11) watershed management;
 - (12) other traditional, compatible uses;

- (b) Forest management plans and forest management reports for state lands will be developed in accordance with AS 38.04.065 and will reflect the standards in Sec 41.17.060(c) and regulations promulgated pursuant to Sec. 41.17.080. Forest management reports will be designed to satisfy the requirements of AS 38.05.035(e). The reports will also contain the criteria upon which the timber sale decisions are made. Forest management plans will be submitted to the Board of Forestry for review.

- (c) Language describing the five-year timber sale schedule goes here. We have not written it but will leave it for the attorney general to write a draft.

- (d) DNR will solicit and base its decisions on applicable and best available data, and on other information provided by participating agencies, describing the immediate and long-term effects of individual and collective forest activities on the timber base and on other resources and uses.

II. Proposed Regulations. Regulations for Section (a) above will contain the following: These regulations apply only to land managed by the Department of Natural Resources, and classified forestry or managed for long-term forestry.

The Forest Management Report will address the following:

- * Statutory Authorities
- * Consistency with 5-year harvest schedule
- * Harvest unit description
- * Access provisions
- * Logging systems/constraints
- * Insect and disease conditions
- * Physical sale area descriptions including topography, soils, wetlands as they influence the sale design
- * Stand descriptions
- * Reforestation and silvicultural provisions (including reforestation cost and proposed methods)
- * Whether an annual operating plan will be required
- * Coastal Zone Management consistency determination (where applicable)
- * Non-timber resources. For these resources the FMR process will include review and description of non-timber resources, activities, and significant impacts, unusual conditions that require special provisions in the sale design; and where appropriate, mitigation. The review of non-timber resources will address the following:
 - (1) fish and wildlife habitat including:
 - (a) identification and protection of important wildlife habitat such as high-density bear use areas; swan nesting areas; moose, deer, and mountain goat winter ranges; and critical marine mammal habitat;⁷
 - (b) design of harvest methods and configurations to provide natural travel corridors and escape cover;
 - (c) retention of snags for cavity dependent wildlife, recognizing worker safety and fire requirements;
 - (d) retention of riparian, wetland, and ocean-shoreline vegetation critical for fish and wildlife habitat; and
 - (e) classification of waterbodies according to physical characteristics.
 - (2) uses of the forest for its recreation, tourism and related activities;
 - (3) mining, mining claims, and mineral leasehold location;
 - (4) gravel extraction;
 - (5) uses of fish and wildlife;
 - (6) agriculture, including grazing;
 - (7) soil productivity and water quality;
 - (8) other existing commercial and non-commercial uses;
 - (9) internal/adjacent private lands;
 - (10) other forest products, resources and uses the department considers appropriate.
- * criteria upon which the timber sale decisions are made.
- * air
- * cultural/historic sites
- * visual resources
- * applicable public and agency comments and DNR responses (final FMR only)

Other Regulation Change: The state will attempt to notify landowners adjoining areas scheduled for timber harvest with the draft FMR. The area of notification may be adjusted during a state area plan, forest plan or management plan.

⁷ Note to regulation drafter. The list in this clause is meant to be illustrative, but not limiting. It is meant to include whatever game and non-game species' habitats are determined important.

Chapter 5. Wildlife and Planning

D. Wildlife Habitat on Private Lands

The state will work cooperatively with the land or timber owner to protect, maintain, and enhance wildlife habitat to the maximum extent practicable, bearing in mind the objectives of the land or timber owner. The state and private forest owners are encouraged to enter cooperative agreements where they serve to facilitate cooperation.

The Department of Fish and Game and the private land or timber owner will cooperate in project planning and design to identify important wildlife habitats and voluntary management options to minimize adverse impacts on those habitats, recognizing the management objectives of the land or timber owner. Cooperative agreements referred to above should address how the department will provide assistance in the further evaluation of such habitats.

The state and private land or timber owners should develop procedures for both the identification of wildlife habitat meriting protection and the identification of appropriate compensation opportunities for private lands set aside as wildlife habitat. This may include cash payment or other compensation such as conservation easements, land exchanges, and credits for state timber sales.

To further this process the state shall provide, on a cooperative basis, educational and technical assistance, and extension services to help the land or timber owner and operator assess wildlife habitat values and to design management options to provide wildlife habitat protection and to meet the land or timber owner's management and use objectives.

Nothing in this act is intended to enlarge or diminish any responsibility of the state or any landowner to protect wildlife on private land.

Chapter 6. Forest Practice Act Standards

This section of the report outlines changes to forest practices act standards under 41.17.060 and .080.

Section 41.17.060

1. Subsection .060(b)(2) will be amended to read as follows:
(2) environmentally sensitive areas ~~and best management practices~~ shall be recognized in the *development of regulations and best management practices that are designed to implement implementation of any* nonpoint source pollution control measures authorized under this chapter;
2. Subsection .060(b)(5) will be added as follows:
(5) *significant adverse effects of soil erosion and mass wasting on water quality and fish habitat shall be prevented or minimized.*
3. Subsection .060(c)(6) will be amended to read as follows:
(6) ~~where economically practicable,~~ allowance *shall may* be made for scenic quality in or adjacent to areas of substantial importance to the tourism and recreation industry, *and for important wildlife habitat.*

Section 41.17.080

1. Subsection (a) will be amended to read as follows:
(a) The commissioner *shall may* adopt regulations under the Administrative Procedure Act (AS 44.62) and AS 41.17.047 governing ~~operations on forest practices such as land with respect to~~ the following:
2. The following list replaces the list in (a)(1) through (a)(6) of the existing act:
 - (1) Road construction and maintenance
 - a. Road location
 - b. Road construction
 - c. Landing location and construction
 - d. Water crossing structures
 - e. Road maintenance
 - f. Rock quarries, gravel pits, borrow pits, and spoil disposal areas
 - g. Post operation road management (i.e., "put-to-bed")
 - (2) Timber harvesting
 - a. Timber harvest unit planning and design
 - b. Felling and bucking
 - c. Cable yarding
 - d. Shovel, tractor, and wheeled skidder systems
 - e. Landing clean-up
 - f. Slash disposal

- (3) Log transfer, sort yards, and storage facilities
 - a. Location
 - b. Design
 - c. Construction & Maintenance
 - d. Closure
 - e. Log storage, rafting, and identification⁸
- (4) Reforestation
 - a. Site preparation and rehabilitation
 - b. Urban and other lands exempted from reforestation requirements
 - c. Prescribed burning
- (5) Prevention and suppression of forest insects and diseases⁹
- (6) Upland salvage logging
- (7) Brush control
- (8) Fire and flood hazard management

3. Subsection .080(c) will be amended to read as follows:

(c) The commissioner shall adopt only those regulations necessary to accomplish the purposes of this chapter, and shall avoid those which increase operation costs without yielding significant benefits to public resources.

The regulations promulgated according to this chapter will be drafted under a process outlined in Part III, Implementing the Agreement.

⁸ Note that some regulations may go here, some maybe be submitted to the Army Corps of Engineers for their permits, and some may become lease stipulations under DNR's tideland lease program.

⁹ Note to drafter, regulations promulgated under this and subsection (6) may be combined with those promulgated under the sections of the act specifically dealing with timber salvage, and with insect and disease management.

Chapter 7. Other Issues

A. Timber Management Adjacent to Private Lands

There have been cases where logging operations may have physically damage adjacent lands due to blowdown, trespass, landslides etc. The extent and likelihood of possible damages depend on topography, type of logging, risk of blowdown, whether the private parcels are surveyed, etc. Therefore, stipulations applied to logging on state land to prevent these problems will vary according to the individual circumstances.

The state involves the public in state land management decisions that affect their interests. The department, through the timber sale planning process, takes public concerns into account when locating and designing timber harvest. (See discussion of state planning process, pages 37 to 44.)

To facilitate this process, the state will attempt to notify landowners adjoining areas scheduled for timber harvest, and to provide them with an opportunity for review and comment, and to take their and other public concerns into account prior to adoption of a forest management plan or forest management report. The area of the notification requirement may be detailed during a state area plan, forest plan, or management plan.

This provision will be implemented by regulation changes in the state's forest planning process. See the bottom of page 47.

Chapter 7. Other Issues

B. Non-Timber Clearing

Timber Salvage. Timber with commercial or personal use value that will be cleared for other uses should be salvaged from state, and municipal lands, public rights-of-way, and public utility corridors. This will be accomplished by adherence to the following guidelines.

1. Before conducting or approving significant land clearing actions, state agencies, municipalities, and public utilities will determine whether the timber is worth salvaging and adopt appropriate salvage methods.
2. Major projects that involve clearing large areas of forested land will be planned by state agencies, municipalities, and public utilities far enough in advance so that schedules can be established to allow a reasonable period of time to arrange for and conduct commercial salvage of the timber. This advance planning will provide sufficient time to conduct the inventories and harvest.

Chapter 7. Other Issues

C. Insect & Disease Management

This section of the agreement has two parts: an explanation of intent, and proposed statute changes. The intent section that follows explains the purpose of statutory changes. modifications are intended to accomplish.

INTENT

It has become evident in the spruce stands of southcentral Alaska that a wide variety of conditions or actions, including poor clearing practices, can trigger infestations of bark beetles, specifically the spruce beetle (*Dendroctonus RUFIPENNIS*). The attached proposed statutory section would parallel similar legislation in Oregon and California.*

Paragraph (a) of the new section extends prevention and suppression to state, municipal and private land that is currently provided only to state lands, requiring all forest clearing operations to be designed to prevent forest insect or disease outbreaks.

All landowners are identified in Paragraph (b) as responsible for the prevention and suppression of forest insect and disease outbreaks within their forest land which are a result of their forest clearing practices. This paragraph also provides that if the landowner does not contain the infestation, and biologically effective, cost-effective, and environmentally safe suppression measures are available, the state forester may implement them.

Paragraph (d) authorizes the Department of Natural Resources to enter into agreements with other public and private entities to prevent or suppress forest insects or diseases.

Paragraphs (c) enables the Department of Natural Resources to declare infested or threatened zones and thereafter to conduct detection, evaluation, and suppression activities within the outbreak area. Paragraph (e) provides for the dissolution of the zone.

Changes to the law are intended to promote the use of clearing practices that avoid creating forest insect or disease problems. In addition it will encourage suppression of infestations where 1) forest resources are threatened, and 2) suppression measures that are biologically effective, cost-effective, and environmentally safe are available.

A distinct but related issue needs amending in current regulation. 11 AAC 95.160 SLASH (d) requires that "Within Region II, when beetle brood is present in concentrations of white spruce slash with an outside bark diameter greater than five inches it must be treated by burning or some other method to destroy developing insects and prevent bark beetle build-up." Because many areas within Region I have equally significant beetle population problems, reference to Region II would be omitted. As these problems occur in white, Lutz, and Sitka spruce, mention of only one of these should be omitted. The paragraph would then read, "When the state forester determines that spruce beetle brood concentrations in downed spruce create a threat to standing timber, such material must be utilized or treated to destroy developing insects and prevent bark beetle build-up."

*California Public Resource Code, Article 5 Paragraph 4714 and Oregon Revised Statutes 527.380.

**Insect & Disease
Statute Changes**

(a) All forest clearing operations and silvicultural systems must be designed to reduce the likelihood of increased resource threatening insect infestations and disease infections resulting from such operations.

(b) No person shall conduct or approve timber clearing activities that create conditions fostering outbreaks of infestation or infection that threaten forest resources on other forest lands. Where the Commissioner finds after notice and hearing that the owner of timber or timberlands has created such conditions in violation of this subsection, the Commissioner may:

- (1) require the owner at the owner's expense promptly to remove or cure the conditions fostering outbreaks of infestation or infection;
- (2) require the owner at the owner's expense to undertake environmentally sound, effective, and cost-efficient actions to control the infestation or infection in the immediate vicinity of the improper timber clearing activity; and
- (3) if the owner does not comply with a final order under (b)(1) or (b)(2), enter onto the land and undertake the actions so ordered and seek recovery of the costs of such actions by filing and foreclosing a lien against the property.

(c) The Commissioner may undertake surveys and appraisals to obtain pertinent data on regional insect infestations and disease conditions. Whenever the Commissioner determines that there exists an area which is infested or infected with forest insects or diseases injurious to forest resources and that the infestation or infection is of such a character as to threaten the timber or timberlands of adjacent owners, the Commissioner may declare the existence of a zone of infestation or infection, and describe and fix its boundaries.

(d) The Commissioner may enter into agreements with any owner and with any agency of government, including the federal government, for the purpose of preventing or suppressing forest insects or diseases damaging or threatening forest resources.

(e) Whenever the Commissioner determines that insect and disease control work within the designated zone of infestation or infection is no longer necessary or feasible, he shall dissolve the zone.

Chapter 7. Other Issues

D. Log Storage Area Facilities and Log Rafts

Water storage and transportation of logs are common practices in coastal Alaska. Yet both practices have generated concern regarding incremental and catastrophic loss of logs from log storage areas and log rafts.

A task force comprised of a marine engineer, logging engineer, operator, and a forest user will prepare a report defining accepted industry design standards for in-water log storage facilities and log rafting as specified below.

The report will be used in the formulation of guidelines for log rafting and in-water log storage. Some of the guidelines may be promulgated as regulations under the revised forest practices act. Some guidelines may be applied to DNR tideland permits and leases, and some may be recommended to the Army Corps of Engineers through the Alaska Coastal Management Program consistency review process or other means. In addition, the 1985 Log transfer facility guidelines agreement will be incorporated into the forest practices regulations.

Log storage facilities, log rafting, and log tow standards would be developed as follows:

1. Definitions and explanations of the role important physical factors, such as meteorological and oceanographic (wind exposure and velocity, tidal datum, current datum, etc.) affecting construction standards.
2. Definitions of applied industry technology such as stiff-leg boom, standing boom, log boom, and their appropriate application.
3. Log bundling techniques.
4. Industry requirements for all activities.
5. Industry recommended construction standards.

Chapter 7. Other Issues

E. Reforestation

This draft agreement proposes that the reforestation backlog is funded through program receipts: through allocation of 25% of receipts of timber sales on state land to DNR's reforestation program.

Chapter 7. Other Issues

F. Relationship of the FPA

to the Alaska Coastal Management Act

The current Forest Practices Act (FPA) and regulations are "the basis for Forest management standards, policies, and guidelines of the Alaska Coastal Management Act" (AS 41.17.010(6)). Since the passage of the FPA, review procedures (6 AAC 50) for coastal development activities have been added to the Alaska Coastal Management Program (ACMP) regulations. The following statutory amendment is necessary to insure that the new FPA statutes and regulations clearly serve as the basis for ACMP involvement in forestry activities on private lands by expressly making reference to the ACMP review procedures and by deleting the inappropriate reference to district planning guidelines. DNR, in consultation with DGC, will amend their existing regulations to implement this section in accordance with section 41.17.900.

The amended statutory language reads:¹⁰

AS 41.17.010(6)

Subject to 16.U.S.C. 1456(f) (Section 307(f)) of the Coastal Zone Management Act of 1972, P2 92-583), *for private land*, the provisions of this chapter *and the regulations adopted under this chapter set out the* ~~shall be the basis for~~ forest management standards, policies, and *review process for purposes of developed* under the Alaska Coastal Management Act.

¹⁰Editor's Note. The language was changed during legislative drafting. In the April 10th draft, it was as below.

Subject to 16.U.S.C. 1456(f) (Section 307(f)) of the Coastal Zone Management Act of 1972, P2 92-583), the provisions of this chapter shall ~~be the basis for~~ *serve as the* forest management standards, policies, and ~~guidelines~~ *review process developed under* for purposes of the Alaska Coastal Management Act.

Chapter 7. Other Issues

G. Other

The forest practices act will be amended to include this additional language:

Nothing in this act shall diminish the rights of Alaska Native Corporations or Alaska Natives or diminish their privileges and immunities with respect to land conveyed to them under the Alaska Native Claims Settlement Act, as amended.

Chapter 8. Funding

Funding of \$1.2 million will be required to implement the act. The funding will provide the agency review and field presence necessary to strengthen resource protection using a strong forest practices act while retaining a strong timber industry. The legislature should provide that funds come from receipts derived from timber sales on state lands, 25% of which would go to reforestation. If additional funds are required, the legislature should look to funds to be derived from other sources, in light of the standing timber and other costs contributed from the forest products industry through the terms of the proposed agreement, and contributions made by other forest users.

The funding required by DNR, DF&G, and DEC are outlined in a series of memos in the appendix to this report.

Part III - Implementing the Agreement-in-Principle

Chapter 1. Legislative Changes

Legislation to implement this Draft Agreement-in-Principle is available for review. Assuming ratification by steering committee member groups, legislation will be introduced during early April with the intent that, if possible, it be passed this legislative session.

Chapter 2. Promulgating Regulations

If legislation is passed this session, DNR will draft and promulgate regulations consistent with the legislation and with the final agreement-in-principle.

A process and an approximate schedule for promulgating the regulation is outlined on the following page. After passage of the act, DNR with participating steering committee representatives will draft regulations. Before distribution for public review, the steering committee will concur and the restructured Board of Forestry will review the regulations. The final regulations are intended to be in place for the 1990 operating season.

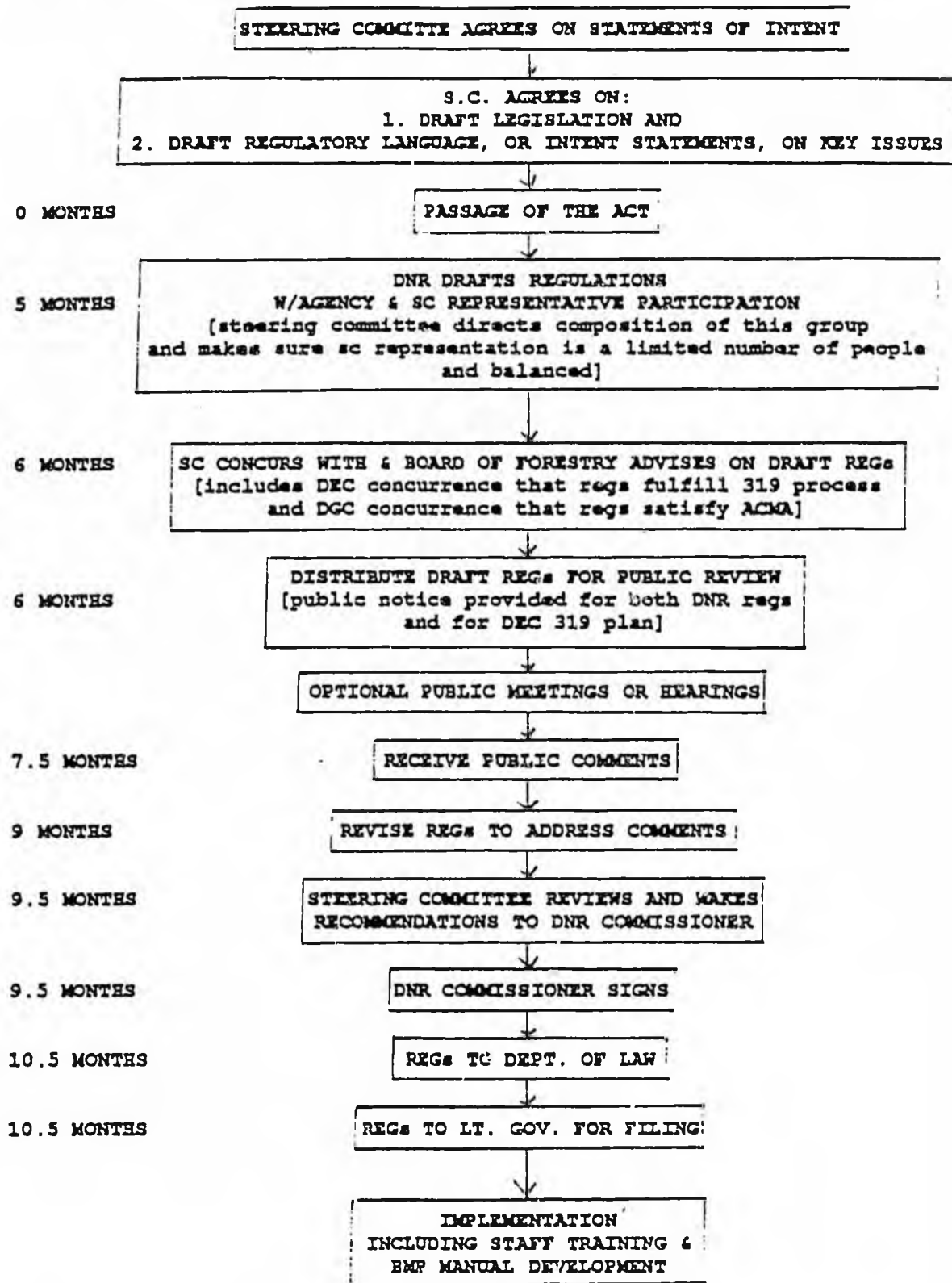
Editor's Note: The regulation process and schedule described in the paragraph above and diagrammed on the next page assumed the committee reached consensus, and that the legislation passed during the 1989 session. Neither event occurred. However, the resource agencies, DNR, DF&G, and DEC, will draft regulations during 1989 as if the legislation had passed. Assuming the legislation passes in early 1990, the regulations can take effect before the beginning of the 1990 harvest season. If this occurs, no time will have been lost by one session's legislative delay.

DNR and DEC will establish a working group to develop appropriate water quality based standards for incorporation into forest practices regulations. The working group will recommend to DEC how these regulations will be promulgated. These standards may also be adopted or referenced in DEC regulations.

DEC's lead role for nonpoint source pollution, and DEC's responsibilities for water quality are not changed from the provisions of existing state law.

Best management practices will be reviewed and updated in each area. Also, development and review of regulations will include consideration of boundary changes to DNR forest regions, or the creation of new subregions within DNR forest regions.

Editor's Note: The regulation process and schedule in this diagram assumed the committee reached consensus and that the legislation passed during the 1989 session. Neither event occurred. Therefore, this diagram is not completely accurate.



- ASSUMED:**
- STATUTES AND REGs ARE ENFORCEABLE
 - MANDATORY BMPs WILL BE IN REGs
 - VOLUNTARY BMPs WILL BE IN THE BMP FIELD MANUAL

Chapter 3. Policy Changes

A. Consultation/Education/Training

ISSUE

Forest Practices Statutes, Regulations and Processes are now complex and will become more complex. Several agencies are involved with their statutes and regulations; public involvement will be more extensive as time proceeds. An effective information transfer program needs to address three factors: consultation, education and training.

FACTORS DEFINED

CONSULTATION: Several avenues of communication must be developed

- * DNR with DF&G, DGC, DEC
- * DF&G, DGC, DEC with DNR
- * DNR with citizen groups and vice versa
- * Agencies with operators

EDUCATION: All involved parties must understand existing, modified and new processes. Resource managers and interested citizens must understand the resources being managed and/or protected including the public resources affected by forestry and the rights and needs of private landowners and the timber industry. All involved parties must understand the rights and responsibilities of forest practice processes.

In addition to the involved parties understanding specific processes, the general public has a need to know about Resource Management, the negotiated agreement and its results.

TRAINING: an extensive training process will be required to implement the negotiated agreement.

AUDIENCES DEFINED

RESOURCE MANAGERS: Agency and other professional managers; ie. Foresters, Biologist, etc. Throughout this paper, we are assuming that foresters, including DOF foresters need to be trained with respect to the forest practice act but also that DF&G biologists need to be trained in the needs of the forest industry and timber harvest methods.

FIELD MANAGERS: Resource Managers assigned to field operations (as contrasted with administration)

INVOLVED PARTIES: Fisherman, Environmentalist, forest industry (Administration), and others

OPERATORS: Loggers and others responsible for forest harvest operations

PROPOSALS

I. FOREST PRACTICES HANDBOOK

- A Target audience: Resource Managers and operators
- B Goal: Present a useful handbook designed for field operations
- C Format: A Forest Practices handbook could be composed of several sections

- Section 1: An "English Language" version of
- a. How/where to obtain forest practices notifications and other permits
 - b. A clear explanation of agency responsibilities and "Lead Agency" status
 - c. Addresses/phone numbers of DNR, ADF&G, DEC, DGC Central/field offices

Section 2: Forest Practices Regulations

Section 3: Appendices

- a. Forest Practices Statute
- b. Other Appropriate Statutes/Regulations

Section 4: A Forest Practices "manual" which would provide Division of Forestry Region-specific information. Possible topics are road construction/use/maintenance, critical wildlife information, weather, soil, fire, etc.

NOTE 1: The handbook must be written/presented in a style that encourages use by non-technicians.

The manual could be a separate volume. A combined volume would necessitate only one book... one less thing to lose or carry. A separate volume would allow greater coverage.

The manual could be region-specific, eg. through separate documents or one piece that discussed all regions.

- D. Costs: An individual must collect, collate and properly prepare substantial materials. Writing and editing is needed to properly present materials. Printing/binding costs (if necessary) must be paid. All the above costs would most likely be incurred by DNR and/or ADF&G.

II. OVERVIEW WORKSHOPS

A. Target Audience: Resource Managers
Secondary Audience: Involved Parties

B. Goal: Transfer the overview of the forest practices and state forest planning process to Resource Managers and others. This will be an extensive (verses intensive) information transfer to build a sense of general understanding and philosophy.

C. Format: A series of workshops will be held. Four likely locations are: Ketchikan, Juneau, Anchorage, and Fairbanks.

D. Meeting Structure: Presentations of "Why we did this (as a group) and individuals were involved. A series of 2 or 3 panels could generally cover in a sense, the following topics: The Resources, Statutes, Regulations, Processes.

E. Costs: Workshop costs could be covered through a prorated charge. Video costs could be shared (See note 3 below) by all participants.

NOTE 1: One day workshop with 50-75 people maximum.

NOTE 2: Some general sessions would be appropriate. These could follow lunch (or later if need be). Trained facilitators with specific tasks/goals are recommended.

NOTE 3: Workshops should be video-taped for later editing into 25-30 minute presentations.

III. FIELD WORKSHOPS

- A. Target Audience: Field Managers and Operators
- B. Goal: Develop intensive (versus extensive) understanding and implementation of Forest Practices regulations and processes (including how it affects both public resources and the timber industry).
- C. Format: Field workshops will be held at DNR - Division of Forestry Area Offices (or other appropriate places). These 1 1/2 to 2 day workshops will concentrate on Forest Practices Regulations, process implementation. The first day would be devoted to "in-office" training/assessments. The second day would be field oriented. The first workshops would occur 30 to 60 days following the closest regional workshop. A follow-up workshop would occur within six months and thereafter on an annual basis.
- D. Cost: Workshop costs would be borne by participants. Transportation and per diem cost should be within existing budget abilities.
- E. The Board of Forestry will be invited to all workshops.

IV. COMMUNICATION COMMITTEE

- A. Target Audience: The lay public
- B. Goal: 1) Build within the lay public a conceptual understanding of resource management and conflicts/trade-offs/solutions inherent in resource management. 2) Build an informed constituency that will support resource management and budgetary needs to adequately implement/enforce forest practices regulations and processes.
- C. Format: DNR & DF&G public information personnel will have the responsibility to receive and edit news releases, breaking stories concerning forest practices, the revised forest practices act, and other pertinent items. Public information personnel will have the ability to steer media members to newsworthy stories, such as cooperative fire/wildlife management on a fire; solving a difficult bridge crossing; a joint reforestation/moose habitat study, etc.

Division heads will coordinate with the public information personnel to assure that they receive information in a prompt and understandable form. Public information personnel will release news to the appropriate print/electronic media in a timely and informative manner.

- D. Cost: No additional cost is foreseen. Publicist orientations could be held by Division Directors' and other interested parties.

V. CROSS TRAINING

Resource management education (biology, forest management/engineering, hydrology, etc.) is highly technical and usually restricted to the primary resource being studied. Successful forest practices implementation will hinge, in part, to a more than rudimentary understanding of all resources and industries involved.

A two-part cross-training program is proposed:

- A. Division Directors' will develop an agency cross-training program targeting field

resource managers. The program should involve resource managers as active participants/coordinators. Certain aspects might involve university level expertise from Alaska and Pacific Northwest institutions. The State of Alaska, Board of Forestry (BOF) is a logical body to provide developmental/oversite guidance.

- B. Many technical questions have been raised by the forest practices negotiations: wildlife population dynamics, hydrology, fish habitat, effect of timber harvest methods, etc. These questions have no answers, yet, and it is an exercise in futility to argue "my study against yours". A joint cooperative study committee is proposed. Each Forest Practices participant plus the University of Alaska would be offered a seat. Committee charter would be to (1) define the questions, (2) find who, if anyone, is addressing that or a similar question, (3) report findings and recommendations to the BOF.

The research function is an integral part of resource management. Research takes money. The BOF would be charged with seeking appropriate funding of project monies. Part 2 (above) is a long term project that could be best left for the State Forester and ADF&G Habitat Division to further develop.

VI. SUMMARY

The above discussion primarily addresses education, training, and information transfer. It doesn't adequately discuss consultation. It is assumed several memoranda of understanding (or one inclusive memorandum) will result from the negotiations. Those instruments should include formal understandings of who consults with whom, when and how.

A second, less formal series of consultations must occur among interested parties. This can occur partly as a function of the annual field meetings. The BOF also can play a useful role. The State forester has proposed to have BOF meetings and field trips held at regular intervals around the state. The public will be encouraged to attend and make their views known.

The above ideas can help Alaska move into the realm of cooperative resource management that will serve all the timber industry and state citizens.

VII. INFORMATION BROCHURE FOR STATE FOREST PLANNING

- A. Target Audience: the general public & private timber operators.
- B. Goal: 1) To better inform the timber industry, forest users, and the general public about DNR's land management process leading to timber harvest. 2) To inform the industry, and general public how to get involved in the process including comment and review, etc; to ensure that their concerns are addressed.
- C. Format: Easily readable brochure or pamphlet.

Chapter 3. Policy Changes

B. Research and Monitoring

Monitoring

The Board of Forestry will coordinate the development of a plan for monitoring the statutes, regulations, and BMPs for their effectiveness in meeting state water quality standards.

The Board of Forestry will coordinate the development of a plan for monitoring the statutes, regulations, and BMPs for their effectiveness in meeting fisheries habitat requirements.

In addition, because of questions concerning the nomination process for the board of forestry, the board should review the nomination process after the first few years to determine whether members are truly representative of their interest groups; whether there is a sufficient pool of nominees to effect interested, effective board members; and whether the board is an effective forum for the discussion of forestry issues.

Research

The Board of Forestry, working with DNR, DEC, DF&G, and other affected institutions, and the forest-dependant industries shall conduct an annual survey of research and monitoring needs related to forest practices and their effect on public resources. The board shall review research proposals and shall make recommendations to the governor and the legislature to promote research projects which would address these needs.

A number of research topics have been identified. The most important research needs identified were identified by the technical committee as part of the riparian management discussion. They concern the interaction of forestry and fish.

1. Probability of riparian leave trees to provide large woody debris.
2. Probability of second growth timber to provide large woody debris.
3. Depletion/recruitment rates of large woody debris for interior Alaska streams.
4. Information on temperature sensitive streams throughout Alaska.
5. Information on winter water temperature effects on fish.
6. Second growth canopy closure effects on fish production.
7. Stand characteristics of trees next to streams: age, size, volume, species, etc.

The committee estimated that it would take from 2-5 years to conduct the research necessary to address the above items.

Other research needs have also been identified. There needs to be further research on the role of large woody debris as it relates to creation and maintenance of fish habitat, particularly in interior Alaska and certain stream types throughout the state. As other data needs are identified, they should be brought to the Board of Forestry. The board should work with the Alaska Cooperative Forestry/Fisheries Working Group and with other groups with research capabilities.

Chapter 4. Review of the Agreement

This agreement-in-principle and the recommended legislation are intended to be reviewed within three years. This three-year time is intended to allow for further research, and to gain experience implementing the act's regulatory and administrative standards -- especially the riparian standards and the enhanced notification system. It is presumed that a representative group will be convened for the review, or that the review will be conducted by the restructured Board of Forestry; in either event, this review will be done with full public input and participation.

An effective review requires that monitoring and research be an on-going part of the forest practices program. To assess the effectiveness of the riparian standards in protecting fish habitat and allowing a viable timber industry, it will be necessary to conduct the research and monitoring program outlined on the previous pages, and for the Department of Natural Resources to maintain an accessible administrative record of decisions made under the act, especially requests and decisions concerning variations from design standards (as outlined on page 29). In addition, each year DNR, DF&G, and DEC will each present an annual report, independently, to the Board of Forestry and the legislature on the research for which they have statutory expertise, and make recommendations for any improvements necessary to rectify procedural or substantive problems.

This section will be added to draft legislation:¹¹

It is the intent of this legislature that the operation of the forest practices act and regulations be reviewed within three years of the passage of this act. This three-year time is intended to allow for further research, and to gain experience implementing the act and its regulations. It is the intent of this legislature that a representative group be convened for the review, or that it be conducted by the board of forestry. In either event, it is the legislature's intent that the review occur with full public input and participation, and its recommendations be forwarded for legislative review, and for any needed changes in legislation.

¹¹Editor's Note. This section was expanded during the legislative drafting. For the complete version, see Section 31 of the legislation.

Appendix A

Information List for Enhanced Notification System

We envision a two-tiered review consisting of an initial, broader scale, voluntary plan of operations and a detailed plan of operation submitted at least 30 days prior to commencement of activities.

Annual Plan

The landowner should provide an annual operating plan to the agencies and the public. While the plan is voluntary, it is useful for the agencies, the public, and the landowner. Such a plan would provide the agencies with an early look at proposed harvest activities to help them begin an early review. It would also help the agencies provide information, suggestions, and potential problem areas to the landowner. For the landowner, it is a way to get agency and public feedback to plans early in the process. For the public, it provides early notice and information.

For DNR to distribute the annual operating plan to the public, the landowner must provide either a summary or a report in distributional form (i.e., a format that can be xeroxed).

The list that follows contains the information necessary for such a plan to be useful to the agencies, and the information should be provided when known.

- (1) The name and address of the landowner (and operator, if known).
- (2) A map showing the approximate unit boundaries, to the extent known.
- (3) The location of existing roads and anticipated location of new mainline and spur roads; sort yards, and log transfer sites.
- (4) Description and anticipated location of campsites, fuel storage sites, and associated water, sewer and solid waste disposal facilities.
- (5) An identification of known streams and tributaries and, to the extent possible, the classification of those streams.
- (6) To the extent possible an identification of steep slopes greater than 60% where harvesting is expected to occur and measures that may be necessary to prevent mass wasting.
- (7) A description of known or potential anadromous fish and wildlife habitats in the units and the management options to minimize impacts on those habitats pursuant to the act and regulations.
- (8) To the extent possible, a general description of anticipated timber harvesting operations and transportation needs over a five-year period in the affected drainage where the activities are proposed.
- (9) Whether the 5% cap is expected to be invoked during the detailed planning process, if known.
- (10) Any other available information such as that required under the Detailed Plan Review, or any information considered relevant by the landowner.

Detailed Plan of Operations.

A detailed plan of timber harvesting operations shall be filed with the department in writing by a person who owns, leases, or otherwise controls or operates on all of any portion of any timber land and one who plans to harvest the timber thereon. The format and type of information required for the detailed plan of operations will be refined as regulations are written. The information required shall be sufficient for the agencies to adequately determine whether the planned forest activities are consistent with the Forest Practices Act and regulations, and will take into account the information needs of the public. According to current practices, DNR does not accept incomplete notifications, and the regulations will confirm this practice. The plan shall be public information.

- (1) The name, address, and approving signature of the land owner.
- (2) The name, address, and approving signature of the timber owner.
- (3) The name, address, and approving signature of the timber operator.
- (4) A description of the proposed operation and land on which the work is proposed to be done, including an orthophoto or accurate map at the harvest scale available indicating:
 - (a) the location of all known streams and anticipated stream crossing structures;
 - (b) the location of all proposed and existing roads, landings, sort yards, and log transfer facilities;
 - (c) roads identified to be put to bed;
 - (d) unit boundaries and yarding plans;
 - (e) areas of 60% or greater slope or other known areas with high potential for soil failure;
 - (f) locations where rigging is proposed to be hung through streamside buffer strips or across anadromous fish streams;
 - (g) upland quarry or borrow site locations;
 - (h) overburden or waste material disposal areas;
 - (i) classification of streams and their tributaries in units; and
 - (j) description and anticipated location of campsites, fuel storage sites, and associated water and solid waste disposal facilities.
 - (k) all other proposed activities.
- (5) A description of the silvicultural systems to be applied, including the type of logging equipment to be used and designated areas where full log suspension will be achieved.
- (6) A description, based on available information, of the methods to be used to avoid accelerated erosion and mass wasting from roads and other timber operations to be conducted within a drainage.
- (7) A description of proposed measures for reforestation and drainage erosion control.
- (8) Special provisions, if any, to protect fish habitat within the area of operations.
- (9) The expected dates of commencement and completion of timber operations.
- (10) Any other information required through regulation to meet the rules and standards of this chapter.
- (11) A xeroxable summary for distribution to the public. The summary will describe

the areas to be harvested, harvesting systems and roading activities, and any other information the landowner considers relevant. The summary should contain a xeroxable map showing the location of cutting units, streams, areas of steep slopes and any other information that the landowner considers relevant.

- (12) Voluntarily, special actions to protect public resources not required by the forest practices act.
- (13) Operating area, planning area, riparian leave areas, and any variations from regulatory standards. If the 5% cap will be invoked, then the supporting basal area calculations.

DEPARTMENT OF NATURAL RESOURCES
FOREST PRACTICES

1. What we are doing now under the existing law.

Due to low markets in 1986, the number of notifications received for operations on private lands dropped to a level where budget cuts were made. Increased markets in 1988 has brought about a 173% increase in notifications. With no new funding, the forest practice personnel staff months have not increased to a level necessary to handle the inspections necessary with the increased notifications. FY 1988 saw a 16% increase in inspections with present staff but this is far short of what is needed.

Lack of travel dollars has seriously limited field inspection opportunities. A high level of inspection activity not only ensures compliance with the Forest Practice Act, but also allows us to identify potential problems early and prevent violations. Due to the lack of inspections, the character of forest practices administration has been forced away from land owner assistance and toward enforcement.

2. What can be done with the Governor approved increment under the existing law.

One Juneau based individual who is presently carried on tenuous Federal Grant funds will be converted to General Funds. This will add one more staff person to the forest practices team to help with the increased number of notifications needing evaluation and inspection.

Travel dollars will allow for additional forest practice inspections that will allow the program to get back into the early identification of potential problems and better protection of the forests.

3. What should we do now.

To help meet the increasing notifications and their necessary inspections we will be moving two positions from the Northern Region to the Southeast Region. One position will be in Juneau and one in Ketchikan. This increase in staff from 2 1/2 to 4 1/2 employees will help but does not put the program back to the needed level.

4. What we will need to do the new proposal being considered by the Forest Practice Review Committee.

Total funding needs are \$437,700 broken down as follows:

Southeast Region - \$125,000

Add one Clerk Typist III at Ketchikan and replace six months of Federal Funds for a Clerk Typist III at Juneau. This support staff will free up time now spent in the office by the Forest Practices Foresters doing administrative work and should allow for 30% more field time for necessary inspections. Also will allow for the Ketchikan office to be open full time for the five days per week.

Add one Forester III to be the Southeast Region forest practice coordinator. This position will also be able to fill in on forest practice work within the region on an as needed basis and be the liaison between the field staff and other agency personnel.

Added travel funding will meet the necessary inspection schedule of the increased notifications.

Southcentral Region - \$167,800

Add one Forester II to the Kenai-Kodiak Area to work on the additional forest practice work that is taking place on the Kenai Peninsula and in Prince William Sound. Presently the only position available for the forest practice work is also responsible for all the timber sales on state land so both jobs have suffered.

Add one Forester III to regional staff and replace Federal Funds for an Administrative Assistant I in regional office. The senior Forest Practices Forester will handle notifications and inspections on the remainder of the Gulf of Alaska, Valdez-Copper River, Mat-Su and Southwest areas. Duties will also include being the coordinator between regional field personnel and other agency employees working in forest practices.

The Administrative Assistant I will work at providing the necessary budgetary work needed by the regional forest practice personnel so they can spend more time in the field and less on administrative work.

Additional travel and contractual funds are also included to provide the support needed to do the field inspections.

Central Office - \$144,900

Add one Forest Engineer and one Forester II to the staff. The engineer is badly needed to provide expertise in soil stability, logging systems and transportation evaluations. Serve as an expert witness on technical matters. Further responsibilities include research proposal evaluation, support for divisional timber sales, and audit function for Forest Practice compliance on state timber sales. The staff forester position would handle data-base management including reforestation verification, forest practices statistics and public notice provisions as well as be available for temporary assignment around the state to assist in field evaluations during peak periods.

Additional travel and contractual funds are also included to provide the support needed.

5. What we won't do without added money.

Field administration will be less intense than at present which means more violations with resultant adverse environment impacts (primarily fishery values) can be expected. More violations of Title 16 regulations can be anticipated. Notifications will be allowed to commence after the 30 day period without any inspections or comments being made. Few or no checks on reforestation requirements will be conducted. Less hearing will be conducted due to the requirement of hiring a hearing officer but no funding available. This could lead to more violators being let off.

MEMORANDUM

State of Alaska

DEPARTMENT OF FISH AND GAME

TO: Bob Loeffler
Resource Allocation
Section
Division of Land and
Water Management
Department of Natural
Resources

DATE: February 22, 1989

FILE NO.:

TELEPHONE NO.: 465-4105

SUBJECT: Forest Practices
Funding

FROM: *Frank Rue*
Frank Rue
Director
Habitat Division
Department of Fish and Game

At last week's Forest Practices Steering Committee meeting, we understood Jim Waldo to request that agencies estimate their additional funding needs for minimum effective implementation of a revised Forest Resources and Practices Act (FPA).

The following estimates are based on the assumptions that 1) an amended FPA or associated regulations will provide performance standards for activities in riparian management zones, 2) we will need to maintain a significantly greater field presence than we are now in order to effectively implement the standards, 3) we will need to spend significantly more time participating in your department's preparation of forest management plans for state lands, and 4) the level of timber harvest north of the Alaska Range does not increase in the immediate future.

Additional Funding Requirement

Sitka Office:

Habitat Biologist II (12 months)	48.4
Line 200	4.5
Line 300	4.3
Line 400	0.5

Petersburg Office:

Habitat Biologist II (12 months)	48.4
Line 200	4.0
Line 300	4.3
Line 400	0.5

Ketchikan Office:

Habitat Biologist II (12 months)	48.4
Line 200	4.5
Line 300	4.3
Line 400	0.5

Douglas Regional Office:

Line 200	2.5
Line 300	2.0
Line 400	0.5

Subtotal 177.6

Anchorage Regional Office:

Habitat Biologist III (12 months)	55.0
Habitat Biologist II (24 months)	96.8
Line 200 (travel to Afognak, Cordova, Valdez, McGrath, Kodiak, Denai, and Mat-Su Valley)	16.0
Line 300 (Contractual for vessel and aircraft charters to reach logging areas for stream surveys and enforcement work)	30.0
Subtotal	<u>197.8</u>
TOTAL	<u>375.4</u>

Once again, these estimates reflect additional funding required for minimum effective implementation of an FPA. We assume that you will distribute this memorandum to steering committee members. If there are questions, please call either me or Bruce Baker (465-4105).

cc: Norman Cohen

PROJECTION OF FUNDING NEEDS TO IMPLEMENT FOREST PRACTICES ACT
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CURRENT STATUS

In FY 89 (the current fiscal year) the Department has no resources available for implementation of the existing forest practices act. Resources for DEC were not included with the original forest practices act bill. The department has never played a substantive role in this area. However, the department is the lead agency for protecting water quality throughout the state. Limited budget resources have restricted the department's ability to carry out many of its statutory responsibilities.

In his FY 90 budget, Governor Cowper included funding for one and one-half positions for DEC to begin to participate in the state's forest practices program. This would fund one full-time position in the Southeast region to review forest practices notifications and to begin to determine the current status of water quality in harvested areas. It would also fund one half-time position in the Southcentral region.

FOREST PRACTICES ACT REVISIONS

Under the proposed forest practices act, as it has been defined to date, the Department of Natural Resources would retain its lead role in managing the forest. The estimates given below assume that DNR will recognize its full responsibilities as the lead agency and cooperate actively with DEC on water quality issues. If this does not occur, then additional resources will be needed for DEC.

DEC assumes that DNR will actively assist DEC in identifying areas where water quality issues are likely to arise, during field and office reviews. This will reduce the necessity for DEC to travel to all planned harvest areas or to intensively review all notifications or other proposals. DEC assumes that DNR will also actively enforce any enforceable standards or best management practices that pertain to water quality, again reducing DEC's need to develop a field presence that duplicates DNR's.

With these assumptions, DEC projects that the following would be required to implement the forest practices act revision, as it is understood at this time.

One Ecologist II position for the water quality management section to develop regulations, procedures, and manage the

overall effort.

One Environmental Field Officer II position in the Southcentral region to review notifications (or other documents), oversee field activities, conduct inspections, and ensure that water quality is protected.

One Environmental Field Officer II position in the Southeast region for the same reasons.

The equivalent of one clerical position to provide clerical support.

An appropriation of \$10,000 for contractual support of field monitoring for water quality compliance.

Approximate total cost: \$220,500

/fpa

**Amendments to the Forest Practices Act
HB No. 331 & SB No. 317**

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BY THE RULES COMMITTEE BY
REQUEST OF THE GOVERNOR

1 IN THE SENATE

2

SENATE BILL NO. 317

3

IN THE LEGISLATURE OF THE STATE OF ALASKA

4

SIXTEENTH LEGISLATURE - FIRST SESSION

5

A BILL

6 For an Act entitled: "An Act relating to forest resources and practices
7 and to the management of forest lands; and providing
8 for an effective date."

9 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

10 * Section 1. AS 38.05 is amended by adding new sections to read:

11 Sec. 38.05.112. FOREST LAND USE PLANS. (a) The department may
12 not sell or harvest timber, except for isolated personal use timber
13 harvest, until a site-specific forest land use plan has been adopted.
14 A forest land use plan is required whether or not a regional or area
15 land use plan under AS 38.04.065(a) or a forest management plan under
16 AS 41.17.230 has been adopted.

17 (b) The commissioner shall base a forest land use plan on the
18 best available data, including information provided by other agencies
19 describing the immediate and long-term effects of individual and
20 collective forest activities on the timber base and on other resources
21 and uses.

22 (c) In addition to the requirements of AS 38.04.065(b), a forest
23 land use plan shall consider

24 (1) commercial timber harvesting, including related activ-
25 ities;

26 (2) harvesting of forest products for personal use;

27 (3) fish and wildlife habitat, including

28 (A) identification and protection of important wild-
29 life habitat;

1 (B) retention of riparian, wetland, and ocean-shore-
2 line vegetation critical for fish and wildlife habitat; and

3 (C) classification of waterbodies according to phys-
4 ical characteristics;

5 (4) uses of forest land for non-timber purposes, including

6 (A) recreation, tourism, and related activities;

7 (B) mining, mining claims, mineral leaseholds, and
8 material extraction;

9 (C) uses of fish and wildlife;

10 (D) agriculture, including grazing; and

11 (E) other resources and uses appropriate to the area,
12 including compatible traditional uses;

13 (5) soil characteristics and productivity;

14 (6) water quality; and

15 (7) watershed management.

16 Sec. 38.05.113. FIVE-YEAR SALE SCHEDULE. (a) The department
17 shall annually prepare a five-year schedule of timber sales planned on
18 all lands managed by the department. The schedule must be of suffi-
19 cient specificity that it provides a basis for the department to
20 allocate its resources in considering and designing sales and in
21 conducting economic and environmental analyses. The schedule must
22 inform the public and the timber products industry of long-term plans
23 and provide a basis for public comment.

24 (b) Except as provided in (c) of this section, a proposed sale
25 may not be held unless it has been included in the two five-year
26 schedules preceding the sale. This requirement does not apply until
27 one year after the first five-year schedule is prepared under this
28 section.

29 (c) The department may adopt regulations exempting small and

1 emergency sales from the requirements of this section.

2 * Sec. 2. AS 41.17.010(5) is repealed and reenacted to read:

3 (5) under the leadership of the Department of Environmental
4 Conservation as lead agency, the state should exercise its full re-
5 sponsibility and authority for control of nonpoint source pollution
6 with respect to the Federal Water Pollution Control Act, as amended;
7 and, subject to AS 41.17.098(c), the provisions of this chapter and
8 the regulations adopted under this chapter, with the approval of the
9 Department of Environmental Conservation, set out the nonpoint source
10 pollution requirements under state law and sec. 319 of the Clean Water
11 Act, for activities subject to this chapter;

12 * Sec. 3. AS 41.17.010(6) is amended to read:

13 (6) subject to 16 U.S.C. 1456(f) (sec. 307(f) of the
14 ~~SECT~~ Coastal Zone Management Act of 1972, P.L. 92-583), for private land,
15 ²₍₁₎ the provisions of this chapter and the regulations adopted under this
16 chapter set out the [SHALL BE THE BASIS FOR] forest management stan-
17 dards, policies, and review processes for purposes of [GUIDELINES
18 DEVELOPED UNDER] the Alaska Coastal Management Act; [.]

19 * Sec. 4. AS 41.17.010 is amended by adding a new paragraph to read:

20 (7) except for activities subject to the requirements of
21 AS 16.05.840 or AS 16.05.870 and the regulations authorized by those
22 sections, the provisions of this chapter and the regulations adopted
23 under this chapter set out the fish habitat protection standards,
24 policies and review processes under state law.

25 * Sec. 5. AS 41.17.041 is repealed and reenacted to read:

26 Sec. 41.17.041. BOARD OF FORESTRY. (a) The Board of Forestry
27 is established in the Department of Natural Resources, division of
28 forestry.

29 (b) The board is composed of seven members appointed by the

1 governor, as follows:

2 (1) a member or representative of a statewide commercial
3 fishermen's organization;

4 (2) a member or representative of a Native corporation
5 established under 43 U.S.C. 1601-1628 (Alaska Native Claims Settlement
6 Act);

7 (3) a member or representative of an environmental orga-
8 nization;

9 (4) a member or representative of a forest industry trade
10 association;

11 (5) a professional fish or wildlife biologist who is not
12 employed in that capacity by a state, municipal, or federal government
13 agency, except for university employment; and

14 (6) a professional forester who is not employed in that
15 capacity by a state, municipal, or federal government agency, except
16 for university employment;

17 (7) the state forester, who shall serve ex officio and
18 without vote.

19 (c) The state forester shall serve as chair of the board and
20 shall, in consultation with the board, establish procedures for
21 scheduling and organizing board meetings. Five voting members of the
22 board constitute a quorum. No less than one fewer vote than the
23 number of voting members present is necessary for all decisions of the
24 board.

25 (d) A board member who is unable to attend a meeting may desig-
26 nate an alternate, who possesses the same qualifications as the board
27 member.

28 (e) The division shall serve as staff to the board. The depart-
29 ment, the Department of Fish and Game, and the Department of

1 Environmental Conservation shall provide technical staffing and
2 information as needed by the board.

3 * Sec. 6. AS 41.17.043 is amended to read:

4 Sec. 41.17.043. TERMS OF OFFICE. The initial terms of board
5 members are: for two members, one year; for two members, two years;
6 and for two members, three years. After the initial terms, the [THE]
7 term of office of a member of the board is three years. The state
8 forester serves an indefinite term, ex officio.

9 * Sec. 7. AS 41.17.047 is repealed and reenacted to read:

10 Sec. 41.17.047. POWERS AND DUTIES OF BOARD. (a) The board
11 shall review and comment to the commissioner on regulations proposed
12 for adoption under this chapter.

13 (b) The board shall provide a forum for representatives of
14 affected interests to discuss and attempt to resolve issues relevant
15 to this chapter and to the forest resources of the state.

16 (c) The board, working with the department, the Department of
17 Environmental Conservation, the Department of Fish and Game, other
18 affected agencies and parties, and the forest-dependent industries,
19 shall conduct an annual survey of research needs related to forest
20 practices. The board shall review research proposals and shall make
21 recommendations to the governor and the legislature to promote re-
22 search projects that would address these needs.

23 (d) The board shall coordinate the monitoring of the implementa-
24 tion and effectiveness of this chapter, and the regulations and best
25 management practices adopted under this chapter, in meeting state
26 water quality standards, in meeting fish and wildlife habitat require-
27 ments, and in meeting other forestry objectives. The board shall
28 report annually to the legislature and the governor on the effective-
29 ness of this chapter and regulations adopted under it, with its

1 recommendations for changes and for needed research and monitoring.
2 The state forester, the Department of Fish and Game, and the
3 Department of Environmental Conservation shall each present an annual
4 report, independently, to the board on the effectiveness of this
5 chapter and the regulations and best management practices adopted
6 under this chapter that protect the resources for which they have
7 statutory responsibility, and shall make recommendations for changes
8 to correct procedural or substantive problems. The board shall
9 forward these reports to the legislature as part of its annual report.
10 The board shall hold hearings at least once annually in southeast,
11 southcentral, and interior Alaska for purposes of taking public
12 testimony on those subjects.

13 * Sec. 8. AS 41.17.055(d) is repealed and reenacted to read:

14 (d) The commissioner may develop regulations under this chapter
15 as part of the state program for control of nonpoint source pollution
16 under the Federal Water Pollution Control Act, as amended. However,
17 the Department of Environmental Conservation is the lead agency for
18 water quality and control of nonpoint source pollution under that Act,
19 and the regulations are therefore subject to the approval of the
20 commissioner of environmental conservation.

21 * Sec. 9. AS 41.17.060(b)(2) is amended to read:

22 (2) environmentally sensitive areas [AND BEST MANAGEMENT
23 PRACTICES] shall be recognized in the development of regulations and
24 best management practices that are designed to implement [IMPLEMENTA-
25 TION OF ANY] nonpoint source pollution control measures authorized
26 under this chapter;

27 * Sec. 10. AS 41.17.060(b) is amended by adding a new paragraph to
28 read:

29 (5) significant adverse effects of soil erosion and mass

1 wasting on water quality and fish habitat shall be prevented or min-
2 imized.

3 * Sec. 11. AS 41.17.060(c)(6) is amended to read:

4 (6) [WHERE ECONOMICALLY PRACTICABLE,] allowance shall [MAY]
5 be made for scenic quality in or adjacent to areas of substantial
6 importance to the tourism and recreation industry.

7 * Sec. 12. AS 41.17.060(c) is amended by adding a new paragraph to
8 read:

9 (7) allowance shall be made for important fish and wildlife
10 habitat.

11 * Sec. 13. AS 41.17.070(b) is repealed and reenacted to read:

12 (b) To maintain a record of division decision-making for public
13 and agency review, the commissioner shall compile and index all de-
14 cisions made under this chapter regarding directives, stop-work or-
15 ders, waivers from requirements, decisions of hearing officers, and
16 decisions on appeals. The commissioner shall submit a summary of this
17 record annually to the Board of Forestry.

18 * Sec. 14. AS 41.17.080 is repealed and reenacted to read:

19 Sec. 41.17.080. REGULATIONS. (a) The commissioner may adopt
20 regulations necessary to accomplish the purposes of this chapter under
21 the Administrative Procedure Act (AS 44.62) regarding forest practices
22 such as the following:

23 (1) road construction and maintenance, including

24 (A) road location, construction, maintenance, and
25 post-operation management or removal;

26 (B) landing location and construction;

27 (C) drainage structures;

28 (D) material sources and spoil disposal sites;

29 (2) timber harvesting, including

- 1 (A) timber harvest unit planning and design;
2 (B) felling and bucking;
3 (C) cable yarding, shovel, tractor, and wheeled
4 skidder systems;
5 (D) landing clean-up;
6 (E) slash disposal;
7 (3) log transfer, sort yards, and storage facilities,
8 including
9 (A) location, design, and construction;
10 (B) maintenance;
11 (C) closure;
12 (D) log storage, rafting, and identification;
13 (4) reforestation, including
14 (A) site preparation and rehabilitation;
15 (B) prescribed burning;
16 (C) exemptions from reforestation requirements;
17 (5) prevention and suppression of forest insects and dis-
18 eases;
19 (6) salvage logging;
20 (7) vegetative management; and
21 (8) fire and flood hazard management.

22 (b) The commissioner shall adopt regulations specifying the
23 information to be submitted under AS 41.17.090(c) in the detailed plan
24 of operations for the division to adequately assess whether the activ-
25 ities will comply with the requirements set out in this chapter.

26 (c) The commissioner may establish regions, districts, or other
27 subdivisions of forest land in the state in which different regu-
28 lations apply to reflect varying conditions in the state, or to facil-
29 itate administration. In adopting regulations, the commissioner shall

1 make appropriate distinctions between public and private land.

2 (d) The commissioner shall adopt only those regulations neces-
3 sary to accomplish the purposes of this chapter, and shall avoid those
4 that increase operation costs without yielding significant benefits to
5 public resources.

6 * Sec. 15. AS 41.17 is amended by adding new sections to read:

7 Sec. 41.17.082. CONTROL OF INFESTATIONS AND DISEASE. (a) All
8 forest clearing operations and silvicultural systems must be designed
9 to reduce the likelihood of increased insect infestation and disease
10 infections that threaten forest resources.

11 (b) A forest landowner may not conduct or approve timber clear-
12 ing activities that create conditions fostering outbreaks of
13 infestation or infection that threaten forest resources on forest
14 lands belonging to another person. If the commissioner finds, after
15 notice and hearing, that there has been a violation of this sub-
16 section, the commissioner may

17 (1) require the forest landowner, at that person's expense,
18 to promptly remove or cure the conditions fostering outbreaks of
19 infestation or infection; and

20 (2) require the forest landowner, at that person's expense,
21 to undertake environmentally sound, effective, and cost-efficient
22 actions to control the infestation or infection in the immediate
23 vicinity of the improper timber clearing activity.

24 (c) If a forest landowner does not comply with a final order of
25 the commissioner under (b)(1) or (b)(2) of this section, the commis-
26 sioner may enter onto the land and undertake the actions so ordered
27 and the landowner is liable for the cost of the actions after delivery
28 by the commissioner of an itemized statement of expenses incurred.

29 (d) The commissioner may undertake surveys and appraisals to

1 obtain data on regional insect infestations and disease conditions.
2 Upon a determination that there exists an area that is infested with
3 forest insects or infected with diseases injurious to forest resources
4 and that the infestation or infection threatens the forest land or
5 timber of adjacent owners, the commissioner may establish and set the
6 boundaries of an infestation or infection zone. The commissioner may
7 enter into agreements with any owner and with any governmental agency
8 for the purpose of controlling or suppressing infestation or infection
9 within the zone. Upon a determination by the commissioner that insect
10 and disease control work within the zone is no longer necessary or
11 feasible, the commissioner shall terminate the zone.

12 Sec. 41.17.083. CLEARING OF FOREST LAND FOR NON-TIMBER PURPOSES.
13 A state agency, municipality, or public utility shall, before approv-
14 ing or conducting clearing of forest land for purposes other than
15 timber harvest, determine whether the timber to be removed has signif-
16 icant salvage value. If the timber has significant salvage value, the
17 agency or utility shall salvage the timber as part of the clearing
18 process.

19 * Sec. 16. AS 41.17 is amended by adding a new section to read:

20 Sec. 41.17.087. VARIATION FROM REQUIREMENTS. A forest land-
21 owner, timber owner, or operator may propose for a particular activity
22 a variation from a requirement imposed by this chapter or the regu-
23 lations adopted under this chapter. Consistent with AS 41.17.098, if
24 the state forester determines that the harm intended to be avoided by
25 the requirement is not likely to occur because of site-specific cir-
26 cumstances relating to the particular activity and is not likely to
27 cause significant harm to fish habitat or water quality, the state
28 forester shall agree to the proposed variation. If the state forester
29 does not agree to the proposed variation, a forest landowner, timber

1 owner, or operator may appeal to the commissioner. The appellants
2 shall conform to the requirement during the pendency of the appeal.

3 * Sec. 17. AS 41.17.090 is repealed and reenacted to read:

4 Sec. 41.17.090. NOTIFICATION OF PLANS TO HARVEST TIMBER. (a)
5 Operations on forest land shall be reviewed under this section for
6 consistency with the policies and provisions of this chapter and
7 regulations adopted under this chapter.

8 (b) A forest landowner, timber owner, or operator may provide to
9 the commissioner a voluntary plan of operations which describes the
10 long-term plans for timber harvesting. The purpose of a voluntary
11 plan is to give the division and the public an early opportunity to
12 review plans, to identify areas of concern, and to allow the agencies
13 and the public to provide local knowledge and early notice of poten-
14 tial problems to the forest landowner, timber owner, or operator.

15 (c) Before beginning operations on forest land, the operator
16 shall provide the state forester with a detailed plan of operations.
17 The plan of operations must include

18 (1) a description of the proposed operations, identifying
19 the land involved and the action proposed in sufficient detail to
20 inform the public of the nature and location of the proposed op-
21 erations; the description must include a map and must be in a form
22 suitable for duplication;

23 (2) the name, address, and approving signature of the
24 forest landowner, timber owner, and operator; and

25 (3) other information required in the regulations adopted
26 under this chapter.

27 (d) Within five days after receipt of a plan of operations under
28 (c) of this section, the state forester shall distribute the informa-
29 tion received under (c) of this section to affected state agencies and

1 coastal districts, and shall distribute the information received under
2 (c)(1) of this section to all members of the public who have asked to
3 receive copies of notifications for the affected area.

4 (e) Within 30 days after receipt of a complete plan of op-
5 erations, the state forester shall review the plan to determine wheth-
6 er the operations are consistent with the requirements of this chapter
7 and the regulations adopted under this chapter. Operations may begin
8 under the plan upon the expiration of the 30-day period or upon notice
9 from the state forester that the review has been completed, whichever
10 occurs first, unless the division has issued a stop-work order for a
11 particular portion of the plan, or has notified the operator that a
12 one-time, ten-day extension is necessary for agency elevations under
13 AS 41.17.098(f). The operator may proceed with operations not covered
14 by the stop-work order, notice of field inspection, or the elevation.
15 During the review of a plan of operations, if a question arises con-
16 cerning the proper classification of waterbody type for purposes of
17 the standards in AS 41.17.116(a), the Department of Fish and Game has
18 the authority to finally resolve the question.

19 (f) If the state forester determines that a field inspection is
20 necessary to determine consistency of the operating plan or some
21 portion of the plan with applicable standards, the state forester
22 shall notify the operator. The notice of field inspection may not
23 cover more than the minimum area necessary to determine compliance
24 with this chapter and applicable regulations. The operator shall
25 inform the state forester of when the site will be accessible and
26 available for an inspection. The state forester shall conduct the
27 field inspection within 21 days after the date that the site will be
28 accessible and available, unless the operator otherwise agrees, and
29 the operator may begin operations at the conclusion of that period

1 unless the state forester has issued a stop-work order under AS 41.-
2 17.138.

3 (g) During the review of a detailed plan of operations, modi-
4 fications to accommodate comments may be made without requiring the
5 operator to resubmit the plan. After the review of the detailed plan
6 of operations made under (e) and (f) of this section, an operator
7 shall notify the state forester of a proposed substantial change in
8 operations by following the procedures specified in (c) - (f) of this
9 section.

10 (h) Information and paperwork required of the operator under
11 this section shall be limited to that necessary to accomplish the
12 purposes of this section.

13 (i) An operator shall renew a plan of operations annually and
14 the state forester shall review any decision under AS 41.17.117 with
15 respect to that plan of operations during each renewal.

16 * Sec. 18. AS 41.17 is amended by adding a new section to read:

17 Sec. 41.17.098. INTERAGENCY COORDINATION. (a) In administering
18 this chapter, the commissioner shall coordinate with other agencies
19 and affected coastal districts that have jurisdiction over activities
20 subject to regulation under this chapter.

21 (b) In any review or implementation of a plan of operations
22 under AS 41.17.090 and in any decision on a proposed variation from
23 requirements under AS 41.17.087, the commissioner shall consider the
24 comments of all affected state agencies, and, where applicable,
25 coastal districts.

26 (c) The commissioner shall give due deference to the Department
27 of Environmental Conservation in decisions concerning water quality.
28 The commissioner of environmental conservation retains the authority
29 to adopt nonpoint source pollution regulations for activities subject

1 to this chapter to the extent that regulations adopted by the
2 commissioner of natural resources and approved by the commissioner of
3 environmental conservation under this chapter. The commissioner of
4 environmental conservation retains the authority to withdraw approval
5 of regulations adopted by the commissioner under this chapter.

6 (d) The commissioner shall recognize the expertise of the De-
7 partment of Fish and Game with regard to fish and wildlife habitat.
8 On private land, the commissioner shall give due deference to the
9 Department of Fish and Game regarding impacts to fish habitat from
10 timber operations including variations to riparian standards, desig-
11 nation of alternative site-specific riparian protection plans, and
12 road location decision within riparian areas. On public land, the
13 commissioner shall give due deference to the Department of Fish and
14 Game regarding impacts to fish and wildlife habitat from timber op-
15 erations including timber harvest in riparian areas, variations to
16 riparian standards, and road location decisions within riparian areas.
17 In making decisions under AS 41.17.087, the commissioner shall
18 recognize fish habitat as the primary value in riparian areas.

19 (e) In this section, "due deference" means that deference which
20 is appropriate in the context of the agency's expertise and area of
21 responsibility, and all the evidence available to support any factual
22 assertions. Where due deference is given, if the commissioner does
23 not agree with a commenting agency, the commissioner shall prepare a
24 written statement of the reasons for the disagreement.

25 (f) Any agency may require an elevation of a decision to a
26 higher level of the agencies.

27 * Sec. 19. AS 41.17 is amended by adding new sections to read:

28 *
ARTICLE 1A. RIPARIAN MANAGEMENT.

29 Sec. 41.17.115. INTENT FOR RIPARIAN AREAS. The commissioner

1 shall protect riparian areas from the significant adverse effects of
2 timber harvest activities on fish habitat and water quality. The
3 management intent for riparian areas is the adequate preservation of
4 fish habitat by maintaining a short- and long-term source of large
5 woody debris, stream bank stability, channel morphology, water temper-
6 atures, stream flows, water quality, adequate nutrient cycling, food
7 sources, clean spawning gravels, and sunlight. The commissioner shall
8 adopt regulations for the protection of riparian areas; the regu-
9 lations may include higher standards of protection for fish and other
10 public resources on land managed by the department than on other
11 public land or private land. The regulations may vary by region of
12 the state, and must take into consideration reasonable classification
13 of waterbodies and the economic feasibility of timber operations.

14 Sec. 41.17.116. RIPARIAN STANDARDS FOR PRIVATE LAND. (a)
15 Except as provided in AS 41.17.117, private forest land adjacent to
16 the following types of waters as defined in AS 41.17.950 and located
17 in the coastal spruce-hemlock forest is subject to the riparian pro-
18 tection standards set out in this section:

19 (1) Along all Type A waterbodies,

20 (A) harvest of timber may not be undertaken within 15
21 meters of the waterbody;

22 (B) no more than 50 percent of the timber, calculated
23 by basal area, located between 15 and 30 meters from the
24 waterbody may be harvested; and

25 (C) the remaining 50 percent of the timber located
26 between 15 and 30 meter; from the waterbody must be alive, with-
27 out significant damage from harvest operations, and generally
28 representative of the original size distribution of the stand in
29 order to provide for sufficient large woody debris and other fish

1 habitat components; to the extent consistent with habitat needs,
2 the operator may harvest high value trees and retain lower value
3 trees;

4 (D) the commissioner may agree to a modification of
5 the timber retention requirements in (A) - (C) of this paragraph
6 if adequate protection remains for the fish habitat and compa-
7 rably sized substitute timber is retained in another area; it is
8 preferable, but not mandatory, that the substitute timber be left
9 in another part of the riparian area.

10 (2) Along all Type B waterbodies, timber harvest operations
11 within 30 meters of the stream or to the slope-break, whichever area
12 is smaller, must be conducted in compliance with slope stability
13 standards set out in regulations adopted under this chapter.

14 (3) Along all Type C waterbodies, timber harvest operations
15 in the area within 15 meters of the stream or to the slope-break,
16 whichever area is smaller, must be conducted in compliance with slope
17 stability standards set forth in regulations adopted under this chap-
18 ter.

19 (b) The commissioner shall adopt regulations for private land
20 outside of the coastal spruce-hemlock forest that designate the
21 riparian areas to be protected and the restrictions on timber harvest-
22 ing operations within those areas which are necessary for their pro-
23 tection in accordance with the management goals set out in AS 41.-
24 17.115. [Until regulations are adopted, the standards set out in
25 AS 41.17.119 apply.]

26 Sec. 41.17.117. PROCEDURES FOR PRIVATE LAND IN COASTAL FORESTS.

27 (a) If a plan of operations required by AS 41.17.090 includes private
28 land in the coastal spruce-hemlock forest that is located within 30
29 meters of an anadromous fish waterbody, the plan of operations must

1 identify

2 (1) a planning area consisting of all contiguous land
3 within an entire drainage, subdrainage within a large drainage, or
4 major reach of a larger river, that is owned by a person or a group of
5 persons under common control; and

6 (2) an operating area that includes all current and future
7 harvest areas within the planning area and all trees that could be cut
8 within the harvest areas using conventional logging methods regardless
9 of whether the application of the riparian standards set out in
10 AS 41.17.116(a) would preclude cutting.

11 (b) Once an operating area is designated, timber located in a
12 new operating area within the planning area may not be harvested until
13 the next rotation period, except as provided in (d) of this section.

14 (c) A plan of operations submitted under AS 41.17.090(c) may
15 include timber retention requirements different from those set out in
16 AS 41.17.116(a)(1) only if the timber to be retained in the riparian
17 area pursuant to AS 41.17.116(a)(1), the timber made inoperable by
18 application of AS 41.17.116(a)(1), and the timber left in addition to
19 requirements of AS 41.17.116(a) to protect fish habitat under an
20 agreement with the state forester, would result in retention of more
21 than five percent of the basal area in the operating area. If the
22 state forester determines that those three factors would result in
23 retention of more than five percent of the basal area in the operating
24 area, the state forester shall, within the period specified in
25 AS 41.17.090(e) for reviewing the plan, (1) issue a written decision
26 designating an alternate site specific riparian protection plan that
27 does not require the retention of more than five percent of the basal
28 area and that does not require the retention of timber unnecessary for
29 adequate protection of fish habitat and water quality; (2) agree to

1 the timber retention proposed in the plan of operations; or (3)
2 tender compensation for the timber in excess of five percent of the
3 basal area at the current market value of the trees to be harvested
4 from the operating area. The operator may appeal to the commissioner
5 from a decision designating an alternate site specific riparian pro-
6 tection plan. If different timber retention requirements under this
7 subsection are not included in the plan of operations, the operator
8 shall comply with the timber retention requirements of
9 AS 41.17.116(a)(1).

10 (d) During the same rotation period, an operator may harvest
11 timber from a new operating area within a planning area designated in
12 (a) of this section, regardless of any changes in ownership, only as
13 authorized as follows:

14 (1) If the riparian standards of AS 41.17.116(a) have been
15 met in the original operating area without compensation under (c)(3)
16 of this section, the operator may harvest timber from the new operat-
17 ing area. Timber harvest in the new operating area must comply with
18 AS 41.17.116(a).

19 (2) If the riparian standards of AS 41.17.116(a) have not
20 been met in the original operating area or if compensation has been
21 provided under (c)(3) of this section, the operator may harvest timber
22 from a new operating area only if the operator complies with addition-
23 al timber retention requirements adopted by the commissioner in regu-
24 lation. In the regulations, the commissioner shall require that
25 between seven and one-half percent and ten percent of the basal area
26 of the new operating area must be dedicated to habitat protection or
27 enhancement.

28 Sec. 41.17.118. RIPARIAN STANDARDS FOR STATE LAND. The riparian
29 standards for state land are as follows:

1 (1) On state forest land managed by the department that is
2 located north of the Alaska Range, harvest of timber may not be under-
3 taken within 30 meters immediately adjacent to an anadromous or high
4 value resident fish waterbody unless the division determines that
5 adequate protection remains for the fish habitat. On state forest
6 land managed by the department that is located south of the Alaska
7 Range, harvest of timber may not be undertaken within 30 meters imme-
8 diately adjacent to an anadromous or high value resident fish
9 waterbody; ^{100ft 300ft} between 30 and 90 meters from the waterbody, any timber
10 harvest must be consistent with the maintenance of important fish and
11 wildlife habitat.

12 (2) The commissioner may impose additional riparian pro-
13 tection standards for timber harvest operations through the adoption
14 of land use plans under AS 38.04.065 and forest management plans and
15 reports under AS 38.05.112 and AS 41.17.230.

16 (3) Nothing in this section alters the terms of any exist-
17 ing contract or the outcome of any pending litigation. An amendment
18 to or renewal of an existing state timber contract must be consistent
19 with this chapter and AS 38.05, as amended by this Act.

20 Sec. 41.17.119. RIPARIAN STANDARDS FOR OTHER PUBLIC LAND. On
21 other public land, timber harvest operations on forest land within 30
22 meters from the shore or bank of any anadromous or high value resident
23 fish waterbody must be sited and designed primarily to protect fish
24 habitat and water quality.

25 * Sec. 20. AS 41.17 is amended by adding a new section to read:

26 Sec. 41.17.125. ENFORCEMENT COORDINATION. All state agencies
27 with enforcement authority over activities subject to regulation under
28 this chapter shall establish a uniform enforcement strategy that
29 avoids duplication and inconsistencies. All participating agencies

1 shall agree to and comply with the contents of that strategy. In
2 developing and implementing the uniform strategy, each state agency
3 retains its authority to determine the appropriate remedies under the
4 statutes and regulations it administers.

5 * Sec. 21. AS 41.17.131 is repealed and reenacted to read:

6 Sec. 41.17.131. PENALTIES FOR VIOLATIONS. (a) An operator,
7 forest landowner, or timber owner who violates or permits a violation
8 of this chapter, a regulation adopted under this chapter, a directive
9 issued under AS 41.17.136, or a stop-work order issued under AS 41.-
10 17.138 is liable, after notice and hearing, for a civil fine in an
11 amount not to exceed \$10,000 to be assessed by the commissioner. In
12 determining the amount of civil fine, the commissioner shall consider:

13 (1) the character and degree of injury to forest resources
14 and values;

15 (2) the degree of intent or negligence of the respondent in
16 causing or permitting the violation;

17 (3) the character and number of past violations caused or
18 permitted by the respondent; and

19 (4) if the information is available, the net economic
20 savings realized by the respondent through the violation.

21 (b) An operator, forest landowner, or timber owner who, with
22 criminal negligence, violates or permits a violation of this chapter,
23 a regulation adopted under this chapter, a directive issued under
24 AS 41.17.136, or a stop-work order issued under AS 41.17.138 is guilty
25 of a class A misdemeanor. As used in this section, "criminal negli-
26 gence" has the meaning given in AS 11.81.900(a).

27 (c) Each day on which a continuing violation occurs constitutes
28 a separate violation for purposes of (a) and (b) of this section.

29 (d) If a respondent violates a directive issued under

1 AS 41.17.136 or a stop-work order issued under AS 41.17.138, the
2 attorney general, at the request of the commissioner, may seek an
3 injunction requiring the respondent to suspend all or part of the
4 operations until the respondent complies with the directive or
5 stop-work order, and requiring the respondent to repair or correct any
6 damage resulting from the violation.

7 (e) If a respondent violates a directive issued under AS 41.-
8 17.136 which requires the respondent to repair or correct damage, the
9 commissioner may proceed to repair or correct the damage using state
10 agency employees or contractors, and the respondent is liable for the
11 cost of the repair after delivery by the commissioner of an itemized
12 statement of expenses incurred.

13 * Sec. 22. AS 41.17 is amended by adding a new section to read:

14 Sec. 41.17.136. DIRECTIVES. (a) Upon a determination that a
15 planned or ongoing activity violates or would violate this chapter or
16 a regulation adopted under it, the state forester shall notify the
17 respondent in writing and direct the respondent to halt or avoid the
18 violation, or to repair or correct any damage resulting from the
19 violation. The written notification must include a summary of the
20 basis for the directive.

21 (b) The respondent either may comply with the directive or may
22 request a hearing under AS 41.17.139 within 15 days. If a hearing is
23 requested, the respondent may continue with the activity unless the
24 state forester also issues a stop-work order under AS 41.17.138. If
25 the directive is affirmed by the hearing officer, the respondent shall
26 cease the activity unless a stay is issued under AS 41.17.143(c) or by
27 the superior court.

28 * Sec. 23. AS 41.17 is amended by adding a new section to read:

29 Sec. 41.17.138. STOP-WORK ORDERS. (a) Upon a determination

1 that a violation of this chapter or a regulation adopted under it is
2 occurring or is likely to occur and that significant harm to public
3 resources is likely to occur if work is not halted before a hearing
4 can be held, the state forester may issue a stop-work order requiring
5 the respondent to stop the violation or otherwise halt the threatened
6 harm. A stop-work order must be in writing and must state the facts
7 on which it is based.

8 (b) The state forester shall immediately refer the matter to a
9 hearing officer for determination of the validity of the stop-work
10 order under AS 41.17.139. The hearing officer shall consider any
11 arguments and evidence presented by the respondent within five work-
12 days after receipt of the stop-work order and shall then make an
13 immediate decision sustaining or reversing the stop-work order. The
14 stop-work order is of no further effect if it is not sustained by the
15 hearing officer within the five-workday period. A stop-work order may
16 be sustained only upon the same grounds on which it was originally
17 issued.

18 * Sec. 24. AS 41.17.139 is amended to read:

19 Sec. 41.17.139. HEARING PROCEDURES. (a) Unless otherwise
20 specified, proceedings under AS 41.17.131 - 41.17.139 are not subject
21 to the Administrative Procedure Act (AS 44.62). A hearing under
22 AS 41.17.136 or AS 41.17.138 [AS 41.17.131 - 41.17.139] shall be held
23 before the state forester, a regional forester, or another employee of
24 the division with similar qualifications [A HEARING OFFICER, APPOINTED
25 BY THE ATTORNEY GENERAL FROM AMONG MEMBERS OF THE ALASKA BAR ASSO-
26 CATION WHO HAVE BEEN NOMINATED BY THE BOARD OF FORESTRY AND WHO ARE
27 KNOWLEDGEABLE AND EXPERIENCED IN THE SUBJECT MATTER]. A hearing on an
28 appeal under AS 41.17.087 or AS 41.17.117(c) and a hearing under
29 AS 41.17.082(b) shall be held before the commissioner or the

1 commissioner's designee. A person who has assisted in the preparation
2 of the division's [STATE'S] case [OR WHO IS A STATE EMPLOYEE] is
3 ineligible. Hearings are not limited by common law, statutory, or
4 judicial rules of evidence; however, the hearing officer may admit
5 only that evidence which appears to be reliable and trustworthy. All
6 hearings shall be open to the public. Written or oral testimony may
7 be submitted. A party to a hearing may make written or oral argument,
8 secure the issuance of a subpoena under AS 44.62.430, offer testimony
9 or other evidence, and cross-examine witnesses. The hearing officer
10 shall endeavor, in conducting any hearing, to ensure that the respon-
11 dent understands the proceedings and that the facts supporting the
12 position of each party have been adequately presented. [HEARINGS
13 SHALL BE HELD AS CLOSE AS PRACTICABLE TO THE LOCATION OF THE ALLEGED
14 VIOLATION. TESTIMONY GIVEN AT THE HEARING SHALL BE RECORDED.]

15 (b) If the respondent notifies the commissioner within five days
16 before the hearing provided for in (a) of this section, the following
17 rules and procedures apply to the hearing:

18 (1) the hearing shall be a nonadversary proceeding, with
19 the hearing officer fully and impartially representing the interests
20 of the state and the respondent;

21 (2) the hearing officer shall thoroughly investigate the
22 facts and circumstances relating to the alleged violation, including
23 taking testimony from appropriate persons, collecting and examining
24 documents and other evidence, and performing other actions consistent
25 with due process of law; and

26 (3) the hearing officer shall issue a decision in accor-
27 dance with the applicable procedures of (a) of this section.

28 (c) The hearing officer shall select the location of the hear-
29 ing, giving consideration to the convenience of the parties and

1 witnesses. The hearing officer may permit witnesses to testify
2 through teleconferencing.

3 * Sec. 25. AS 41.17.143 is repealed and reenacted to read:

4 Sec. 41.17.143. APPEALS AND JUDICIAL REVIEW. (a) A decision by
5 a hearing officer under AS 41.17.136 or 41.17.138 or by the commis-
6 sioner under AS 41.17.082(b), 41.17.087, 41.17.117(c), or 41.17.131(a)
7 constitutes final agency action which may be appealed to the superior
8 court within 30 days after it is issued. Judicial review shall be as
9 provided in AS 44.62.560 and AS 44.62.570.

10 (b) An operator, forest landowner, or timber owner may request
11 the commissioner to reconsider the decision of a hearing officer
12 within 30 days after it is issued. Reconsideration is not a precondition
13 of judicial review under (a) of this section. If reconsideration
14 is requested, the final agency action for purposes of judicial review
15 is a decision by the commissioner to affirm, modify, or reverse the
16 hearing officer or to deny the request for reconsideration.

17 (c) The commissioner may stay or modify a directive or order
18 pending administrative or judicial review. A stay or modification may
19 not be appealed separately from an appeal of the substantive decision.

20 (d) No person, except the aggrieved forest landowner, timber
21 owner, or operator, may maintain any administrative or judicial ap-
22 peal, or other action or proceeding of any kind, challenging any
23 decision or failure to act by the department with respect to the
24 compliance of a timber operation on private forest land with this
25 chapter or a regulation, standard, directive, or order issued under
26 this chapter. Nothing in this subsection prohibits the maintenance of
27 an action

28 (1) for an alleged violation of a constitutional right; or

29 (2) against the department regarding any regulation,

1 standard, or systematic course of conduct that does not involve a
2 challenge to, or attempt to enjoin, stay, modify, or otherwise affect
3 a timber operation on private forest land subject to this chapter.

4 * Sec. 26. AS 41.17.230(f) is repealed and reenacted to read:

5 (f) A management plan prepared by the commissioner shall con-
6 sider and permit the uses described in AS 38.05.112(c). If the com-
7 missioner finds that a permitted use is incompatible with one or more
8 other uses in a portion of a state forest, the commissioner shall
9 affirmatively state in the management plan that finding of incom-
10 patibility for the specific area where the incompatibility is antic-
11 ipated to exist and the time period when the incompatibility is antic-
12 ipated to exist, together with the reasons for each finding.

13 * Sec. 27. AS 41.17.900(b) is repealed and reenacted to read:

14 (b) The degree of resource protection on federal land shall be
15 no less than that provided for by this chapter for state land. How-
16 ever, the specific provisions of this chapter and its implementing
17 regulations are not applicable to federal land either directly or for
18 purposes of compliance with the Coastal Zone Management Act.

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lands

19 * Sec. 28. AS 41.17.900 is amended by adding a new subsection to read:

20 (e) Nothing in this chapter diminishes the rights, privileges,
21 or immunities of Alaska Natives or Alaska Native corporations with
22 respect to land conveyed under 43 U.S.C. 1601 - 1628 (Alaska Native
23 Claims Settlement Act), or to alter or diminish the authority of the
24 Department of Fish and Game under AS 16 or of the Department of En-
25 vironmental Conservation under AS 46 or of any state agency under
26 other laws.

27 * Sec. 29. AS 41.17 is amended by adding a new section to read:

28 Sec. 41.17.910. WILDLIFE HABITAT ON PRIVATE LAND. (a) The
29 Department of Fish and Game and the commissioner shall work

1 cooperatively with private forest landowners and timber owners to
2 protect, maintain, and enhance wildlife habitat to the maximum extent
3 practicable, consistent with the interests of the owners in the use of
4 their timber resources.

5 (b) The Department of Fish and Game shall provide educational
6 and technical assistance and extension services to owners of private
7 forest land or timber to assist in identifying important wildlife
8 habitat and to assist in designing voluntary management techniques
9 that minimize adverse effects on wildlife habitat.

10 (c) The Department of Fish and Game and the landowner shall
11 cooperate in identifying areas of important wildlife habitat on pri-
12 vate forest land and in developing methods for their protection.
13 Methods of protection for wildlife habitat may include, with the
14 agreement of the landowner, the purchase of fee title, purchase of
15 conservation easements, and land exchanges.

16 (d) Nothing in this section alters or diminishes the state's
17 authority and responsibility over wildlife on private land.

18 * Sec. 30. AS 41.17.950 is amended to read:

19 Sec. 41.17.950. DEFINITIONS. In this chapter, unless the con-
20 text otherwise requires,

21 (1) "board" means the Board of Forestry established in
22 AS 41.17.041;

23 (2) "broadcast chemicals" includes pesticides, herbicides,
24 fungicides, fertilizers, poisons, and any other substances

25 (A) used for silvicultural management or related
26 purposes;

27 (B) not native to the ecosystem in which they are
28 being applied; and

29 (C) having a foreseeable adverse impact on the welfare

1 of renewable resources, as determined by the commissioner of
2 environmental conservation;

3 (3) [(5)] "division" means the division of forestry;

4 (4) [(6)] "forest land" means land stocked or having been
5 stocked with forest trees of any size and not currently developed for
6 nonforest use, regardless of whether presently available or accessible
7 for commercial purposes, and includes any such land under state,
8 municipal, or private ownership;

9 (5) [(7)] "forest landowner" means a person who owns forest
10 land, but does not include the owner of mineral or subsurface rights
11 only;

12 (6) [(8)] "multiple use" means

13 (A) the management of all the various resources of
14 forest land so that they are used in the combination that will
15 best meet the needs of the citizens of Alaska, making the most
16 judicious use of the land for some or all of these resources or
17 related values, benefits, and services over areas large enough to
18 provide sufficient latitude for periodic adjustments in use to
19 conform to changing needs and conditions;

20 (B) that some land will be used for less than all of
21 the resources; and

22 (C) harmonious and coordinated management of the
23 various resources, each with the other, without significant
24 impairment of the productivity of the land and water, with con-
25 sideration being given to the relative values of the various
26 resources, and not necessarily the combination of uses that will
27 give the greatest dollar return or the greatest unit output;

28 (7) [(9)] "operations" means timber harvesting or activ-
29 ities associated with timber harvesting or forest development unless

1 exempted under AS 41.17.900(a) - (c);

2 (8) [(10)] "operator" means a person who is engaged in
3 timber harvesting or activities associated with timber harvesting or
4 forest development, or who contracts with others to conduct operations
5 for that person, except a person who is engaged in an operation as an
6 employee with wages or piecework as the sole compensation;

7 (9) "other public land" means state land managed by state
8 agencies other than the department, land owned by a municipality, and
9 land owned by the University of Alaska;

10 (10) [(11)] "person" has the meaning given in AS 01.10.060
11 and also includes a joint venture;

12 (11) "riparian area" means:

13 (A) on private land in the coastal spruce-hemlock
14 forest, the areas specified in AS 41.17.116(a);

15 (B) on private land outside the coastal spruce-hemlock
16 forest, the areas specified in regulations adopted by the commis-
17 sioner under AS 41.17.116(b);

18 (C) on state land managed by the department and on
19 other public land, the area 30 meters from the shore or bank or
20 any anadromous or high value resident fish waterbody;

21 (12) "significant impairment of the productivity of the land
22 and water" means any activity that [WHICH] may foreseeably result in
23 prolonged or substantial damage to renewable resources or prolonged or
24 substantial reduction of the continuing capability of the land or
25 water to produce renewable resources at their natural or historic
26 levels;

27 (13) "silviculture" means the art of producing and tending a
28 forest, the application of the knowledge of silvics in the treatment
29 of a forest, and the theory and practice of controlling and managing

1 forest establishment, composition, and growth;

2 (14) "state forest" means an area designated by the legis-
3 lature and [WHICH IS] retained in state ownership in order to
4 (A) provide a base for sustained yield management of
5 renewable resources; and
6 (B) permit a variety of beneficial uses;

7 (15) "sustained yield" means the achievement and maintenance
8 in perpetuity of a high level annual or regular periodic output of the
9 various renewable resources of forest land and water without signifi-
10 cant impairment of the productivity of the land and water, but does
11 not require that timber be harvested in a non-declining yield basis
12 over a rotation period; [AND]

13 (16) "timber owner" means a person who owns timber on forest
14 land or who has the rights to timber, but does not own the land it-
15 self;

16 (17) ^{3,5,6,7,8,9} "Type A waterbodies" means the following anadromous
17 fish waters:
18 (A) streams or rivers of any size having an average
19 gradient of eight percent or less, banks held in place by vege-
20 tation, channels that are not incised, and a substrate composed
21 of rubble, gravel, sand or silt;
22 (B) wetlands and lakes including their outlets; and
23 (C) estuarine areas delimited by the presence of
24 salt-tolerant vegetation;

25 (18) "Type B waterbodies" means anadromous fish streams and
26 rivers of any size having an average gradient of eight percent or
27 less, a channel that is incised and contained by the geomorphology and
28 not by vegetation, and a substrate that ranges from rubble to bedrock;
29 and

1 (19) "Type C waterbodies" means streams that are tributary
2 to anadromous waters that are incised greater than 28 degrees, have an
3 average gradient of greater than eight percent, are narrower than 20
4 feet between ordinary high water marks, have a substrate of rubble and
5 bedrock, and are mountain slope streams at the upper end of the
6 watershed.

7 * Sec. 31. LEGISLATIVE REVIEW. The legislature acknowledges and recog-
8 nizes that this Act is adopted on an interim basis because it involves a
9 significant increase in agency responsibility, is based on many untested
10 assumptions, and depends for its efficacy on many factors beyond the con-
11 trol of the state. Therefore, it is the intent of the legislature that the
12 operation of this Act and regulations adopted under this Act be fully
13 reviewed and the Act amended as necessary after the second full field
14 season ends in 1991. This period is intended to allow for further re-
15 search, and to gain experience implementing the Act and its regulations.
16 It is the intent of this legislature that a representative group be con-
17 vened for the review, or that it be conducted by the Board of Forestry. In
18 either event, it is the legislature's intent that the review occur with
19 full public input and participation, and its recommendations be forwarded
20 for legislative review, and for any needed changes in legislation. No
21 later than January 1, 1992, the Board of Forestry, the Department of Natu-
22 ral Resources, the Department of Environmental Conservation, and the De-
23 partment of Fish and Game shall submit along with the reports required by
24 AS 41.17.047(d), any proposed amendments to this chapter. The legislature
25 shall hold hearings to consider these or any other amendments and shall
26 take whatever action is required to accomplish the intent and purposes of
27 this Act.

28 * Sec. 32. AS 41.17.133, 41.17.135, 41.17.137, 41.17.141, 41.17.230(e),
29 and 41.17.900(d) are repealed.

1 * Sec. 33. This Act takes effect January 1, 1990.

Bill Analysis
Senate Bill 317

An Act relating to forest resources and practices and to the management of forest lands;
and providing for an effective date

Sec 1 ✓ Section 1: State Timber Planning Process. Title 38 is amended to require additional planning before state timber sales. The division of forestry must prepare a site-specific plan before all state timber sales that fully integrates appropriate resource protection measures into the sale design. This site-specific design would also improve public review of individual timber sales.

The department would also be required to annually prepare a five-year timber schedule of proposed state timber sales. Except for small sales and emergencies such as salvage, a proposed sale would be required to appear on the two five-year schedules preceding the sale. The five-year schedule will inform the public and the timber industry of the state's long-term plans.

✓ Section 2, 3 and 4: Coordinating Overlapping Agency Jurisdiction. These sections coordinate overlapping agency jurisdiction regulating timber harvest activities.

Sec 2 Section 2: DEC. Regulations of the amended forest practices act will serve as timber harvest standards for non-point source pollution under the leadership of DEC.

Section 3: ACMP. The amended forest practices act will serve as the Coastal Management Program for harvest activities on private land.

Section 4: DF&G. Regulations of the amended forest practices act provide the fish habitat protection standards except for those activities subject to AS 16.06.840 and AS 16.05.870.

Sec 5 Section 5: Board of Forestry Membership. The current 13-member board of forestry is restructured to a smaller, more balanced, 7-member board. (See section 7 for duties of the board.) It also details qualifications for board members, staffing requirements, and voting procedures.

29 Section 6: Board of Forestry Terms of Office. The section amends existing terms of office to provide staggered terms of office for the Board of Forestry.

4 Section 7: Powers and Duties of the Board of Forestry. This section amends the duties of the Board of Forestry. Existing duties include only commenting on regulations. New duties are added: providing a forum for discussion for representatives of affected interests to discuss and resolve forestry issues before they become divisive; coordinating an annual survey of research needs; coordinating the monitoring of the implementation and effectiveness of the forest practices program and making recommendations for change; and holding annual hearings in southeast, southcentral, and interior Alaska to take public testimony on the state's forest practices program.

5 Section 8: Technical Change, Coordination with DEC. References to DEC's program for non-point source water pollution are amended to be consistent with the coordination provisions in Section 3.

10 Section 9: Technical Change, Non-point Source Pollution Control. Wording is changed to make clear the meaning of the existing law concerning recognition of environmentally sensitive areas in non-point source pollution control measures.

⁶
Section 10: Standard for Soil Erosion and Mass Wasting. The section provides a standard of minimizing or preventing significant adverse effects of soil erosion and mass wasting.

⁷
Section 11: Standard for Scenic Quality. The existing standard for scenic quality near tourism and recreation areas is amended. The standard applies to state and municipal land only. The standard would be implemented by regulations of the act, and by state and municipal planning for timber harvest.

Section 12: Standard for Important Fish and Wildlife Habitat. A new standard is added that requires planning for harvest allowance be made for important fish and wildlife habitat. The standard applies to state and municipal land only. The standard would be implemented by regulations of the act, and by state and municipal planning for timber harvest.

⁸
Section 13: Records for Public and Agency Review. The division is required to maintain a records of decisions made under the act for use by the public and state agencies in assessing the effectiveness of implementation of the act.

⁹
Section 14: Regulations. This section provides a list of forestry activities subject to regulation under the act; allows the commissioner to establish regions and make appropriate distinctions between public and private land; and directs the commissioner to only adopt those regulations that yield significant benefits.

¹⁰
Section 15: Control of Infestation and Disease. A new section of the act is added that allows the commissioner to take action to control forest infestation and disease outbreaks that threaten forest resources.

¹¹
Section 16: Variation from Requirements of the Act. The state forester is directed to allow variations from forest practice requirements established under this act. The state forester may allow variations to requirements he determines that the harm such as degradation of fish habitat or water quality not likely to occur because of site-specific circumstances of the particular activity. It allows private landowners to appeal an adverse decision by the state forester, but they must conform to the requirement during the period of the appeal.

¹²
Section 17: Review of Private and Municipal Timber Harvest Operations. The section provides an improved process for efficient and detailed review of timber harvest plans. This efficient review allows the timber industry to respond to changing timber markets but ensures that harvest operations conform to forest practices standards and regulations. The section also requires public review of private harvest plans. Review by state agencies may occur in the office or, if necessary, in the field prior to the start of the operations.

¹³
Section 18: Interagency Coordination. Because of overlapping agency expertise for issues concerning timber harvest, this section provides coordination mechanisms for DNR, DF&G, DEC, and where appropriate, coastal districts. The coordination system retains DNR as the lead agency for forest practices but ensures that the appropriate agency expertise from DF&G and DEC is included for forest practice issues that involve their expertise. The section requires that the agencies recognize fish habitat as the primary value within the riparian areas established under the bill.

¹⁴
Section 19: Riparian Management. This section of the bill provides for a streamside management program that strikes a fair balance between the needs of the timber industry and those of fish habitat and water quality protection. It provides for significant timber harvest while providing appropriate protection for public resources. Riparian standards for timber harvest differ depending on land ownership, stream, type, and region. The section also provides the intent of riparian management standards: a list of fish habitat

components that the riparian standards are designed to protect.

On private land in southeast Alaska, streamside areas of up to 30 meters will be managed for the protection of fish habitat and water quality, although timber operators will not be required to leave more than five percent of their timber volume for this purposes. In this way, strong resource protection exists without requiring any one private owner to shoulder an undue portion of the resource protection costs.

On private land outside southeast Alaska, it directs the commissioner to establish riparian protection standards and provides interim standards until regulations are drafted.

On state land north of the Alaska Range, timber harvest within 30-meters of an anadromous or high value resident fish waterbody will be allowed where adequate protection remains for fish habitat.

On state land south of the Alaska Range, no timber harvest is allowed within 30-meters of an anadromous or high value resident fish waterbody. Within the adjacent 60-meters, timber harvest must be consistent with the maintenance of important fish and wildlife habitat.

For municipal and trust lands, timber harvest within 30-meters of an anadromous or high-value resident fish waterbody must be sited and designed primarily to protect fish habitat and water quality.

¹⁵
Section 20: Enforcement Coordination. Because existing overlapping jurisdiction by DEC, DF&G, and the department of law, and because of additional authorities provided DNR by this bill, this section directs the agencies to establish "uniform enforcement strategy." The strategy requires a method of coordinating enforcement that avoids duplicating and inconsistent enforcement by the agencies. All agencies retain existing enforcement authorities.

¹⁶
Section 21: Penalties for Violations. This section amends the act by streamlining existing procedures for levying civil penalties of up to \$10,000 per violation, and adds additional enforcement authorities. Under these additional authorities, the state may issue a citation for a class A misdemeanor for violations of the act, its regulations, agency directives or stop orders; also, DNR may issue remedial orders requiring operators to repair or correct damage resulting from a violation.

¹⁷
Section 22: Directives. This new section provides that DNR may issue enforceable, written orders directing that timber operations that violate or would violate this act or its regulations be changed. These directives may be written as part of the DNR office or field review of private timber operations as provided under Section 17 of the act. Directives may be appealed and operations may continue pending the outcome of the appeal.

¹⁸
Section 23: Stop-work Orders. If the forester determines that a violation of the act or its regulation is occurring or is likely to occur and that significant harm to public resources is likely to occur if work is not halted before a hearing, the state forester may issue a stop-work order. A stop-work order may be written as part of the DNR office or field review of private timber operations as provided under Section 17 of the act. Stop-work orders may be appealed, but the operation must stop pending the outcome of the appeal.

^{19 + 20}
Section 24: Hearing Procedures. This section amends the cumbersome hearing process existing law by deleting the requirement that hearings be held before lawyer appointed by the attorney general. The new process allows the hearing officer to be an employee of the department. The new process will be quicker, and more efficient for both the landowners and the department. It will also be significantly less costly for the department.

²¹
Section 25: Appeals and Judicial Review. This section provides appeal procedures from department decisions. It provides for appeal of DNR decisions by landowners or timber operators to the state forester, in some cases to the commissioner, and gives the option of going to court. Also it provides that parties other than an aggrieved forest landowner, timber owner, or operator may not receive judicial review of individual timber harvest decisions. Third parties may, however, seek judicial review of regulations, or of a systematic error in DNR decisions.

²⁶ ^{501 (d)}
Section 26: State Forest Plans, technical change. This section changes existing law by deleting a list of uses to consider in completing plans; and instead referencing a similar list in Title 38 (section 1 of this bill). It eliminates confusion from two close but not identical lists with similar purposes:

²⁷ ²⁴
Section 27: Affect on Federal Timber Harvest. Other sections of this bill set specific standards for activities on state, municipal, and private land. This section states that the bill's specific resource protection provisions, such as riparian management zones defined for private, state, and municipal lands, do not apply to timber harvest activities on federal land. However, the bill proposes that the federal government achieve a level of resource protection commensurate with that provided for on state lands. This would occur as the federal agency, primarily the Forest Service, proceeds with its normal environmental planning process for timber harvest activities. While this measure does create a broad performance test for operations on federal land, the real effect on Forest Service actions is not considered to be significant, given the generally higher federal requirements for environmental protection.

The bill assures that federal lands will not be subject to the specific forest practice act standards "either directly or for purposes of compliance with the (federal) Coastal Zone Management Act." This statement effectively severs the applicability of the Act's specific standards to National Forests and other federal lands. However, some participants in the forest practices discussions wanted to take the point one step further to resolve a long-standing discussion of what specific environmental protection the state can ask the federal government to provide on National Forest lands through the coastal management consistency process.

The forest practices act discussions did not address federal timber harvest activities in any detail. Therefore, the parties to the consensus decided that the bill was not the appropriate vehicle to include specific environmental protection standards for federal lands, nor address the application of coastal management standards to federal timber harvest activities. Instead, the vehicle to address this question will be through a change to the Alaska Coastal Management Program regulation established for timber harvest and processing by the Alaska Coastal Policy Council (CPC). Following enactment of the forest practices act, the CPC will amend this timber harvest standard as necessary to address lands not covered by the forest practices act, including federal lands. The CPC will provide for the full involvement of the federal government, industry, and the public in drafting the new timber harvest standards.

²⁸ ^(F)
Section 28: The Act Does Not Alter Other Rights and Jurisdictions. This new section of the act confirms that it does not alter or diminish the authorities of DF&G under title 16, DEC under title 46, or any state agency under other laws. It also confirms that the act does not diminish the rights of Alaska Native or of Alaska Native corporations with respect to the Alaska Native Claims Settlement Act.

²⁹ ²⁶
Section 29: Wildlife on Private Land. This new section provides that state agencies and private landowners will establish cooperative, voluntary processes for protection of wildlife habitat on private land.

²⁷
Section ~~30~~: Definitions, technical changes. This section provides definitions necessary for the act. Few changes are made.

²⁸
Section ~~31~~: Legislative Review. This section provides legislative acknowledgement that this act should be reviewed by the legislature within three years after further research and experience is gained in implementing the act.

^{33, 34}
Section ~~32~~: Repeal of Superceded Sections.

^{35, 36, 37}
Section ~~33~~: Effective Date. An effective Date is provided: January 1, 1990.