

ALASKA LEGISLATURE COMMITTEE FILES 1903-1900 00/2

3563 HRES HB 306 - HB 312

439

## Timber...

*(Continued from page 1)*

The Task Force would like to expand Pacific Rim markets and research domestic markets, and advocates the use of generic advertising to promote the Alaska product. The industry feels that it can work with biologists to solve fish and wildlife habitat problems. They want more specific guidelines on population goals for deer, and the report of the Task Force states that the major difficulty faced by the industry with the agencies responsible for protecting fish habitat "is an understanding of their missions. Even though fisheries are a renewable resource, such agencies seem to see their mission as preserving all fish..."

The Task Force tried to keep new programs to a minimum, but did recommend several state studies be performed and that funding be made available through several existing programs. Alaska Industrial Development Authority should be authorized to purchase loans for the development of roads, camps, and other short-use logging facilities. The state Commercial Fishing and Agriculture Bank should increase its participation in the Alaska timber industry, and the Small Business Loan Fund should be funded, the loan limits raised above \$500,000, and a specific portion of the funding dedicated to forest operations.

Another financing incentive suggested by the Task Force would be to enact a special investment tax credit for the timber industry as was done in 1984 for the oil and gas industry. Other suggestions included industrial property tax exemptions for timber facilities, study by the industry of using regional resource development authorities in timber producing regions, establishment of a bonding program for small operators to obtain performance and payment bonds for Federal and State timber sales, and establishment of an Alaska Export-Import Bank capitalized by tax exempt bonds to provide a secondary market for loans made by private banks collateralized by contracts for international sales of timber.

In the area of marketing, the group recommended a concerted push to expand markets for Alaska pulp and timber among Pacific Rim nations, and endorsed Sheffield's recent policy statement on foreign trade. It recommended the state take advantage of the U.S. Trade Representative's

Office and the Alaska Asian Office in Tokyo to help publicize and pave the way for increased foreign sales. The group also recommended that the industry establish an Export Trading Company to promote trade with the People's Republic of China, that instate markets should be developed, if feasible, and that the Forest Assistance Program in the Dept. of Natural Resources be expanded to provide more management and marketing assistance to small operators.

In the area of rules and regulations the Task Force recommended the following measures:

—a State/Federal/Industry review of fish habitat protection measures be undertaken and that industry take what steps it can now to mitigate the impact of timber harvest on deer.

—continuation of the U.S. Forest Service's emergency utilization program in the Tongass whereby logging companies can leave in the woods material less than 30 board feet.

—increasing the size of clearcuts to reap the corresponding economic benefits of increased production and reduced costs, but not entering new areas until the appropriate research is completed to determine environmental impacts.

—elimination of the "Alaska Proviso" to the National Forest Management Act, which would authorize small operators to have the Forest Service build roads for them.

—seeking assured access across State-owned uplands and tidelands for loggers.

—recognizing forestry as a "use of State concern"

—changing U.S. Forest Service accounting procedures to charge the cost of roads over all entries in an area, rather than just the first.

—reducing road standards to make timber entry less costly.

—implementing a more flexible timber appraisal system.

—a determination as to whether the U.S. Army Corps of Engineers may be exceeding its jurisdiction over wetlands.

—that the Dept. of Environmental Conservation waive certification of certain activities already certified by the Army Corps of Engineers to speed up the process.

Infrastructure suggestions include:

—use of the maximum amount of ANILCA funding possible for roads and other facilities, to be used for secondary roads, landings and other

*(Continued on page 8)*

## Legislature...

*(Continued from page 4)*

political action committee. Dec. 30, charging Marrou with perjury, he asked Lt. Governor McAlpine to certify the election and declare him the winner in that race.

--Senator Paul Fischer (R-Soldotna) will be investigated by APOC about failure to report \$8,500 in loans in 1981. On Dec. 18 he was ordered to answer questions about his resignation from his previous job.

--Dec. 16 Senator Mitch Abood (R-Anchorage) announced plans to hold hearings in State Affairs to "straighten out the mess" with the APOC. Outgoing State Affairs Chairman Vic Fischer (D-Anchorage), as one of his last official actions, proposed a major rewrite of political financial laws, from an opposite perspective.

--Dec. 17, the Senate coalition claimed it will do away with controversial leadership funds, following the House's lead, and revitalize the Legislative Council and Legislative Research.

--Dec. 20 a House committee picked Mobile Video of Juneau as the low bidder for the contract to provide TV coverage of the House in 1985. Owner Bob Poole beat out the only other bidder, Roark-Harmon of Juneau, with a bid of \$265,000. The Senate has yet to make a decision.

--Dec. 22 Rep. Virginia Collins (R-Anchorage) announced she would introduce a bill to prevent legislators from voting themselves large pay raises without voter approval.

--Dec. 26, freshman Democrats Pat Pourchot and Katie Hurley of Anchorage announced plans to seek repeal of the payraise legislators voted themselves in 1983.

--The Ethics Committee will review an \$85,000 state contract to the Alaska Business Development Center, in which Rep. Walt Furnace (R-Anchorage) holds a majority interest.

--Dec. 30 the Supreme Court agreed to expedite handling of the outgoing House coalition's lawsuit over confirmation of Sheffield's appointees in 1983.

--Senator Rick Halford (R-Anchorage) has prefiled a bill (SB 44) that will substantially change laws governing condo's and common property.

--A State Senate committee (HESS) heard testimony in early January from irate residents along the railroad about careless use of herbicides.

# UNDERSTANDING LOG EXPORTS

by Jay Gruenfeld

*Jay Gruenfeld is a forest resources and management consultant in Seattle, WA. He was formerly Manager of Timber and Log Sales for Weyerhaeuser in Tacoma, WA, and Vice President of Lands and Forestry for Potlatch Corporation in Lewiston, ID.*

A commonsense look at the facts and fictions, pros and cons of this complex and often misunderstood issue

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A DEEP WATER PORT in Japan seems as journey's end for a shipload of American-grown logs. Such logs, harvested from timberland in Washington and Oregon, are the focus of a developing controversy over the log-export policies of the United States. On one end of the disagreement are those who would favor a total ban on log exports; on the opposite end are people who hold the belief that a free market is in the best national interest. And, as is typical of most controversies, there is a vast middle ground of circumstances and opinions that will affect the ultimate decisions.

The major purpose of this article is to acquaint the reader with the basics of the log-export issue. The issue is complex; many knowledgeable people simply don't know what position to take. Individual economic and forestry beliefs certainly have an effect on personal opinion. Perhaps, as pressures mount for either/or decisions, the perspectives offered in this article can help the reader to form a considered opinion.

## *Pro and Con Arguments*

Arguments *against* exports include: 1) log exports cause a log shortage, which increases prices to local consumers and decreases employment. An emotional statement of this argument goes: "We are exporting jobs while running a tree farm for Japan." 2) We need to preserve our trees for future use.

Arguments *for* exports include: 1) logs should be allocated by the forces of a free market. In the long run, consumers benefit from free trade that forces uncompetitive industry to either change or go out of business. 2) Even if log exports were banned, Japan and other nations would purchase logs from other countries and then buy lumber and other products from the lowest-cost supplier, which, in most cases, would not be the United States. 3) The more profitable wood-growing is, the greater the volume of wood that will be grown. Reducing the value of

Hemlock and white fir await export to Japan from a dock in Everett, WA. Pen stuck in identifying tag of largest log gives scale

of four other fuels as they were priced in Morgantown, WV, in May of 1981. These costs are for fuel only and do not include the cost of a furnace or other fixed costs. They are applicable to the homeowner who already has one of these four heating systems in place and wishes to compare its cost with a wood heating system, including the purchase of a stove. If one is deciding what type of system to install in a new home, or if one is replacing the entire system in an older home, the initial cost of any system should be prorated over the expected life of the system.

By selecting an appropriate wage rate it was possible to estimate a break-even point between wood and

each of the other fuels. For example, if the alternative fuel was oil at \$1.20 per gallon, and if a value of \$4.00 per hour was placed on time, we could afford to cut and haul wood from about 17 miles away; at distances greater than 17 miles the \$4.00/hour curve for wood heat lies above the line representing the cost of fuel oil. On the other hand, with natural gas available at \$.40 per therm, a \$4.00 per hour value on our time means that gas heat is decidedly more economical; no matter what the hauling distance the \$4.00/hour curve for wood heat is above the line representing the cost of natural gas. Wood heat is competitive with coal only if zero value is attached to one's time,

and then only if the hauling distance is 17 miles or less. It should be recognized, however, that the use of coal demands some time for furnace tending. The cost of coal in Fig. 3 includes fuel only.

Home heating with wood is obviously a labor-intensive activity, and the cost of wood heat depends heavily on the value an individual places on his or her time.

A more detailed account of the West Virginia study, together with a method of estimating your own cost of heating with wood, is available in *The Cost of Heating With Wood*, P. 680, Cooperative Extension Service, West Virginia University, Morgantown, WV 26506. ■

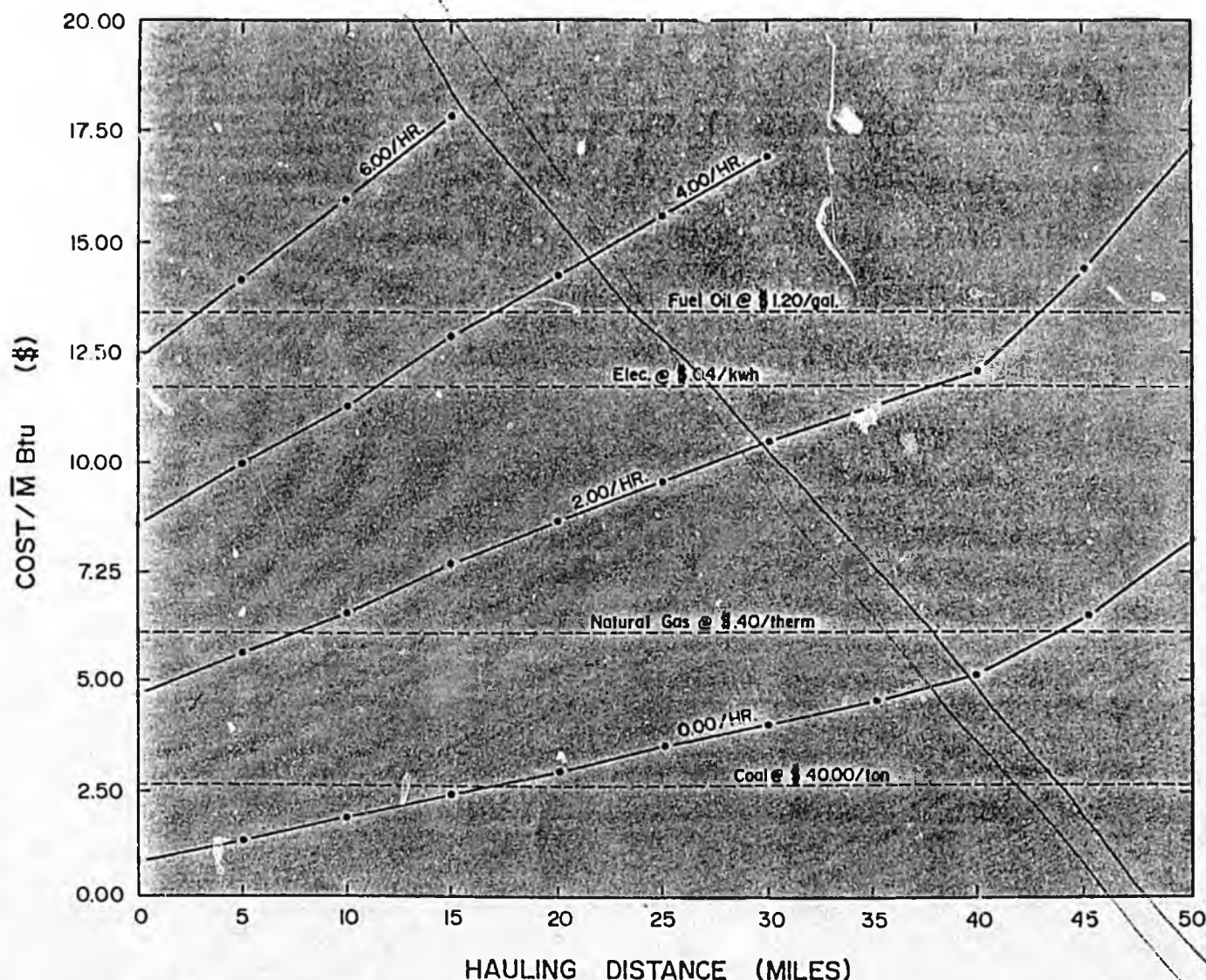
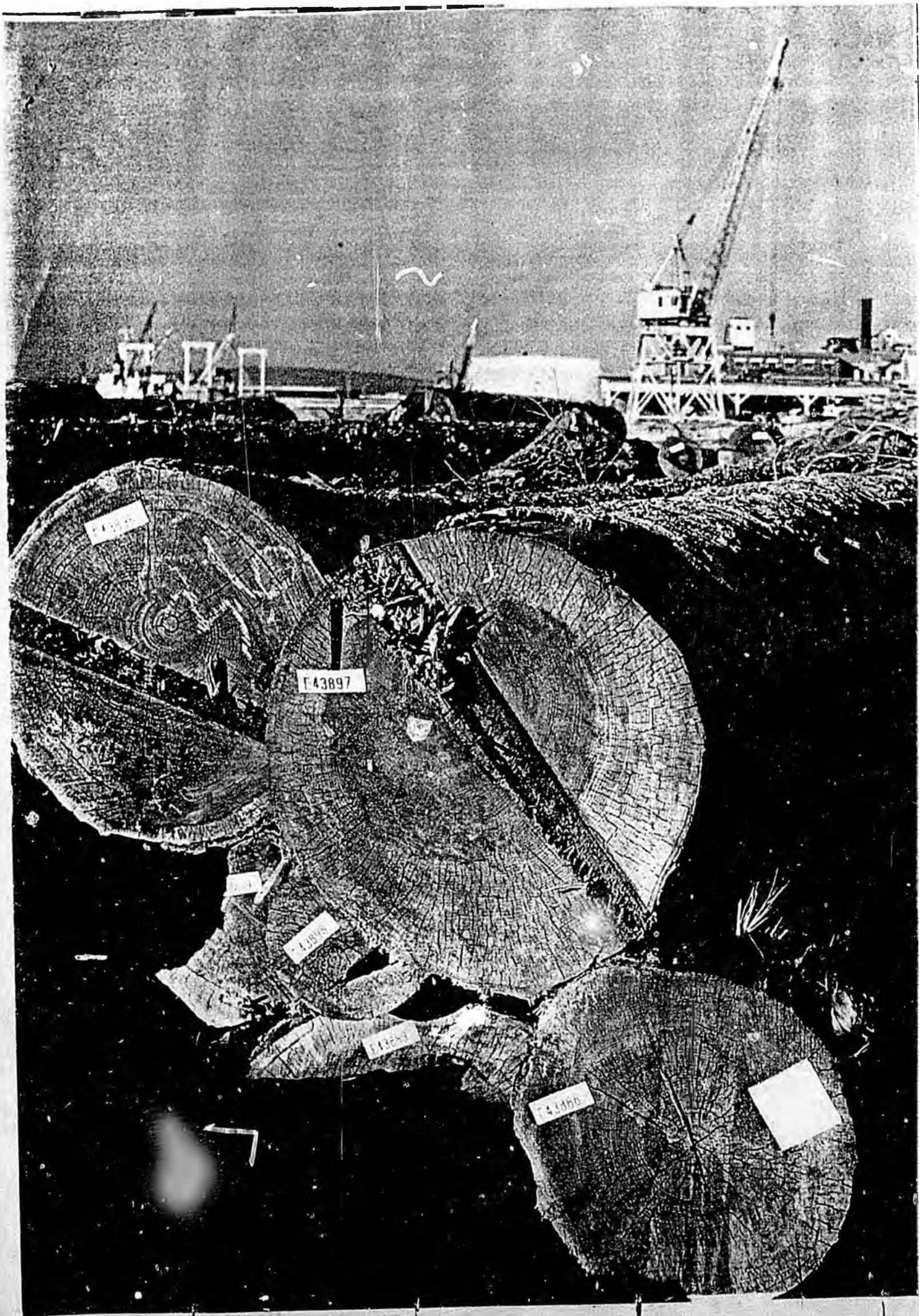


Fig. 3 Cost per MBtu for wood heat, by wage and hauling distance, and comparison with cost per MBtu of other fuels



**TABLE I**  
**SOFTWOOD LOG EXPORTS FROM WASHINGTON AND OREGON**

Selected Years 1965-1980

Year	Billion Board-Foot Scribner Scale	% to Japan
1965	.9	95 (Author estimated)
1970	2.2	96
1975	2.2	90
1980	2.6*	90

\* Equals 92.8% of total softwood log exports from U.S. Is 19% less than in 1979.

Source: Forest Policy Project, Washington State University

The author estimates that about 80% of the exports were from Washington, principally from private land.

Below: author inspects Orient-bound Sitka spruce on Afognak Island, Alaska

Jay Greenfeld



TABLE II  
**JAPAN SOFTWOOD LOG IMPORTS FROM NORTH AMERICA (1978)**  
 (Almost entirely from U.S.)

Species	Volume (In thousands of cubic meters*)	Percentage
Hemlock	4748	45.0
Douglas-fir	4380	41.8
Spruce	513	4.9
Red cedar	269	2.5
White fir	245	2.3
Subtotal	10155	96.3
Other species	381	3.7
Total	10536	100.0

Source: Japanese Log Importer's Assn.

\* 1 cubic meter equals 35.3 cubic feet

wood by restricting markets will in turn reduce the level of forestry as currently practiced. 4) The national interest requires more exports to improve the balance of payments. Despite log exports, the U.S. is the world's largest importer of forest products.

Economists have disagreed over the effects of various degrees of export bans. For example, it is argued that a log-export ban would divert Canadian lumber and plywood from current U.S. markets to Japan. This could increase the price of those products in the U.S.

Obviously, those who have the most to gain from log exports are the tree growers and sellers. Those who would gain directly from a ban on log exports are those companies, usually small and medium size, who are heavily dependent on purchasing logs and timber on the open market.

The national interest, as usual, is not clear.

#### Who Imports?

The major issue involves the export of coniferous (softwood) logs, principally from the states of Washington and Oregon. Japan is the major buyer—in 1980 it received 90 percent of logs exported from the two northwestern states. (Table I summarizes softwood log exports

from Washington and Oregon from 1965 to 1980, and Table II summarizes Japanese softwood imports from North America in 1978.)

A large volume of wood is being exported. The 2.8 billion board-feet exported from Washington and Oregon in 1979 was about 20 percent of the total wood harvested and is enough wood to build about 280,000 three-bedroom homes.

Foreign purchasers (including mainland China, which in 1980 became a major importer) obtain American logs by the simple fact of being the highest bidder. American timber companies are in the business to make a profit; that objective, along with the belief that a free market is in the best national interest, determines the selling motive.

#### Who Exports?

Currently, the larger timber companies in the states of Washington and Oregon are the primary exporters. Weyerhaeuser Company is the largest, with Crown Zellerbach, ITT Rayonier, Georgia Pacific, and others also involved. Weyerhaeuser is by far the dominant exporter—a log-market analyst was quoted this year in the Wall Street Journal as saying, "The Japanese think of Weyerhaeuser as a separate country. They trade with the United States, with Russia, and with Weyerhaeuser."

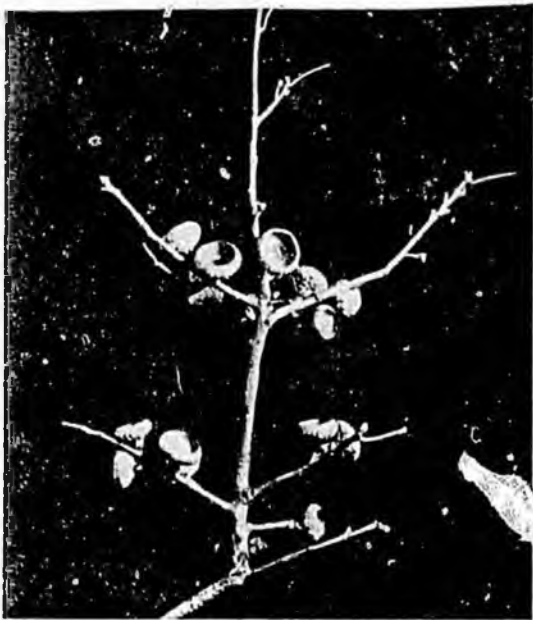
The state of Washington forest lands have an annual cut of about 800 million board-feet, and the great majority of this timber is exported by the purchasers as logs. Revenues from these timber sales (163 million in 1980) are used principally for public education. In March of this year, a bill was introduced that would phase out such export. Many educators are concerned. Most sawmillers are pleased.

#### What Part Will Alaska Play?

Alaska has recently become a major source of export logs. Under terms of the Alaska Native Claims Settlement Act, which was part of the Alaskan Statehood Act, natives can select over 40 million acres of federal land. This land is then considered to be privately owned and is exempt from the log-export prohibition on logs from federal and state lands in Alaska.

Old-growth timber on the exempt land is of great interest to the Japanese. Although no definite figure is available on the amount of timber that would be eligible for export, it will probably be at least a couple of hundred million board-feet annually. Alaskan log exports in 1980 increased 24 percent over 1979 to an all-time high of 160 million board-feet. Some new contracts with Japanese importers have been

(Turn to page 54)



(1) Little cups that hold nutlike fruit identify this hardwood tree, renowned for furniture, construction, and fireplace fuel.

W \_\_\_\_\_ O \_\_\_\_\_



(2) Nutlike fruit, about the size of peas, dangle from twigs far into winter on this symmetrical tree.

B \_\_\_\_\_



(3) Sharp barbs, curled tendrils, and dark blue berries cling to green stems throughout the winter.

G \_\_\_\_\_ B \_\_\_\_\_



(7) The fluffy parachute seeds are gone, but dry pods remain.

M \_\_\_\_\_



(8) Furry twigs and bright red tassels identify these winter twigs.

S \_\_\_\_\_ S \_\_\_\_\_



(9) Seed balls decorate twigs on this tree that sheds bark patches as well as leaves during the fall.

S \_\_\_\_\_

# Know Your Twigs?

by Don Shiner

*Outdoor Photographers League photos by the author*

able timber," he said.

The Forest Service is not happy about the loss, either. In fact, in its recent analysis of the timber situation in the United States, the Forest Service acknowledged the problem squarely. Pointing out that the heaviest mortality occurred in the Douglas-fir region, the agency explained that the high mortality "is related to the concentration of timber volumes and the high proportion of overmature timber characteristics of old-growth stands." The agency went further to say that half of the nation's timber mortality occurs on National Forests and that "nearly all of the mortality on the National Forests occurs in areas that are unroaded and inaccessible for trucks and tractors.

"At this time, with the existing technology, the location of processing plants, and current product prices, salvage of such mortality is not economically feasible in most forest stands, including those in roaded areas," the Forest Service analysis states.

Regardless of the old-growth problem, the pressing need is to regenerate the areas of nonstocked forest, which amounts to about 2.6 million acres in the Rocky Mountains and 3 million in the Pacific Coast. Again, almost half (46 percent) is in National Forests, largely in the Rocky Mountain region. It will cost about a billion dollars to regenerate the nonstocked acreage in the West and much of the regeneration must take place on private lands.

In California the possibility that private landowners can accomplish the task looks promising. In the 1980 report of the California Forest Improvement Committee, the group identified one-fourth of the state's 16 million acres of commercial forest lands as prime forestland. Although these four million acres comprise a small percentage of the total, they carry 49 percent of the total potential for timber growth in the state. But here's the bottom line: 65 percent of all prime land is in private ownership. What's more—and listen closely because good news isn't that plentiful these days—most of the privately owned forestland in California is owned by those with more than 500 acres. Not many scattered small tracts here. And most of these owners live near their timber, not farther away than the next county, according to the report.

This is encouraging because California has its share of regeneration to accomplish. Because of past selective logging, where only the good trees were taken, some 1.8 million acres of private lands are in disrepair. Unstocked private acreage totals about two million acres.

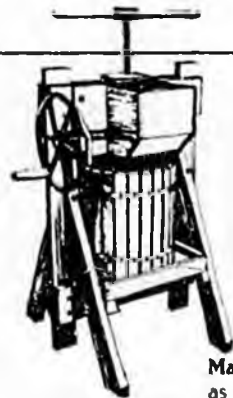
As more than one forestry leader has stated, "we know how to do the job of growing and harvesting trees while providing the other forest resources and without harming the environment. Let's do it." If proper planning was all there was to it, the timber would be grown, nurtured, and harvested without a doubt. But the active ingredient in the formula is people and their attitudes. Southern forests are nice to look at, but western forests are paintings of majesty, breathtaking in their grandeur. Let a woodsman in their life? Not on your life! Landowners' attitudes will determine if harvests are made on private lands and on what scale. The public's attitude will determine how much timber is harvested from federal lands (and on private lands where legislation has dictated regulations).

The same attitudes will determine how much more public land will be dedicated to wilderness, parks, or other uses. In California, wilderness areas already total 2.8 million acres, 57 percent of which is forestland.

Someone once said that if it weren't for people, there would be no public relations problems. Of course, there would be no need to grow timber either, except that some species of wildlife have fared better in most areas with proper forest management than in the virgin timber.

Some people uninitiated in forestry develop chills and the ague when trees are cut, but ruin trees themselves when left to their own devices. Del Brown, assistant state forester of Colorado, shakes his head in wonderment. "People are using their forested lands more intensely while often not knowing how or why trees should be managed. We see them build a cabin on 10 acres of forest land and unintentionally cut half the roots of trees chosen to frame the view. They pave over the root zone of other trees and their roads cause erosion," he said. It's understandable that he feels "the main forestry problems of the West are people problems."

Tough questions? Of course, be-



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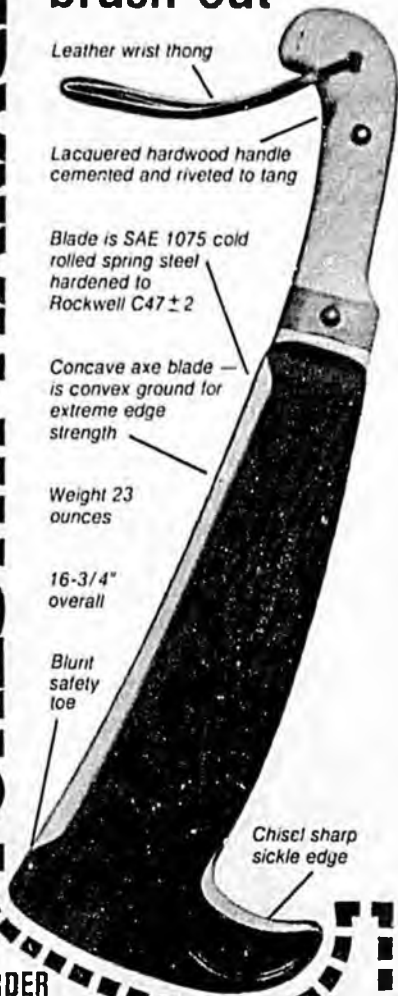
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cause the entire problem has to be solved in a fishbowl. Few industries' operations stand the chance of affecting so many other important values of American life. Harvests of trees can improve water quality or ruin it, depending upon how and where it takes place. Indiscriminate harvesting in Colorado, for example, cannot be allowed. The state is the headwaters of five major rivers. What the people have to decide, and soon, is how to match the needs with the solutions.

But lest we forget, forest production in the West is not only a people problem, it's *the people's problem*.

## Understanding Log Exports (From page 19)

negotiated, and others are pending. Alaska's importance as a log source will increase sharply if any restriction is put on exports of state of Washington timber.

Alaskan natives are naturally interested in receiving income from their lands, so some logs will continue to be exported. However, a domestic wood-utilization industry, rather than log exporting, is attractive because it can provide more jobs and income per unit of wood volume. Therefore, some of the revenue will doubtless be used in forest management and to develop a wood-processing industry in Alaska.

The fact remains, however, that local sawmills, plywood plants, and other manufacturing facilities are not profitable if the cost of their logs is calculated as the value of those logs if they were sold export. This is the principal reason that logs are exported from the United States, as well as from other countries such as New Zealand, Chile, and the Soviet Union. Log-export profitability takes precedence over national preferences for processing logs at home. Homeprocessing would provide increased employment opportunities and greater final product values. It will be interesting to see how Alaska balances these two needs.

### Regulations

Basic to understanding the export issue is some knowledge of current regulations affecting log exports from the West Coast. The following somewhat oversimplified summary gives the basic regulatory information. In a few cases, there are provisions that logs can be exported if declared surplus to industry needs, but

California is predicting a six-percent drop in timber harvests during the next 20 years. David E. Pesonen, director of the California Department of Forestry, sums up the future for the entire West in one sentence. Unless future supplies can be increased, he said, Californians can expect "higher prices, lower quantities, reduced quality, increased imports or any combination of these."

Commercial forests cover only 15 percent of the land area in the West. Forestry leaders in the region don't feel that dedication of the acreage primarily to timber use is an unreasonable request.

this affects an insignificant volume.

The export of timber in log form is prohibited from state-owned lands in California, Oregon, Alaska, and British Columbia.

On federally owned lands, export of logs west of the 100th Meridian (which cuts the 48 states on a line through North Dakota to Texas) is almost entirely prohibited. A 1968 act, often referred to as the Morse Amendment, limited exports from federal lands to 350 million board-foot (12.5 percent of the 1980 exports of 2.8 billion board-foot); however, more recent regulations essentially make it illegal to export logs from federal land.

Privately owned timber, therefore, has the pivotal role in exports. A 1977 study of Washington state log exports showed that in 1976, 69 percent of Washington exports (by far the largest of any state) came from private land, compared to 25 percent from state land.

Clearly, any sizable reduction of log exports by regulation would have to be the result of new regulations affecting either or both private and state forest harvest allocations.

### The Japanese Log Market

Japan will increase its domestic production of softwoods over the next two decades, but will continue to import huge volumes of logs and chips. Over 23,000 sawmills depend primarily on imported conifers to supply the needs of their customers.

The reason Japan is able to pay more for logs than the domestic mills in the U.S. is complex, and includes many economic and socio-political factors. For instance, Japanese sawmills recover a much higher per-



making process. Before we get into the arguments for and against log exports, it will be helpful to throw some light on these misconceptions:

• **Fiction:** Log exports are not really a problem, because generally what goes overseas are low-grade or other logs not suitable for domestic use.

• **Fact:** Simply not true. In fact, the opposite generalization is more correct. The photos accompanying this article show logs typical of a large percentage of exports; such logs are also in great demand by U.S. users.

• **Fiction:** All we have to do is ban log exports from the Northwest and the Japanese and others will then

have to buy our manufactured products.

• **Fact:** Not true. Japanese importers would expand the purchase of logs from other suppliers, which include the Soviet Union, Chile, New Zealand, and Alaska. And they would buy lumber, plywood, and other products from the lowest-cost supplier. Historically and currently, the major supplier tends to be British Columbia rather than the U.S.

• **Fiction:** The Japanese buy our logs in the Northwest, then make them into lumber and sell the lumber back to us.

• **Fact:** Not true. Nearly 100 percent of the hemlock, Douglas-fir,

and other West Coast log volume never returns to this country in solid wood form. Some does come back as paper or packaging, and a small volume is used in musical instruments and toys that are sold here. For example, some of the faces on Japanese guitars are made from Sitka spruce.

### Predictions

From this matrix of national and international economics and politics, I am unable to predict a specific outcome. However, here are three predictions about what will happen to log exports in the '80s. These are primarily political observations, and the reader can add his/her own economic and forestry beliefs.

There will not be a ban on the export of logs from private lands. The Reagan Administration interprets its mandate as favoring less regulation, not more. Therefore, those forest products companies hurt by log exports, and the environmentalists proposing a total log-export ban, are not going to generate much support from the top levels of the Administration. In addition, preservation of private property rights is now popular, and it's hard to imagine that Southerners and other champions of private property rights would support such restrictions.

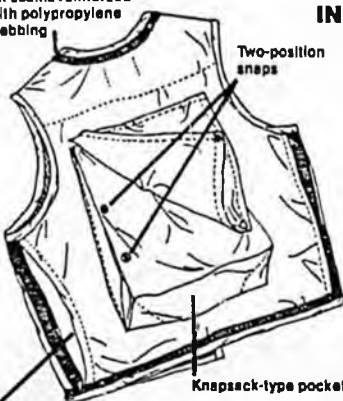
There will be a continuing major effort to ban the export of logs from the state forest lands of Washington. Emotion will have at least as much to do with the resolution of this issue as will facts. If those in favor of a ban are successful in convincing people that "exporting logs means exporting jobs," and that "the state of Washington is a tree farm for Japan," then they may prevail. The most effective arguments for proponents may also be those that provoke emotion; for example, "there are too many regulations already," "the consumer benefits most from freer trade," and "better markets make better forestry."

The Japanese are politically as well as economically astute, so in addition to log imports, they will probably increase purchases of American lumber and plywood to help forestall additional restrictions on log exports.

Debate is sure to continue, and it's likely that log-export policy will stay between the extremes of total prohibition and free trade. Log exports will continue to be an issue. ■

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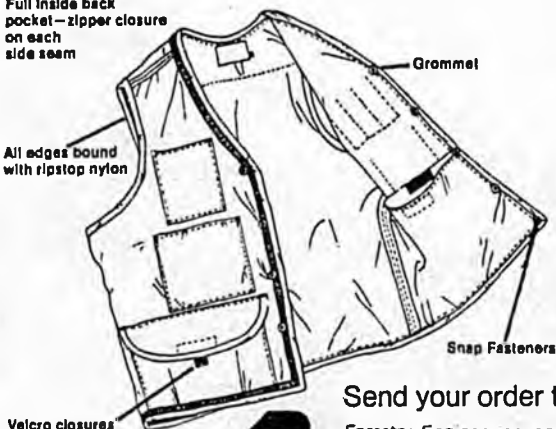


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## Cape Fox Corporation

P.O. Box 8558  
Ketchikan, Alaska 99901  
(907) 225-5163

February 7, 1984

Mr. John Sturgeon  
State Forester  
Alaska State Dept. of  
Natural Resources  
Pouch 7-005  
Anchorage, Alaska 99510

Dear Mr. Sturgeon,

Recently my office has received and responded to a State survey being conducted by your office regarding the problems with the forest industry in the State of Alaska and seeking suggestions of what might be done by the State to restore the economic viability of this industry.

After filling out and mailing in the survey, I thought about the subject further and regreted not taking additional time to express our thoughts and concerns in greater detail. Therefore, this letter is being forwarded to you. I am taking the liberty of providing a copy of this letter to other officials in the hope that my thoughts might be of some small value to them as we deal with this serious economic problem. Indeed, perhaps our single largest problem is that it has taken so long for us to realize that the timber industry in the State of Alaska is in serious jeopardy. All of us in a leadership position in the private and public sectors have helped to contribute to the current problem through non-action or acquiescence to public pressures. I can assure you that the problem extends beyond and to a greater depth than those factors created by the current economic recession. The timber industry in Alaska is in danger of dropping to significantly lower levels than we have experienced and remain there for an indefinite and lengthy period of time.

The current closures of sawmills will be followed by the closure of pulp mills; the closure of pulp mills will be followed by a shutdown of logging activity. Each of these will be followed by massive lay-offs, unemployment and industry wide economic depression. From the point of view of the timber industry the economic depression was achieved in 1981 and continues. And there is no indication that it will recover in the near future. It is highly probable that the economy of the timber industry in Alaska will be much worse before it gets better.

MR. JOHN STURGEON  
STATE FOESTER  
FEBRUARY 7, 1984

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The question at hand and directed to us in the industry is what can the State Government do to help correct this situation? Our response follows.

The State of Alaska has with only rare and minor exceptions approached and dealt with the Alaska timber industry in its regulatory functions. The State Forestry Service has been under staffed, under funded, and almost exclusively concerned with regulatory and fire fighting functions. Our fires are few to none and our regulatory offerings abound. This attitude and approach in it's concerns with the timber industry by the State of Alaska has contributed to our economic problem. The State is a land owner with large timber assets to be managed to the advantage of all of our citizens. "Your in Business"! The State should be aggressively encouraging and cooperating as a member (owner of large timber assets) of that industry.

The State and Federal Government has adopted and implemented laws that authorize, if not direct, government officials to regulate the industry in such a manner that not one fish, not one deer, not one egg or inch of ground, will be relinquished to the advantage of economy for the growing and harvesting of timber. At the same time millions of trees and millions of acres of private and public forest land are sacrificed to enhance the harvesting of fish and the preservation of wilderness area, and this is within designated public and private timber harvest areas. There has developed a gross distortion and disproportionate application of environmental restraints on each individual timber development "site specific". This irrational lopsided process must stop!

Permit me to restate this important point - Economy in the growth and harvest of trees is not a factor that is considered in the implementation of laws regulating the use of land and intertidal areas. This needs to be changed immediately!

To help relieve the cash drain from near empty accounts we suggest the state waive all easement and tideland lease fees for five years on all lands that are being used primarily for timber industry production purposes.

There is a desperate need for improved statewide communications within the far-flung reaches of the timber industry in Alaska as well as a need for the industry to communicate with government in an orderly and constructive manner. The State needs to play a much larger role in industry communications and research.

MR. JOHN STURGEON  
STATE FOESTER  
FEBRUARY 7, 1984

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There are needs and opportunities for reduction in the cost of converting trees to logs and bringing them to shipside or pulp mills. This could be achieved with little or no sacrifice on the part of our environment. As a Forester I am sure that you recognize that the timber industry is a captive of the laws of economy of scale. There is a great difference in the ability for cost to be absorbed depending on the size of the operation. Inexpensive beaver slide log dumps is a good case in point. The industry has been prohibited from the use of free fall beaver slides for the last few years except for beaver slides previously in operation. For the smaller operations that are dumping 30 mmbf a year or less a beaver slide dump is an economic advantage that should not only be authorized but encouraged. The additional cost for bringing into place and operating a non-violent log transfer facility is unwarranted and without justification. Certainly any log transfer facility is going to have some negative impact on the current environment in the immediate area. However, those negative impacts are temporary and occur infrequently - in Southeast Alaska one per 100 miles of shoreline (average) or less.

The State of Alaska should take the lead, with representatives from the private sector in the establishment of an "Alaska Forest Products Association". This association would have as it's primary function the promotion of Alaska forest products throughout the international market place. An important second function would be communications between the private sector of the timber industry and public bodies, particularly the State and Federal Governments. In addition, the role of economic analysis and economic data input regarding regulatory law needs a well staffed and broad based professional voice. Such an association would, by necessity, be funded principally in its initial years by State funds; however, it could and should be structured so that over a period of - say five years the State's participation decreases and the private sector participation increases. In such an association the State of Alaska as well as the Federal Government should participate in part from the point of view of a large land owner.

There are inequities in State law that places timber owners such as Cape Fox Corporation at an unfair disadvantage to those timber land owners outside organized boroughs. The problem is we are required to absorb property tax cost for services which our timber land is not a beneficiary and our competitors are not taxed. In the 100 to 150 year Alaska timber growth cycle this circumstance jeopardizes the ability of owners of large timber tracts in organized bor-

MR. JOHN STURGEON  
STATE FOESTER  
FEBRUARY 7, 1984

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oughts to retain ownership of that property. We suggest the State assumes the perogative of taxing of timber lands when and if such taxes are necessary and can be justified.

In summary, we suggest that the largest single problems that we have even more that the market place, is an attitude on the part of State as well as Federal and local government and general public in their dealings with the timber industry. There has been over the past decade a systematic erosion of the economic footings that sustained the industry. Requests for relief have been for the most part totally ignored by government and the public. A majority of the timber industry operators have been complacent during the high market period enjoyed in the 70's. Many people have already suffered the consequences of these attitudes and complancencies. With each passing month additional businesses collapse, millions of dollars are lost and our economy is disturbed. It is time to move out of the discussion and analysis stage and start taking concrete action along several fronts if we are to correct this very serious circumstance.

Thank you very much for the opportunity to submit the earlier material and this letter to you.

Sincerely,

CAPE FOX CORPORATION

F.A. Seymour,  
Executive Vice President

cc: William Sheffield,  
Governor of Alaska

Robert Ziegler,  
State Senator

Jack McBride, ✓  
State Represenative

Ron Wendte,  
State Represenative

Don Bell,  
Alaska Loggers Association

Richard Lyon,  
Commissioner of Commerce and  
Economic Development

MR. JOHN STURGEON  
STATE FORESTER  
FEBRUARY 7, 1984

-5-

Ester Wunnicke,  
State Director of Dept. of Nat. Res.

John Sandor,  
U.S. Forest Service

Win Green,  
U.S. Forest Service

Ron Wolfe,  
Tlingit & Haida Central Council

Robert Loescher,  
Vice President, Sealaska Corp.

Lennie Boston,  
Special Assistant, Governors Office

FAS:lj

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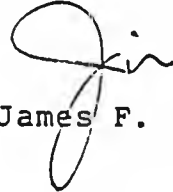
March 20, 1985

Ms. Lennie Boston  
Special Assistant  
Office of the Governor  
Pouch A  
Juneau, Alaska 99811

Dear Lennie:

Enclosed for your review, please find the draft letter to Governor Sheffield reporting on the results of the March 15, 1985 meeting of the Alaska Timber Task Force. After you have had a chance to look it over, perhaps we can get together some-time tomorrow to discuss it.

Yours very truly,



James F. Clark

JFC:sd  
Enclosure

FILE COPY

# DRAFT

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March 20, 1985

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KENNETH W. LEGACKI  
JULIE B. BOCKMUN

The Honorable Bill Sheffield  
Governor, State of Alaska  
Pouch A  
Juneau, Alaska 99811

Dear Governor Sheffield:

This is to report to you on the excellent meeting which the Alaska Timber Task Force had on March 15, 1985. The Task Force reviewed your administration's response to the December 14, 1984 Task Force Report, as well as the responses of the Forest Service and industry. We would like to commend you on your response and commend to you the responses we received from the other Task Force participants. The setting of priorities by the State, the Forest Service and industry was reasonable and realistic considering what can be done to help the industry within Federal and State budget constraints.

This letter is to list the Task Force's priorities after reviewing the responses:

A. Marketing Program.

1. At page 7 of the Task Force report, the Task Force recommended that the U.S. Trade Representative's office be made more fully aware of the declining position of dissolving the sulfite pulp industry both in Alaska and the lower 48. We urged that diplomatic persuasion be used in an attempt to increase the United States' market share of dissolving sulfite pulp. As you know, South Africa is one of Alaska's chief competitors on the Pacific Rim because it produces at far less cost than Alaska pulp.

We appreciate having your Washington Office cooperate with the Congressional delegation in urging the help of the U.S. Trade Representative. The Task Force considers this a priority matter.

2. The Alaska Railroad can greatly assist our effort to use Alaska wood products in the Southcentral and Interior markets in two ways:

The Honorable Bill Sheffield  
March 20, 1985  
Page 2

a. As you know, hemlock is an Alaska species which has been difficult to market. Hemlock can be used to produce railroad ties.

At pages 12 and 13 of the report, the Task Force discussed the use of the Alaska Forest Product Preference (AS 36.15.010 - .020) to increase the marketing of Alaska wood products in Alaska. Purchase of Alaska hemlock railroad ties by the Alaska Railroad would be of great help to the industry and the Railroad would meet the intent of this Act.

b. At page 36 of the report, the Task Force recommended a study of the use of the Alaska Railroad to move logs to a central processing location and then move the finished product to South Central and Interior markets.

It would be helpful to receive more cooperation from the Alaska Railroad regarding each of these objectives:

a. Representative Sund has raised concerns, which the Task Force shares about whether the Alaska Railroad plans to give Alaska timber processors a chance to sell railroad ties to the Alaska Railroad. Apparently, neither of the FOB points specified by the Railroad are in Alaska.

b. The Task Force recommended a study of the Alaska Railroad as a vehicle for moving logs to a processing facility along the railbelt and then moving manufactured products to markets along the railbelt. This proposal has been set back by the Railroad's recent raise in rates. The rate on logs has increased by eighty-eight percent (88%).

The Task Force urges that your good offices be used to raise the consciousness of Alaska Railroad officials about the role it might play in assisting the timber industry in Alaska. If the Interior and Southcentral timber industry plays the role the Task Force has proposed for it, it will someday be a major revenue producer for the Railroad.

3. As part of the overall marketing program, specifically with the People's Republic of China in mind, the Task Force recommended at page 38 of its report that an export-import bank be established. The Task Force did not make a recommendation whether this should be done by the State or by the private sector. However, state leadership is needed to help develop a plan. Since this would effect not only the timber industry, but other industries as well, the Task Force suggests that your office call a meeting with interested industries, including the banking industry, to explore the possible structure of a state export-import bank.

The Honorable Bill Sheffield  
March 20, 1985  
Page 3

4. At page 9 of the Report, the Task Force recommended that the State assist in marketing in two ways: (a) generic marketing through the Asian offices and (b) participation with associations in Pacific Rim countries which use Alaska wood products. The Task Force urges that the Department of Commerce and Economic Development's Forest Division be provided sufficient funds to pursue these marketing objectives.

E. State Budget Matters.

1. At pages 14 and 15 of the Report, the Task Force recommended a forestry assistance program, which would provide technical assistance and training in forest matters, forest products processing, and wood utilization in Southcentral and the Interior. The Task Force urges that this be a priority matter in setting the Division of Forestry's budget for this upcoming year. This program is a priority with the Task Force because it could be of great assistance in South Central and the Interior. Accordingly, we urge that the positions for this program be budgeted in the State Forester's office.

2. Attached to this letter is a letter written by me on behalf of the Alaska Loggers' Association to Representative Cotten. It urges that the budget of the State Division of Forestry be increased to include a staff position to allow the State Forester to participate in interagency discussions involving regulatory matters - specifically stipulations proposed by other agencies concerning timber harvest activities. The thrust of the letter was subsequently endorsed by the Alaska Loggers' Association and a copy of that resolution is attached.

It is the recommendation of the Task Force that money be found to allow the State Forester to participate in permitting, regulatory matters and interagency discussions of forest development proposals. The Task Force was distressed to learn that State Forester Sturgeon is required to do his own research and staff work in order to participate. Accordingly, the Task Force urges that money be found within the DNR budget to provide such staff.

4. I presented a loan guarantee program to the Task Force on behalf of the forest industry which would convert the money set aside last year for Ketchikan Pulp Corporation's proposed employee stock ownership plan to a program that would benefit the entire industry as a loan guarantee program. I have talked with a number of officials within your administration regarding this proposal and received very sound and realistic advice about how to proceed in shaping a bill which will be worthy of realistic consideration.

The Honorable Bill Sheffield  
March 20, 1985  
Page 4

The proposed legislation is attached as Exhibit B. The guarantee program would be administered through the banking industry which would have an important interest in the loans. The loans must be commercially reasonable - i.e. that is to say, they must fully collateralized. The loans would be made at market interest rates. In addition, users of the guarantee program would pay a "user fee."

We feel that this is a reasonable program in light of existing budget constraints and urge your consideration and assistance in shaping it.

4. Attached to this letter as Exhibit C, are letters from Greg Bell to Senator Edna Armstrong DeVries concerning a demonstration project at the Goose Bay facility. We believe that this type of project can be extremely worthwhile in providing data which will assist in determining the viability of using a kiln to produce dimensionally stable lumber in the Interior and South Central Alaska. This would be coupled with a training program for the prisoners.

We ask the help of your administration in bringing together the necessary people to consider and coordinate this idea. To the extent necessary, we would urge that Corrections' budget be sufficient for this program.

C. Federal Budget Matters.

1. The Alaska National Interest Lands Conservation Act (ANILCA) provided funding for intensive management in Section 705(a) and for a revolving loan fund to purchase equipment to harvest timber in marginal and special areas in Section 705(b). The Task Force report discusses Section 705(b) funding at page 43. The Task Force, however, failed to make a recommendation with respect to this source of funding.

This was simply an oversight. Creation of this source of funding is a priority with the Task Force. At our meeting the Forest Service reported that the Farmer's Home Loan Administration is prepared to promulgate regulations for the use of this funding, but that Congress has not yet appropriated money to fund the program. We would urge the assistance of your Washington office, working with the Congressional delegation, to obtain the funding needed to make this a viable program.

2. At page 32 of its report, the Task Force urges increased expenditures for the intensive management funds authorized by Section 705(a) of ANILCA. The intensive management program is designed to fund precommercial thinning, advanced logging technology, and prerloading. Even with the reallocation

The Honorable Bill Sheffield  
March 20, 1985  
Page 5

of funds in FY 1984, the Forest Service spent only fifty-three percent (53%) on preroading of what it told Congress it would spend during the D-2 debates. Ten million dollars more would have been spent in Southeast Alaska for preroading in FY 84 had the Forest Service fully funded the program.

We need to continue to push for more funding of the preroading program because it provides jobs for Alaskans in Southeast Alaska who would work for the construction companies which obtain the preroading contracts and makes it economically possible to harvest the timber, thus providing timber-related jobs.

We appreciate the assistance you have given us on this matter, including the pledge to continue to have your Washington office work with the Congressional delegation to increase the amount of this funding. This is a priority matter with the Task Force.

3. Section 14(i) of the National Forest Management Act contained a proviso which excluded small operators in Alaska from the opportunity of electing to have the Forest Service build the roads needed for their sales. Roading costs are a major front-end cost that makes it impossible for many small operators to obtain the financing needed to perform Forest Service sales. If this Alaska exclusion were removed, it would be a great assistance to independent loggers and operators, particularly in Southeast Alaska. We appreciate your continuing cooperation on this matter and appreciate the efforts of your Washington office to assist the Congressional delegation. This is a priority item with the Task Force.

#### D. Rules and Regulations.

1. We appreciate the continued cooperation of your administration in attempting to eliminate the necessity to obtain a Section 402, National Pollution Discharge Elimination System (NPDES), permit in order to construct a log transfer facility. This point is fully discussed at pages 20 through 22 of the Task Force report. We need to get administrative cooperation from the Corps of Engineers by eliminating newly instituted requirements in their permits which incorporate erroneous provisions from the now-defunct general permit proposed by EPA (and opposed by the State, industry, and the Forest Service). The Task Force asked the Forest Service to obtain a meeting to seek this goal with the relevant agencies which will take place on April 15, 1985.

In addition, we are seeking legislation in Congress which would make it clear that a Section 402 permit is not

The Honorable Bill Sheffield  
March 20, 1985  
Page 6

required to construct a log transfer facility. Your administration supports this legislation. Sealaska is taking the lead on it for industry.

It is important to get these matters resolved as soon as possible because of the major expenses involved in retrofitting log transfer facilities and building new transfer facilities would have to the industry. This is a key priority item with the Task Force.

2. The Alaska Coastal Zone Management Program has increasingly involved itself in timber harvesting matters. Consistency determinations are now playing an important role in deciding what is and what is not permitted. We have found that there has been in the past insufficient liaison between those administering the Program and those upon whom the Program is being administered. Accordingly at page 26, the Task Force recommended that there be in-the-field workshops to narrow the gap between parties. We would urge that sufficient funds be made available within the budget to accommodate this important need. We urge your continuing assistance in nominating forestry as a use of State concern.

E. Infra-Structure Matters. At pages 33 and 34, the Task Force report discusses log hauling on public highways. The Task Force recommended the State consider amending the Alaska Administrative Code to provide for regulation of log hauling on designated routes. At our meeting State Representatives reported to the Task Force that the regulation changes proposed in the Report could not be made until 1986. This is a matter of great urgency within the industry. Therefore, the Task Force requests that your administration consider emergency regulations for the 1985 logging season.

I wish to thank you again for the excellent cooperation we have received from your administration. The Task Force continues to believe that its other recommendations are valuable and important suggestions. However, the Task Force thought it would be helpful to you to prioritize our concerns in order to provide a realistic program for moving a number of these suggestions along.

The Task Force will meet again on April 16 to continue to work for implementation of its recommendations. Thank you again for all your assistance.

Yours Very Truly,

James F. Clark

cc: Congressional Delegation  
Regional Forester Mike Barton

STATE OF ALASKA 1985 LEGISLATIVE SESSION

FISCAL NOTE

Revision Date: \_\_\_\_\_

REQUEST No.1 page 1 of 3  
 Bill/resolution No.: HR 306  
 Title: Marketing of Forest  
Products  
 Sponsor: Taylor & Sund  
 Requestor: \_\_\_\_\_  
 Date of Request: \_\_\_\_\_

FISCAL DETAIL  
 Agency Affected: Commerce & Econ. Dev.  
 Program Category Affected: \_\_\_\_\_  
 BRU, Program or Subprogram(s) Affected: \_\_\_\_\_

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90
OPERATING						
100 PERSONAL SERVICES		106,000	111.0			
200 TRAVEL		20,000	21.0			
300 CONTRACTUAL		206,000	216.0			
400 SUPPLIES		2,000	2.0			
500 EQUIPMENT		9,000				
500 LAND & STRUCTURES						
700 GRANTS, CLAIMS						
300 MISCELLANEOUS						
TOTAL OPERATING		343,000	350.0			
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND		243,000	245			
FEDERAL FUNDS						
OTHER PROGRAM RECEIPTS		100,000	105			
TOTAL		343,000	350			

POSITIONS:

FULL-TIME		2	2			
PART-TIME						
TEMPORARY						

ANALYSIS: Attach a separate page if necessary.  
 This budget assumes program receipts from the assessment of \$100,000 and a general fund appropriation of \$243,000 in FY '86. This \$343,000 budget would fund an Executive Director (R-26), Clerk (R-8), 2 trips for staff and 18 board members at \$500/trip, plus basic expenses. There is also \$200,000 for generic marketing contracts. Assessment revenue can vary widely and State match above and beyond the assessment is totally optional.

Prepared By: William H. Beardsley, Director Phone: 465-2094  
 Division: Office of Forest Products Date: \_\_\_\_\_

Approved by Commissioner: Loren H. Lounsbury Date: 4/24/85  
 Agency: Commerce and Economic Development

Distribution (by Agency preparing fiscal note):  
 Legislative Finance  
 Legislative Sponsor  
 Requestor  
 Office of Management and Budget  
 Impacted Agency(ies)

7/1/84

1.	POSITION TITLE <b>Executive Director</b>				RANGE/STEP 26A	ORG. UNIT	PAGE/LINE	COY.	APPROV.	DISAP.
2.	TYPE OF POSITION	STAFF MONTHS	RP NUMBER	PCN NUMBER	BRU PRIORITY	LOCATION	ELECTION DISTRICT	LEG.		
3.	CONTINUATION LEVEL				JUSTIFICATION					
4.	TYPE OF EMPLOYMENT				AMOUNT					
	1		2		3					
	PERSONAL SERVICES									
5.	Salary		62,508							
6.	Benefits		10,120							
7.	Supplemental Benefits		3,832							
8.	Fixed Benefits		2,630							
9.	TOTAL PERSONAL SERVICES		01		79,090					
10.	Travel		02							
11.	Contractual		03							
12.	Commodities		04							
13.	Equipment		05							
14.	Other									
15.	TOTAL COST									
	RECEIPT CODE	FUNDING SOURCE								
16.		Federal Receipts 1002								
17.		C.F. Match 1003								
18.		General Funds 1004								
19.		I-A Receipts 1005								
20.		Program Receipts 1028								
21.		Other								
FOR BSM USE ONLY										
KEY NUMBER _____										

**REQUEST FOR  
NEW POSITION**

AGENCY \_\_\_\_\_  
PROGRAM \_\_\_\_\_  
BRU \_\_\_\_\_  
COMPONENT \_\_\_\_\_

No. 1 HB 306

Page 2 of 3

Revised Date \_\_\_\_\_

**FY 86**

1.	POSITION TITLE Clerk III			RANGE/STEP 8A	ORG. UNIT	PAGE/LINE	COY.	APPROV.	DISAP.
2.	TYPE OF POSITION	STAFF MONTHS	RP NUMBER	PCN NUMBER	BRU PRIORITY	LOCATION	ELECTION DISTRICT	LEG.	
3.	CONTINUATION LEVEL			ADDITION	JUSTIFICATION				
4.	Type of Employment			Amount					
	1	2	3						
	PERSONAL SERVICES								
5.	Salary		19,572						
6.	Benefits		3,169						
7.	Supplemental Benefits		1,200						
8.	Fixed Benefits		2,732						
9.	TOTAL PERSONAL SERVICES	01	26,673						
10.	Travel	02							
11.	Contractual	03							
12.	Commodities	04							
13.	Equipment	05							
14.	Other								
15.	TOTAL COST								
16.	RECEIPT CODE	FUNDING SOURCE							
17.		Federal Receipts	1002						
18.		C.F. Match	1003						
19.		General Funds	1004						
20.		I-A Receipts	1005						
21.		Program Receipts	1028						
		Other							
FOR BSM USE ONLY									
KEY NUMBER									

REQUEST FOR  
NEW POSITION

AGENCY \_\_\_\_\_  
PROGRAM \_\_\_\_\_  
BRU \_\_\_\_\_  
COMPONENT \_\_\_\_\_

HB 306

No. 1

Page 3 of 3

Revised Date \_\_\_\_\_

**FY 86**

STATE OF ALASKA 1985 LEGISLATIVE SESSION  
FISCAL NOTE

Revision Date 3-27-85

REQUIREMENT

Bill/Resolution No: HB 306  
 Title: Forest Products Marketing  
 Sponsor: Taylor and Sund  
 Requestor: Resource and Finance  
 Date of Request: March 27, 1985

FISCAL DETAIL

Agency Affected: Department of Revenue  
 Program Category Affected: Collection and Management  
 BRU, Program of Subprogram(s) Affected: Audit Division  
Audit Division

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90
<b>OPERATING</b>						
100 PERSONAL SERVICES	-0-	-0-	-0-	-0-	-0-	-0-
200 TRAVEL	-0-	-0-	-0-	-0-	-0-	-0-
300 CONTRACTUAL	-0-	3.0	-0-	-0-	-0-	-0-
400 SUPPLIES	-0-	-0-	-0-	-0-	-0-	-0-
500 EQUIPMENT	-0-	1.0	-0-	-0-	-0-	-0-
600 LANDS & STRUCTURES	-0-	-0-	-0-	-0-	-0-	-0-
700 GRANTS, CLAIMS	-0-	-0-	-0-	-0-	-0-	-0-
800 MISCELLANEOUS	-0-	-0-	-0-	-0-	-0-	-0-
<b>TOTAL OPERATING</b>	-0-	4.0	-0-	-0-	-0-	-0-
<b>CAPITAL</b>	-0-	-0-	-0-	-0-	-0-	-0-
<b>REVENUE</b>	-0-	-0-	-0-	-0-	-0-	-0-

FUNDING: (Thousands of Dollars)

GENERAL FUND	-0-	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS	-0-	-0-	-0-	-0-	-0-	-0-
OTHER	-0-	-0-	-0-	-0-	-0-	-0-
<b>TOTAL</b>	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS:

FULL-TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART-TIME	-0-	-0-	-0-	-0-	-0-	-0-
TEMPORARY	-0-	-0-	-0-	-0-	-0-	-0-

ANALYSIS: Please see attached.

Prepared By: Martin J. Richard, Director  
 Division: Audit Division

Phone: 465-2320  
 Date: March 27, 1985

Approved by Commissioner: [Signature]  
 Agency: Revenue

Date: 3/29/85

Distribution (by Agency preparing fiscal note):

- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)

Analysis for HB 306

If enacted, operating expenses within the Audit Division will increase as follows:

Contractual \$3.0:

To initiate the Forest Products Marketing Assessment program, the Division will incur additional expense for forms design and publication, postage; and in drafting and promulgating regulations.

Equipment \$1.0:

To handle additional paperwork filed by processors, additional facilities are necessary.

STATE OF ALASKA 1985 LEGISLATIVE SESSION  
FISCAL NOTE

Revision Date \_\_\_\_\_

REQUEST

Bill/Resolution No: HB 306  
 Title: An Act relating to the  
promotion of forest products  
 Sponsor: Taylor and Sund  
 Requestor: House Labor & Commerce  
 Date of Request: March 22, 1985

FISCAL DETAIL

Agency Affected: Revenue  
 Program Category Affected: \_\_\_\_\_  
 BRU, Program of Subprogram(s) Affected: \_\_\_\_\_

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90
<u>OPERATING</u>						
100 PERSONAL SERVICES	-	-	-	-	-	-
200 TRAVEL	-	-	-	-	-	-
300 CONTRACTUAL	-	-	-	-	-	-
400 SUPPLIES	-	-	-	-	-	-
500 EQUIPMENT	-	-	-	-	-	-
600 LANDS & STRUCTURES	-	-	-	-	-	-
700 GRANTS, CLAIMS	-	-	-	-	-	-
800 MISCELLANEOUS	-	-	-	-	-	-
<u>TOTAL OPERATING</u>	-	-	-	-	-	-
<u>CAPITAL</u>	-	-	-	-	-	-
<u>REVENUE</u>	-	-	-	-	-	-

FUNDING: (Thousands of Dollars)

GENERAL FUND	-	(See Analysis)	-	-	-	-
FEDERAL FUNDS	-	-	-	-	-	-
OTHER	-	-	-	-	-	-
<u>TOTAL</u>	-	-	-	-	-	-

POSITIONS:

FULL-TIME	-	-	-	-	-	-
PART-TIME	-	-	-	-	-	-
TEMPORARY	-	-	-	-	-	-

ANALYSIS: Attach a separate page for analysis.

Prepared By: <sup>RWE</sup> Robert Elliott  
 Division: Revenue - Research Section

Phone: 465-2173  
 Date: 3/28/85

Approved by Commissioner: [Signature]  
 Agency: [Signature]

Date: 3/29/85

Distribution (by Agency preparing fiscal note):

- Legislative Finance
- Legislative Sponsor
- Requestor \_\_\_\_\_
- Office of Management and Budget
- Impacted Agency(ies)

FISCAL NOTE HB 306  
ATTACHMENT

Analysis for HB 306

The figures below represent the estimated revenues collected and available for legislative appropriation, if eligible processors elect a forest product marketing assessment. Value was determined by the Department of Revenue's Audit Division utilizing tax returns to determine "the costs to procure logs." It was assumed the marketing assessment could become operational in calendar year 1986, and subsequently collect assessments for FY 1987. The possible assessment rate scenarios for FY 1987 follow:

	<u>Assessment Rate</u>	<u>(Thousands of Dollars)</u>
a)	.1 percent of value	25.0
b)	.2 percent of value	50.0
c)	.3 percent of value	75.0
d)	.4 percent of value	100.0

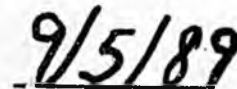


# RECORDS CERTIFICATION



I, the undersigned, an employee of the State of Alaska, do hereby certify that the microfilm images on this microform are accurate reproductions of the original records of the State of Alaska as accumulated during the regular course of business, and that it is the established policy and practice of this State to microfilm its records and to dispose of the original records after microfilm reproductions have been made.

  
Signature of Camera Operator

  
Date

H B

h b

# STATE OF ALASKA

## DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

BILL SHEFFIELD, GOVERNOR

POUCH M  
JUNEAU, ALASKA 99811  
PHONE: 907-465-2400

April 10, 1985

The Honorable Richard Shultz, Co-Chair  
The Honorable Adelheid Herrmann, Co-Chair  
House Resources Committee  
Alaska State House of Representatives  
Pouch V  
Juneau, Alaska 99811

Dear Representative Shultz and Representative Herrmann:

I am writing with regard to two bills scheduled for hearing in your committee on Wednesday, April 10, 1985, House Bill 312, creating the Dude Creek Critical Habitat Area, and House Bill 316, relating to navigable or public waters. The department provides the following information for the committee's consideration.

### Dude Creek Critical Habitat Area (CHA)

This proposed 3,730 acre critical habitat area includes 3,090 acres of mental health land. Though these lands were redesignated and have been managed as general grant lands since 1978, the recent concern about mental health lands heard by this committee in House Bill 128 suggested that I point out this fact. Designation as CHA is not inconsistent with general grant land management.

The Department has received a 640 acre grazing lease application within the proposed CHA which is being held pending the outcome of this legislation. While grazing is listed as a permitted use it may be considered unacceptable with ground nesting-cranes. This could be considered in the management plan.

Section 1(b) states that the Department of Fish and Game will develop a management plan in consultation with the community of Gustavus. I believe the Department of Natural Resources, as the land manager, should also be consulted in development of that management plan. Section 1(c) specifies that the Department of Fish and Game will manage the critical habitat. In other refuge and critical habitat

Richard Shultz  
Adelheid Herrmann

-2-

April 10, 1985


areas in the state, the Department of Fish and Game prepares the management plan, and the Department of Natural Resources manages the land in accordance with that plan. This same approach could be considered within the Dude Creek CHA.

House Bill 316, Public and Navigable Waters

House Bill 316 undertakes to make more explicit the State Constitution's provision assuring access to the navigable or public waters of the State, and we defer to the legislature as to whether such legislation is required. In describing a right to use privately owned land beneath public waters, section 1(c) may be subject to challenge as a taking of land without compensation.

Thank you for the opportunity to comment on these two pieces of legislation.

Sincerely,

  
Esther C. Wunnicke  
Commissioner

Attachment

cc: Representative Goll  
Representative Cotten  
Don W. Collinsworth, Commissioner, Department of Fish  
and Game  
Tom Hawkins, Director, Division of Land and Water  
Management

STATE OF ALASKA 1985 LEGISLATIVE SESSION  
FISCAL NOTE

Revision Date: \_\_\_\_\_

**REQUEST**

Bill/Resolution No.: HB 312  
Title: Dude Cr. CHA

**FISCAL DETAIL**

Agency Affected: Natural Resources  
Program Category Affected: NRMEC

Sponsor: Coll. Duncan MM Miller &  
Requestor: Binkley

BRU, Program or Subprogram(s) Affected: Land & Water Management

Date of Request: \_\_\_\_\_

**EXPENDITURES/REVENUES: (Thousands of Dollars)**

	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90
<b>OPERATING</b>						
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 SUPPLIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS						
800 MISCELLANEOUS						
<b>TOTAL OPERATING</b>		-0-	-0-	-0-	-0-	-0-
<b>CAPITAL</b>		-0-	-0-	-0-	-0-	-0-
<b>REVENUE</b>		-0-	-0-	-0-	-0-	-0-

**FUNDING: (Thousands of Dollars)**

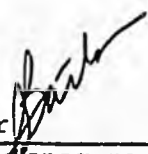
GENERAL FUND						
FEDERAL FUNDS						
OTHER						
<b>TOTAL</b>		-0-	-0-	-0-	-0-	-0-

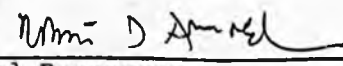
**POSITIONS:**

FULL-TIME						
PART-TIME						
TEMPORARY						

**ANALYSIS:** Attach a separate page if necessary

No fiscal impact

Prepared By: Mike Vediner  Phone: 465-2400  
Division: Land & Water Management Date: April 9, 1985

Approved by Commissioner: Wm. D. Amundson  Date: April 9, 1985  
Agency: Department of Natural Resources

Distribution (by Agency preparing fiscal note):

- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)

7/1/84

# EYED TOWNSHIP 40 SOUTH RANGE 58 EAST OF THE COPPER RIVER MERIDIAN, ALASKA

OFFICIALLY FILED 5/1/1980

STATUS OF PUBLIC DOMAIN  
LAND AND MINERAL TITLES

Proposed Dude Creek Critical Habitat Area

MTP

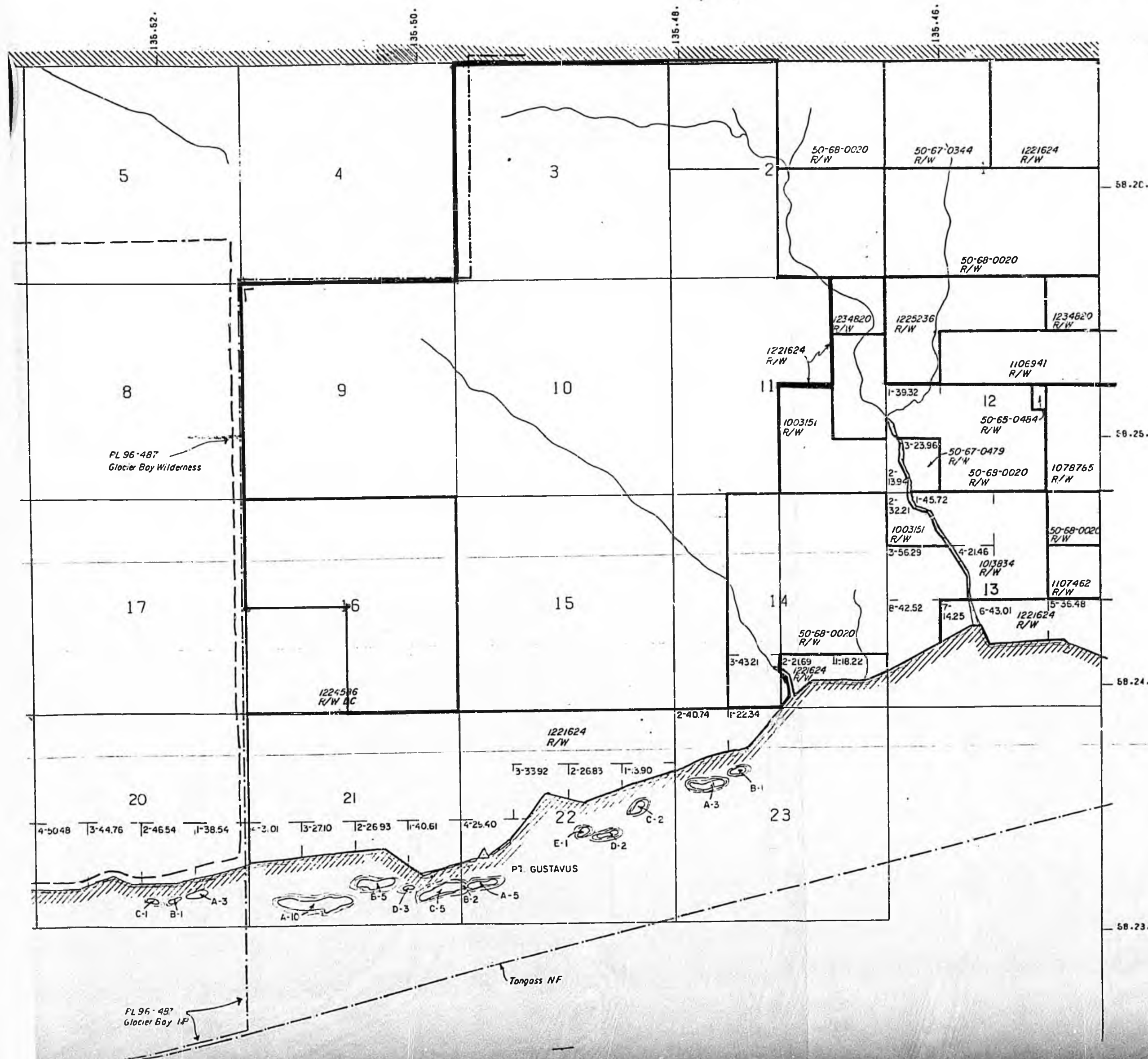
FOR ORDERS EFFECTING DISPOSAL OR USE OF  
UNIDENTIFIED LANDS, REFER TO INDEX OF  
MISCELLANEOUS DOCUMENTS.

AA 12503 SS entire Tp Amdt

WARNING  
THIS PLAT IS THE BUREAU'S RECORD OF TITLE AND SHOULD  
BE USED ONLY AS A GRAPHIC DISPLAY OF TOWNSHIP SURVEY  
DATA. RECORDS HEREON DO NOT REFLECT TITLE CHANGES  
WHICH MAY HAVE BEEN EFFECTED BY LATERAL MOVEMENT  
OF RIVERS OR OTHER BODIES OF WATER. REFER TO THE  
CADASTRAL SURVEY FOR OFFICIAL SURVEY INFORMATION.

CURRENT TO

JUL 20 1982





STATE OF ALASKA  
OFFICE OF THE GOVERNOR  
BILL ANALYSIS

DEPARTMENT Fish and Game	DIVISION Habitat	BILL NUMBER HB312	SPONSOR Goll, Duncan, Miller, Binkley
DEPARTMENT POSITION  Strongly Support			
PREPARED BY Habitat Division/Debra Clausen	DATE 4/2/85	COMMISSIONER'S SIGNATURE <i>Chris Callenworth</i>	DATE 4-5-85

SUMMARY

OTHER AGENCIES AFFECTED BY BILL Department of Natural Resources	CONSTITUENT GROUP(S) AFFECTED BY BILL Community of Gustavus
ORGANIZATIONAL SUPPORT FOR BILL Community of Gustavus	ORGANIZATIONAL OPPOSITION TO BILL None known

FISCAL IMPACT:  NONE  FISCAL NOTE ATTACHED

BACKGROUND/LEGISLATIVE INTENT

The purpose of establishing the Dude Creek Critical Habitat Area is to protect and enhance the wet meadow habitat that is the key roosting area for migrating lesser sandhill cranes, to protect lesser sandhill cranes, and for the continued public use and enjoyment of the area.

ANALYSIS OF BILL/PROGRAM EFFECTS

1. Establishes the Dude Creek Critical Habitat Area.
2. Identifies the purpose for which the area is established.
3. Provides for the management of the Dude Creek Critical Habitat Area including the development of a management plan.

AMENDMENTS PROPOSED

None

PLEASE ATTACH A SEPARATE SHEET FOR ADDITIONAL COMMENTS OR ANALYSIS.

STATE OF ALASKA 1985 LEGISLATIVE SESSION  
FISCAL NOTE

Revision Date: \_\_\_\_\_

REQUEST

Bill/Resolution No.: HB312  
Title: Dude Creek Critical

Habitat Area

Sponsor: Goll, Duncan, Miller, Rinkley

Requestor: \_\_\_\_\_

Date of Request: \_\_\_\_\_

FISCAL DETAIL

Agency Affected: Dept. of Fish and Game

Program Category Affected: \_\_\_\_\_

BRU, Program or Subprogram(s) Affected: \_\_\_\_\_

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90
<b>OPERATING</b>						
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 SUPPLIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS						
800 MISCELLANEOUS						
<b>TOTAL OPERATING</b>		0				
<b>CAPITAL</b>		0				
<b>REVENUE</b>						

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
<b>TOTAL</b>		0				

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: Attach a separate page if necessary

Prepared By: Truce H. Baker Phone: \_\_\_\_\_  
Division: Habitat Division Date: 6/3/85

Approved by Commissioner: Orin Belenewitz Date: 4.5.85  
Agency: \_\_\_\_\_

Distribution (by Agency preparing fiscal note):

- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)



STATE OF ALASKA  
HOUSE OF REPRESENTATIVES

MEMORANDUM

April 1, 1985

TO: House Resources Committee  
FROM: Representative Peter Goll *Peter*  
SUBJECT: Briefing Paper for House Bill 312

DUDE CREEK CRITICAL HABITAT AREA

Location

Gustavus, Alaska

Land Status

There are no in-holdings; the parcel proposed for the critical habitat area is state-owned or selected.

History

The residents of Gustavus have been working on the proposal for the past three years. The critical habitat status was selected after a careful review of the available land management options.

The concept was endorsed in a community-wide January, 1984, referendum by a 66-25 vote. A committee of resident citizens was formed to work with the Alaska Department of Fish and Game to develop proposed legislation.

The resulting legislation (House Bill 312) and accompanying letter of intent received the unanimous endorsement of the Gustavus Community Association on March 4, 1985.

## Purpose

The wet meadow at the western edge of the community of Gustavus is a major resting area for the Pacific population of Lesser Sandhill Cranes during their annual migration between western Alaska and southern California.

Research shows that half or more of the entire Pacific population of Lesser Sandhill Cranes uses the Dude Creek meadow during the September and April-May migratory periods. The adjacent national park is little used by the cranes.

The crane habitat at Gustavus has been greatly reduced in recent years by development and natural reforestation. The proposed critical habitat area includes the largest remaining block of appropriate habitat in the area. The wet meadow favored by the cranes is very susceptible to alteration by draining. The birds also are very easily disturbed by human presence.

The proposed legislation requested by Gustavus is designed to give the Alaska Department of Fish and Game authority to manage human uses of the Dude Creek wet meadow to protect the habitat needed by the cranes. The legislation and letter of intent also make it clear that existing compatible human uses will be accommodated. The letter of intent also gives ADF&G clear direction to work in close cooperation with Gustavus residents in drafting a management plan.

## DUDE CREEK CRITICAL HABITAT AREA

### Letter of Intent

It is the intent of the Legislature that surface vegetation and soils be maintained to preserve the wetlands nature of the critical habitat area and provide protection to migrating lesser sandhill cranes.

In creating the Dude Creek Critical Habitat Area, the Legislature also intends that hunting, fishing and trapping activities will continue to occur in accordance with harvest regulations as established by the Boards of Fisheries and Game. The following public uses of the area are recognized as historic and traditional: wildlife viewing, firewood harvesting, public access, hiking, berry picking, and grazing. It is the intent of the Legislature that the listed uses will continue unless they are determined to be incompatible with the purpose for which the area is established. The Department of Fish and Game will conduct specific fact finding, including public hearings in Gustavus, prior to making final determination of the compatibility of the listed uses during various times of the year.

The Department is to consult with the community of Gustavus in the preparation and implementation of a management plan for the Dude Creek Critical Habitat Area. In the event that the community forms a local fish and game advisory committee or a critical habitat advisory group, the Department will work closely with those entities in preparation of the plan.

Representative Peter Goll  
Alaska House of Representatives  
Pouch V, Juneau, AK 99811

February 25, 1985

Dear Representative Goll,

The committee which has been working towards the creation of the Dude Creek Critical Habitat Area gives its full endorsement to the draft letter of intent, dated February 21, 1985. We feel that this second draft expresses our desire to provide habitat for the sandhill crane while ensuring human usage of the area in consultation with Fish and Game.

We appreciate the help that you and your staff have given us and are looking forward to the enactment of this legislation.

Sincerely,

*Morgan DeLoe*  
*Deborah D. Woodruff*  
*Royd E. Prouty*

Gustavus Community Assoc.  
Box 62  
Gustavus Ak. 99826

Representative Peter Goll  
Alaska House of Representatives  
Pouch V, Juneau, Ak 99811

March 4, 1985

Dear Representative Goll,

The Gustavus Community Association gives its full support to the second draft letter of intent, as approved by the committee working for the creation of the Dude Creek crane habitat.

We feel that this draft meets the criteria of continued human useage of the Dude Creek meadows in conjunction with the sandhill crane, as desired by a survey of registered voters in 1983.

Thank you for your help and let us know if we can be of any further assistance.

Sincerely,

*Sally C Leeh* president

Gustavus Community Association

# Alaska State Legislature



## House of Representatives House Judiciary Committee

Pouch V  
State Capitol  
Juneau, Alaska 99811  
(907) 465-4990

March 28, 1985

The Honorable Richard Schultz  
House of Representatives  
Pouch V  
Juneau, Alaska 99811

Re: HB 312

Dear Dick:

I would like to ask your help in scheduling HB 312 for an early hearing in the Resources Committee. HB 312 would establish the "Dude Creek Critical Habitat Area" on state land in Gustavus, sixty miles west of Juneau.

This land is wet and marshy, not used for any other purpose and unfit for disposal as homesites. Because of its open, wet and marshy nature, it is a major stopover point for migratory waterfowl in fall and spring, including very large numbers of Sandhill Cranes (as many as 13,000 at a time), other crane species, several species of ducks and geese, and swans.

A very large majority of the people of Gustavus support this proposal, as do the state Departments of Fish and Game and Natural Resources. There is no significant opposition to the establishment of this critical habitat area.

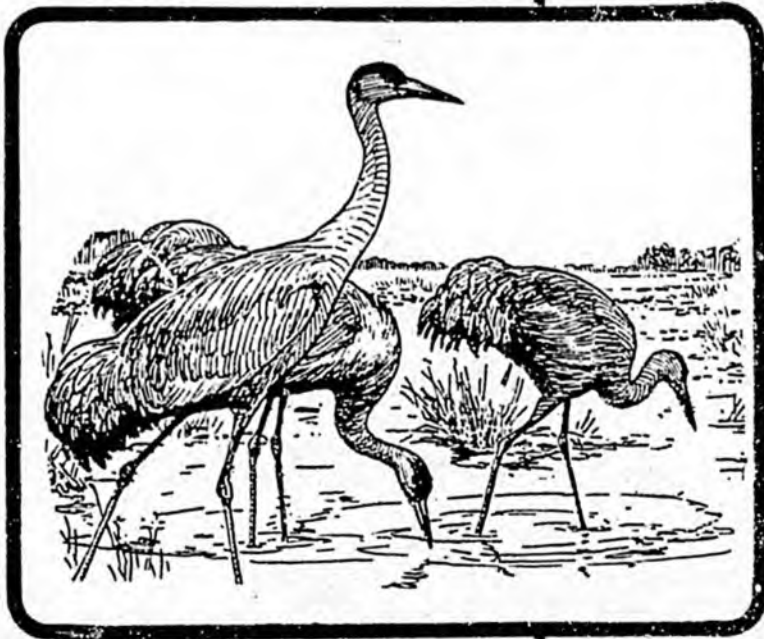
The proposed area is a waterfowl treasurehouse. Even though it is not in my district, it is an area I have long been interested in. I would very much like to get the bill moving and would appreciate whatever help you could give to that end.

Sincerely,

A handwritten signature in dark ink, appearing to read "M.M. Miller".

M.M. Miller

# Pacific Flyway Population of Lesser Sandhill Cranes



PACIFIC FLYWAY MANAGEMENT PLAN  
FOR THE  
PACIFIC FLYWAY POPULATION OF  
LESSER SANDHILL CRANES

Prepared for the:

Pacific Flyway Council  
Canadian Wildlife Service  
U. S. Fish and Wildlife Service

March 1983

PACIFIC FLYWAY MANAGEMENT PLAN  
FOR THE  
PACIFIC FLYWAY POPULATION OF  
LESSER SANDHILL CRANES

Prepared by the Subcommittee on the Pacific Flyway Population of Lesser Sandhill Cranes of the Pacific Flyway Study Committee:

Gary W. Kramer, U.S. Fish and Wildlife Service, Delano, CA,  
Subcommittee Chairman  
Bruce Conant, U.S. Fish and Wildlife Service, Juneau  
Gary Kaiser, Canadian Wildlife Service, Delta, B.C.  
Carroll D. Littlefield, Arizona Cooperative Wildlife Research Unit,  
Tucson  
Ronald W. Schlorff, California Department of Fish and Game,  
Sacramento  
Daniel E. Timm, Alaska Department of Fish and Game, Anchorage

Approved by:

William A. Molini 3/20/83  
Chairman, Pacific Flyway Council Date

\_\_\_\_\_  
Director General, Canadian Wildlife Service Date

\_\_\_\_\_  
Director, U.S. Fish and Wildlife Service Date

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## I. INTRODUCTION

The lesser sandhill crane (Grus canadensis canadensis) as its common name implies is the smallest race of the species. The race nests throughout north-central and northwestern Canada, Alaska, and into the extreme northeastern portion of the U.S.S.R., and winters in southern portions of both the Pacific and Central Flyways. Relationships between breeding areas, migration routes and wintering areas are poorly defined.

The purpose of this management plan is to provide guidelines for the cooperative management of the Pacific Flyway Population (PFP) of lesser sandhill cranes which winters in California and breeds probably in southwestern and south-central Alaska (Fig. 1). Management of the larger Mid-Continent Population is being covered in another plan.

## II. GOALS AND OBJECTIVES

The goals of this management plan are to maintain and enhance the Pacific Flyway Population of lesser sandhill cranes for its intrinsic values as well as for its direct benefits to man.

Objectives of this plan are to:

- A. Maintain the wintering population of lesser sandhill cranes in California at the current level of an estimated 20,000 to 25,000 birds. (This objective may be modified pending results from more complete inventories of the population.)
- B. Maintain production, migration, and wintering habitat for lesser sandhill cranes in adequate quantity and quality to support the population at levels and distribution shown in Figures 1-3 and listed in Table 1. (Because relationships between production, migration, and wintering areas are so poorly defined, the objective for distribution as listed in Table 1 will certainly be changed pending results from banding investigations and population surveys.)
- C. Maintain consumptive and nonconsumptive uses of this population at their current levels (See III Status, Use, Table 2). (Changes in levels of use would be dependent upon more definitive estimates of population status.)

## III. STATUS

### Population and Distribution

#### Summer

The nesting areas used by those lesser sandhill cranes wintering in California have not been confirmed by banding or color-marking information. Lesser sandhill cranes nest at scattered locations throughout

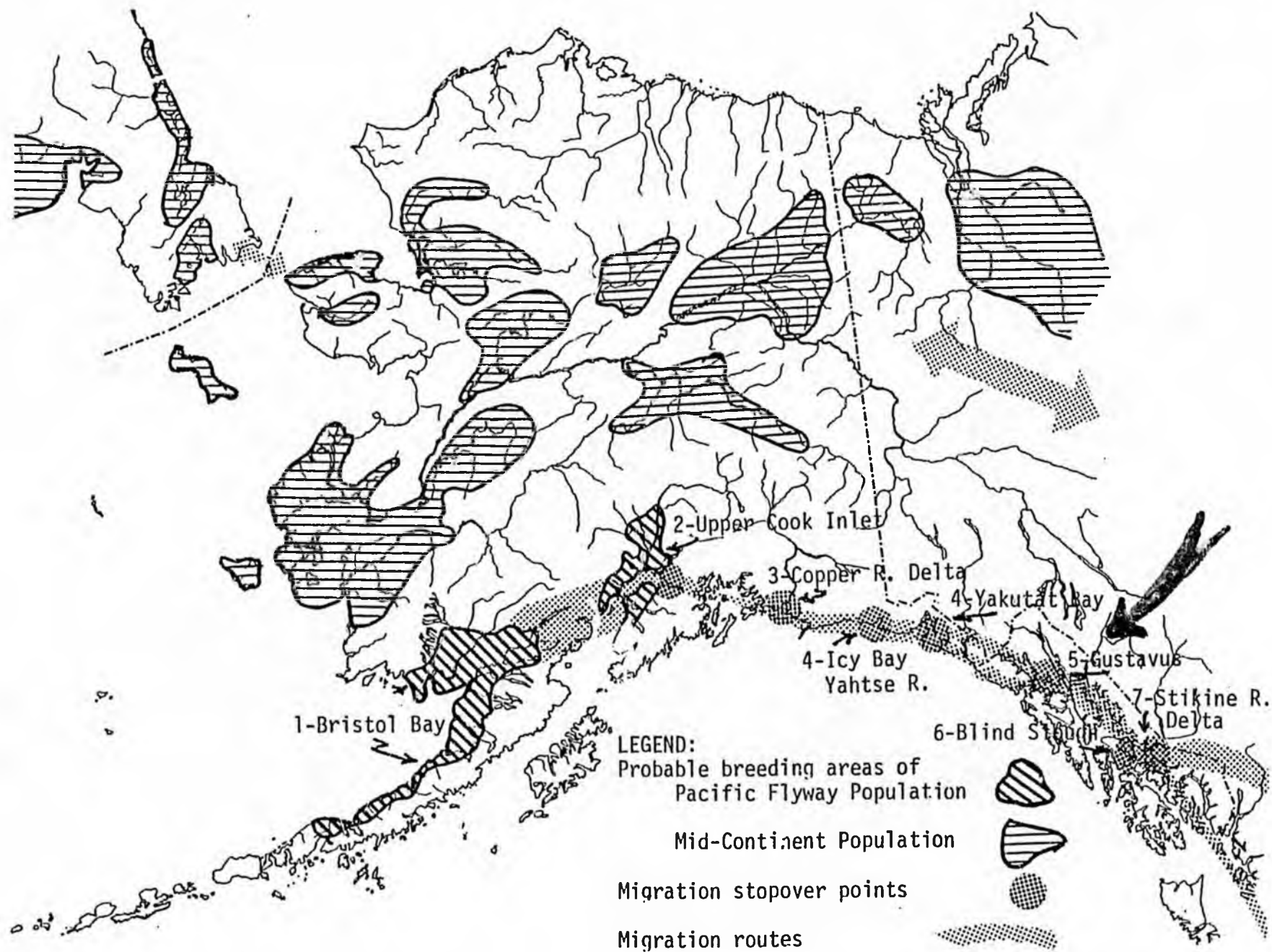


Figure 1. Major breeding grounds of lesser sandhill cranes in Alaska and portions of the U.S.S.R. and Canada. Probable breeding areas for both the Pacific Flyway and Mid-Continent Populations are shown. Migration stopover points and routes for only the PFP cranes are shown.

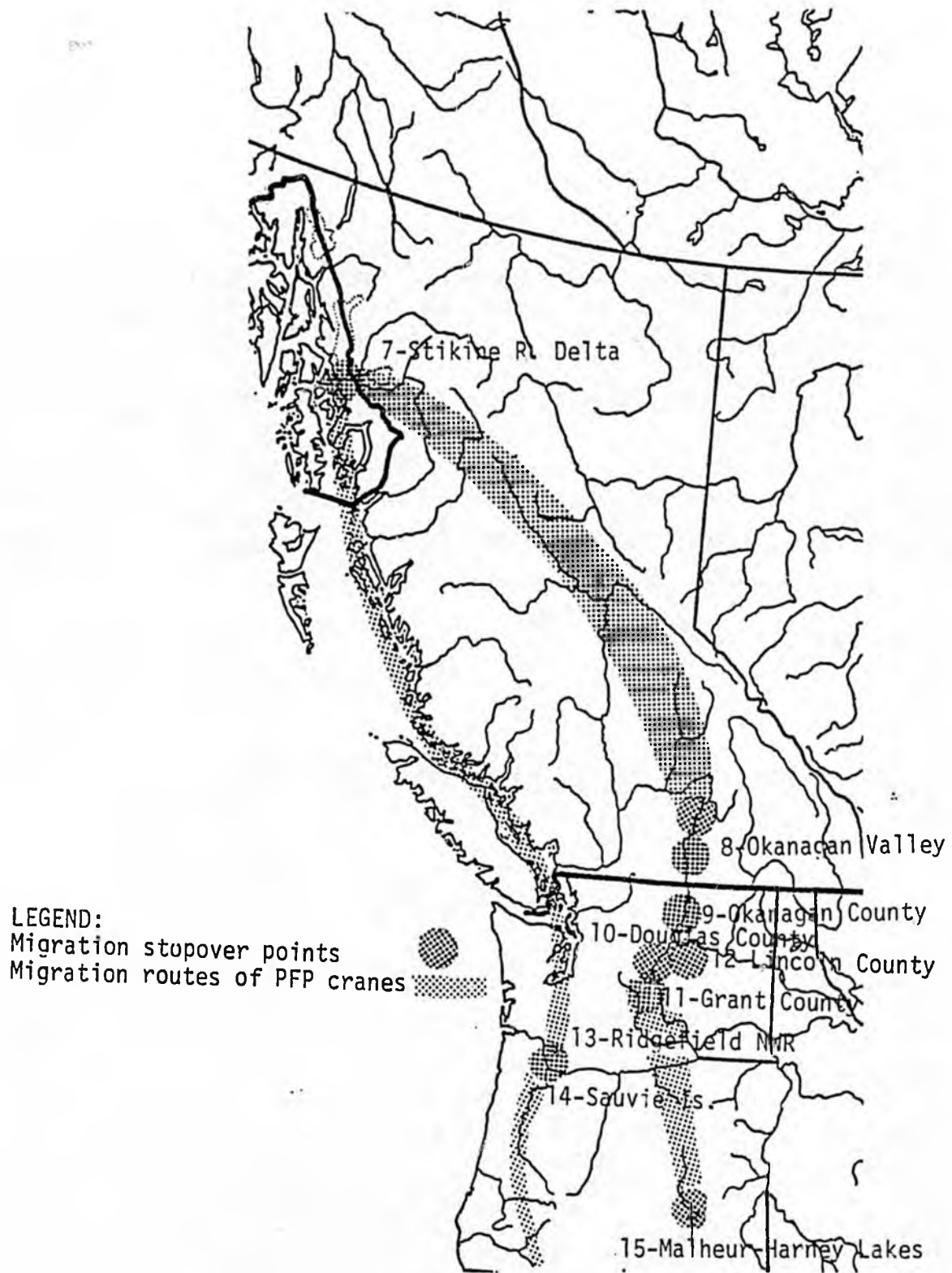


Figure 2. Migration routes and stopover points of the Pacific Flyway Population of lesser sandhill cranes.

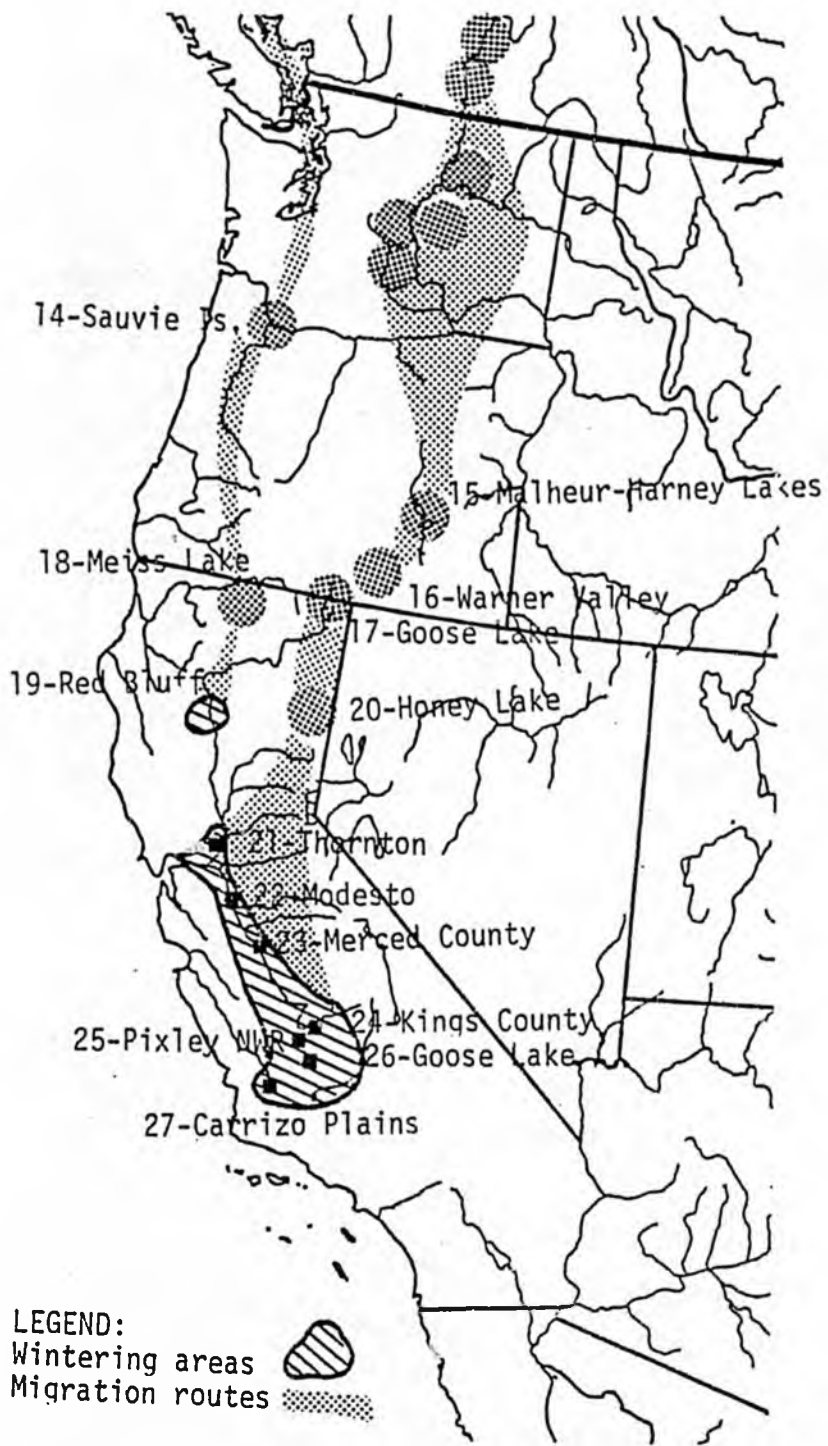


Figure 3. Migration routes, stopover points and wintering areas of Pacific Flyway Population of lesser sandhill cranes.

Table 1. Principal locations used by the Pacific Flyway population (PFP) of lesser sandhill cranes, use of those areas and estimated numbers of cranes. Map numbers correspond to locations shown on Figures 1-3.

Map Number	Location	Use by Cranes	Estimated Number of Cranes & Remarks
<b>ALASKA</b>			
1	Bristol Bay Lowlands	Nesting	Unknown numbers; presumably the major breeding grounds for PFP cranes; about 2,400 counted in spring Breeding Waterfowl Survey
2	Upper Cook Inlet-Susitna River Marshes	Limited nesting; major migration stopover	Estimated 500-1,000 cranes summer in Cook Inlet marshes; estimated 10,000+ cranes stopover in fall, with fewer stopping in spring; Portage Flats is a particularly important stopover point.
3	Copper River Delta	Major stopover	20,000+ cranes stopover both in spring and fall
4	Icy Bay, Yahtse River, & Yakutat Bay	Migration stopover	Unknown
5	Gustavus Area	Migration stopover	Unknown
6	Stikine Slough	Migration stopover	Unknown
7	Stikine River Delta	Migration stopover	Unknown
<b>BRITISH COLUMBIA</b>			
8	Okanagan Valley	Migration stopover	Unknown
<b>WASHINGTON</b>			
9	Okanagan County	Migration stopover	1,200 cranes stopping in October 1978; numerous sightings of small numbers stopping and repeated sightings of 1,000-2,000 cranes resting on pond near St. Andrews; numerous sightings of cranes feeding and in migration.
10	Douglas County	Migration stopover	1,000 cranes at Banks Lake in October 1967
11	Grant County	Migration stopover	Numerous records of cranes feeding and in migration, with flock size upwards of 500 birds.
12	Lincoln County	Migration stopover	Cranes are found in the vicinity of Woodland and on Ridgefield NWR (feeding area).
13	Cowlitz County	Migration stopover	large numbers in flight.
<b>OREGON</b>			
14	Sauvie Island, Columbia County	Migration stopover	1,400 cranes
15	Malheur-Harney Lakes area, Harney Co.	Migration stopover	Major stopover point; 14,000+ cranes
16	Warner Valley, Lake County	Migration stopover	10,000+ cranes
17	Goose Lake, Lake County	Migration stopover	4,000+ cranes
<b>CALIFORNIA</b>			
17	Goose Lake, Modoc County	See above	See above
18	Meiss Lake, Siskiyou County	Migration stopover	Unknown
19	Red Bluff, Siskiyou County	Wintering	About 1,400 cranes; probably a distinct sub-population.
20	Honey Lake, Lassen County	Migration stopover	10,000+ cranes
21	Thornton, San Joaquin County	Wintering	4,100 cranes in winter of 1969-79*
22	Modesto, Stanislaus County	Wintering	2,400 cranes in winter of 1969-70**
23	Merced County	Wintering	9,800 cranes in winter of 1969-70*
24	Kings County	Wintering	325 crane in winter of 1969-70*
25	Pixley NWR, Tulare County	Wintering	8 cranes in winter of 1969-70*
26	Goose Lake, Kern County	Wintering	630 cranes in winter of 1969-70**
27	Carrizo Plains, San Luis Obispo Co.	Wintering	2,765 cranes in winter of 1969-70*

\*Examination of these areas in 1970, 1971, and 1976 showed that they were still being used by lesser sandhill cranes in about the same numbers as during the survey of 1969-70.

\*\*During 1978 and 1979, respectively, peak populations were 1,300 (13 December) and 1,200 (14 December).

much of northern Canada, Alaska and the Chukotsk-Kolyma region of the U.S.S.R. Almost three-fourths of the cranes breeding in surveyed portions of Alaska do so on the Yukon-Kuskokwim Delta (Conant et al. 1981). The principal nesting areas of the PFP cranes, however, are presumably to the south in the lowlands of Alaska's Bristol Bay and Upper Cook Inlet where an estimated 8.3% and 0.3%, respectively, of cranes from surveyed areas are found (Figure 1). PFP cranes may also nest further north in areas used by the Mid-Continent Population. As with other populations of birds of the same subspecies that nest in close proximity, a small percentage of cranes from the Pacific Flyway Population probably exchange with those of the Mid-Continent Population. A very few cranes have been reported as nesting or suspected to be nesting on Kupreanof, Kuiu, and Sergief islands in southeastern Alaska (Gabrielson and Lincoln 1959) and could belong to either the PFP cranes or to the Central Valley Population of greater sandhill cranes (G. c. tabida) whose northern range extends into British Columbia and is also poorly defined.

### Winter

Wintering PFP cranes within the Central Valley of California are separated into two groups or subpopulations (Figure 3, Table 1). The northernmost and smallest group, about 1,400 birds, winters just east of Red Bluff, Tehama County. These birds loaf and roost near the Sacramento River north of Red Bluff. The southern group, about 20,000 to 24,000 birds, winters from near Thornton, southeast to the Carrizo Plains in San Luis Obispo County (Littlefield and Thompson 1982). A majority of this group winters on and near Merced and San Luis NWRs, but during the winter of 1979-80 when conditions were unusually dry large numbers wintered in the Delta-Grizzly Island area. Up to 6,500 lesser sandhill cranes winter in the Carrizo Plain and use the shallow waters of Soda Lake for roosting (Bowen 1982).

Few PFP cranes have been seen between Red Bluff and Thornton, and apparently there is no interchange, at least in the wintering ground, between these two wintering groups. Appendix A contains more detailed information on population size and distribution in winter.

### Migration

Confirmation of the migration routes used by PFP cranes is based partly upon conjecture and part by limited observations of marked birds. Forty-three cranes were color-marked at Merced NWR in February and March 1980 which resulted in three sightings in spring east of Klamath Falls, Oregon, four sightings on or near Malheur NWR in spring, two sightings in spring and two in fall on the Copper River Delta, a fall sighting near Gustavas in southeastern Alaska, and three sightings in the Central Valley during the subsequent fall and winter (Herter 1982). Bandings of cranes breeding on the Yukon-Kuskokwim Delta showed an affinity for migrating east of the Rocky Mountains (Boise 1979). Herter (1982) reviews information on sightings of lesser sandhill cranes along the Pacific Coast states and in British Columbia.

During late February and March, PFP cranes leave the Central Valley in a northward direction (Figure 30). The migration route for the southern group of the population crosses the Sierra Nevada Mountains over Placer-ville. From there they continue north to Honey Lake, near Susanville. After leaving Honey Lake the migration slows as birds spend time feeding. The cranes enter Oregon south of Lakeview and in Warner Valley, and further to the west through Klamath County (Littlefield and Thompson 1982).

The major spring stopover area for the southern group is in Harney County where the birds spend a few weeks feeding in the native-grass meadows south and east of Burns (Figure 3). About 6,000 cranes are normally present during peak periods. However, when inclement weather persists their departure is delayed; and up to 14,000 birds may be present. Migration progresses rapidly through eastern Oregon after the cranes leave Harney County (Littlefield and Thompson 1982). The cranes fly north between John Day and Dayville, to the west of Pendleton, and enter Washington in the vicinity of Pasco. PFP cranes regularly stop near Moses Lake and Ephrata, Grant County, and near Mansfield, Douglas County, central Washington.

Upon leaving central Washington the migration of the southern group continues north into British Columbia through the Okanagan Valley (Figure 2). Where these birds go through British Columbia is uncertain, but they likely follow routes shown in Figure 2.

Cranes have been reported stopping in spring near the Stikine River Delta and at Gustavus in Alaska (Figure 1). They apparently follow a coastal route to the Copper River Delta and from there spread across the Kenai Peninsula and Upper Cook Inlet area before going to the various breeding areas mainly to the west. The reverse is true during fall, although more use is made of staging areas than in spring for at least Portage Flats (D. E. Timm pers. comm.).

The small northern group of PFP cranes that winters near Red Bluff apparently uses a separate route. From Red Bluff this group migrates north to Meiss Lake, enters the Willamette Valley near Eugene, and stages on Sauvie Island in the Columbia River. From there they move to the Puget Sound region of Washington and then migrate along the coast of British Columbia and Alaska (Figure 1). The fall migration route is probably the reverse of that of spring, and Sauvie Island is again an important use area. During mild winters a few birds remain on Sauvie Island, but normally all continue south to Red Bluff (Littlefield and Thompson 1982). The nesting population in Cook Inlet and the group wintering near Red Bluff are approximately the same size and may be synonymous (D. E. Timm pers. comm.).

#### Uses

Legal hunting of PFP cranes occurs only in Alaska. The season opens on 1 September in most portions of the State and extends as late as 22 January. All birds, however, have migrated from Alaska by early November. The daily bag and possession limits are 2 and 4, respectively. The past 10-year average harvest of cranes in Alaska was about 765, with an

Table 2. Retrieved sport harvest of lesser sandhill cranes in Alaska as measured by State Mail Surveys (1971-77) and Federal Mail Survey (1978 to date). Ratio of cranes belonging to the Pacific Flyway Population and the Mid-Continent Population is estimated to be 3:7.

Year	Estimated Sport Harvest of Cranes		Total
	Pacific Population	Mid-Continent Population	
1971	145	345	490
1972	230	535	765
1973	180	420	600
1974	190	450	640
1975	490	1,150	1,640
1976	200	615	875
1977	185	435	620
1978	90	220	310
1979	205	470	675
1980	315	735	1,050
Average	230	535	765

estimated 230 cranes being PFP birds and the remaining 535 birds belonging to the Mid-Continent Population (Table 2). Hunting of this particular population is prohibited in all other states and in British Columbia.

Subsistence harvest of PFP cranes is believed to be negligible. Two estimates of subsistence harvest have been made on the Yukon-Kuskokwim delta, Alaska, where in 1965 an estimated 1,033 cranes were taken from spring through fall (Klein 1966) and in 1981 an estimated 1,477 were taken in spring (Copp and Smith 1981). Additional subsistence harvest may occur in Canada and the U.S.S.R. Birds from these areas, however, probably belong to the Mid-Continent Population.

Observing sandhill cranes is an important pastime through the birds' southern range. It is particularly important in Central Douglas County, Washington, in migration near Portland, Oregon, near Thornton and at the Merced and San Luis NWRs in the San Joaquin Valley. Fewer people have opportunities for observing cranes on their breeding grounds, but for many in the North seeing and hearing cranes contribute towards a truly "wilderness experience."

#### Management

Lesser sandhill cranes have benefited largely from measures taken to manage migratory birds in general, e.g. protection afforded by State and Federal regulations and habitat protection through refuges, the Grassland Easement Program, and the Water Bank Program. The Bureau of Land Management is considering implementing cooperative management practices at Soda Lake in the Carrizo Plain that would benefit cranes and other wildlife (Bowen 1982). The PFP cranes have benefited directly by cereal grain production on Merced NWR and warning markers on powerlines. Breeding populations of lesser sandhill cranes have been surveyed annually in portions of Alaska since 1957 as part of the continental Waterfowl Breeding-pair Survey (Conant et al. 1981). The PFP cranes have been studied on one of their principal staging grounds, the Copper River Delta (Herter 1982). Forty-three cranes were color-marked in California to obtain information on their migration and relationships to staging and man-caused disturbances on the Copper River Delta (Herter 1982). Inferences on breeding biology of PFP cranes can be drawn from a study of cranes of the Mid-continent Population on the Yukon-Kuskokwim delta (Boise 1979).

#### IV. PROBLEMS

The breeding origin of PFP cranes and most northern routes and stopovers of their northern migration to and from California have not been verified. Stopover points and their relative importance to the birds have been only cursorily identified.

Estimates of population size, production, and sport harvest are not precise. The lack of field identification techniques for distinguishing between lesser and greater sandhill cranes makes it difficult to accurately gather population data in areas where they mingle.

Unregulated spring and summer harvests of lesser sandhill cranes occur in Alaska, and possibly in Canada and U.S.S.R.; and likely exceeds the legal sport harvest. The harvest is believed to be proportionately greater on the Mid-Continent Population than on the PFP. The magnitude and consequence of this harvest on either population are unknown; and, lack of harvest data confounds purposeful management efforts.

With increasing human populations and expanded natural resource exploitation, disturbances of PFP cranes throughout their range is an increasing problem. Loss of wintering habitat, particularly roost sites, from various forms of land development in California poses the most serious threat. Depredation on grain fields by PFP cranes is now a minor problem that could change under different circumstances.

Cranes collide with transmission lines and fences. There remains a potential for disease outbreaks in wintering areas where cranes concentrate, but presently the impact is minor.

#### V. RECOMMENDED MANAGEMENT PROCEDURES

The following management procedures are recommended. The degree and timing of their implementation by the various lead agencies will be influenced by manpower, fiscal, and legislative constraints. Whenever possible, management procedures in this plan should be coordinated and incorporated into those procedures recommended in plans for other species and populations of Pacific Flyway birds.

##### Habitat

1. Inventory of Habitats.--Identify and catalog the habitats used by PFP cranes in order to facilitate protection of these areas.

Lead Agencies: USFWS, ADFG (State lands), CWS, BCFWB, WDG, ODFW, CDFG

Participating: BLM

Priority: 1

Schedule: 1984-85

2. Habitat Preservation.--Acquire through either fee title, easements, or cooperative agreements protection for key wintering habitats of PFP cranes, particularly roost sites. Continue to provide suitable habitat for cranes on National Wildlife Refuges in California and in Alaska.

Lead Agencies: USFWS and CDFG

Participating: Other State and Federal land-managing agencies and citizen organizations will be invited to participate in providing protection to these habitats.

Priority: 1

Schedule: Ongoing.

3. Utility Corridors.--Assist utility companies in planning corridors that would avoid primary migration pathways and concentration areas of cranes. Where construction of new transmission lines would pose hazards to cranes, efforts would be made to have them buried, rerouted or strung with highly visible markers.

Lead Agencies: USFWS, ADFG (State and private lands), CWS, BCFWB  
WDG, ODFW, CDFG

Participating:

Priority: 2

Schedule: Ongoing

4. Disturbance.--Disturbance to cranes, particularly in staging and wintering areas, should be minimized, unless it is purposefully intended to alleviate crop depredations. Pilots should be advised as to recommended minimum altitudes to be flown over areas used by cranes. As appropriate, minimum altitude requirements over refuges should be enforced and other human disturbances minimized.

Lead Agencies: USFWS, ADFG (State lands), CWS, BCFWB, WDG,  
ODFW, CDFG

Participating: BLM

Priority: 1-3

Schedule: Ongoing.

#### Uses

1. Interpretive Programs.--The Subcommittee will develop written and pictorial information of the life history of PFP cranes and on the nature and necessity for a cooperative program. State, Provincial, and Federal agencies, schools and citizen groups could use these materials, in part, to develop interpretive programs that include cranes.

Lead Agencies/Group: Subcommittee develop materials.  
USFWS, CWS, BCFWB, WDG, ODFW, CDFG develop  
and implement interpretive programs

Participating: Citizens' organizations

Schedule: Develop material by 1984  
Develop and begin implementing interpretive programs  
by 1986.

2. Sport Harvest.--Maintain the sport harvest of PFP cranes within limits of harvest potential and in consideration of other uses of the population.

Lead Agencies: USFWS and ADFG

Priority: 1

Schedule: Ongoing

3. Subsistence Harvest.--The size and distribution of subsistence harvest of PFP cranes should be assessed and related to the annual harvestable surplus. Recommendations for allowable spring and summer harvest should be made in consideration of these other factors.

Lead Agency: USFWS

Participating: ADFG

Priority: 2

Schedule: Ongoing.

#### Surveys and Research

- I. Delineation of Populations.--Cranes should be color-marked or telemetered first in the Bristol Bay and Cook Inlet-Susitna lowlands and second in the areas where they could belong to either the PFP or the Mid-continent Population. Searching for and making observations on marked cranes is an obligate part of this task.

Lead Agencies: USFWS, CWS, BCFWB, WDG, ODFW, CDFG

Participating: ADFG

Priority: 1

Schedule: 1984-86

2. Winter Population Survey.--Either aerial or ground surveys of PFP cranes wintering in California should be conducted biannually. This survey could be done during either the periodic fall waterfowl surveys or during the midwinter waterfowl survey. Appropriate timing will be determined through trial uses of both types of surveys.

Lead Agencies: CDFG and USFWS

Priority: 1

Schedule: Evaluate appropriateness of various surveys during 1982-84.

Implement survey in fall and winter of 1984-85 and conduct at 2-year intervals, thereafter.

3. Field Identification Technique.--A field identification key will be developed to distinguish between lesser and greater sandhill cranes.

Lead Agencies/Group: Subcommittee

Participating:

Priority: 1

Schedule: 1984

4. Productivity Survey.--Obtain productivity data at Merced NWR and if it can be done incidental to other surveys also on the Copper River Delta. Surveys in California should be conducted prior to December because afterwards it becomes increasingly difficult to distinguish birds of the year from older birds.

Lead Agencies: USFWS and CDFG

Priority: 3

Schedule: Ongoing

5. Development and Review of Research Proposals.--The Subcommittee shall propose or develop as necessary research projects for Federal, State, or other source funding, recommend needed research, and review unsolicited research proposals. The Subcommittee shall consider priorities of that information needed on the population as a whole, rather than on a local or provincial basis.

Lead Agency/Group: Subcommittee

Priority: 1

Schedule: Ongoing

#### Annual Review of Plan

The Subcommittee shall meet annually or as needed to measure progress toward achieving the goal and objectives of this plan and to recommend revisions. The Subcommittee shall report on accomplishments and shortcomings of the cooperative management efforts to the Pacific Flyway Council (through the Western Migratory Upland Game Bird Technical Committee), those State, Provincial and Federal agencies having management responsibilities, and those agencies and organizations interested or cooperating in the management of cranes. Composition of the Subcommittee should be comprised of, but not limited to, representatives from those agencies having management responsibility for PFP cranes.

Lead Agencies/Group: Subcommittee

Priority: 1

Schedule: Annually (March meeting of the WMUGBTC) or as needed.

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APPENDIX A. Winter distribution of the Pacific Flyway Population of lesser sandhill cranes (Littlefield and Thompson 1981).

During the winters of 1969-70 and 1970-71 all areas in California known to be used by cranes were examined for their presence.

Upon entering the Central Valley in the fall most lesser sandhill cranes concentrate near Merced, then disperse northwest and southeast after spending 3 to 4 weeks in the Merced area.

Near Thornton, San Joaquin County, 828 lessers were counted on 14 December 1969. After this date a substantial increase was recorded. By late December over 2,000 were there, and an estimated 4,100 were present on 7 January.

In Stanislaus County, the subspecies winter about 8 to 10 mi west of Modesto on the Faith and Mape's Ranches at the confluence of the Tuolumne and San Joaquin Rivers. In 1969, lesser sandhill crane numbers fluctuated through mid-November, but stabilized in December. Dates of counts and numbers were:

October 31	404
November 4	2,403
November 14	617
December 12	898
February 3	800

The peak number was on 4 November when cranes were decreasing in Merced County.

Five roost sites in Merced County were periodically surveyed during the winter of 1969-79. Counts at these sites tallied the following:

Merced NWR and vicinity

24 October	5,934	10 December	1,042
25 November	2,600	26 January	2,253

Greenhouse (2 mi west and 4 mi north of Merced NWR)

1 December	754	8 December	864
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Bowles Farm (8 mi east and 2 mi north of Los Banos)

2 November	4,000	11 December	573
16 November	2,500	29 January	0
2 December	597		

San Luis NWR

6 November	599	12 December	802
19 November	2,838	2 February	52
30 November	56	18 March	30

Kesterson NWR

31 October	800	11 December	183
12 November	121	1 February	540
29 November	790		

Merced County is the most important wintering region for PFP cranes in the Central Valley. Estimated peak numbers of cranes at the Merced NWR (from Refuge Narrative Reports) were:

1951	3,000	1961	9,000	1971	1,500
1952	1,500	1962	21,000	1972	750
1953	2,000	1963	15,000	1973	2,000
1954	5,000	1964	9,000	1974	10,000
1955	5,000	1965	4,000	1975	10,000
1956	1,200*	1966	6,500	1976	5,000
1957	30,000**	1967	6,000	1977	5,250
1958	21,500	1968	2,500	1978	8,000
1959	15,000	1969	5,950	1979	8,000
1960	15,000	1970	1,460	1980	5,400

On 23 November 1969, 324 PFP cranes were using Melga Reservoir, 12 mi south of Hanford, Kings County. By 15 December their numbers had dropped to four, and none was recorded on 26 January.

In Tulare County, 8 PFP cranes were observed on Pixley NWR on 22 November 1969, for the only record. However, southwest of this refuge at Goose Lake, 11 mi west and 4 mi south of Wasco, Kern County, cranes wintered in large numbers. On 21 November, 223 were using the area, increasing to 415 on 16 December and 628 on 26 January.

West of Goose Lake large numbers of cranes usually winter at the Carrizo Plains, San Luis Obispo County. In the winter of 1969-70, three counts were made: on 24 November, 1,011 cranes were counted; 17 December, 1,439; and 25 January, 2,763.

In addition to those that winter in the Central Valley a few are sometimes seen in the Imperial Valley. Four were seen 7 mi southeast of Brawley, Imperial County, on January 1971, and one was recorded near Blythe, Riverside County, on 31 January 1976. These birds probably migrate south along the east side of the Sierra Nevada Mountains.

\*Population was reported in the Refuge narrative report to be 50,000 cranes, but this number was believed to be grossly overestimated.  
 \*\*Believed to be an overestimation of the true population size.

A Preliminary Evaluation of Wildlife Populations and Habitats  
on Gustavus Beaches and Dude Creek Uplands

February 1983

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and

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## INTRODUCTION

There has been concern both within the Gustavus community and from others over the fate of the State-owned beaches and wetlands that flank the Gustavus community to the west and south. The potential of these lands for subsistence, recreational, agricultural, mineral and commercial use has often been cited, but to this point they have not been placed into an appropriate classification and management framework. Intelligent selection among the many potential combinations of uses is dependent on specific knowledge of existing resources. Our study was designed as a step in gathering this information.

Objectives were to:

1. identify the species of birds and mammals inhabiting the study area and provide indices of abundance for key species during the fall and winter months.
2. describe the localities and habitats used by key species.
3. describe the present physiography and vegetation, noting tendencies for change as they may relate to habitat quality and species diversity.
4. draw conclusions and make general recommendations based on the completion of the first 3 objectives.

The study period covered one year beginning 7 September 1981. Intensive surveys were limited to the fall 1981 period although regular monthly surveys continued through the winter. Spring and summer observations were made opportunistically. Information from other areas and from other years was collected as available and appropriate.

## METHODS

The study area (Figures 1 and 2) roughly coincided with lands once proposed for a State Game Refuge. This area was divided into 9 subunits, eight along the beach and one encompassing the uplands flanking Dude Creek. To aid in description of physiography, the beach subunits were also grouped into four physiographic units (Fig. 2). Survey data were logged by subunit and survey date.

Surveys of beaches were made approximately every 10 days during September and October 1981 and approximately once a month thereafter until late March 1982. Each survey covered the entire beach and took portions of 2 to 3 days to complete due to constraints of tide and daylight. All surveys were conducted on foot at low tide except for the short segment between the Good River and the Salmon River which was occasionally done by skiff at high water.

The September and October surveys were performed by two observers; one observer walked the low tide margin, while the other observer walked the high tide margin. Avian counts were tallied separately for the upper

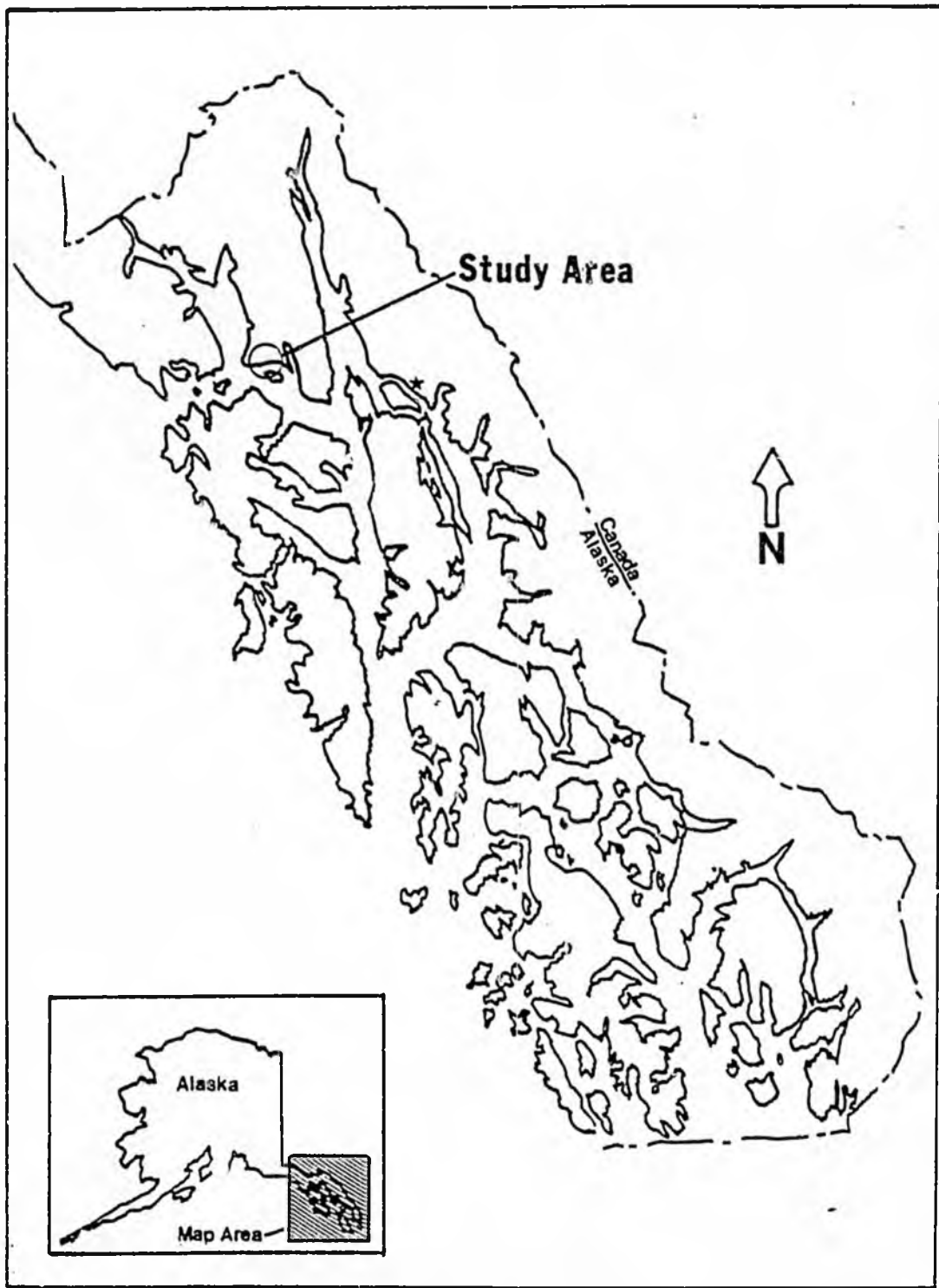
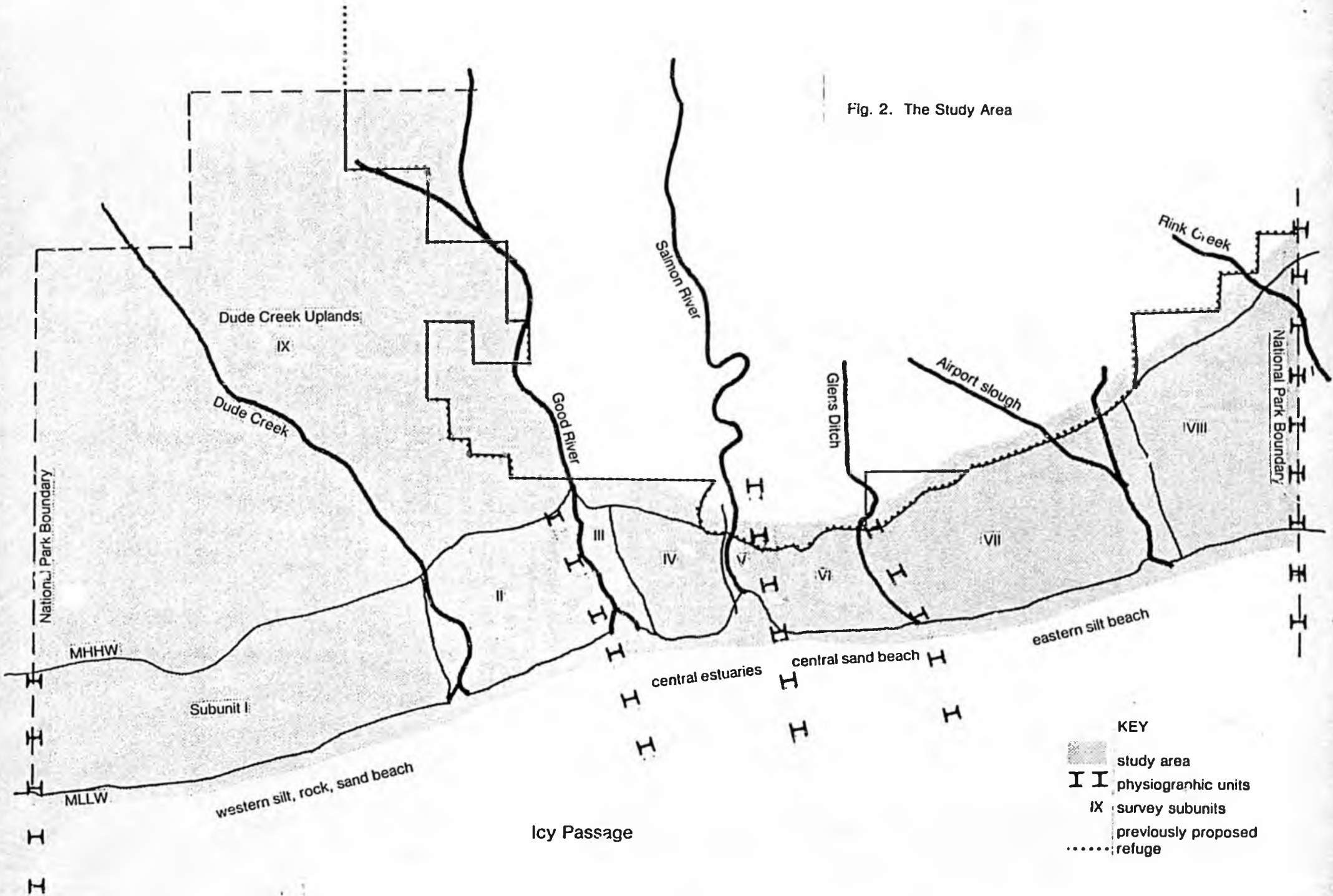


Fig. 1. Location of the Study Area in Northern Southeast Alaska.

Fig. 2. The Study Area



beach and lower beach when possible. During winter surveys, a single observer walked the lower tide margins and on return spot-checked the generally ice-choked and empty upper beach margin.

All birds sighted during the surveys were identified and recorded by subunit of occurrence. Since birds often flushed ahead into the next subunit, two totals for each species were kept when this occurred: first, the total of all individuals sighted regardless of the possibility of their having been previously counted and, second, that number minus the number of individuals that flew ahead (and possibly landed). In calculations the mean of these two totals were used.

Observations were made along beaches during spring migration and occasionally in summer. These general observations were not systematic.

All cranes observed in flight in the Gustavus area were recorded by the authors and by Bob Howe in fall 1981. Daily comparison of totals yielded an estimate of the total number of cranes passing over the Gustavus area. From Matkin's residence, cranes that used the Dude Creek uplands could be heard arriving in the evening. As time allowed on mornings following a landing of cranes, a foot survey and crane count on the Dude Creek uplands was conducted. Crane sign was noted and care taken not to flush the birds. The birds were then counted as they left their roosting area and headed southeast over Icy Strait.

Crane observations were most intensive and systematic in the fall. Although there appears to be a substantial spring migration, observations and counts were opportunistic at that time.

On all foot surveys, each mammal sighting or instance of identifiable mammal sign was recorded. Additional foot surveys in the Dude Creek uplands, including the game trails along Dude Creek and Good River, were made approximately once monthly during winter. These surveys were timed to coincide with good tracking conditions when possible. A standard itinerary for such surveys (Fig. 3) was followed except when traveling conditions made the route impractical.

A vegetation map was prepared using aerial photos provided through courtesy of the State Department of Transportation. Interpretation was based on examination of plant communities during foot surveys. Beach physiography was also examined in the field, described in the report, and depicted in conceptualized cross sections. Bird and mammal observations were discussed in relation to the vegetation and physiography of the study area.

## RESULTS AND DISCUSSION

### Physiography and Vegetation

The location of the study area in southeast Alaska is illustrated in Figure 1. Study area boundaries enclose two landscape units: the Dude

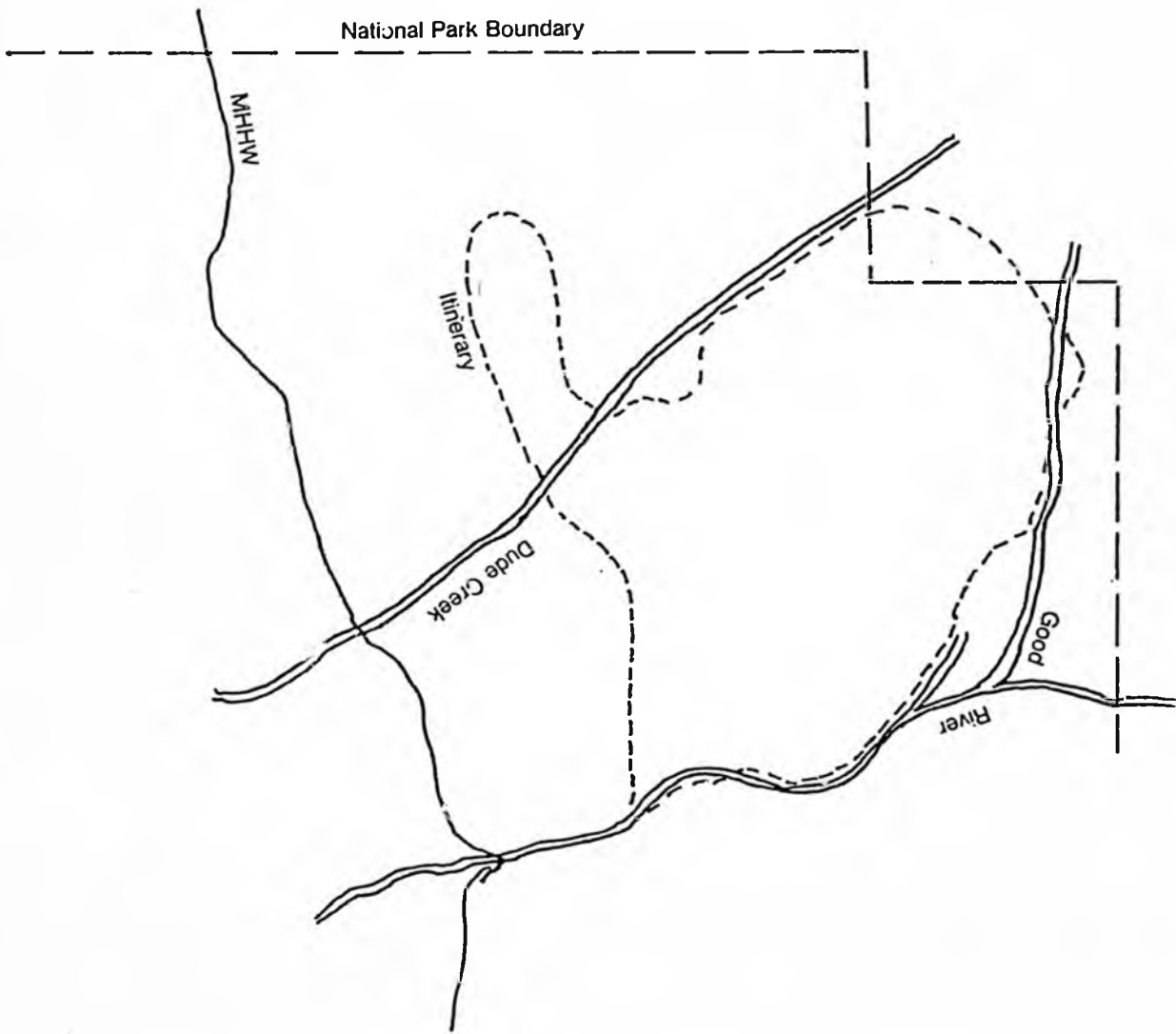


Fig. 3. Winter mammal survey itinerary.

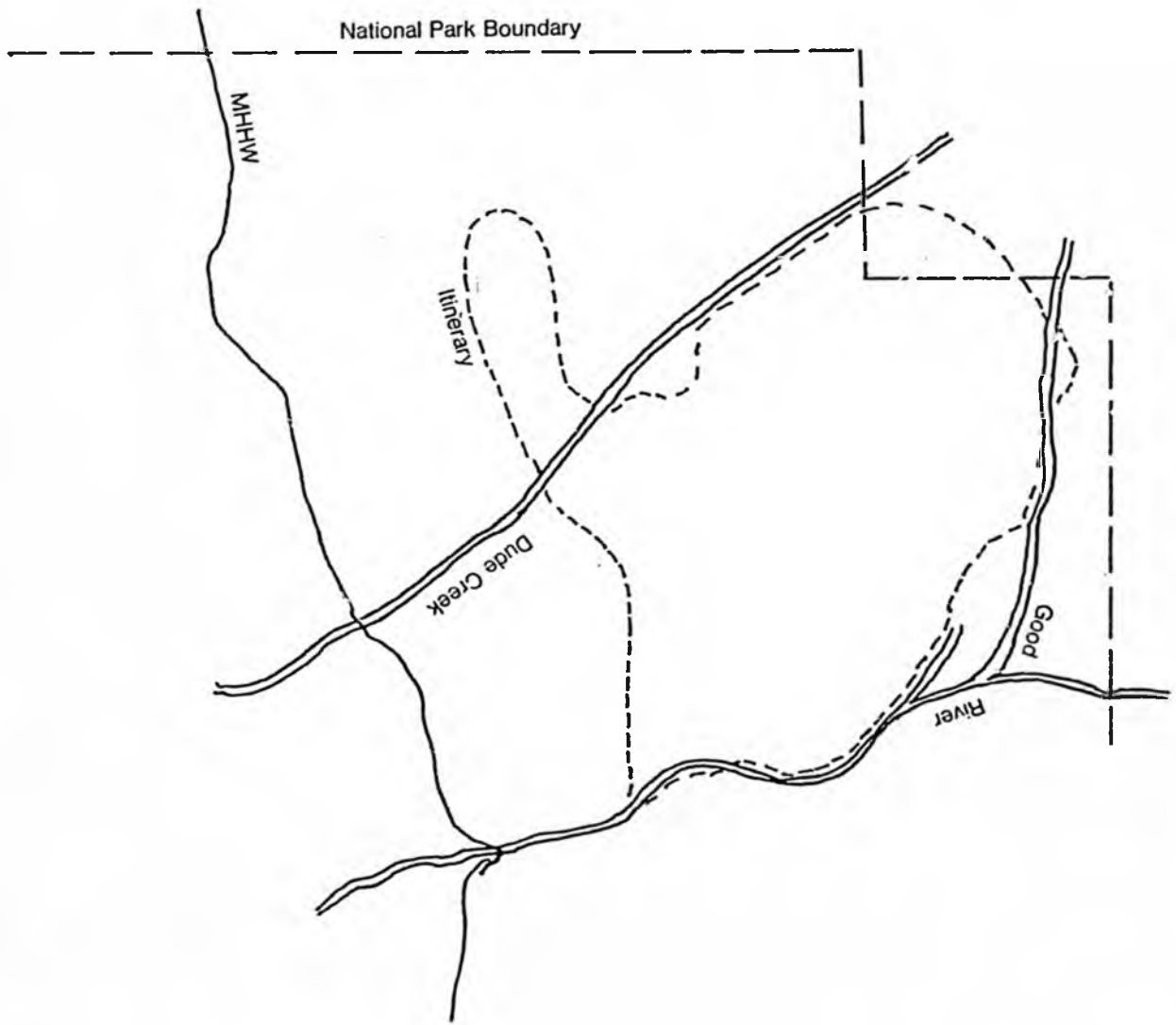








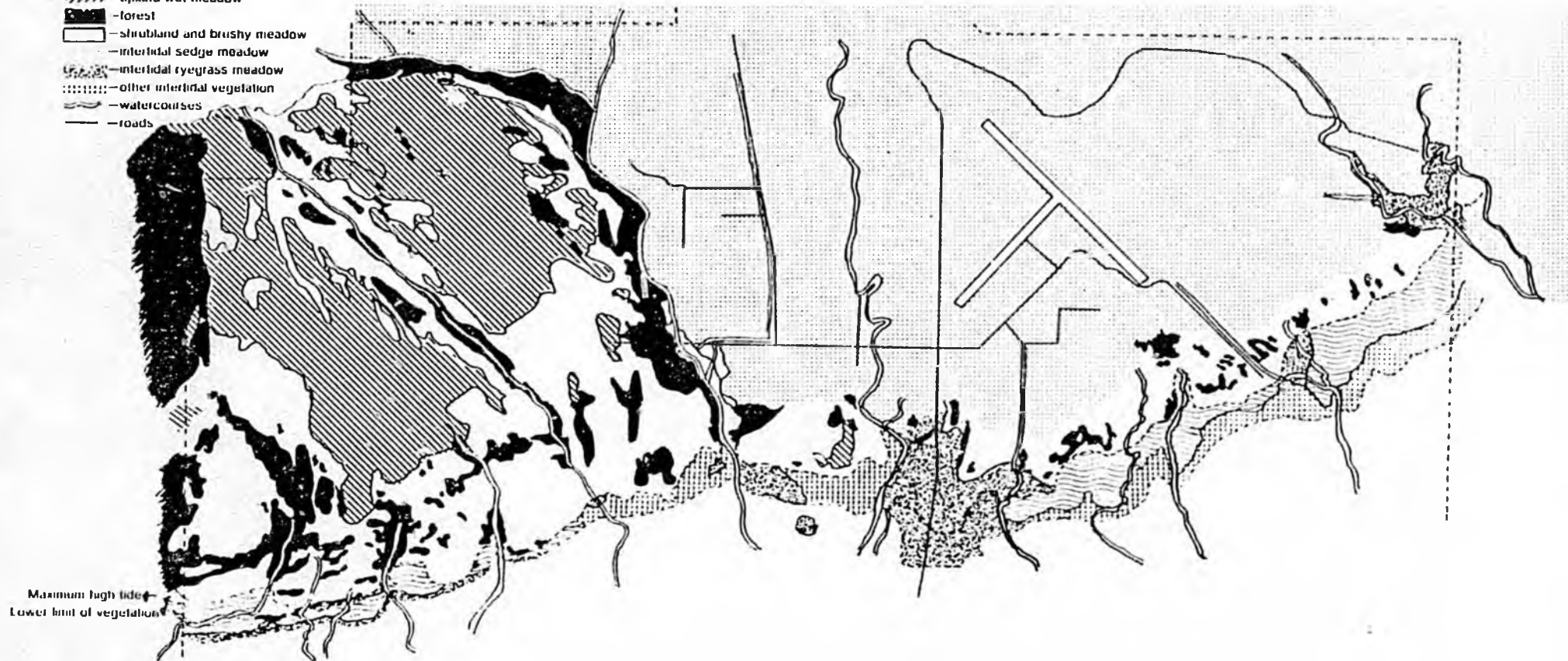


Fig. 3. Winter mammal survey itinerary.

Fig 4 Vegetation of the Study Area

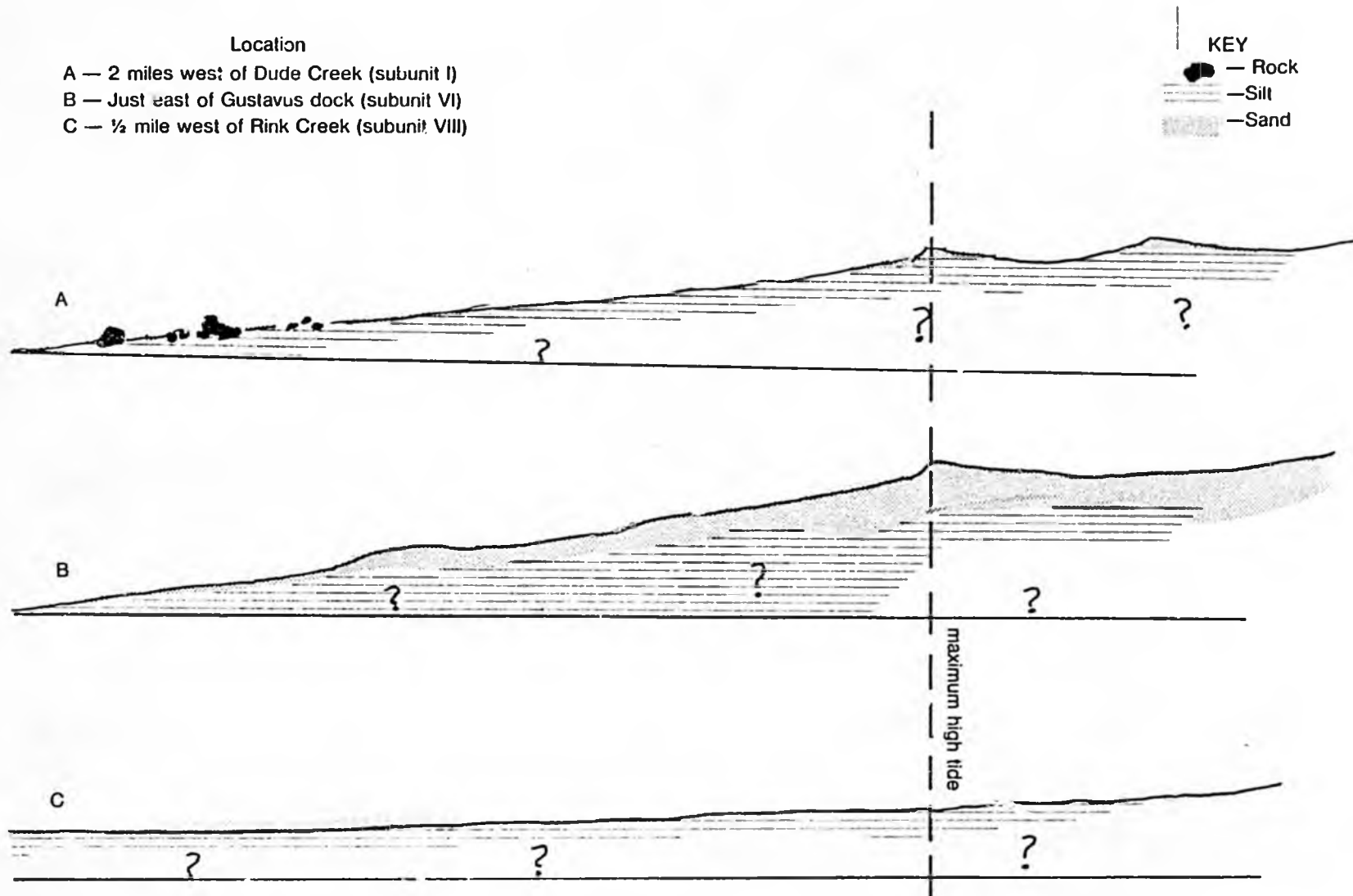
Key

- —upland wet meadow
- —forest
- —shrubland and brushy meadow
- —intertidal sedge meadow
- —intertidal ryegrass meadow
- —other intertidal vegetation
- —watercourses
- —roads



Maximum high tide  
Lower limit of vegetation

Fig. 5. Diagrammatic cross sections of the Gustavus beach.



As one proceeds eastward past the mouth of Dude Creek, the high tide strand disappears and is replaced by a silty upper beach occupied by willows and mats of moss and horsetail (subunit II). Glacial boulders decrease in frequency until the Good River estuary is encountered (subunit III). This large entrenchment of the beach forms the western limit of deposition of the superficial sands deposited by the Salmon River approximately 3/4 mile further east.

East of the Good River the beach remains essentially the same except for the increased superficial sands deposited throughout the intertidal zone (subunit IV). The Salmon River estuary (subunit V) cuts down through these sands well into the underlying silts. These "central estuaries" (the Good and Salmon Rivers) extend the intertidal zone inland into upland vegetation types including sedge and ryegrass meadows, horsetail/moss mats, willow shrubland and pine-spruce forest.

East of the Salmon River estuary is the "central sandy beach" (subunit VI) which stretches from this estuary to Glen's Ditch, an estuary draining the ditches of Glen Parker's homestead. This is a sand-dominated area; only at the low tide margins does one encounter small amounts of surficial silt (Fig. 5). Surf clams and horse clams may reach peak abundance in this subunit, but in general its invertebrate fauna seems depauperate.

The causeway to the Gustavus dock has apparently impeded sand transport eastward from the Salmon River, causing the formation of a secondary strand well seaward of the original high tide line. Large amounts of sand have been deposited behind this strand. This sandy region is occupied by beach ryegrass meadow and open sand flat. Although partially inundated by extreme tides, the area was not included in our surveys; this should be recalled when interpreting data from Unit VI.

The "eastern silt beach" (subunit VII) begins to the east of Glen's Ditch. This beach has an even more gradual slope than the western units. Small volumes of superficial sand are restricted to dune-like structures in the upper intertidal and a discontinuous, often shell-covered veneer in the lower intertidal. Rocks are nearly absent and silt predominates. The intertidal and supratidal zones tend to merge without an intervening strand (Fig. 5). High intertidal sedge meadows are often extensive; they merge into supratidal moss-horsetail-willow mats or silty flats or into beach ryegrass meadows on sandy dunes. Three creek estuaries meander across subunit VII; the easternmost and largest is Airport Slough. Beyond this estuary is the last mile of beach to the Park boundary (subunit VIII). This area is a vast, nearly horizontal silt flat and extensive sedge meadow. Here at the eastern margin of the Gustavus flats wave action is minimal and the Salmon River sand source is remote. Consequently, landforms are extremely subdued (Fig. 5) and probably most closely resemble the conditions at the close of the Neoglacial, when the silt deposition and leveling effect of glacial outwash rivers were the predominant beach-shaping forces. Softshell clams and small members of the clam genus Macoma may reach peak abundance in this subunit.

Superimposed on the dynamic forces of sand deposition and wave action on the Gustavus beach is the uplift due to isostatic rebound. As a consequence of uplift beach landforms are being moved into the supratidal, plant communities are marching seaward, and on any given spot there is a succession from beach to meadow to shrubland and finally to forest. The result is a striking zonation, especially in areas not altered extensively by erosion or sand deposition.

Uplift will favor continued erosion of the beach surface (this is now quite evident during the winter) inhibiting the organic enrichment of surface sediments and exposing beach invertebrates to frost and predation. Erosion, mobility of sand deposits and the down-beach shifting of plant communities all appear to favor retention of a relatively immature, moderately productive beach ecosystem into the foreseeable future.

#### Human Use

The Dude Creek uplands were used to some extent by the original homesteaders in the first half of this century. Cattle were run in the open meadows; two cabins on Dude Creek (now defunct) were briefly occupied; and a field along the eastern margin of the meadows was cultivated.

By the mid 1960's all these uses had ceased and the area was seldom visited. A subdivision was planned by Glacier Bay Land Company in the late 1970's, but this has not yet occurred. State land disposals in 1980 placed several parcels along the eastern meadows' southern margin in private hands. One parcel is now occupied; the owner has built a large ditch along the north edge of the property and plans to clear about 100 acres (proposed State land lease) for cattle grazing. This will probably not greatly affect the eastern meadow. An agricultural parcel let at the same time straddles the Good River and projects slightly into the study area.

Gustavus beaches have always been used by local residents for a variety of purposes. This has been documented in the context of a legal suit concerning land accretion and in the recent proposal by the Gustavus Community Association to disallow mining. Uses include hunting, fishing, clamming, berry picking, collection of beach logs, kulping, grazing, hiking, and use of recreational vehicles.

Present road access to the beaches and Dude Creek area is diagrammed in Figure 4. In recent years, road access has been supplemented to an increasing (but still small) degree by use of ATCs and trail bikes. The beaches are not easily accessed by boat; only the central estuaries and sandy beach are visited by vessels with regularity, although trolling and crabbing occurs in the immediately adjacent waters.

## Birds

### Beach Surveys - Fall and Winter:

Beach survey data are summarized in Table 1. Of the 59 species recorded, 12 were sighted more than 500 times. These 12 species, the species that are hunted, and the major avian predators are considered "important" and discussed in more detail.

Survey data are further condensed and represented geographically in Figure 6. The greatest number of bird sightings were made on the western silt/sand/rocky beach, due in part to the size of the area and to contribution by scoters, gulls and shorebirds - birds often associated with rocky beach habitat. Hunted bird species (geese, mallards, pintail, teal and wigeon) were also most numerous on the western beaches, but were most densely distributed in the relatively small central estuaries unit. In contrast, the central sand beach was relatively poorly represented both in total birds and in numbers of species. Numbers in this area would have been even less if not for the attractiveness of Glen's Ditch to waterfowl, the use of the Gustavus dock as a gull roost, and the single occurrence of a very large flock of migratory mergansers.

There was a tendency for birds to be grouped along the water's edge on beaches and estuaries. To some degree, bird densities in each unit may have been proportional to the extent of the land/water interface at low tide (the apparent principal avian foraging period).

However, other factors affected avian use of a beach area. The type of beach edge seemed important, the silt/rock/sand areas being more popular with many species than open silty beach or sandy beach. Larger estuaries supported higher waterfowl densities than smaller estuaries. Remoteness from human activity was probably significant for some species. High tide sedge meadows were also attractive to waterfowl.

The timing of avian species occurrence on Gustavus beaches during fall and winter 1981-82 is shown in Table 2. Most species were represented in the initial surveys. Early migrants such as the least sandpiper and semipalmated plover soon disappeared. By the end of October most migrant shorebirds were gone and were replaced by the winter resident rock sandpipers and sanderlings. By late October raptors were reduced to the ever present bald eagles and ravens. By December the migrant avian population was gone and the avifauna reached its winter makeup of about 25 species.

The five hunted species displayed varying patterns of abundance (Fig. 7). All were present in the fall, but only the Canada geese and mallards were common after November and were classified as winter residents.

Almost all species varied considerably in number from survey to survey and from subunit to subunit. This indicated a generally mobile avian population that was not tied in any strict sense to the study area, but shifted and moved on a larger scale.