

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 8672

6.5 SCOMM 5A: AQUACULTURE POLICY STUDY GROUP, 1978-1979



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.

Journey M. Butler
Signature of Camera Operator

3/17/92
Date

SCOMM 5A: AQUACULTURE POLICY STUDY GROUP, 1978-79

The 1978 session of the Alaska State Legislature established the Aquaculture Policy Study Group as an advisory body to examine a number of policy matters relating to the Alaska Salmon Resource Development Program.

Membership in the Study Group included representatives from several regional non-profit aquaculture associations, Alaska Departments of Fish and Game, Commerce & Economic Development and Revenue, U. S. Forest Service and Department of Agriculture, the University of Alaska Sea Grant program and members of the Alaska legislature. Representative Terry Gardiner was chairman.

Contents: 1 three-ring binder of minutes, correspondence, bill draft and material handed out at meetings, and 2 reports written by consultants to the Study Group.

The reports were received by the Legislative Library in 1979. The binder was found by the staff of Legislative Finance in March 1989 with the House Finance minute binders and delivered to the Legislative Library.

LIST OF FILES (PAGE 1)

MICROFICHE #

1. MINUTES BINDER
2. REPORT, "AN ANALYSIS OF THE ALASKAN SALMON FISHERY"
3. REPORT, "AN ANALYSIS OF SELECTED ELEMENTS OF THE ALASKAN SALMON RESOURCE DEVELOPMENT PROGRAM"



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.

Journey M. Butler
Signature of Camera Operator

3/17/92
Date

MINUTES

BINDER

SEPTEMBER 1978

TENTATIVE AGENDA
INTERAGENCY AQUACULTURE MEETING
SEPTEMBER 27, 1978

Time and Place: 8:30 a.m., September 27, 1978, USFS Regional Office
Conference Room, No. 553, Federal Building, Juneau.

Objectives:

1. To define the role of State and Federal agencies and the aquaculture association in relation to the overall Aquaculture picture.

2. To assess the impact of RPA, RARE II, and Forest Land Management Plans and ensuing land allocation decision on Aquaculture programs.

3. To develop guidelines for cooperation and coordination of Aquaculture activities in the States *as they relate to national Forest areas.*

Agenda:

To be addressed by speakers, are 1) a definitive of their organization's role in the aquaculture scene, and 2) activities during the past year and plans for next year.

8:30 - 9:00	John Sandor, U.S. Forest Service (USFS)
9:00 - 9:30	Ray Clark, USFS; Rai Behnert, USFS
9:30 - 10:00	Harry Rietze, National Marine Fisheries
10:00 - 10:15	Break
10:15 - 10:45	Jack Milnes, S. SE. Reg. Aquaculture Assoc.
10:45 - 11:15	Derek Poon, N. SE. Aquaculture Assoc.
11:15 - 11:45	Bob Roys, Alaska Dept. of Fish and Game (ADF&G)
Lunch	
1:00 - 1:30	Representative, U.S. Fish and Wildlife Service
1:30 - 2:00	Dick Neve, U of W, Fisheries Research Institute
2:00 - 2:45	Open discussion
2:45 - 3:00	Break
3:00 - 4:30	Group develop cooperative approach to Aquaculture programs in Alaska. Discussion leader: ADF&G.

AQUACULTURE POLICY STUDY GROUP MEETING
September 8 1978

Six major areas of concern were chosen to be addressed by the study group. Members were assigned to each area and are to report to the full committee at the next meeting. The six major areas and the members assigned to each are as follows:

I. Clearly define the State's policies on Aquaculture - examine existing statutes/resolutions/policies - A written draft is to be submitted to the full committee by Bob Burkett and John Sund. They will be assisted by John Williams.

II. Stock Management

- A. Mixing of wild and hatchery stocks
- B. Returns to common property fishery
- C. Harvesting of stocks
- D. Site selections
- E. Brood stocks

A verbal review will be given by the Department of Fish and Game which will preview the Department's policy manual.

III. Define roles of organization and groups.

- A. Capabilities of each group.
- B. Agencies that oppose Aquaculture or certain projects.

John Williams will present a written condensation of previously written comments and agency interviews.

IV. Land Use Problems - Land use classifications to be discussed at the October 3 meeting in Juneau with the Forest Service.

V. Cost/Benefit Analysis of Private and State Projects

- A. Financing of projects
- B. Who should build/operate projects

Armin Koernig will work with the Departments of Revenue and Commerce and Economic Development to present a report to the group. Bob Grogan will assist.

VI. Research Base

- A. Research problems
- B. Who should carry out research.

No assignment made.

THE STUDY GROUP WILL MEET ON OCTOBER 4th at 9:00 A.M. IN
ROOM 417, CAPITOL BUILDING

AQUACULTURE POLICY STUDY GROUP MEETING
September 8 1978

Six major areas of concern were chosen to be addressed by the study group. Members were assigned to each area and are to report to the full committee at the next meeting. The six major areas and the members assigned to each are as follows:

- I. Clearly define the State's policies on Aquaculture - examine existing statutes/resolutions/policies - A written draft is to be submitted to the full committee by Bob Burkett and John Sund. They will be assisted by John Williams.
- II. Stock Management
 - A. Mixing of wild and hatchery stocks
 - B. Returns to common property fishery
 - C. Harvesting of stocks
 - D. Site selections
 - E. Brood stocks

A verbal review will be given by the Department of Fish and Game which will preview the Department's policy manual.

- III. Define roles of organization and groups.
 - A. Capabilities of each group.
 - B. Agencies that oppose Aquaculture or certain projects.

John Williams will present a written condensation of previously written comments and agency interviews.

- IV. Land Use Problems - Land use classifications to be discussed at the October 3 meeting in Juneau with the Forest Service.
- V. Cost/Benefit Analysis of Private and State Projects
 - A. Financing of projects
 - B. Who should build/operate projects

Armin Koernig will work with the Departments of Revenue and Commerce and Economic Development to present a report to the group. Bob Grogan will assist.

VI. Research Base

- A. Research problems
- B. Who should carry out research.

No assignment made.

THE STUDY GROUP WILL MEET ON OCTOBER 4th at 9:00 A.M. IN
ROOM 417, CAPITOL BUILDING

Sund

APC

Gardiner

9/8/78

Morning presentation

Problem & Possible Study Areas

1. Management of stocks

A. Mining of wild & hatchery stocks

B. How much of returns to common property fisheries

C. Harvesting & marketing of returns

D. Broad stock policies

E. Site selection

2. Defining roles of Organizations & Groups

A. Agencies that oppose aquaculture of certain projects

C. Research & development

3. Site selection / land use problems

A. Broad stock policies

B. Land use classification

4. Cost/Benefit Analysis of Private & State Projects

A. Who should build them/operate them

B. How should projects be financed (level of need)

5. Clear definition of state's policies on aquaculture

A. examination of existing statutes/regulations/policies

B. social aspect of ^{maintaining} raising

C.

Research Base for decision making

Problem & Possible Study Areas

1. Management of stocks

- A. Mixing of wild & hatchery stocks
- B. How much of returns to common property fishery
- C. Harvesting & marketing of returns

2. Defining roles of Organizations & Groups

- A. Agencies that oppose aquaculture of certain projects

3. Site selection / Land use problems

- A. Breed stock policies
- B. Classifications

4. Cost / Benefit Analysis of Private & State Projects

- A. Who should build them / operate them
- B. How should projects be financed (level of need)

5. Clear definition of state's policies on aquaculture

- A. Examination of existing statutes / regulations / policies

AQUACULTURE POLICY STUDY GROUP

September 8, 1978

Juneau, Alaska

Mission: Format and Direction of Study.

I. Assumptions

1. The private nonprofit legislation is the reason for existence of the program and its' participating groups. Therefore, it should be a common ground of agreement.
2. Where the legislation is unclear or ambiguous, the study should develop corrective suggestions for changes in statute.
3. Operating from a base of enabling legislation, with proposed corrections as necessary, the Aquaculture Policy Study Group should develop a study outline designed to identify the groups involved, their capabilities, activities, and how these can be ultimately synthesized into a coherent program.

Outline of Study

I. Present Status

- A. Listing of groups having aquaculture capability within State
(F.R.E.D., Regional Associations, PNP, University of Alaska, Forest Service, Other).
- B. Capabilities of these groups
 1. F.R.E.D.
 - a. biology
 - b. pathology
 - c. genetics
 - d. engineering
 - e. biometrics
 - f. administrative
 - g. interagency coordination
 - h. management
 - i. strategic planning
 2. Repeat for Regional Associations, PNP, etc.
- C. Activities of these groups
 1. F.R.E.D.
 - a. enhancement
 - b. rehabilitation
 - c. coordination

- d. education
- e. other

2. Repeat for Regional Associations, PNP, etc.

II. Description of Alaska Aquaculture Legislation

- A. Groups created by enabling legislation
- B. Mission(s) delegated by legislation to groups
- C. Comparison of activity of each group to that mandated by law

III. Assessment

- A. Overlap
 - 1. capability
 - 2. activity
 - 3. legislation
- B. Comparative Analysis of Aquaculture Groups
 - 1. capabilities - who has what capabilities
 - 2. legislative - comparison of activity of group to that given it by law

IV. Synthesis

Who should be doing what?

Should relate to activities that are carried out in the context of

- (1) overall program objectives
- (2) unavoidable interim needs that must be met on a short term basis.

OCTOBER 1978

GENERAL OUTLINE

MINUTES
AQUACULTURE POLICY STUDY GROUP
October 4, 1978

CALL TO ORDER (Attendance list attached)

STUDY REPORT AND GROUP DISCUSSION COVERING THE FOLLOWING
SUBJECTS:

STUDY REPORT - John Williams

STATUTES AND ROLES (Chart contents attached)

ADF&G

FRED

REGIONAL PLANNING TEAMS

REGIONAL ASSOCIATIONS

PROBLEM RE: INSPECTION COSTS

PROBLEM RE: LACK OF FUNDING FOR PLANNING

STATEMENT RE: NATIONAL MARINE FISHERIES RESEARCH SUPPORT
AND EXTENSION WORK (Bob Simpson)

QUESTIONS RE: DETERMINATION OF REASONABLE HATCHERY COSTS

NEED FOR PROPER MANAGEMENT TO RECOVER HATCHERY COSTS

ADVISED OF BOARD OF FISHERIES HARVEST PLAN

LEGAL AND OTHER PROBLEMS

QUESTION RE: HATCHERY AUTHORITY TO HARVEST

PROBLEM RE: COPYRIGHTS ON FISH

SUGGEST AUDIT OF FRED PROGRAMS AND PERFORMANCE

DISCUSSION OF FRED FUNCTION, PROBLEMS, STATE REGULATION

SUGGESTED POSSIBLE BENEFIT FROM OFFSHORE DRILLING

DOUBLE STANDARD RE: PUBLIC AND PRIVATE HATCHERIES

FRED - NO SYSTEMATIC MANAGEMENT PLAN FOR HATCHERY
PROJECT REVIEW

SITE SELECTION

PROPOSED GOAL STATEMENT - John Sund

AQUACULTURE - SOCIAL, ECONOMIC, BIOLOGICAL CONFLICT
Somerville

CONSTITUTION ON RESOURCES

SUGGESTIONS THAT GOAL STATEMENT INCLUDE: Processing and
Subsistence

OBJECTION TO GOAL STATEMENT - Burkett

NEED FOR ESTABLISHMENT OF PROCESS FOR RECONCILING
COMPETING GOALS

POLICY & PROCEDURES MANUAL OVERVIEW - Dr. Kaill
(Overview attached to minutes)

NEED FOR REGIONAL FACILITY PARAMETERS

REGIONAL PLANNING TEAMS

STATE PLANNING TEAM

APPLICATION OF BOARD OF FISHERIES POLICIES

HATCHERY PROJECTS ON BOND ISSUES

FEDERAL INVOLVEMENT

INVESTIGATE COST BENEFIT ANALYSIS - Doernig and Milnes

INVESTIGATE BASE RESEARCH - Poon

ADJOURN 4:40 p.m.

MINUTES
AQUACULTURE POLICY STUDY GROUP
October 4, 1978

Chairman Gardiner called the meeting to order at approximately 9:20 a.m. (Names and addresses of those present for the meeting are contained on the attendance sheet appended to these minutes.)

CALL TO
ORDER

Referring to the six major areas of concern to be addressed by the group, Chairman Gardiner called for reports on areas of study assigned at the group's previous meeting September 8, 1978 (Study Outline appended to these minutes), advising that John Williams would commence presentation on Item III - Roles of Organization and Groups.

STUDY
REPORTS

STATUTES
AND ROLES

Mr. Williams displayed handwritten charts setting forth the statutes relating to and role analysis of aquaculture throughout the state (Chart contents included as attachment to these minutes), indicating areas of conflict with an asterisk. The last chart displayed by Mr. Williams outlined possible Legal Questions and Other Problems, and Mr. Williams advised he would deal with those areas following discussion of role conflicts.

Referring to the Alaska Department of Fish and Game, Mr. Williams stated that under AS 16.10.443 the Commissioner is responsible for making "every effort to advise and assist in planning and construction" of hatcheries. The statute is vague in that it is up to the Department to decide what "every effort" entails. This is a problem area in that Department function is often in direct competition with private producers.

ADF&G

A further problem in the area of Fish and Game was attested to by group member Armin Koernig when he advised of an unfair situation arising for facilities such as Sand Point, located a great distance from Fish and Game headquarters, which must bear costs of inspection such as meals and lodging.

INSPECTION
COSTS

Referring to his chart for the FRED Division, Mr. Williams advised that AS 16.05.092 states that FRED shall "encourage FRED private investment, all things necessary." The statute

10/4/78

is, again, vague concerning assistance which should be given to private non-profit hatchery programs. Dr. Mike Kaill from the FRED Division agreed that the statute in this area is very ambiguous.

Referring to Regional Planning Teams, Mr. Williams stated that the responsibility of the Team is not defined, he further questioned whether the Team is precluded from expanding its membership.

REGIONAL
PLANNING
TEAMS

Turning to Regional Associations, Mr. Williams advised that the statute charges that Associations be created for enhancement of salmon. The charge is vague and conflicts with FRED authority. Under the Association's Self Role of "enhancement and rehabilitation of salmon stocks," it is unclear just exactly what the Associations can do.

REGIONAL
ASSOCIA-
TIONS

Statement was made by group member Jack Milnes to the effect that Regional Planning Teams have little or no dollar commitment to their planning operation. The Planning function represents a tremendous charge, but unfortunately shows no dollar return for the time and people that should be specifically committed to working on planning. He concluded his remarks by advising that there is a definite expense to performing the planning function, while actual planning dollars are very small.

LACK OF
FUNDING
FOR
PLANNING

Group member Bob Simpson from National Marine Fisheries attested to support from Federal research and development products which have universal benefit, i.e., improved incubation to increase survival, or strategy for release which maximizes survival. He further advised that his agency has to avoid site-specific activity, or advice to a particular hatchery; however, Marine Fisheries does make its research known in a format which can be used by all. Responding to a question from group member William Sheridan of the U. S. Forest Service, Mr. Simpson referred to correspondence of March 18, 1976, setting forth and establishing policies for research responsibility, advising that it is difficult not to become involved in site work, but Marine Fisheries research should be directed toward evolution of salmon generally. He further allowed that sometimes it is necessary to go to a particular site to conduct needed study.

SIMPSON
NATIONAL
MARINE
FISHERIES
RESEARCH
SUPPORT

Mr. Simpson further stated that Marine Fisheries does extension work to deliver the products of the agency's work, and advised of a problem presently being experienced resulting from a large number of requests for assistance from village groups. The agency only has a dozen people, and while requests are generally for Bill Hurd to come out to the village, the agency does not want Mr. Hurd in the position of traveling all the time.

NMF
EXTENSION
WORK

Questions were raised concerning AS 16.10.450 regarding use of income from the sale of salmon and salmon eggs for payment of hatchery costs and regional association costs, whereafter surplus income "shall" be expended on other fisheries activities of the association. It was felt the statutes do not give a clear portrait of what is to be accomplished.

HATCHERY
COSTS

Statement was made regarding the Department of Revenue's concern for the 200 million dollar funding authority granted under AS 16.10.500, and the need for definition of "reasonable operating costs." Barbara Sorenson from the Dept. of Revenue responded that some guidelines will be provided by the IRS in that it will be interested in seeing that the hatchery operation remains non-profit. IRS will audit everything and takes a different view from that of enhancement, meaning that if the hatchery does not remain non-profit, it will lose its permit. Group member John Sund advised that the preferable classification for hatcheries under IRA Code 501(C) would be (C)3, adding that in terms of audit, the operator is going to have to show that his costs are reasonable in comparison to other similar operations, thus establishing a criteria for determining reasonable costs.

Statement was made that the problem was not IRS involvement or determination of costs but proper management to recover reasonable costs. Dr. Kaill advised that it was his understanding that after the hatchery has recovered its costs, the fish belong to the fleet. John Williams replied that the statute does not spell out what will happen in this area, and that is a problem the Group must deal with. Chairman Gardiner advised that it appeared the Group must construct a mechanism for management of returning fish. Response was made to the effect that the foregoing represents more of a financing problem. If a hatchery has the right amount of operating capital, it can survive the

PROPER
MANAGEMENT
TO RECOVER
HATCHERY
COSTS

ups and downs of harvest; it depends upon who controls the spicket and funding. John Williams advised that the Board of Fisheries has moved into this area with a Harvest Plan, so a structure is currently in place. Rita Miller stated that the annual report form is broken down into two parts: one for Fish and Game, and the other for the Department of Revenue, adding that she assumed reasonable cost information would be determined from these forms. John Sund responded that the annual report required by Fish and Game does not represent an enforcing mechanism. Dr. Kaill allowed that the compliance requirement permits the Commissioner of Fish and Game to revoke a license. Mr. Sund replied that while the Commissioner may do so, revocation has nothing to do with the annual report.

DOES
ANNUAL
REPORT
SET FORTH
REASONABLE
COSTS

Mr. Sund further stated that the Harvest Plan should provide guidelines enabling hatchery operators to establish needs which could be submitted to the Board of Fisheries. Armin Koernig advised that Prince William Sound will be monitored in an attempt to establish standards for escapement which can be used by hatcheries (private non-profit). The standard could then be used as an allocation process for hatcheries. The process is new, and it is yet uncertain whether the mechanism will work.

BOARD OF
FISHERIES
HARVEST
PLAN

Dr. Kaill advised that the above-mentioned processes represent a combined function between the Dept. of Commerce and Fish and Game. He added that Fish and Game is currently working with Commerce to "bring it around," and suggested that a representative from Commerce be included within the Group.

SUGGESTION
THAT
COMMERCE
BE REPRESENTED

John Williams next directed attention to the chart containing Legal Questions and Other Problems, advising that statutes relating to the areas in question are vague and pose interpretative problems. He further asked if it was the Group's wish that these problems be resolved by legislation, mentioning that alternative resolution rests in the courts. The Group concurred with Mr. Williams's feeling that clarification of the statutes would, hopefully, eliminate the overlap in function.

LEGAL
AND OTHER
PROBLEMS
TO BE
RESOLVED BY
LEGISLATION

Armin Koernig made reference to the Community and Regional Affairs opinion concerning Regional Authorities, and Mr. Williams referred to Sec. 380, advising that a Regional Authority has political subdivision status.

REGIONAL /
AUTHORITIES
POLITICAL
SUBDIVISION
STATUS

Derek Poon advised of a problem unique in his region containing a non-active sector. The problem relates to drafting of harvest management plans, particularly relating to Sheldon Jackson, and effective implementation of cost recovery. In Southeast Alaska the fishermen want to be given first opportunity to harvest the fish. An acceptable agreement must be reached from both the point of view of the fisherman and hatchery operators.

POON,
PROBLEM
AT SHELDON
JACKSON

Jack Milnes raised a question concerning whether the law addresses the legal authority of the hatchery to harvest fish. While the hatchery has authority to sell fish, it cannot do so without authority to harvest. Also, if the hatchery is not the harvester of these fish, who has such authority? John Sund advised that an opinion has been filed on the above issue, and Dr. Kaill added said opinion was rendered to the Board of Fisheries, adding that the above represents another area involving both Commerce and Fish and Game, requiring coordinated effort and addition of language to the effect that limited entry gear in the area receives first shot at the harvest.

MILNES,
CAN
HATCHERY
LEGALLY
HARVEST

Armin Koernig attested to the lack of control on copyrights for fish. Existing copyright provisions relating to beach seine are entirely unsatisfactory, and this area presents a real jungle as to what the legislature or the Board of Fisheries means. Mr. Koernig advised that the Group must come to some decision on this issue, adding that he believed it would have to be clearly stated that the hatchery has authority to catch these fish.

COPYRIGHTS
ON FISH

John Sund advised that a new category of those able to catch fish should be established: (1) commercial fishermen, (2) sport fishermen, and (3) hatchery operators. The present opinion appears to be that a hatchery operator cannot conduct such harvest and must hire someone to perform recapture for him.

NEW
CATEGORY,
HATCHERY
OPERATORS

Chairman Gardiner suggested the Group draft a proposal resolving the hatchery harvest problem. Dr. Kaill advised that the Limited Entry Board also poses a problem in that it is not equipped to deal with hatcheries.

SUGGESTION,
DRAFT
HARVEST
PROPOSAL

Discussion followed concerning evaluation of FRED programs and performance, resulting in the opinion that outside audits of such programs and the results of said audits should be made available to the committee.

FRED
PROGRAM &
PERFORMANCE
AUDIT

Dr. Burkett advised that he did not know whether failure of the planning function is due to lack of funding, or simply the failure of people to come together and effect the planning function. The function of the FRED Division is to encourage private investment, but FRED is approaching this function in a cautious manner. On the other hand, FRED is watchful for opportunities to bring people into investment in this area, and one of the Division's prime concerns at this time is the development of fish food in the State of Alaska. Dr. Burkett stated that he believes the word "encourage" needs to be more definitely defined, further advising that while the Division can provide advice to individuals interested in building a hatchery in the State, the Division is not a financial advisor or investment house.

FRED
FUNCTION

Armin Koernig stated that the FRED Division has had many technical, personnel, etc. problems which have kept it from being as effective as it could be. Statement was made to the effect that an additional problem exists in that FRED is now charged with the task of getting the salmon industry back on its feet. The state is on the low side of the learning curve and trying to draw all facets together. What is needed is an orchestrater to pull these aspects into place. Armin Koernig advised that, at present, the private sector is not free to develop the hatchery industry because of the need to meet state regulations.

FRED
PROBLEMS

STATE
REGULATIONS

Statement was made that programs to rehabilitate the fishing industry within the state could learn a lot from the oil companies through their offshore drilling operations.

BENEFIT FROM
OIL OFFSHORE
DRILLING

John Williams advised that he would complete work in his area of study and disseminate a written summary of his findings to committee members.

Derek Poon attested to the existing double standard in policies applying to FRED and hatcheries in the private sector, advising that private facilities are expected to acquire data no other agency must supply.

POON,
DOUBLE
STANDARD
PUBLIC v.
PRIVATE
HATCHERIES

Chairman Gardiner asked if the above-mentioned apparent double standard results from problems with statutes, regulations, or policy, and Mr. Poon replied that it appears to be a policy problem. Mr. Sund further advised that the previously mentioned annual report is required only of the private sector and not FRED.

Dr. Mike Kaill advised that Swan Lake represents a public facility which is just in the "start up" stage and has been submitted to the Regional Planning Team for review. He further mentioned that some private hatcheries appear to go "through a lot of hoops" because their projects are experimental and not really representative of situations falling within the double standard problem area. Mr. Koernig advised that the state just doesn't have a systematic management plan to follow when effecting proposed hatchery project reviews.

FRED,
NO
SYSTEMATIC
MGMT.PLAN
FOR
HATCHERY
PROJECT
REVIEW

Responding to a question concerning whether FRED is required to adhere to the same rules governing a private hatchery, Dr. Kaill stated that financially it is impossible for FRED to do so because bond issues are involved in FRED projects. Biologically, however, FRED must meet the policies applied to private hatcheries concerning disease control and genetics.

HATCHERIES,
DIFFERING
FINANCIAL
ARRANGEMENTS

Bob Simpson advised that he could anticipate a difference in dealing with private versus public hatcheries, especially regarding surplus fish, and further stated that he did not believe management functions had yet been sufficiently developed to deal with this problem.

Rita Miller attested to a range of problems falling under a general category wherein the state has set in motion a process that pits government against private investment in a competitive function which the government regulates, advising that she was not sure such an arrangement could ever work.

PUBLIC AND
PRIVATE
HATCHERIES,
STATE
REGULATION

Chairman Gardiner asked if Department policy is the same for both FRED and the private sector as to site selection and which sites are available. Dr. Kaill advised that such a problem had arisen in Prince William Sound and the state relinquished the site to a private developer. He

SITE
SELECTION

further advised that the site goes to the authority most capable of developing a hatchery there. Armin Koernig took exception to Dr. Kaill's statement, advising that his group conducted site surveys in the Sound in 1975, identifying 15 sites. Esther Lake was to be the next project. The state selected this site and his group said no. Now the group is dividing its defined sites between the state and the private sector.

Chairman Gardiner commenced discussion concerning the Klawock Hatchery and the availability of community services at the site versus prohibitive costs factors surrounding a site such as Dahl Island, asking if a site like Klawock with its attendant amenities would be available for development through a Regional Association. Dr. Kaill advised that he believed such sites were available, stating that at present the planning team is looking at Swan Lake. John Sund referred to a Department policy statement dated October 1974 (to his knowledge not updated or revised), advising that the Klawock Lake site, when measured against current statutes, appears to violate all of them. He further stated that Klawock represents a mix up from the past when planning teams were not yet functioning. He advised that with the teams now operating, perhaps such mix ups can be avoided in the future, adding that it appears the Department has violated its own policies in the past and Mr. Sund questioned whether such violations would continue in the future.

AVAILABILITY
OF SITES
SUCH AS
KLAWOCK
TO PRIVATE
SECTOR

Bob Simpson advised that he had helped write the above-mentioned regulations at a time when hatcheries first began developing in Alaska, adding that the policies state they can be changed as needs change, further advising that with the inception of Regional Planning Teams, circumstances have changed, and the policies are in need of updating although they were proper for the time written.

Jack Milnes advised of his concern for financing and its total impact on the state, the state budget, and the private sector. Mr. Sund stated that the financing issue revolves around financing of private versus public facilities and where the funding will come from.

FINANCING
PRIVATE v.
PUBLIC

A brief discussion concerning the properties of aquaculture within the State followed, whereafter the committee took a short recess.

RECESS 11:20 a.m.

RECONVENE 11:30 a.m.

Upon reconvening, John Sund proposed the following goal statement for the study group:

A healthy salmon industry, paying its own way, providing employment, return on investment, and pleasure in recreation (sport fishing), by the year 2000.

PROPOSED
GOAL
STATEMENT

Referring to "paying its own way," Mr Sund advised that prior to 1968, the salmon industry was the greatest state revenue producer. Since that time, the greatest revenue has come from the oil industry. He further advised that the Group should discuss whether "paying its own way" should include regulation of the industry.

Concerning "providing employment," Mr. Sund advised that such employment involves one of the functions of government which is to provide that which people do not provide for themselves.

Mr. Sund stated that he hoped that by analyzing aquaculture, the group could come up with reasons why and how it could function concerning what should be done for the future, including statutory changes if necessary, creation of new entities, and/or destruction of outdated entities.

Dr. Burkette advised that he believed the group should approach aquaculture problems from the direction of a resource industry and couch its goal statement in those terms. Chairman Gardiner then asked group members if they wished to view the salmon industry from a resource or a people oriented outlook, adding that he tends to look from a people point of view while the Department takes the resource viewpoint. Dr. Burkett stated that the Department views aquaculture from the philosophy of a healthy resource; nothing else is involved. Armin Koernig advised that in the early days of Alaska, no attention was paid to the resource itself but rather to the economic income of the industry. He felt the committee should attempt to effect a well balanced resource that is a social/economic industry as well. Bob Simpson advised that National Marine Fisheries prefers to see salmon runs enhanced rather than enhancing the industry.

IS AQUA-
CULTURE
RESOURCE
OR PEOPLE
ORIENTED

BOTH
RESOURCE
AND SOCIAL
ECONOMIC
INDUSTRY

Jack Milnes read Article VIII of the Alaska State Constitution, concerning natural resource policy, advising that the Constitution makes clear that use of the resource be directed toward the people.

CONSTITUTION
ON RESOURCES

Suggestion was made by Barbara Sorensen that language be included within the goal statement to cover processing within the industry, advising that processing has not heretofore been addressed by state policy.

SHOULD
PROCESSING
BE INCLUDED
IN GOAL
STATEMENT

Further suggestion was made that provision for subsistence fishing be included within the statement, and Mr. Sund advised he had no objection to the inclusion of subsistence. He further stated that he believed the group needed a statement set within a time frame in order to produce a definite goal against which the group can measure accomplishments.

GOAL STATE-
MENT TO
INCLUDE
SUBSISTENCE

Dr. Burkett objected to the proposed statement asking when it was decided the group should have such a statement, what the advantages to having one are, and who decided to effect such a statement. Chairman Gardiner advised that the decision had been made at the previous meeting of the group when Dr. Burkett and Mr. Sund were directed to come up with a goal statement. Mr. Sund formulated the wording and put it before the group. Dr. Burkett advised that he assumed the goal statement was going to be tabled as a possible area of pursuit. Dr. Kaill advised that he thought the purpose of the group was statutory clarification, and Armin Koernig attested to the need for a goal statement from which the group could work forward.

OBJECTION
TO GOAL
STATEMENT

A brief discussion followed concerning whether or not there was need for a goal statement, after which the committee recessed for lunch.

LUNCH RECESS 12:05 p.m.

RECONVENE 1:40 p.m.

Discussion resumed concerning the need for a group goal statement, and Dr. Kaill proposed language providing for "optimum yield for the state salmon fisheries," advising that such a goal doesn't really mean anything until the group gets down to its real objectives.

KAILL,
GOAL
LANGUAGE

Sandy Somerville advised that he believed a goal statement to be useful to the extent it would acknowledge that there is both a social and economic system at work here as well as a biological function. It would acknowledge conflicting economic, social, and biological needs, although the resources and needs would vary from region to region. Value judgments would be made by each region to determine how it will proceed in developing its resource, remembering that these economic, social, and biological needs are at odds, and each region must determine what is most important and what comes first. The group must design a process for reconciling competing goals.

SOMERVILLE,
SOCIAL,
ECONOMIC
BIOLOGICAL
CONFLICT

GROUP MUST
ESTABLISH
PROCESS FOR
RECONCILING
COMPETING
GOALS

Mr. Sund read a section from the letter of intent formulating the study group, advising that the directive covers a lot of ground. He further stated that he believed the group could very easily agree on a goal, but he would prefer to have goal areas broken down and measurable against time.

Mr. Somerville suggested that assignments be made for developing goals in economic, social, and biological areas, advising that he felt the Alaska Department of Fish and Game would be in conflict with some of the guidelines the group might establish, adding that the group would have to get a consensus in each separate area. Mr. Sund advised that he would try to include all these areas in his statement citing as an example of Department action the Bristol Bay closure; a biological decision made without regard to economic or social results. He added that he did believe it necessary to set some statement down on paper in order to determine a realistic method for attaining the goal. Mr. Somerville stated that the question would remain as to where the checks rest, who makes the decision to intervene in action taken in the industry, who invests authority to integrate regional plans and reconcile competing interests.

Chairman Gardiner attested to the problem of different types of fishermen fishing the same area within differing time frames, advising that the Department has no method for evaluating its decisions. There should be some guidelines such as those governing Canadian and American catches.

PROBLEM
DIFFERENT
GEAR
FISHING
SAME
AREA

Mr. Somerville advised that regional plans should make very clear statements of goals in a region where economic, social, and biological needs conflict. They would also define management goals, and goals for economic sharing of the income. The group must acknowledge that it understands the competition between these needs. Chairman Gardiner advised that he felt favorably toward Mr. Somerville's suggestion.

Jack Milnes advised that the goal statement is already in the Constitution of the State, stating that what the group must do is determine how to interpret the Constitution, adding that he was not addressing aquaculture but salmon restoration. Legislature has already been used in this area but it has not sufficiently defined functions. The group needs to start with some specific interpretations of what it is going to do.

Dr. Burkett raised a question concerning the area encompassed by the group, advising that some of the previously discussed problem areas are the responsibility of the Regional Planning Teams. He further advised that in the course of operation, goals can change and flexibility is needed, adding that concerning the people and many areas involved, he believed goal determination should be set at the regional level.

SHOULD
GOALS
BE SET BY
REG. PLANNING
TEAMS

Mr. Sund spoke to problems with Regional Planning Teams arising from the fact that they are composed of half volunteer participants (fishermen, etc.) and half paid participants (employees of the Alaska Department of Fish and Game), advising that he didn't believe the power to function could be given these people without funding. Apparently funding is provided through Fish and Game which poses a problem in that getting funding out of Fish and Game has proven to be a "disaster." He advised that if the state is going to push responsibility on the Regional Teams, it is going to cost approximately \$100,000 to \$200,000 per year, per region (approximately \$1,000,000 statewide).

FUNDING FOR
REG. PLANNING
TEAMS

Chairman Gardiner advised that Regional Planning Teams would be discussed at a later time and directed group attention back to the pending agenda.

Dr. Kaill furnished group members his Overview of Policy and Procedures Manual (copy attached to these minutes), advising that such policies have tried to deal with genetic problems of natural versus hatchery salmon.

POLICY &
PROCEDURES
MANUAL
OVERVIEW

stated that the policies developed are being reviewed by the Governor's Office. Where the manual really "bogs down" concerns the decision as to who will do what--areas covered by the group in its morning discussions.

Dr. Kaill advised that the outline breaks down into two sections: (1) Private hatchery application and planning process and (2) Compilation of research, education, etc. for planning function. Dr. Kaill proceeded with the following outline review:

1. Application requirements - This refers to the forms, etc. Department has attempted to come close to middle line with new forms.
2. Siting criteria - Taken out of existing policy (1974 policies established by then Commissioner Brooks) and statutes directing management in favor of natural fish.

Rita Miller advised that the outline seems to be good, but wondered if policies couldn't be better applied by making the outline a salmon aquaculture outline, rather than applying it simply to private non-profit facilities. Dr. Kaill responded that some of the policies have been directed strictly to private non-profit facilities to eliminate funding problems. Mr. Somerville suggested that policies, while making distinctions between public and private, cover both facilities.

COULD
POLICIES
APPLY
ACROSS THE
BOARD TO
BOTH
PUBLIC AND
PRIVATE
HATCHERIES?

3. Use of natural lakes by private hatcheries - this area relates to salmon stock and genetics, including the manner in which brute stock is taken and minimal samples.

Dr. Kaill advised that the manual represents an attempt to get the policies out for review and receive impact back; it is not in final unchangeable form. Rita Miller advised that again, she didn't see any policies that shouldn't apply "across the board." Dr. Kaill referred to 8, Responsibility for marking and evaluation of hatchery return - advising that this function differs between public and private operators. It is an option for the private operator, but the Department will fund such a function if used at public hatcheries. The

Department has placed special demands on private hatcheries which do not apply to public operations, because public operations are essentially research functions.

Derek Poon suggested that had such policies been in effect and applied to public operations, FRED disasters such as Crystal Lake might have been avoided. He further recommended that the Group address correspondence to Commissioner Skoog, requesting that manual review and release be given highest priority, and private and FRED areas be defined. Chairman Gardiner advised that he would take responsibility for writing Mr. Skoog.

Dr. Kaill apologized for having only a manual overview to present to the committee, advising that he was not at liberty to distribute policies not yet reviewed by the commissioner.

Mr. Somerville advised that he felt intent should be to get a draft of the manual as soon as possible, and review it with Regional Teams for their input.

Barbara Sorensen asked Dr. Kaill if the policies and procedures included within the manual fall within U. S. Environmental Impact review, and Dr. Kaill replied that Environmental Impact review would appear to be the approach the Department is trying to take, but at present it is still "in house."

POLICIES
WITHIN
U. S.
ENVIRON-
MENTAL
IMPACT
REVIEW

Chairman Gardiner requested that policies which apply to both FRED and private hatcheries be designated as such. Dr. Kaill advised that transportation of Salmon and eggs and transfer of diseased eggs from one point to another would apply across the board. Regarding marketing and evaluation, program compliance will involve resolution of "reasonable operating costs," and what happens to left over fish. Handling of surplus fish by a private hatchery involves entering into a contract for use of these fish, while such a problem does not exist at public hatcheries because they involve only enhancement.

Derek Poon asked if there is any reason why all of number I, directed toward FRED hatcheries, should not fall under C 2, (Procedures) Application review and approval. Dr. Kaill replied that one problem in effecting the above would be the fact that FRED projects begin as bond issues. He further alluded to state problems with art in public buildings and EEO requirements.

John Sund attested to concern on the part of fishermen regarding hatcheries which do not produce return, and a desire on the part of fishermen to comment on where FRED and private hatcheries are to be located. Dr. Kaill responded that all hatchery projects henceforth would be reviewed by Regional Planning Teams.

NO RETURN
HATCHERIES

Chairman Gardiner raised questions concerning the proposed procedures for surplus harvest, advising that such fish can depress the market and cause quality problems.

SURPLUS
HARVEST

Derek Poon advised that he felt one of the things the group should do is look at the Regional facilities and parameters under which they operate, and analyze returns to these hatcheries, been, advising of the poor quality of return at Starigaven, disease, etc.

REGIONAL
FACILITY
PARAMETERS

Dr. Burkett attested to his observation of a movement of many people into the decision making process, advising that while the movement is larger than any single issue, nothing happens quickly.

Armin Koernig advised that he didn't believe FRED had yet made a decision whether program costs will be reimbursed or taken out of the general fund. Barbara Sorensen responded that FRED manages for escapement, not return or absorption of costs.

Returning to his Overview, Dr. Kaill advised that policies for Regional Planning Teams are based on the Prince William Sound model of 3 on 3, adding that employees of Fish and Game serve as staff for the planning team. Jack Milnes asked Dr. Kaill if he was aware of prior reservations concerning the 3 on 3 model, asking why the Department had not effected a different balance. Dr. Kaill responded that he was aware of such reservations, but that Fish and Game had objections to balances other than 3 on 3. Mr. Milnes asked who would make the final decision, and Dr. Kaill replied that he believed it would be made by the commissioner.

REGIONAL
PLANNING
TEAMS

Concerning II, Regional Comprehensive Salmon Planning, Dr. Kaill advised that the Department has devoted a great deal of time in this area, advising that he didn't know how the manual would come out in this area. Chairman Gardiner asked if statutory changes would still have to be effected here, or would proposed policies, if adopted, be good enough. Dr. Kaill replied that he didn't know how to respond to the above question, advising that the first thing the Group should do is get a legal opinion that will stand up. Mr. Somerville replied that the Group is going to know whether statutes require change after digesting Department comments and interpretation. If there is conflict, legislation might be the only remedy. Dr. Burkett advised that proposed policies cover a lot of new ground and some would have to be applied to determine whether or not they are workable.

WILL
PROPOSED
POLICIES
NEGATE
NEED FOR
STATUTORY
CHANGE?

Concerning II B, Regional Comprehensive Salmon Planning Policies, Derek Poon advised it would be useful to have Department interpretation of the authority contained therein, stating that he has had conversations with management to the effect that Regional Teams are not really going to be that big a part of the overall plan.

PLANNING
TEAMS IN
RELATION
TO OVERALL
PLAN

Chairman Gardiner posed the problem of authorities unable to take action when policies are violated, suggesting that a section be established dealing with force and effect of the plan.

AUTHORITIES
FORCE AND
EFFECT

Derek Poon attested to problems resulting from flow charts placing the State Planning Team between Regional Planning Teams and the commissioner. Dr. Kaill advised that while a State Planning Team does exist, it has not conducted any business, adding that he does not know the intent behind such a team. Mr. Somerville advised that the regional planning concept originally came from the State Planning Team, adding that he believes such a team to be necessary because Department plans function statewide, but its function in relation to the regional teams is unclear. Chairman Gardiner stated that legislative intent was such that the Regional Plans and Planning Teams were to go directly to the commissioner's office. Dr. Kaill advised that he has taken all plans directly to the commissioner. Mr. Somerville advised of his concern that the commissioner

STATE
PLANNING
TEAM

receive an unedited version of the plan, directly from the Planning Team.

Addressing the scope of regional planning, Mr. Milnes advised that Regions have some very specific feelings about what should be included within their scope, adding that the purpose of the Group is to advise the Department of what the people want, not accede to what the Department wants.

REGIONAL
SCOPE

Referring to numbers 5 and 6 (Plan development, and Public involvement), Dr. Kaill advised that these policies cover situations in need of clarification, and would allow "chunks" of a plan to be taken care of on an emergency basis, as well as get the public "on track" as quickly as possible. Mr. Milnes asked if policies describe the method for public involvement, and what happens to feedback. Dr. Kaill replied that he didn't believe policies define method, advising he was unable to answer the feedback issue.

PLAN
DEVELOPMENT
PUBLIC
INVOLVEMENT

Concerning the Planning Team, Dr. Kail stated that meetings would be called as necessary, and the chairman would serve for that meeting, relinquishing such duties thereafter. A quorum consists of 4, (two from each side) and substitutions must be okayed in advance. Support staff will be assigned to assist Planning Team members and will report back to them.

PLANNING
TEAM
MEETINGS

Derek Poon advised that suggestion had been made that Planning Team meetings coincide with Board of Fisheries meetings, asking if such suggestion has been followed. Dr. Kaill advised that he didn't believe it had been, but didn't see why meetings should not be so scheduled. Mr. Sund advised of problems arising when meetings do not coincide with staff schedules; Armin Koernig attested to problems arising from designees appearing unannounced at meetings; and Mr. Milnes advised that he believed meeting schedules should remain flexible within each region.

Armin Koernig raised questions concerning reasons why the Department has not followed Board of Fish policies, asking if anyone has ever seen a management plan for Fish and Game. Dr. Burkett advised that everything cannot fall in place at once, adding that he would investigate. Chairman Gardiner asked if it was the

BOARD OF
FISHERIES
POLICIES

Board of Fisheries intent that its policies apply to all facilities, and Mr. Koernig responded that the policies deal with returns to private and public hatcheries.

Mr. Milnes advised of a problem arising from the fact that preferred hatchery projects are listed on the bond issue prior to review by Regional Teams. Derek Poon stated that to the best of his knowledge, harvest management plans have to be approved before the project can go ahead, but such requirement does not apply to FRED projects, adding that to his knowledge there is no harvest plan for Snettisham. Again, Mr. Poon attested to existence of a double standard in that when FRED does not comply with requirements, such as a harvest plan, it goes ahead and puts the project on the bond issue anyway, but under the same circumstances a private project would not get its permit.

HATCHERY
PROJECTS
ON BOND
ISSUES

DOUBLE
STANDARD
RE:
REQUIRE-
MENTS

Chairman Gardiner advised that he would ask (in his correspondence to Commissioner Skoog) if newly established policies would apply to existing as well as new facilities.

POLICIES TO
BE APPLIED
TO NEW AND
EXISTING
FACILITIES?

Armin Koernig raised questions concerning financing plans and whether they apply to both public and private facilities, and attested to a problem concerning allocation of returning fish to peer groups, advising that an answer in this area will necessitate a political decision by the Board of Fisheries, but it should be addressed and conclusions drawn before hatcheries are built. Regional Planning Teams will have the authority to remove a project from the bond proposal if the fishermen think they will never be able to afford to pay for it.

FINANCING

RECESS 3:55 p.m.

RECONVENE 4:05 p.m.

Upon reconvening, John Williams advised that he would be mailing a written report of his study, together with answers to posed legal questions, as well as a draft of a proposed statutory change making hatchery operators legal harvesters.

Armin Koernig and Jack Milnes will investigate cost benefits of private and state projects reporting on what approaches can be taken by the Group and detailing means to accomplish such analysis.

COST
BENEFIT
ANALYSIS

Derek Poon advised that he would take on area VI, Research Base, and report back at the next meeting.

RESEARCH
BASE

Jack Milnes advised that federal agencies operating in areas similar to those encompassed within Group review could yield valuable assistance, and John Williams stated he would contact federal agencies to determine if Regional Planning Teams could function within federal areas. Mr. Sheridan advised of a possible functioning problem in that Regional Planning Teams consist of State Department of Fish and Game Personnel as well as regional people.

FEDERAL
INVOLVEMENT

Dr. Kaill attested to the commissioner's recognition of need for federal participation, advising that the Forest Service is an ex-officio member on teams having forests in their regions.

Mr. Milnes advised that he believed the Group should have a clear understanding that it represents a pilot stage and as such has limits. It needs phased plans and criteria for and method of evaluating each stage of its function.

Mr. Sheridan advised that in reality the Forest Service is kind of on the sidelines, but intends to cooperate to the extent possible once a game plan is worked out.

Responding to a suggestion from Dr. Kaill that Commerce be included within the group, John Williams advised that Commerce currently has study funding, and could upon recommendation, conduct necessary studies.

Chairman Gardiner advised that the Group would meet again in approximately three weeks. Group members will be furnished written notice of such meeting as well as a copy of today's minutes.

The meeting adjourned at approximately 4:40 p.m.

ADJOURN

AQUACULTURE POLICY STUDY GROUP

<u>NAME</u>	<u>ADDRESS</u>	<u>AGENCY</u>
Bob Blake	Box 939, Cordova 99574	
Bob Burkett	FRED, Juneau	ADF&G
Don Collingsworth	Subport Bldg, Juneau	ADF&G
Albert Collotzi	Pouch 6606, Anchorage 99502	U.S. Forest Service
Ivan E. Every	Rt 1, Box 970, Kenai	CIAA
James E. Fisher	2221 E. Northern Lights Blvd. Suite 126, Anchorage 99503	USDA - Representative
Terry Gardiner	Box 6092, Ketchikan	Alaska Legislature
Bob Grogan	Pouch WF, Juneau 99811	Legislative Finance Div.
Ernie Haugen	Box 1049, Petersburg 99833	Alaska Legislature
Floyd E. Heimbuch	Box 850, Soldotna 99669	Cook Inlet A.A.
Jack P. Jacobsen	Box 8794, Ketchikan	SSRAA - President
Mike Kaill	FRED Div. Subport Bldg, Juneau	ADF&G, FRED Division
Curt Kerns	3211 Providence, Anchorage 99504	Sea Grant
Armin E. Koernig	Box 191, Cordova 99574	PWSAC
Rita Marie Miller	Box 786, Sitka	NSRAA
J. N. Milnes	SSRAA, 307 Mill #5, Ketchikan	SSRAA
Sig Olson	Box 1628, Juneau 99802	U.S. Forest Service
Derek Poon	Box 786, Sitka	NSRAA
Dick Reynolds	Pouch EE, Juneau 99811	Dept. of C&ED
Bob Roys	FRED, Juneau	ADF&G, FRED Division
John Sandor	Box 1135, Juneau 99802	U.S. Forest Service
Jev Shelton	853 Basin Road, Juneau 99801	NSRAA
Bill Sheridan	Box 368, Juneau 99802	USDA - Forest Service
Bob Simpson	Box 1668, Juneau 99802	Nat'l Marine Fisheries
Sandy Somerville	Smith Tower, Seattle 98104	Martin-Simonds Assocs.
Barbara Sorensen	Pouch SA, Juneau 99811	Dept. of Revenue
John Sund	1285 Tongass, Ketchikan	SSRAA
Ken Thompson	Box 1980, Sitka 99835	U.S. Forest Service
John Williams	Pouch Y, Juneau 99811	Legislative Affairs Agcy.

AQUACULTURE POLICY STUDY GROUP MEETING
September 8 1978

Six major areas of concern were chosen to be addressed by the study group. Members were assigned to each area and are to report to the full committee at the next meeting. The six major areas and the members assigned to each are as follows:

- I. Clearly define the State's policies on Aquaculture - examine existing statutes/resolutions/policies - A written draft is to be submitted to the full committee by Bob Burkett and John Sund. They will be assisted by John Williams.
- II. Stock Management
 - A. Mixing of wild and hatchery stocks
 - B. Returns to common property fishery
 - C. Harvesting of stocks
 - D. Site selections
 - E. Brood stocks

A verbal review will be given by the Department of Fish and Game which will preview the Department's policy manual.

- III. Define roles of organization and groups.
 - A. Capabilities of each group.
 - B. Agencies that oppose Aquaculture or certain projects.

John Williams will present a written condensation of previously written comments and agency interviews.

- IV. Land Use Problems - Land use classifications to be discussed at the October 3 meeting in Juneau with the Forest Service.
- V. Cost/Benefit Analysis of Private and State Projects
 - A. Financing of projects
 - B. Who should build/operate projects

Armin Koernig will work with the Departments of Revenue and Commerce and Economic Development to present a report to the group. Bob Grogan will assist.

VI. Research Base

- A. Research problems
- B. Who should carry out research.

No assignment made.

THE STUDY GROUP WILL MEET ON OCTOBER 4th at 9:00 A.M. IN
ROOM 417, CAPITOL BUILDING

STUDY REPORT
STATUTES AND ROLES

ADF&G - Commissioner

- 16.05.020⁽²⁾ Manage, maintain, improve, extend.
- 16.05.050⁽³⁾ Hatcheries, pipelines, rearing ponds,
fishways, other.
- * 16.10.400(f) Clarify streams for enhancement in conjunction
with comprehensive plan
- 16.10.420 Approve egg procurement
placement
salmon release
Order egg destruction
Specify hatchery harvest
Approve egg sales
- 16.10.430 After comment of RPT, revoke permits,
Alter conditions of permit
- * 16.10.443 Make every effort to advise, and assist
in planning, construction, or operation
of hatchery within time and resource
constraints.

SELF ROLE

- * Leadership role in fisheries and aquaculture
planning, management, and regulation
- Maintain proper spectrum of activities to guarantee
financial success of aquaculture without
jeopardizing natural stocks or other valued
fisheries.
- Responsible for having all prerequisite disciplines
for salmon rehabilitation.

FRED DIVISION

- * 16.05.092 Comprehensive state plan; encourage private investment - all things necessary.

BOARD OF FISHERIES

16.10.221 Generally regulate taking of fish

16.10.440 Regulate take of hatchery fish, implement 400-470

REGIONAL PLANNING TEAMS

- * 16.10.375 Subject to Commissioner's approval, develop comprehensive salmon plans, including public and private hatcheries.

Consists of Dept. personnel and representatives of qualified regional associations.

REGIONAL ASSOCIATIONS

- * 16.10.350 Enhancement of salmon production
- 16.10.400 Preference rights to hatchery permits
- * 16.10.600 Create regional authorities
- 16.10.450 Funds use specified
- 16.10.470 Annual Report

SELF ROLE

Organize regions

- * Enhance and rehabilitate salmon stocks

Build and operate salmon hatcheries

Stream Clearance

Provide input to policy makers

Encourage investment

- * Fully develop natural production capabilities

PNP's

16.10.400 Receive permits to build and operate salmon hatcheries

16.10.420 Pay for departmental expenses related to examinations

U.S.F.S

Cooperative agreements with Fish and Wildlife Managers

Protect and enhance habitat

Provide for sustained yields

* List known potential aquaculture sites

Facilitate permit granting

Lead in EIS completion

NMFS

Provide scientific and technical support

Cooperative agreements with fisheries managers

Comment on federal permits

EIS comments

U.S. FISH & WILDLIFE SERVICE

?

Game refuges, military lands, Indian reservations

Comment on federal permits

LEGAL QUESTIONS

Non-hatchery enhancement activities of regional associations

Regional authorities (CRA)

Non-departmental or regional association members on RPT's
(USFS, NMFS activities with RPT's)

Scope of regional plans

Force and effect of regional plans.

- * (Cost recovery of non-association hatcheries
- * hatchery harvest of fish?)

OTHER PROBLEMS

Reasonable operating expense

Information dissemination

Permit Processes

Financing (including state and private investment)

Interaction of federal authorities with regional associations

FRED Evaluation

RPT funding

Overview of Policy and Procedures Manual, in draft, ADF&G

I. Private Nonprofit Hatchery Program

A. Goals

1. Contribution to Common Property Fishery
2. Contributions possible through non association hatcheries.

B. Policies

1. Application requirements
2. Hatchery siting criteria
 - Harvest management consideration
 - Natural stock consideration
 - Consideration for siting
 - Site evaluation
3. Use of natural lakes by private hatcheries
4. Salmon stock genetics
 - Protection of genetic variance
 - Population mixing
5. Control of fish disease
 - Protection of wild stocks
 - Rearing, movement, release of infected fish
 - Stock selection
 - Hatchery practices
 - Chemotherapy
 - Consistency of public and private aquaculture Policies
6. Transportation of salmon and eggs
 - Importation and exportation of salmon and eggs
 - Transplantation of salmon and eggs
7. Basic harvest management plans
(See Alaska Board of Fisheries Provisional Policy Number: 78-39-FB)
8. Responsibility for marking and evaluation of hatchery returns
9. Program compliance

C. Procedures

1. Preliminary and final applications
2. Application review and approval
3. Operations review
 - Annual report submission
 - Review by RPT, ADF&G Staff, Commissioner of ADF&G
 - Annual report format

II. Regional Comprehensive Salmon Planning

A. Goals

1. Creation of cooperative planning process
2. Development and publication of plan document

B. Policies

1. Scope of regional comprehensive planning (RCP)
2. Roles and responsibilities of Regional Planning Team
 - Role of the RPT
 - Responsibilities in hatchery application review
 - Responsibilities in annual review
 - Responsibilities in development of Regional Comprehensive Salmon plans
3. Composition of the RPT
4. Support RPT

5. Plan development
Relationship between on-going programming and the
development of RCP
6. Public involvement

C. RCP Procedures

1. Planning team meetings
 - Chairman
 - Meeting frequency
 - Quorum and voting
 - Staff support
2. Plan review and approval

APSC

10/4/78

Proposed good statement,

A healthy salmon industry, paying its
own way, providing employment, ~~and~~
return on investment, and pleasure in
recreation, (sports fishing) by the year 2000.

quantity specific strategies.

PROBLEM AREAS DISCUSSED BY THE GROUP

1. Should inspection costs be borne by distant hatcheries?
2. How to alleviate lack of planning function funding.
3. Is there a need to define "reasonable costs" for private hatcheries, or will IRS set standards?
4. Is there need for mechanism for management of returning fish, or will Board of Fisheries Harvest plan cover this area?
5. Need to resolve copyright problem on fish?
6. Need to alleviate problem arising from government and private sector in competing industry regulated by government. Is there a double standard when applying regulations between public and private facilities?
7. Site Selection - Are desirable sites equally available to both public and private sector?
8. Should acknowledgement and resolution of social, economic, biological conflicts within the industry be resolved at Regional level?
9. Can a hatchery legally harvest fish? - Williams to draft proposed legislation.
10. Will proposed policies and procedures apply "across the board" to private and public facilities?
11. Will adoption of policies and procedures manual negate need for statutory change?
12. What is position of Regional Planning Teams in relation to State Planning Team?
13. Do Board of Fisheries policies apply to all facilities?
14. Are proposed policies and procedures to apply to new as well as existing facilities?

SUGGESTIONS MADE BY THE GROUP

1. A representative from the Dept. of Commerce be included within the study group.
2. FRED programs and performance be audited and a copy of the audit report furnished the study group.
3. Need for a goal statement and evaluation process.
4. Need for federal and regional team interaction.

NOVEMBER 1978

11/1/78

NOTICE OF MEETING

THE NEXT MEETING OF THE AQUACULTURE POLICY STUDY GROUP
WILL BE HELD WEDNESDAY, NOVEMBER 29, 1978, 1:00 P.M. in
ROOM 421, STATE CAPITOL BUILDING (House Finance Committee Room),
JUNEAU, ALASKA. YOU WILL RECEIVE AN AGENDA LATER THIS MONTH.

Terry Gardiner, Chairman
Box 6092
Ketchikan, AK 99901

MINUTES
AQUACULTURE POLICY STUDY GROUP
November 29, 1978

Chairman Gardiner called the meeting to order at approximately 1:30 p.m. (Names and addresses of those present for the meeting are contained on the attendance sheet appended to these minutes.) CALL TO ORDER

He advised that he believed group effort should be directed toward solutions for aquaculture problems rather than further discussion of problem areas and submitted a five-item agenda for group review (copy of agenda and appended material attached to these minutes). He further advised that review of matters scheduled on the agenda would commence with Item No. 5 (Review of proposal by Miller and Associates in regard to a financial analysis of salmon aquaculture), and that Item No. 4 would not be discussed during the meeting due to the absence of John Williams from the Juneau area. AGENDA
MILLER AND ASSOCIATES

Concerning Item No. 5, Chairman Gardiner advised that all group members should have received a copy of the financial analysis prepared by Miller and Associates. He stated that Mr. Miller had not been hired to perform the analysis but through contact with the Chairman unrelated to group efforts had expressed a desire to submit a proposal for review--that is where the proposal originated.

Armin Koernig advised that he had primarily been working on a preliminary assessment concerning what should be accomplished by the group in the socio-economic area, stating that the group must formulate: KOERNIG
SOCIO
ECONOMIC
AREA

1. A clear statement of problems encountered in both public and private sectors.
2. Investment capital needed for both public and private facilities.
3. Economic analysis of the enhancement effort to provide the industry direction in the future, hopefully providing answers to some of the following questions:
 - a. How much should be invested (privately and publicly)?

- b. How is funding going to be invested?
- c. How much is it going to cost to produce fish?
- d. Who is going to benefit from these fish?

Mr. Koernig attested to the unavailability of figures satisfying the above questions from state agencies, advising that he believed the group should solicit assistance from consulting financial experts. Mr. Koernig questioned how long the general public would be willing to continue to invest in public and private hatcheries if such projects are not able to demonstrate beneficial return on the investment. Mr. Koernig concluded his statement advising that he believed everyone recognizes that aquaculture needs to secure some data in order to evaluate where it should be going.

Derek Poon stated that the group needs to identify what kind of questions it should be asking concerning socio-economic benefits behind the 1.3 million dollar investment, advising that the group should have before it several proposals for study.

Mr. Milnes suggested that the group consider as an additional social goal the understanding that the system should pay its own way. Mr. Koernig advised that Mr. Milnes' suggestion raised an additional question for group consideration: Is there a benefit to a subsidized system? Analytical work would determine whether it is possible for the system to pay its own way or whether a subsidy is necessary plus give insight to such questions as:

1. Should needed funding come from the Renewable Resource Fund?
2. General Fund?
3. Fisheries Fund or other sources?
4. How can the state more wisely use its resources through enhancement to produce benefits.

Chairman Gardiner, referring to figures furnished him by Jay Hogan, advised that last year the state's budget amounted to 1 billion 71 million dollars while revenue amounted to 1 billion 5 million dollars (the state brought in 66 million dollars less than it spent). Revenue for the coming year is anticipated at 1 billion 21 million dollars. The fact that the state has not experienced a budget increase of less than 13% in the last few years would indicate that if the state has new facilities coming on line this year, such facilities are coming "out of someone's pocket." There are no surplus state funds available for loan. Mr. Gardiner advised that financial problems are not matters of concern for regional groups alone but pose a statewide problem and constitute valid reason for formulating concrete financial plans.

STATE
BUDGET
DEFICIT

Mr. Koernig agreed with Chairman Gardiner, advising that while the private sector of the economy is characteristically identified with profit, the 3 million dollar loan fund for construction of facilities is not sufficient for private needs. The state cannot continue to invest money without a system of checks and balances provided by financial planning, demonstrating economic justification. If the group proposes to raise the loan limit from 3 million dollars to 6 million dollars, it must be able to prove that such a raise is feasible. The group needs definite proof for both the legislature and the general public to establish cost benefits. The group should have a financial plan that maps out investment strategy for the next 20 years.

NEED FOR
FINANCIAL
ANALYSIS

Mr. Frank Orth of Earl R. Combs, Inc. raised questions concerning the group's intent, asking:

MR. ORTH

1. Does the group want to hire a consultant to evaluate the technical aspects of enhancement, or
2. Does it wish to go backward and have assistance in developing a strategic plan for salmon enhancement.

He further advised that he believed it would be better for the group to go backward and develop the strategic plan. The group should define its planning needs, allow consultants to bid on providing such a plan, and following verbal proposal presentation by interested consultants, the group should hire the necessary work done. Mr. Orth concluded his

11/29/78

statements, advising that should the group decide to have a technical analysis performed, it would be of no value without a strategic plan.

Dr. Burkett stated that he didn't believe going backward would improve the present situation, advising that he believed the group should simply consider what is presently being done and move forward from that point.

Derek Poon advised that he had understood Mr. Orth to mean, when suggesting the strategic plan, that formulation would commence from the status quo. Mr. Orth replied that Mr. Poon's understanding was correct and that "go back" had been a poor choice of words. He further advised that the original enhancement plan was a political plan which did not take into consideration many "real world issues," advising that the group should, beginning from its present position, develop a plan for the future.

Dr. Davis from the Alaska Department of Fish and Game stated that he believed the planning function to be the responsibility of regional teams, and Mr. Orth responded that he didn't believe regional plans could function without a statewide plan, advising of institutional conflicts within regions which he didn't believe the regions could overcome at this time.

Mr. Floyd Heimbuch advised that he believed statewide aquaculture groups were in need of a plan justifying requests for salmon production, and Barbara Sorenson stated that she believed what the group should do is evaluate what is in place now and determine what it means economically for both state-operated and private sectors, evaluate production in terms of who benefits, and from that analysis come up with a plan.

Derek Poon recommended that Mr. Orth be requested to provide recommendations for planning, and present such ideas to the group, adding that the group needs to agree that such a proposal is valid. Dr. Burkett inquired concerning time and money constraints upon Group activities, and Chairman Gardiner responded that the Group only has one hundred thousand dollars to spend, adding that if the Group intends to act during the upcoming legislative session, it doesn't have much remaining time.

Mr. Orth again attested to the need for a planning process rather than economic analysis containing no plan into which analysis figures could be plugged.

Mr. Curt Kerns raised questions concerning methods for making enhancement costs appear in the cost of the product, and Armin Koernig attested to the need for determination of:

NEED FOR
SUBSIDY?

1. Whether a subsidy if needed.
2. To what degree it is needed.
3. Who pays the bill.

He added that aquaculture to date has spent too much time on biology; it is not time to take a look at the economic side and force work in this area to catch up with biological work.

Derek Poon stated that he believed the group should:

1. Agree that it needs to get a financial handle on the social economic side of enhancement.
2. Define the scope of the work and get an analysis everyone can understand.

Chairman Gardiner advised that the group has already defined six study areas to which it intends to devote substantial effort, and Mr. Orth set forth the following process for obtaining necessary financial analysis:

1. Prepare a statement of the work to be performed.
2. Contact sources capable of performing such work, requesting that they furnish proposals.
3. Obtain proposals in a timely manner for review by the group.
4. Select outstanding proposals and have consultants make verbal presentation before the group.
5. Select consultant.

Ken Leon spoke to the inability of consultants, without first hand knowledge of private and public sectors performances, to evaluate the economic future and provide

direction, adding that he did not believe enough cycles had elapsed in either the private or public sector from which data could be compiled.

Chairman Gardiner directed Armin Koernig and group members of Mr. Koernig's choosing to define proposed analysis areas and get them down on paper for the purpose of hiring a consultant.

KOERNIG TO
DEFINE
FINANCIAL
ANALYSIS NEEDS

Group attention was next turned to Agenda Item No. 1 (Presentation on salmon aquaculture research, coordinated by Derek Poon). Mr. Poon advised that R & D emphasis should be in proportion to the value of the resource. He then set forth a brief survey of yearly rates of fry return at Sheldon Jackson, Auke Bay, and Little Port Walter, attesting to the need for correlation between what is released and what returns. He further stated that under an Oregon program, existing since 1968, returns have been .2 to .5%, while FRED Division coho returns in Southeast Alaska have been well under 1.% although the projected economic calculation is 10%.

POON
AQUACULTURE
RESEARCH

Mr. Poon stated that aside from economics, biology is what is going to actually accomplish enhancement, attesting to the need for:

1. Management of enhancement.
2. Management of existing stocks.
3. Increased rate of return.

He advised that the goal of researchers is to take raw data and communicate significant data to interested parties, both public and private.

Mr. Poon further attested to the tremendous diversity of aquaculture resources, and set forth the following areas of need:

1. Need for management of natural stocks. Such management is particularly difficult in Southeast because of mixed stocks. The state does not have enough information on management of natural stocks.
2. There is little information on life history research.
3. Understanding of mortality rate on salmon is very low.

4. Need applied research in aquaculture technology.

Mr. Poon distributed to Group members copies of a Canadian publication relating to:

1. Inability to determine where enhancement is justified.
2. Utilization of single stocks or mixed stocks, adding that single stock approach should be modified to cover all enhancement.
3. The fact that the purpose of aquaculture is increase the overall benefit.

Mr. Poon concluded his remarks advising that R & D support is very important to aquaculture, adding that he hoped his presentation has put it in proper perspective.

William Heard of National Marine Fisheries advised that the basic objective of research conducted through Marine Fisheries is to develop Alaska's fishing resources. He stated that his agency currently operates its main facility the Auke Bay Laboratory (established in the late 1950's) and two aquaculture field stations, one at Auke Creek (a small scale incubation facility) and a more extensive facility at Little Port Walter.

WILLIAM
HEARD

Mr. Heard directed Group attention to Item No. 2, in the black binder (copy appended to these minutes) prepared by John Williams, setting forth Marine Fisheries' role in aquaculture within the state. In addition, Mr. Heard distributed to group members NMFS Current Year Task Plan and a bibliography of publications related to salmon aquaculture research activities of the Auke Bay Laboratory dated November 29, 1978. (Task Plan and bibliography attached to these minutes)

Mr. Heard advised that Marine Fisheries deals with research and is not responsible for management. Its second most important function, after research, is publication and dissemination of information, accomplished through work shops, seminars, college-to-college discussions and conferences, technical society involvement, etc.

Mr. Heard attested to lack of increased funding for research resulting from President Carter's veto of aquaculture programs. He added that all new fishery developments

within the state represent research, and Marine Fisheries is in the R end of R & D. Marine Fisheries has developed a clearing house concept in order to keep up on what's being done within the state. It is also attempting to document the early days of aquaculture in Alaska to the turn of the century. He concluded his remarks stating that Marine Fisheries solicits advice from its constituents.

Jack Milnes raised a question concerning the leverage of biological research upon the total aquaculture budget, and Mr. Heard replied that R & D represents approximately 2 to 3% of the total 300 million dollar budget.

RESEARCH
LEVERAGE

Responding to questions concerning criteria for initiating research projects, Mr. Heard advised that Marine Fisheries' primary function, within its constraints and guidelines, is to perform research projects in areas in which information is most needed.

Mr. Ray Hadley with Sea Grants at the University of Alaska attested to constraints placed upon his area of research within the University, advising that groups such as the present Group on Aquaculture supply the leverage for undertaking projects. In addition, the University needs group backing for legislative financing to accomplish requested projects, and publish results upon completion.

HADLEY
SEA GRANTS

Mr. Curt Kerns with Sea Grants at the University in Anchorage advised of the use of questionnaires to solicit areas of needed research, and reiterated Mr. Hadley's request for support before the legislature for research financing.

Mr. Heard advised that the Auke Bay Laboratory is currently experiencing its second year of increased salmon research funding in seventeen years, advising that the increase was a direct result of Alaskan aquaculture groups working through Alaska's congressional delegation in Washington. Mr. Heard added that during the past five or six years, Marine Fisheries has had an important level of support from the Alaska Department of Fish & Game in the area of combined funding projects.

Ken Leon from the FRED Division of the Alaska Department of Fish & Game advised that the Department's efforts are almost totally directed toward production. He

LEON ON FRED

next read a list of species, locations, and categories of research conducted by the Department. Mr. Leon attested to areas of greatest Departmental thrust such as incubation, loading density of hatchery space, subgrade development from gravel to astro-turf, etc., displaying a graph portraying world progress in incubation knowledge resulting from applied research. In addition, the Department is working on such projects as suitability of glacial water in rearing, short term rearing, heated water for rearing chinook and rearing of species in water temperatures differing from normal environment.

The Pathology department is working on vaccines against disease as well as fungus control, and currently has vaccinated fish returned to salt water where the vaccine will hopefully prove beneficial.

Mr. Leon further advised that the Department is attempting to develop a system of data collection and processing in which information would be available via computer terminal for retrieval statewide.

FRED DATA
COLLECTION

Mr. Koernig attested to the need for annual reports from the Department's fifteen facilities, and Derek Poon asked if a listing is available detailing information and programs accessible to groups on aquaculture, and Dr. Burkett distributed a listing of FRED Research (copy attached to these minutes).

KOERNIG AND
POON ON NEED
FOR ANNUAL
REPORTS

Chairman Gardiner questioned Mr. Leon concerning the Department's data processing system and the data to be computerized, and Mr. Leon advised that the Department intended to arrange information in such a way that when a species is selected, one may determine what is available on it, what results various facilities have accomplished, etc. Derek Poon advised he would rather see the actual reports from the facilities. Dr. Burkett advised that with the number of facilities and amount of information available the Department needs some type of data storage and retrieval system--a good information system.

Chairman Gardiner next directed Group attention to Agenda Item 2 (Review of Aquaculture Policy Manual recently distributed by ADF&G), and Joe Davis advised that approximately 80 copies have been distributed, indicating a great deal of interest in the industry.

ADF&G
AQUACULTURE
POLICY
MANUAL

He further stated that the Department intended the draft to serve as the basis for proposed policies and procedures, allowing everyone to look at it and make recommendations. The Department is taking a

very cautious approach in this area where there is a definite need for policies, but where the program is evolving so quickly, perhaps policies and procedures should not be too set.

Mr. Davis warned of inconsistencies in the draft, advising that some editorial changes were accomplished following copying, adding that the Department would like to receive all comments by January 31, 1979, and that comments should be sent directly to him. The Department will prepare a summary of comments which will be available to all and a copy forwarded to the Commissioner. If all comments are received by the 31st, the Department hopes to have a final draft in early spring, and the Department anticipates upgrading the manual annually.

POLICY DRAFT
RECOMMENDA-
TIONS DUE
1/31/79

Mr. Davis, speaking to procedures dealing with annual reports and the concept of regional planning teams, advised that the Department does not know whether these areas will work until they have been tried.

Mr. Koernig inquired concerning whether the Department is totally satisfied with the draft or whether there is debate and controversy within the Department. Mr. Davis advised that there is a certain amount of controversy but no real opposition. Mr. Koernig expressed concern that certain areas of the manual do not meet regional corporation intent and inquired concerning the method for having regional wishes included as state policy.

Chairman Gardiner advised that the group's intent is to review the manual and as a group come up with recommendation for the Department. Dr. Kaill stated that many of the policies within the manual are not new but existing statutes, while others were standing policies established by Jim Brooks. Some were implied policies which have now been set forth for the first time, and some are new policies.

Chairman Gardiner directed that Group members review the manual and submit objections to specific areas in writing, such written form to include be a recommendation as to how the policy should be changed.

Armin Koernig inquired concerning what effect the group's recommendations would have upon policies and procedures, and Dr. Burkett replied that he did not

know, advising "we will have to wait and see."
Chairman Gardiner stated that group recommendations could also be taken to the legislature for implementation and have equal opportunity for acceptance as were they submitted to the Department.

Chairman Gardiner advised that the Group would anticipate meeting sometime the first part of February to work out recommendations for the Policy Manual.

He further advised that the Group would next meet January 5, 1979.

The meeting adjourned at approximately 5:00 p.m.

POLICY MANUAL
RECOMMENDA-
TIONS DUE IN
FEBRUARY

NEXT MEETING

ADJOURN

ATTENDANCE
AQUACULTURE POLICY STUDY GROUP
NOVEMBER 30, 1978

<u>NAME</u>	<u>ADDRESS</u>	<u>AGENCY</u>
Terry Gardiner	Box 6092, Ketchikan	State Representative
Derek Poon	Box 786, Sitka	NSRAA
Barbara Sorensen	Pouch SA, Juneau 99811	Dept. of Revenue
Frank Orth		Earl R. Combs, Inc.
Bill Marsh		NSRAA
John Sund	1285 Tongass, Ketchikan	SSRAA
J. N. Milnes	307 Mill #5, Ketchikan	SSRAA
Ken Leon	FRED Juneau	ADF & G
Bob Burkett	FRED, Juneau	ADF & G
Joe Davis	FRED, Juneau	ADF & G
Armin Koernig	Box 191, Cordova 99574	PWSAC
Wallace H. Noerenberg	Consultant	PWSAC
William R. Heard	Auke Bay Laboratory	NMFS
Bob Simpson	Regional Office	NMFS
James E. Fisher	2221 E. No. Lights Blvd. Anchorage 99504	USDA Rep.
Floyd E. Heimbuch	Box 850, Soldotna 99669	Cook Inlet A.A.
R. S. Hadley	U. of Alaska - Fairbanks	Sea Grant
C. L. Kerns	3211 Providence Anchorage 99504	Sea Grant
Ivan E. Every	Rt. 1, Box 970, Kenai	Cook Inlet A.A.
Jev Shelton	853 Basin Road, Juneau 99801	NSRAA
Rita Marie Miller	Box 786, Sitka	NSRAA

Mike Kaill

FRED, Subport Bldg.
Juneau

ADF & G

Bill Sheridan

Box 368, Juneau 99802

USDA
Forest Service

ATTENDANCE
AQUACULTURE POLICY STUDY GROUP
NOVEMBER 30, 1978

<u>NAME</u>	<u>ADDRESS</u>	<u>AGENCY</u>
Terry Gardiner	Box 6092, Ketchikan	State Representa- tive
Derek Poon	Box 786, Sitka	NSRAA
Barbara Sorensen	Pouch SA, Juneau 99811	Dept. of Revenue
Frank Orth		Earl R. Combs, Inc.
Bill Marsh		NSRAA
John Sund	1285 Tongass, Ketchikan	SSRAA
J. N. Milnes	307 Mill #5, Ketchikan	SSRAA
Ken Leon	FRED Juneau	ADF & G
Bob Burkett	FRED, Juneau	ADF & G
Joe Davis	FRED, Juneau	ADF & G
Armin Koernig	Box 191, Cordova 99574	PWSAC
Wallace H. Noerenberg	Consultant	PWSAC
William R. Heard	Auke Bay Laboratory	NMFS
Bob Simpson	Regional Office	NMFS
James E. Fisher	2221 E. No. Lights Blvd. Anchorage 99504	USDA Rep.
Floyd E. Heimbuch	Box 850, Soldotna 99669	Cook Inlet A.A.
R. S. Hadley	U. of Alaska - Fairbanks	Sea Grant
C. L. Kerns	3211 Providence Anchorage 99504	Sea Grant
Ivan E. Every	Rt. 1, Box 970, Kenai	Cook Inlet A.A.
Jev Shelton	853 Basin Road, Juneau 99801	NSRAA
Rita Marie Miller	Box 786, Sitka	NSRAA

Mike Kaill

FRED, Support Bldg.
Juneau

ADF & G

Bill Sheridan

Box 368, Juneau 99802

USDA
Forest Service

STATE OF ALASKA

THE LEGISLATURE

465-3795

BUDGET AND AUDIT COMMITTEE

FINANCE DIVISION
POUCH WF—STATE CAPITOL

JUHEAU 39801

*copy of material
mailed out*

A G E N D A

AQUACULTURE POLICY STUDY GROUP

NOVEMBER 29, 1978

1:00 P.M.

ROOM 421, State Capitol Building
Juneau, Alaska

1. Presentation on salmon aquaculture research coordinated by Derek Poon
2. Review of Aquaculture Policy Manual recently distributed by ADF&G
3. Review of proposed statute change of salmon harvesting (attached to this agenda)
4. Presentation and review of October 24 report by John Williams
5. Review of proposal by Miller and Associates in regard to a financial analysis of salmon aquaculture.

LEGISLATIVE AFFAIRS AGENCY

INTER-AGENCY ROUTING SLIP

TO Representative Gardiner

w.o. 5735
Vassar

REMARKS:

Attached is a draft of one of your prefile requests. Please advise if any changes are required and whether or not you wish to have this one formally prefiled.

FROM Ken Vassar DATE 10/13/78

BY GARDINER

HOUSE BILL NO.

IN THE LEGISLATURE OF THE STATE OF ALASKA

ELEVENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act relating to the harvest of hatchery fish by salmon hatchery operators; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. AS 16.10.440(a) is amended to read:

(a) Fish released into the natural waters of the state by a hatchery operated under AS 16.10.400 - 16.10.470 are available to the people for common use and are subject to regulation under applicable law in the same way as fish occurring in their natural state until they return to the specific location designated by the department for harvest by the hatchery operator. While harvesting fish at the specific location designated by the department for harvest, the hatchery operator is exempt from any permit requirement under AS 16.43.

* Sec. 2. AS 16.43.140(a) is amended to read:

(a) After January 1, 1974, no person may operate gear in the commercial taking of fishery resources without a valid entry permit or a valid interim-use permit issued by the commission except as provided in AS 16.10.440(a).

* Sec. 3. This Act takes effect immediately in accordance with AS 01.10.-

**Northern Southeast Regional
Aquaculture Association, Inc.**

P.O. BOX 786 SITKA, ALASKA 99835


(907) 747-6850

RM. 205, OLD CITY HALL BLDG.

MEMORANDUM

OCTOBER 26, 1978

TO: MR. BILL HEARD, NATIONAL MARINE FISHERIES SERVICE
DR. KEN LEON, FRED, ALASKA DEPARTMENT OF FISH & GAME
MR. DONALD ROSENBERG, UNIVERSITY OF ALASKA

FROM: DEREK POON, PH.D., GENERAL MANAGER 

RE: PRESENTATION ON SALMON AQUACULTURE RESEARCH AT THE NEXT
AQUACULTURE POLICY STUDY GROUF (APSG) MEETING.

As a member of the APSG and on behalf of Representative Terry Gardiner, this is to request your attendance at the next APSG meeting to give a presentation on aquaculture research activities of your agency. Date of the meeting has not been announced but it will probably be in late November. Please check with John Williams of the Legislative Affairs Agency for the time slot for your presentation.

In addressing aquaculture policies, the Group may wish to make recommendations on future research directions and responsibilities. Accordingly, it will be useful reference for us if you can present the following information:

- research objectives
- research facilities
- current and planned research programs
- bibliography of research publications
- method of disseminating research results
- recommendations for future research directions and responsibilities

If you have any suggestions for modifications of the presentation format, please give me a call.

DP/pd

cc: Dr. Bob Burkett
Representative Terry Gardiner
Mr. Robert Simpson
Mr. John Williams

Miller & Associates, Inc. CONSULTANTS

PLANNING • MANAGEMENT • FINANCIAL ANALYSIS

EVERGREEN PLAZA BUILDING • 711 SO. CAPITOL WAY • OLYMPIA, WASHINGTON 98501 • (206) 943-3885

October 31, 1978

Representative Terry Gardiner
Chairman
Aquaculture Policy Study Group
Alaska State Legislature
Juneau, Alaska 99901
Pouch 0

Dear Representative Gardiner;

The firm of Miller and Associates, Inc. is pleased to have this opportunity to propose an economic analysis of the Alaskan salmon fishery.

It is our understanding that the State of Alaska has made a policy decision to restore Alaskan salmon runs to their historic high levels.

A decision of this nature will require not only the restoration of certain wild runs but also the creation of new runs through artificial propagation. The question becomes one of whether the cost of such an overall restoration is economically advantageous to the State of Alaska.

We believe the economic analysis of this issue is indeed a critical one. Traditional economic analyses of salt water fisheries have tended to focus on ex-vessel prices paid to fishermen and the value added to the product through canning or other market preparation activities.

We do not believe that this approach to economic analyses of the saltwater fishery adequately records the full value of the fishery.

For example, these traditional economic analyses do not recognize that the State of Alaska receives substantial tax revenues from the salmon fishery. This revenue comes from income taxes and fees paid by fishermen and processors and their employees and suppliers as well as from the indirect employment and economic wealth which results from the fishery.

In addition to the substantial tax revenues to the State which could accrue from a revitalized salmon fishery, there are hidden governmental costs in the form of unemployment compensation and welfare payments which could be reduced as a result of an economically healthy fishery. These costs are again not generally recognized in traditional economic analyses of the fishery.

There are social considerations, which while difficult to place an economic value upon, should be fully recognized in an economic analysis of the fishery. Salmon fishing is a part of Alaskan culture. If the resource is allowed to dwindle, many fishing villages, towns and cities would either cease to exist or be substantially changed because there are no viable alternative economic pursuits available at these locations. The loss of these communities would unalterably change the basic social and cultural character of the state.

The subsistence fishery which is inseparable from much of Alaskan native American culture as well as the recreational fishery could both be irreparably harmed by a dwindling supply of harvestable salmon.

We have listed several of the major factors which we believe must be addressed in order to fully value the salmon fishery. The work plan, schedule and cost to perform this economic and social analysis are set forth in the subsequent sections of this proposal.

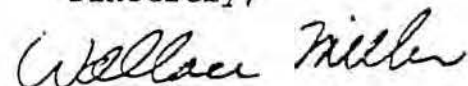
We believe the firm of Miller and Associates, Inc. based upon our economics and financial planning work for the Washington State Department of Fisheries and the Presidential Task Force on Northwest Fisheries is highly qualified to perform the proposed plan.

To assure the effective performance of the proposed economic analysis, we have reached agreement with William R. Wilkerson, an attorney with the Tacoma law firm of Eisenhower, Carlson, Newlands, Rega, Henriot and Quinn, to participate in all elements of the project. Mr. Wilkerson brings considerable economic, legal and governmental experience to this team, as well as much practical fisheries management experience. Most recently he has served as Chief Negotiator for the State of Washington in federal-state-tribal efforts to reach settlement of the Northwest fisheries dispute. He also served as Chairman of the Governor's Task Force for Fishing Industry Assistance (1975-76), which developed a major economic relief program for depressed Washington fisheries.

The time schedule to accomplish the work in this proposal is designed to provide information to assist and advise the 1979 session of the Alaska State legislature.

We look forward to working with you on this critically important economic and social issue.

Sincerely,



Wallace G. Miller
President

WORK PLAN

The following is a series of tasks which Miller and Associates, Inc. proposes to perform in order to establish the economic and social value of expanding the Alaskan salmon fishery. This value will in turn be compared to the investment which will be required to finance this expansion.

Investment sources as well as alternative repayment mechanisms are also included in the study.

TASK #1 - Review and coordinate estimates of salmon fishery potential for expansion.

The Alaskan salmon fishery achieved historic catch levels well in excess of 100 million salmon. The Alaskan Department of Fish and Game (ADFG) estimates indicate that a salmon fishery in excess of 100 million salmon is possible. Regional Aquaculture Associations and the state have or are in the process of developing regional plans and estimates of the salmon catch potential of their regions. The historic high catch levels, the ADFG estimates and the regional aquaculture associations estimates will undoubtedly differ in the total number of attainable harvestable salmon. These historic highs and estimates will also likely differ in the species makeup as well as the actions which are necessary to restore the fishery. Some may propose, for example that the depleted salmon fishery can be restored entirely through the build-up of natural runs. Others will propose to assist the restoration of the natural runs through such actions as stream rehabilitation and stock re-planting as well as the use of a variety of artificial propagation methods which are necessary to develop new runs in areas when natural runs cannot be adequately restored.

These currently differing views as to the species makeup, the total potential catch level, and the cost of restoring the runs to historic levels need to be reconciled into a single estimate which can be used as a basis for the economic analysis of the fishery.

The Contractor proposes to accomplish this task by taking the following steps.

The Contractor proposes to meet with the regional aquaculture associations and review their estimates and plans for restoring the salmon runs within their regions. If plans and estimates have not been completed, the Contractor will work with knowledgeable local association members and assist in the development of these estimates.

The Contractor will next meet with ADFG and review their estimates of potential regional run sizes, by species, as well as their estimates of cost to accomplish the restoration.

The Contractor will compare estimates of run sizes and costs and attempt to resolve any differences. If all differences are not resolved, both estimates of the restoration potential and the restoration cost (ADFG and the regional association) will be included in the next steps of the economic analysis.

Upon completion of Task #1, the Contractor would meet with the Aquaculture Policy Study Group (APSG) to review the estimates of the potential for restoring salmon runs to their historic high as well as the estimates of the cost for accomplishing the restoration. Based upon the advise and comments received from the APSG the Contractor would incorporate appropriate changes and proceed with Task #2.

TASK #2 - Economic analysis.

The economic analysis would be developed based upon performing the following steps.

Step I - The build-ups to potential run sizes will be spread out by region, by species over the number of years required to achieve that potential.

Step II - Estimates of the proportion of potential run sizes attributable to fishery restoration efforts (e.g. stream rehabilitation and artificial propagation) will be developed by region, by species, by year.

Step III - The estimated investment in stream rehabilitation and artificial propagation facilities required to achieve the potential run sizes, by region, by species will be spread out over the number of years required to achieve that potential. Annual operating costs will be separately estimated.

Step IV - The information from Step II will be compared with that contained in Step III. The increase in run sizes resulting from stream rehabilitation, artificial propagation and other restorative efforts will be compared to the financial investment required to achieve this increase. This information will be broken down by region.

Step V - An analysis will be conducted on the information contained in Step IV. Basically this information will indicate the amount of regional investment required to develop salmon runs for the area. This data in turn will

be used to develop estimates of the increases in fishermen's incomes, community direct and indirect employment and general economic wealth which will result from the salmon restoration program.

Estimates of the additional tax and other revenues accruing to the State of Alaska will be made as a result of the additional economic activity. Savings to the state resulting from reduced unemployment compensation, welfare and other payments will be made.

Step VI - Based upon the information contained in Step V, an investment break-even analysis of the salmon restoration program will be conducted. In this investment analysis the annual principal and debt service on the restoration investment and the annual operating cost of the restoration facilities will be compared to the additional tax and other revenue plus the reduced cost of government (i.e. unemployment compensation, welfare, etc.) which will accrue to the state.

Step VII - In order to convert the basis investment analysis contained in Step VI into the final economic and social analysis a number of adjustments must be made. These are: (1) to the extent that regional associations through pass-along assessments, the Federal Forest Service appropriations or other federal programs contribute to the salmon restoration investment and/or annual operating costs, these investments should be deducted from the investment and operating cost break-even figures contained in Step VI. (The resulting annual investment and operating cost estimates after these deductions are made represents an approximation of the net "bottom-line" investment to Alaskans for the salmon restoration program.

(2) The revenue to the State of Alaska, or government cost savings side of the equation must also be adjusted. The first adjustment is for the "value" of an enhanced sports fishery and subsistence fishery. (Several methods for valuing these fisheries will be developed for review and discussion with the APSG prior to the selection of the final method to be used in the analysis). A second adjustment should also be made to the increased revenue/government cost savings side of the equation. The maintenance of the small salmon fishing communities has both a cultural as well as an economic benefit to Alaska. The question which must be answered in this adjustment is, what would it cost the state in economic development programs, training programs and other activities to sustain these communities at the same level of economic health as the restored salmon fishery, if the salmon fishery were not restored.

Adjustments (1) and (2) will be made to the investment break-even analysis and the final resulting economic analysis will be presented to the APSG for review and discussion. A methodology will also be developed which will provide the capability to perform economic assessments of individual rehabilitation projects in accordance with the procedures set forth in this proposal.

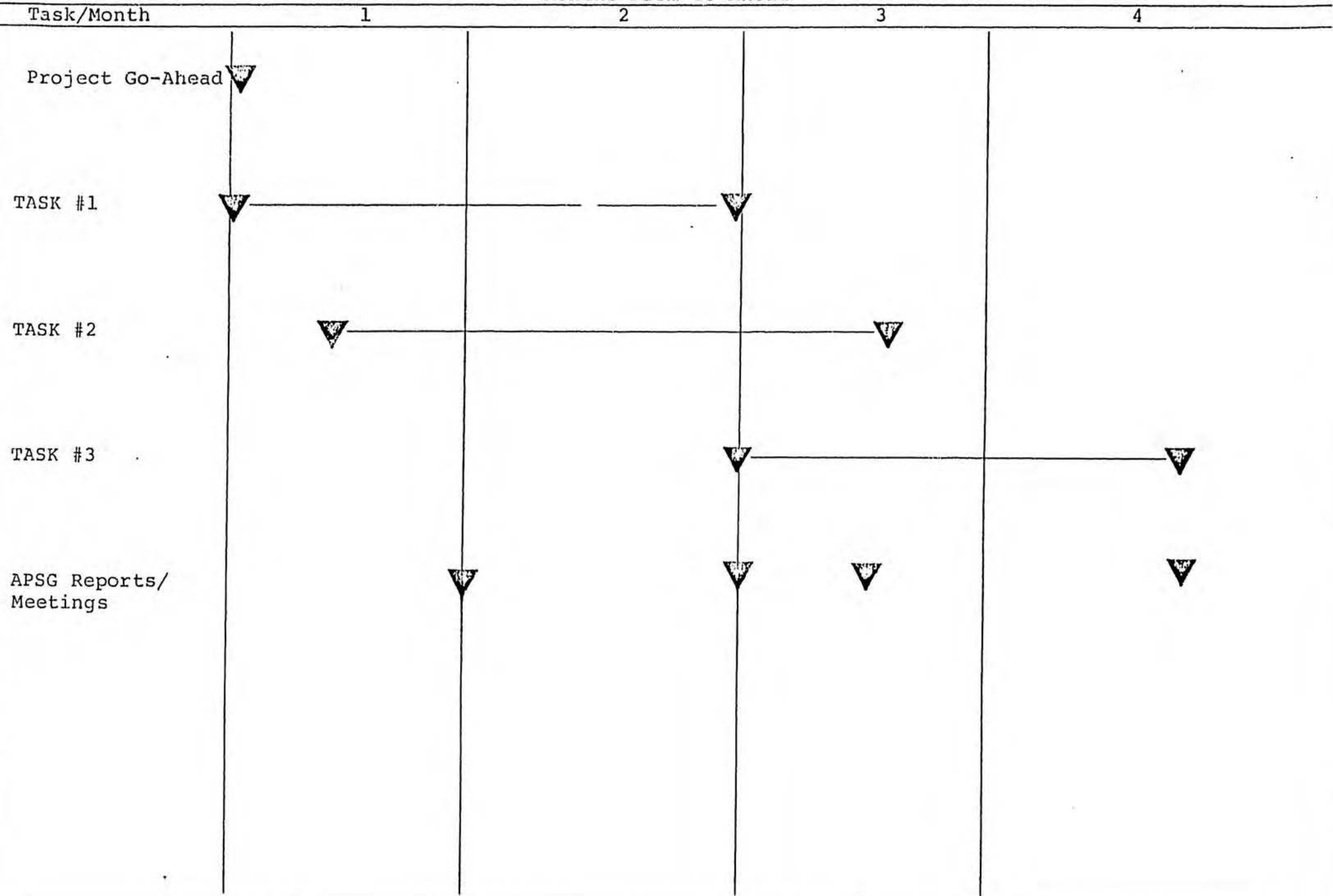
TASK #3 - Study documentation.

Upon completion of the proposed study as outlined, the Contractor will formally document the study findings and conclusions.

SALMON RESTORATION PROGRAM ANALYSIS

MASTER SCHEDULE

Months From Go-Ahead



SALMON RESTORATION PROGRAM ANALYSIS

ESTIMATED COST

<u>Direct Labor</u>	<u>Hours</u>	<u>Rate/Hour</u>	<u>Total</u>
TASK #1			
W. Miller (Project MGR)	100		
W. Wilkerson (Project Consultant)	90		
TASK #2			
W. Miller	160		
W. Wilkerson	80		
TASK #3			
W. Miller	80		
W. Wilkerson	80		
Total Direct	590	\$60.00	\$35,400.00
Other Direct Expenses:			
Travel			
8 RT Seattle to Juneau			1,656.00
Regional Travel (Estimated cost of travel to visit regional aquaculture association etc.)			1,000.00
Per Diem			
40 Days			1,800.00
Total Other Direct Expenses			4,456.00
TOTAL ESTIMATED COST			\$39,856.00

FIRM EXPERIENCE

AND

PERSONAL RESUMES

FIRM EXPERIENCE

The firm of Miller and Associates, Inc., was formed in May, 1975. The founder of the firm, Mr. Wallace G. Miller, is the former Budget Director for the State of Washington. As Budget Director, Mr. Miller became involved in establishing sound governmental planning, budgeting, and administrative practices within state government. In the process of developing effective, modern management systems, Mr. Miller acquired an extensive knowledge of governmental policies, programs, and administrative procedures. In order to share his knowledge and continue to assist units of government in solving their management and administrative problems, he formed Miller and Associates, Inc., a firm organized to serve government with a high standard of excellence.

The following consulting contracts awarded Miller and Associates, Inc., indicate that we have the experience necessary for successfully completing the proposed work and are typical of the capabilities of Miller and Associates, Inc.:

WASHINGTON STATE LEGISLATURE - Prepared a comprehensive fiscal, management and program review of the primary and secondary public education systems of the State of Washington. This comprehensive review resulted in several important pieces of new legislation being enacted. The prospect is for additional legislation to be proposed in future sessions of the Washington State Legislature.

OFFICE OF THE GOVERNOR, STATE OF ILLINOIS - Conducted an extensive study of the budgetary and fiscal management policies and practices of the Chicago Public School System and the Chicago Board of Education. This study covered employee compensation and staffing for all the district's educational and service programs, the district construction program as well as the Chicago system of taxation. Study results are still being reviewed with the likelihood that many of the recommendations will be implemented.

WASHINGTON STATE DEPARTMENT OF SOCIAL AND HEALTH SERVICES - Developed a new concept for the delivery of mental health care in the State of Washington. Drafted a State Mental Health Financial Plan based upon this concept which will be implemented during the next three years.

WASHINGTON STATE DEPARTMENT OF FISHERIES - Developed a comprehensive financial plan and bond issue to finance a major construction program aimed at greatly increasing the number of artificially and naturally propagated salmon in Washington State. Current estimates indicate the construction program will be in the range of \$40 million.

WASHINGTON STATE OFFICE OF COMMUNITY DEVELOPMENT - Conducted an evaluation of the Indian Employment and Economic Assistance Program to determine the effectiveness of the program in assisting Indians in achieving employment and economic self-sufficiency goals.

WASHINGTON STATE DEPARTMENT OF VETERANS AFFAIRS - Developed a master plan for state-wide delivery of services and prepared an overall financial plan and budget to assist the newly formed agency in becoming established.

WASHINGTON STATE DEPARTMENT OF SOCIAL AND HEALTH SERVICES - Conducted a review of the current method of distributing State support for county probation programs and developed several alternative funding methods which would ensure greater funding equity among the counties and improved program financial stability.

WASHINGTON STATE BOARD FOR COMMUNITY COLLEGE EDUCATION - Conducted an evaluation of the Council on Post Secondary Education's recommended revisions to the higher education instruction budget formula and their financial impact on two-year institutions.

WASHINGTON STATE HOSPITAL COMMISSION - The firm was engaged to conduct an extensive review of the State Hospital Commission's budgetary policies and accounting methodology for providing growth and development allowances in the rates charged by non-profit hospitals. This study has been favorably received in two national healthcare publications.

SPOKANE COUNTY COMMISSION - Conducted a management and organization study of the Motor Vehicle Licensing Section of the Spokane County Auditor's office. The study involved an analysis of the organization, workload, and operating procedures of the Motor Vehicle Licensing Section and included specific recommendations for improving the efficiency and effectiveness of the program.

WASHINGTON STATE SUPERIOR COURTS - Completed a comprehensive cost-benefit analysis of a proposed management information system for the twenty-eight Superior Courts in the State of Washington. This study has been cited by the National Center for State Courts as a model cost-benefit analysis of judicial information systems.

PRESIDENTIAL TASK FORCE ON NORTHWEST FISHING PROBLEMS - Recently completed a contract to provide overall management services in support of the U.S. Departments of Justice, Interior and Commerce which have joint responsibilities assigned by the President to seek solutions to the fishing problems.

WASHINGTON COMMISSION FOR THE HUMANITIES - Developed a financial management and control system, a procedures manual and administrative management system to ensure accountability, control and efficiency.

STATE CAPITOL MUSEUM - Will shortly be completing a study of the feasibility of making the State Capitol Museum financially self-supporting through the sale of various types of merchandise including reproductions of antique furniture.

ILLINOIS STATE LEGISLATURE - Developed a master plan for the implementation of an automated state-wide financial reporting system for the Illinois State Legislature. Work is underway in installing that system.

U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE - Currently completing a study of implementation of Title IX of the Education Amendments of 1972 in the states of Alaska, Washington, Idaho and Oregon.

SPOKANE COUNTY COMMISSION - Currently under contract to reorganize the staffing patterns and work flow processes of the County Treasurer's Office. The study emphasizes greater efficiency, improved investment earnings and more timely financial status reporting.

Wallace G. Miller, President
Miller and Associates, Inc.

Education

B.S., Accounting
Montana State University, 1957

MBA, Business Administration
University of Washington, 1964

Professional Experience

Mr. Miller recently served as Project Director for the Presidential Task Force on Northwest Fishing Problems. Major contracts completed include a statewide study of the Washington public education system for the Washington State Legislature, a study of the Chicago public education system for the Governor of Illinois, and a financial plan for a state salmon enhancement program as well as other projects described in the "Firm Experience" statement.

Prior to forming Miller and Associates, Inc., Mr. Miller was the Budget Director for the State of Washington, reporting to Governor Daniel J. Evans. While Budget Director he also held the responsibility of Director of State Planning and Director of State Accounting. In his capacity as Budget Director, Mr. Miller directed the efforts of over 80 planners, budget analysts, accountants and other professional personnel in administering the State's planning and fiscal affairs. During the eight years he managed the State's fiscal affairs (first as an assistant director, later as deputy director and then as director), no increases in basic business and individual taxes were necessary to finance the state budget.

During his career with the state, Mr. Miller developed many new budgeting systems and concepts. The Program Decision System, which was implemented in 1974 is one of the most modern program budgeting systems in the nation. Mr. Miller was also a pioneer in the development of remote job entry systems for use in state fiscal management. In the field of planning, Mr. Miller initiated the Alternatives for Washington Program, a new concept in state planning based upon citizen involvement, which has been copied by other states.

Mr. Miller is the author of a number of publications on planning and budgeting systems for state and local government which have received national recognition.

Mr. Miller, until recently, served for a number of years as an advisor to the University of Washington Graduate School of Business for accounting curriculum development.

Prior to joining the State of Washington, Mr. Miller spent nine years in various financial management positions with The Boeing Company.

WILLIAM R. WILKERSON

Biographical Data

Born Seattle, Washington, March 2, 1946. Primary and secondary education in Seattle public schools. Bachelor of Arts degree from University of Washington (History and Economics majors), 1968. Doctor of Jurisprudence (JDS) degree from University of Oregon School of Law, 1971. Admitted to practice of law in the State of Washington, 1971.

Spent four years in federal practice in Washington, D.C. Served as Assistant Director, Office of Domestic Business Policy, U.S. Department of Commerce; Legislative Counsel for International Economic Policy, Executive Office of the President; and, Special Assistant to the General Counsel, U.S. Small Business Administration. Administrative and legislative practice, involving development of international trade policy, economic development policy and planning, and business regulation (including environmental, labor, tax and trade policy).

In private practice in Olympia, Washington, from January 1975 to September 1978. Primary practice included assisting business and state agencies in resolving problems with the federal government, economic development planning, small business financing, environmental planning, and natural resources development. Served as Chairman of Governor's Task Force on Fishing Industry Assistance (1975-1976), Chairman of the Governor's Advisory Committee on Regulatory Reform (1976), and most recently as Chief Negotiator for the State of Washington on federal-state-tribal settlement activities involving Northwest treaty fishing rights.

In September of 1978, associated with the law firm of Eisenhower, Carlson, Newlands, Reha, Henriot & Quinn in Tacoma, Washington. Major fisheries and natural resource oriented clients have included the Washington Department of Fisheries, Southern Southeast Alaska Regional Aquaculture Association, Martin-Simonds and Associates, CH₂M Hill, and the the Office of the Governor of the State of Washington. Major clients with environmental and economic development concerns have included the Washington Department of Commerce and Economic Development, the Pacific Northwest Regional Commission, and the U.S. Small Business Administration.

Currently serving as Vice-Chairman of the U.S. Small Business Administration's Regional Advisory Council, Chairman of the Regulatory Task Force of the Association of Washington Business, and as an advisor to the Director of the Washington Department of Fisheries for long-term planning.

11/29/78

Wm. Heard Handout
to accompany booklet document

NMFS CURRENT YEAR TASK PLAN
TASK NARRATIVE

PAGE OF PAGES

10 of 11

DATE PREPARED

11-24-78

Alaska Salmon Aquaculture (Ocean Ranching)

31. CYTP NUMBER
NWC-311.00-79-XX

32. NARRATIVE DESCRIPTION OF TASK (limit to 500 words)

This task focuses on salmon aquaculture (Ocean Ranching) in Alaska, a region with high interest and much current activity in hatchery development, both in the public and private sectors. Major areas of concern include: (1) biological factors and management strategies affecting marine survival, ocean migration patterns and distribution of juvenile salmon; (2) concepts of brood stock development including behavioral aspects of juvenile imprinting and adult homing, genetic considerations of relict, endemic and transplanted stocks of salmon; (3) biological, environmental and management interactions of hatchery - wild stock relationships and (4) other relevant priority research needs of developing ocean ranching programs in Alaska including those of the State of Alaska, private non-profit hatcheries and Regional Aquaculture Associations. Specific activities at research facilities located at Little Port Walter and Auke Creek currently are focused on pink, coho and chinook salmon with less emphasis on chum and sockeye salmon. Attention is directed toward carefully evaluating important elements of fish culture technology on the marine life stages of juvenile salmon. The effects of specific incubation and rearing treatments on ocean survival is determined through releases of fin-marked and coded wire tagged groups of fry and smolts. Marked returning adult salmon are sampled in various fisheries and at fish weirs across streams.

Contract activities planned for this fiscal year include: a construction and materials contract for completion of alternates 1 and 2 of the replacement-renovation of Auke Creek weir; a feasibility engineering contract for modifying and upgrading Sashin Creek weir; a research contract on historical aspects of salmon aquaculture in Alaska; a research contract for detailed analysis of salmon scales possibly reflecting marine environmental variables and a research contract for freshwater ecology studies on sockeye salmon in the Nushagak district of Bristol Bay.

NMFS CURRENT YEAR TASK PLAN

PAGE OF PAGES

6 of 7

TASK NARRATIVE

DATE PREPARED

Alaska Salmon Aquaculture (Estuarine Determinants of Salmon Survival)

11/24/78

31. CYTP NUMBER

NWC-310.00-79-XX

32. NARRATIVE DESCRIPTION OF TASK (limit to 500 words)

The long-range objective of this task is to evaluate hypotheses on causes of variable marine survival of pink and chum salmon fry. Marine survival of pink salmon fry, for example has varied over 20-fold in 7 years of record at Auke Creek and has varied over 75-fold in 37 years of record at Sashin Creek. The study is coordinated with the ABL marine ecosystems program, Causes Underlying Recruitment Variability in Ecosystems (CURVES) and interfaces with that program to obtain ecosystem data and descriptive oceanography, share vessel time, and share information on larval and juvenile fish, predators, and competitors of the estuarine ecosystem. Pink and chum salmon were selected as target species because of their role in developing public and private aquaculture; their relative and potential enhanced abundance in the larval and juvenile fish populations; and the probability of significant impacts on estuarine ecosystems due to enhanced abundance. The knowledge gained from these studies will form an essential element of the information base needed by the North Pacific Fishery Management Council in evaluating and forecasting the impact of natural and man-caused factors upon marine resources and by the Regional Aquaculture Associations in planning and implementation of salmon enhancement projects. Laboratory studies will seek to describe feeding tactics, digestion rates, and food requirements of fry under known ecological conditions. Field studies will include bioassays of selected estuarine habitats using calibrated hatchery fry. Hypotheses of brood year success will be developed from historical commercial catch statistics, scale analyses, and other project data and will ultimately be examined with the aid of computer simulation models of the ecosystem using inputs from the CURVES program.

This is the first year of a planned reorientation of research personnel and resources from Alaskan Salmonid Aquaculture (Ocean Ranching) and other programs into the Salmon CURVES task. The reorientation will include completion of cooperative studies with the State of Alaska for evaluation of Lake Nunavaugaluk salmon enhancement; upgrade of the Auke Creek weir; and selection and testing of equipment and techniques for the field and laboratory studies. Field studies will be conducted primarily at Auke Bay with additional sites at Lisianski Inlet and Tenakee Inlet to be studied less intensively to represent differences in the ecosystem associated with relative proximity to the Gulf of Alaska.

Contract activities that are planned for this fiscal year are as follows: Continuation of \$50 k contract to University of Washington, FRI, to evaluate use of artificial fertilizers to increase sockeye salmon smolt production from the lakes of the Nushagak District, Bristol Bay, Alaska.

Heard 2nd Handout Bibliography

Partial Listing of Publications, Manuscripts, Reports, and Documents^{1/}
Related to Salmon Aquaculture Research Activities of the Auke Bay Laboratory.

-November 29, 1978-

- Anonomous. 1974. A demonstration project of coho salmon production by stocking fry in unutilized lakes. Unpubl. Manuscr., 13 p. Northwest and Alaska Fisheries Center Auke Bay Laboratory, National Marine Fisheries Service, NOAA, Auke Bay, Alaska 99821.
- Bailey, J. E. 1964. Incubation of pink salmon eggs in a simulated intertidal environment. In Proceedings Northwest Fish Culture Conference pp. 78-89.
- Bailey, J. E. 1964. Russian theories on the inferior quality of hatchery reared chum salmon fry. Prog. Fish-Culturist 26(3):130.
- Bailey, J. E. 1971. The low temperature threshold for pink salmon eggs in relation to a proposed hydroelectric installation. Fish. Bull. 69(3):587-593.
- Bailey, J. E. 1973. Pink salmon fry production in Alaska, 1973. In Proceedings twenty-third annual northwest fish culture conference. pp. 4-6.
- Bailey, J. E. 1977. Salmon ranchers dilemma--the impending fungicide crisis. In Proceedings of the Second Alaska Aquaculture Conference, pp. 65-69. Univ. of Alaska Sea Grant Program, Sea Grant Report 77-7.
- Bailey, J. E. and W. R. Heard. 1973. An improved incubator for salmonids and results of preliminary test of its use. NOAA Tech. Memo. NMFS ABFL-1. 7 p.
- Bailey, J. E. and S. G. Taylor. 1974. Salmon fry production in a gravel incubator hatchery, Auke Creek, Alaska, 1971-72. NOAA Tech. Memo. NMFS ABFL-3. 13 p.
- Bailey, J. E. and S. G. Taylor. 1974. Plastic turf substitute for gravel in salmon incubators. Marine Fisheries Review 36(10):35-38.
- Bailey, J. E., J. J. Pella, and S. G. Taylor. 1975. Report of progress on a pilot study of the feasibility of producing high quality salmon fry from artificial environments--1974 brood fry production. Unpubl. manuscr., 31 p. Northwest and Alaska Fisheries Center Auke Bay Laboratory, NOAA, Auke Bay, Alaska 99821.
- Bailey, J. E., B. L. Wing, and C. R. Mattson. 1975. Zooplankton abundance and feeding habits of fry of pink salmon, Oncorhynchus gorbuscha, and chum salmon, Oncorhynchus keta, in Traitors Cove, Alaska, with speculations on the carrying capacity of the area. Fish. Bull. 73(4):846-861.

- Dahlberg, M. L. and Y. Sheng. 1977. Carrying capacity of nursery lakes for sockeye salmon, field operations report 1976. Unpubl. Manusc., 12 p. Northwest and Alaska Fisheries Center Auke Bay Laboratory, National Marine Fisheries Service, NOAA, Auke Bay, Alaska 99821
- Dahlberg, M. L. and G. J. Thomason. 1976. Carrying capacity of nursery lakes for sockeye salmon, field operations report for 1975. Unpubl. Manusc., 23 p. Northwest and Alaska Fisheries Center Auke Bay Laboratory, National Marine Fisheries Service, NOAA, Auke Bay, Alaska 99821
- Dahlberg, M. L., J. E. Bailey, and W. S. Pinette. 1978. Evaluation of three methods of handling gametes of sockeye salmon for transport to incubation facilities. Prog. Fish-Culturist 40:71-72.
- Dewey, R. 1978. Advantage of open containers for the short-term storage of chilled steelhead trout (Salmo gairdneri) sperm. Unpubl. Manusc., 5 p. Northwest and Alaska Fisheries Center Auke Bay Laboratory, National Marine Fisheries Service, NOAA, Auke Bay, Alaska 99821
- Dewey R. (in preparation) Advantage of short-term rearing in the enhancement of sockeye salmon (Oncorhynchus nerka) smolt production. M.S. Thesis. Oregon State University.
- Heard, W. R. 1973. Studies on 1966 brood year pink salmon, Oncorhynchus gorbusha, and survival of their progeny in intertidal spawning channels, Lovers Cove Creek, Alaska. Unpubl. Manusc., 39 p. Northwest and Alaska Fisheries Center Auke Bay Laboratory, National Marine Fisheries Service, NOAA, Auke Bay, Alaska 99821
- Heard, W. R. 1977. Incubation and fry-to-smolt rearing of coho salmon in salt and freshwater in Alaska. In Proceedings of the 1977 Northeast Pacific chinook and coho salmon workshop. Fisheries and Marine Service Tech. Rept. No. 759:151-160.
- Heard, W. R. 1978. A perspective for Alaska salmon. Unpubl. Manusc., 24 p. Northwest and Alaska Fisheries Center Auke Bay Laboratory, National Marine Fisheries Service, NOAA, Auke Bay, Alaska 99821
- Heard, W. R. in press. Fry-to-smolt culture of coho salmon in Little Port Walter estuary, southeastern Alaska. CRC press, Handbook of Marine Science, Section III Mariculture.
- Heard, W. R. and R. A. Crone. 1976. Raising coho salmon from fry to smolts in estuarine pens, and returns of adults from two smolt releases. Prog. Fish-Cult. 38:171-174.
- Heard, W. R. and R. M. Martin. 1973. Progress report on the feasibility of salmon smolt production in estuarine husbandry pens at Little Port Walter, July 1-December 31, 1972. Unpubl. Manusc., 18 p. Northwest and Alaska Fisheries Center Auke Bay Laboratory, National Marine Fisheries Service, NOAA, Auke Bay, Alaska 99821