ALASKA LEGISLATURE COMMITTEE FILES 1987-1988 8672
4993 HRES HJR 15 - HJR 29

Pacific Ocean, and the North Pacific Fisheries Act of 1954 (16 U.S.C. 1021 et seq.) if the Secretary stations—

"(A) at least two research observers aboard each fish processing vessel serving such harvesting vessels; and

"(B) a sufficient number of research observers aboard such harvesting vessels to ensure that an adequate sample is obtained to estimate, with 95 percent confidence, the number of fish, marine mammals, seabirds and other living marine resources harvested or killed and discarded or lost by such vessels.

The costs of providing such research observers shall be included in the surcharge imposed under section 201(i)(4).";

and

(4) by redesignating paragraphs (3) through (6) as paragraphs (4) through (7), respectively.

(b) Section 204(b)(6) of the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1824(b)(6)) is amended by adding at the end thereof the following:

"(C) The Secretary shall not approve any permit for a vessel aboard which the facilities for quartering of any United States observer required by section 201(i) or for carrying out the functions of such observer are determined by the Secretary

to be so inadequate that the health, safety, or welfare of such observer cannot be assured.".

(c) The Secretary shall—

(1) immediately initiate, through the Secretary of State, negotiations with each foreign government that conducts, or authorizes its nationals to conduct, driftnet fisheries that result in the taking of living marine resources of the United States in waters off the coasts of the United States, for the purpose of arranging for reliable cooperative monitoring and assessment, with 95 percent confidence, of the numbers of fish, marine mammals, seabirds, and other living marine creatures killed and retrieved, discarded, or lost by the government's driftnet fishing vessels in waters beyond the jurisdiction of the United States;

(2) not issue any permit under section 204(b) of the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1824(b)) for fishing, other than to receive at sea or transport United States harvested fish from vessels of the United States, to any vessel of any foreign government that fails, within one year after the date of enactment of this Act, to enter into an arrangement under paragraph (1) that is determined to be adequate by the Secretary after consultation with the Secretary of State, except that the Secretary may deny

any such permit to receive at sea or transport United States harvested fish for any vessel of any foreign government that fails, within two years after the date of enactment of this Act, to enter into such an arrangement; and

(3) provide to the Congress by not later than one year after the date of enactment of this Act a full report on the results of the Secretary's efforts under this section.

IMPACT REPORT

SEC. 5. The Secretary shall provide to the Congress, within one year after the date of enactment of this Act, and every twelve months thereafter, a report identifying the nature, extent, and impact upon living marine resources of all driftnet fisheries in waters off the coasts of the United States, both within and beyond the exclusive economic zone of the United States (as defined in section 3(6) of the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1802(6)). The report shall include the best available information on the number and flag state of vessels involved, the areas fished, the length, width, and mesh size of driftnets used, the target species, and the number of fish, marine mammals, seabirds, and other living marine creatures killed by such fishery, as well as any other information the Secretary considers appropriate. The Secretary, through the Secretary of State, shall request such information for inclusion in such

report from the relevant foreign governments and shall include in such report an evaluation of the adequacy and reliability of the data and estimates received from such governments or other sources.

ENFORCEMENT AND FOREIGN FISHING PERMIT FEES

SEC. 6. Section 204(b)(10) of the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1824(b)(10)) is amended by adding at the end thereof the following:

"(G) The Secretary shall include in the determination of the total costs of carrying out the provisions of this Act the costs of an effective enforcement program for the exercise of exclusive management authority and, in particular, to ensure the conservation and management of all anadromous species throughout their migratory range, consistent with section 101 of this Act. The Secretary shall consult at least annually with the Secretary of the department in which the Coast Guard is operating to determine the costs of an optimally effective enforcement program so that it can be reflected in and fully recovered through the schedule of fees established pursuant to subparagraph (A).".

NET BOUNTY SYSTEM

SEC. 7. The Secretary shall promulgate regulations to implement a net bounty system to pay persons who retrieve

from the marine waters of the United States and deposit with the Secretary, or the Secretary's designee, lost, abandoned, or discarded driftnet or other plastic fishing net material. The Secretary shall make such payments for this purpose as the Secretary determines to be appropriate from the Fishing Vessel and Gear Damage Compensation Fund established under section 10 of the Fishermen's Protective Act of 1967 (22 U.S.C. 1980) to the extent and in such amounts as are provided in advance in appropriation Acts.

NET MARKING, REGISTRY, AND IDENTIFICATION SYSTEM

SEC. 8. (a) The Secretary shall, in consultation with officials of other Federal agencies and such other persons as may be appropriate, evaluate the feasibility of and develop recommendations for: (1) the establishment of a driftnet marking, registry, and identification system to provide a reliable mechanism for the determination of the origin by vessel, if possible, of lost, discarded, or abandoned driftnets and fragments of driftnets; (2) the establishment of a cooperative driftnet fishing vessel tracking system making use of transponders aboard such vessels and satellites or other equipment and techniques to facilitiate cooperative efforts to monitor the location of driftnet fishing vessels; and (3) the use of biodegradable or other materials in a portion or all of the driftnet that would accelerate the decomposition of driftnets left to float at sea and thereby reduce the hazards such driftnets pose to living marine resources.

(b) The Secretary shall provide to the Congress, not later than six months after the date of enactment of this Act, a report setting forth—

(1) the evaluations and recommendations developed under subsection (a) of this section;

(2) the most effective and appropriate means of implementing such recommendations;

(3) the need, if any, for further research and development efforts and the estimated cost and time required for completion of such efforts; and

(4) the need, if any, for legislation to provide authority to carry out such recommendations.

SEABIRD PROTECTION ZONE

SEC. 9. (a) There is established a seabird protection zone surrounding the Aleutian Islands off Alaska within which no driftnet fishing is permitted. The inner boundary of the zone is a line coterminous with the low water line on the shore of each of the Aleutian Islands and the outer boundary of the zone is a line drawn in such a manner that each point on the line is no less than sixty miles from the inner boundary line, except to the extent that such outer boundary would extend beyond waters or territory subject to the jurisdiction of the United States.

(b) The Secretary, in cooperation with the Secretary of the department in which the Coast Guard is operating, shall enforce the prohibition against driftnet fishing in the seabird

protection zone established under subsection (a) of this section. Any such driftnet fishing within the zone shall constitute, be treated as, and be deemed to be a prohibited act under section 307 (16 U.S.C. 1857) and subject to sections 307 through 311 of the Magnuson Fishery conservation and Management Act (16 U.S.C. 1857–1861) relating to enforcement and penalties for such prohibited acts.

(c) The Secretary, after consultation with the Secretaries of State and the Interior, may modify by regulation the inner and outer boundaries of the seabird protection zone established under subsection (a) of this section if the Secretary determines, after notice and an opportunity for comment, that such modification will provide an equal or greater degree of protection for seabirds. The Secretary shall not modify the outer boundary of the seabird protection zone to extend beyond waters or territories subject to the jurisdiction of the United States.

CONSTRUCTION WITH OTHER LAWS

SEC. 10. Nothing in this Act shall serve to be construed to expand or diminish the sovereign rights of the United States, as stated by Proclamation Numbered 5030, dated March 10, 1983, and reflected in existing law on the date of enactment of this Act.

○

HJR

23

(9)

Date referred: 3/18/87

FURTHER REFERRALS: 3/27 Rules

DATE: ____________

The Resources Committee has considered HJR 23

Relating to tributyltin.

RECOMMENDS:

[ ] replace with ____________ [ ] the same title

[ ] attached amendment(s) [ ] a new title

[X] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[ ] additional referral to the ____________ Committee

ADOPTS: [ ] ________ letter of intent

ATTACHES NEW FISCAL NOTE(s):

[ ] fiscal impact

[✓] zero fiscal note

[ ] zero with analysis

[ ] same as previous fiscal note published ____________

[ ] same as previous zero fiscal note published ____________

SIGNING DO PASS:

Adelheid Herrman

Heinrich Springer

Mike Navarre

Cliff Davidson

SIGNING OTHER RECOMMENDATIONS:

Adelheid Herrman

Co- Chairman's signature

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

Bill Version : HJR 23
Publish Date :

REQUEST:

Revision Date:
Title : House Joint Resolution relating to tributyltin
Sponsor : Sund & Herrmann
Requestor :

Agency Affected : None
BRU :

Components :

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

POSITIONS:

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

ANALYSIS : (Attach a separate page if necessary)

Prepared by : House Resources Committee
Phone : 465-4942
Division :
Date :

Approved by Commissioner : Adelbreid Herrmann
Date : 3/27/87
Agency : CO-Chair, House Resources Committee

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)
Senate Secretary

page ___ of ___

Official Business

COMMITTEE: House Resource

DATE: 3/27/87

SIGN-IN

Subject of meeting:
HB 138 An Act regulating the sale & use of TBT based marine paints
HJR 23

NAME	ADDRESS	PHONE	REPRESENTING	DO YOU WANT TO TESTIFY?
Douglas Dougan	P.O. Box 0	465-2604	DEC	YES

HJR

27

HOUSE COMMITTEE REPORT

(9)

Date referred: 4/8/87 FURTHER REFERRALS:

DATE: 4/27/87

The Resources Committee has considered HJR 27

Relating to the United States Army Corps of Engineers' permits for dredging or filling wetlands.

RECOMMENDS:

[✓] replace with CSHJR 27 (Res) [ ] the same title

[ ] attached amendment(s) [ ] a new title

[ ] do pass

[ ] do not pass

[ ] no recommendation

] individual recommendations

additional referral to the ______ Committee

ADOPTS: [ ] ______ letter of intent

ATTACHES NEW FISCAL NOTE(s):

[ ] fiscal impact

[ ] zero fiscal note

[ ] zero with analysis

[ ] same as previous fiscal note published ______

[ ] same as previous zero fiscal note published ______

SIGNING DO PASS:

Sam Cotten

Mike Navarre

Bruce Pearce

Dick Shultz

Heinrich Springer

Adelheid Herrmann

SIGNING OTHER RECOMMENDATIONS:

Lyman Hoffman No Rec

[illegible] no rec

Cliff Davidson no rec

Sam Cotten

Chairman's signature

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

STEVE COWPER, GOVERNOR

400 WILLOUGHBY AVE.
JUNEAU, ALASKA 99801-1796
PHONE: (907) 465-2400

April 22, 1987

The Honorable Mike Miller
Alaska State Legislature
P.O. Box V
Juneau, AK 99801

Dear Representative Miller:

The Cowper Administration has no objection to reviewing the 1983 Department of Environmental Conservation report regarding state assumption of the United States Corps of Engineers Section 404 wetlands permitting process, as described in HJR 27. However, we suggest the following amendment to provide Governor Cowper with additional flexibility for reviewing the report. If this amendment is adopted HJR 27 would have minimal fiscal impact on our agencies.

On page three, replace lines 11-16 with the following:

> Further resolved that the Governor is respectfully requested to review the 1983 Department of Environmental Conservation report regarding state assumption and make recommendations regarding state assumption of the United States Army Corps of Engineers Section 404 wetlands permitting process.

Sincerely,

Judith M. Brady, Commissioner
Department of Natural Resources

Dennis Kelso, Commissioner
Department of Environmental Conservation

Don Collinsworth, Commissioner
Department of Fish and Game

cc: George Sullivan
Rod Swope
Rep. Steve Frank

10-J9LH

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

Bill Version : CSHJR 27(Resources)
REQUEST: Publish Date :

Revision Date: 4/27/87
Title : U.S.C.O.E.permitting

Agency Affected : Natural Resources
BRU : Land & Water Management

Sponsor : Miller & Frank
Requester : House Resources Committee

Components :

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING		-0-	-0-	-0-	-0-	-0-
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL		-0-	-0-	-0-	-0-	-0-

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS : (Attach a separate page if necessary)

Existing staff would be able to review the 1983 DEC report and make recommendations concerning state assumption of wetlands permitting authority. However, should the state decide to assume additional permitting responsibilities, a significant amount of increased funding would be necessary.

Prepared by : Carol Wilson
Phone : 465-2400
Division : Commissioner's Office
Date : 4/27/87

Approved by Commissioner : C.J.W. for JMS
Date : 4/27/87
Agency : Natural Resources

Distribution (by preparer) :
- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)
- Senate Secretary

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

Bill Version: CSHJR 27' (Res)

REQUEST: Publish Date:

Revision Date:

Agency Affected: Environmental Conservation

Title: Relating to the U.S. Army Corps of Engineers' Permits for dredging and filling wetlands

BRU: Environmental Quality

Sponsor: Mike Miller

Components: n.a.

Requestor: House Resources

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-
CAPITAL	-0-	-0-	-0-	-0-	-0-	-0-
REVENUE	-0-	-0-	-0-	-0-	-0-	-0-

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS:

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

ANALYSIS : (Attach a separate page if necessary)

Prepared by: Amy D. Kyle Phone: 465-2600

Division: Commissioner's Office Date: 4/27/87

Approved by Commissioner: Date: 4/27/87

Agency: Environmental Conservation

Distribution (by preparer):
- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)
- Senate Secretary

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

REQUEST:

Bill Version: HJR 27
Publish Date:

Revision Date: April 22, 1987
Title: C.O.E. permit assumption by state

Agency Affected: Natural Resources
BRU: Land & Water Management

Sponsor: Rep. Miller and Frank
Requester: Representative Miller

Components:

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING		****	****	****	****	****
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL		***	***	***	***	***

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

*** We estimate that at least 1000.0 would be needed for DNR to assume C.O.E. permitting functions. Until the review of the current C.O.E. process is completed however, we will not be able to provide a meaningful assessment of the true fiscal impact of this resolution.

Prepared by: Carol Wilson
Phone: 465-2400
Division: Commissioner's Office
Date: 4/22/87

Approved by Commissioner: Lenny Gosnell
Date: 4-22-87
Agency: Natural Resources

Distribution (by preparer):
- Legislative Finance
- Legislative Sponsor
- Requester
- Office of Management and Budget
- Impacted Agency(ies)
- Senate Secretary

5-1001B
Bradley
4/23/87

Original sponsors: Miller and Frank

IN THE HOUSE

CS FOR HOUSE JOINT RESOLUTION NO. 27 ( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

FIFTEENTH LEGISLATURE - FIRST SESSION

Relating to the United States Army Corps of Engineers' permits for dredging or filling wetlands.

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

WHEREAS the United States Congress recently renewed legislation known as the Clean Water Act; and

WHEREAS sec. 404 of the Clean Water Act directs the United States Army Corps of Engineers to regulate the discharge of dredged or fill material into the waters of the United States, including wetlands; and

WHEREAS the federal government continues to play a principal role in determining what development may take place on federal, state, and private land in the state because of the high prevalence of wetland areas in Alaska; and

WHEREAS the current regulations often result in decisions that are not in the best interest of the local economy and the state economy as a whole; and

WHEREAS a large percentage of the state's wetlands are caused by underlying permafrost; and

WHEREAS the underlying permafrost and Alaskan climatic conditions cause these permafrost wetlands to freeze solid for up to eight months of the year; and

WHEREAS because of the relatively flat topography of a preponderance of the permafrost wetland areas, water movement in these areas is often localized with no hydrologic connection to any ground or surface body of water; and

WHEREAS, as a result of these soil, climatic, and topographic features, the majority of the state's permafrost wetlands do not provide the beneficial characteristics normally attributed to wetlands, such as a habitat for rearing fish and shellfish, water purification, groundwater recharge, or flood water absorption and release; and

WHEREAS state wetlands provide valuable habitat for migratory waterfowl for three or four months of the year; and

WHEREAS with an estimated 164,000,000 acres of wetlands in the state, limited development on a portion of the wetlands will not effectively restrict the available habitat; and

WHEREAS Alaska's permafrost wetlands are significantly different than wetlands found in the contiguous United States, both in quantity and values, and therefore warrant a different approach with respect to identification, permitting, and protection; and

WHEREAS, in certain permafrost soils, the benefits of surface-to-groundwater filtration and recharge are more efficiently achieved after the permafrost wetlands have been cleared; and

WHEREAS the present United States Army Corps of Engineers sec. 404 wetlands permit process is causing needless delay in development by individual homebuilders, subdivision developers, and state industry in general; and

WHEREAS the delay caused by the necessity of obtaining a sec. 404 permit is compounded by northern Alaska's limited construction season where the loss of 60 to 90 days may cause the loss of an entire construction season; and

WHEREAS the United States Congress has acknowledged Alaska's unique permafrost wetlands characteristics through the exemption of "permafrost soils in Alaska with a high potential for agricultural development" from the "swampbuster" provisions of the Food Security Act of 1985; and

WHEREAS the State of Alaska should direct its own destiny wherever and whenever possible, particularly with regard to the management of state land and assisting individual residents of the state in the management of their privately held land;

BE IT RESOLVED by the Alaska State Legislature that the Governor is respectfully requested to work closely with the Alaska Congressional delegation to secure regulatory recognition and relief from the United States Army Corps of Engineers, Environmental Protection Agency, and the United States Fish and Wildlife Service, for Alaska's unique permafrost wetlands in the sec. 404 dredge or fill permit program; and be it

FURTHER RESOLVED that the Governor is respectfully requested to review the 1983 Department of Environmental Conservation report regarding state assumption of the United States Army Corps of Engineers sec. 404 wetlands permitting process and report the Governor's findings to the legislature within the first 10 days of the Second Session of the Fifteenth Alaska State Legislature.

COPIES of this resolution shall be sent to the Honorable Judith A. Brady, commissioner of natural resources; Colonel Wilbur Gregory, Alaska District Engineer, U.S. Army Corps of Engineers; and to the Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

DEC, Draft 6

CAN NATIONAL WETLAND/MITIGATION LEGISLATION APPLY TO ALASKA? IF NOT, WHY NOT?

BY

ALAN C. EPPS, PROFESSOR OF NATURAL RESOURCES
UNIVERSITY OF ALASKA-FAIRBANKS

Alaska, a state one fifth the size of the contiguous states lying between 52° North latitude and 72° North Latitude. Alaska, a state with two thirds of this nations coast line and one third of the nations fresh water stream flow. Alaska, a state with less than five hundred thousand people and over one half of those living in the Anchorage area. A state with only three thousand miles of roads and daily jet traffic to villages of two to three thousand people. Alaska, a state with millions upon millions of waterfowl, shore birds, and large ungulets during three to four months of the year, and relatively devoid of wildlife the other eight to nine months. Alaska, a state with nearly half of this nations total wetlands.

Lets examine this latter fact, so that we can more fully understand the significance of wetlands in Alaska and their inherent role in the state. According to Dr. Robert Brooks of Pennsylvania State University, wetlands occupy 5 to 10 percent of the contiguous states. This equates to an area of 95 to 190 million acres of wetlands in the contiguous states. Based upon the U.S. Department of Agriculture's Soil Conservation Service, "Hydric Soils

of the State of Alaska, 1985 and SCS "Exploratory Soil Survey of Alaska," 1979, Alaska has some 164 million acres of wetlands. For perspective, this is an area larger than California and Oregon combined (Public Lands Law Review Commission, 1970). For midwesterner's, this an area larger than Illinois, Indiana, Ohio, Michigan and Iowa combined (Public Lands Law Review Commission, 1970). For southeasteners, this is an area larger than Florida, Georgia, Alabama, North and South Carolina combined (Public Lands Law Review Commission, 1970). Or one could say it is an area nearly the size of the state of Texas (Public Lands Law Review Commission, 1970).

Percentage wise, 164 million acres in Alaska is 45% of Alaska's land mass. If one looks at specific areas such as the area north of the Brooks range, 43 millions acres in area, or nearly the size of Oklahoma (Public Lands Law Review Commission, 1970), 72% of this area is classified wetlands. These vast wetlands create major problems for regulatory agencies and user groups when applying laws and regulations designed to protect five to ten percent of the contiguous states land area. In contrast, Pennsylvania's largest freshwater tidal wetland is Tinicum March, a 340 acre National Wildlife Refuge near Philadelphia.

Let's now look at some of the unique characteristics of the Alaskan environment and the associated impacts wetlands and user group activities have on one another. Soils with permafrost due to their environment, thaw down each year during the summer growing season. This thawed zone (active layer) varies in depth from less than 1 inch to several feet, depending on factors such as shade from trees, thickness of an organic insulation layer on the surface of the soil, latitude, exposure, snowcover, etc.. When this active layer is shallow, normal precipitation enters the soil, accumulates and

perches on the impermeable permafrost, thus maintaining a saturated soil condition, resulting in an environment that is favorable for growth of a hydrophyllic plant community (wetland). However, in many Alaskan soils when the shading effect of trees and/or the insulation effect of the organic surface layer is removed through natural fire or mechanical clearing, the soil warms, the permafrost lowers or completely disappears, and natural drainage of the soil occurs. The soil becomes well or moderately well drained, and will no longer support hydrophyllic vegetation (Clifford 1986).

Over a period of many years in a natural state, trees and shrubs become reestablished and provide shade. The insulating organic surface layer will redevelop from plant leaves and residues, soil temperatures decline, and the impermeable permafrost level rises or returns. Precipitation accumulates and perches on the permafrost and the saturated soil condition is recreated. Hydrophillic vegetation can result, and the cycle is complete until the next major disturbance, allowing the soil to thaw. If the soils are managed to produce cultivated crops-- (or prevent reestablishment of natural vegetative cover) the soil will remain well or moderately well drained permanently (Clifford, 1986). Alaska is the only state where permafrost occurs in association with agricultural soils (Drew, 1986).

The majority of permafrost soils fit the definition of wetlands as described in "Classification of Wetlands and Deepwater Habitats of the United States, 1979 (U.S. Department of Interior)." Wetlands must have one or more of the following attributes: 1) at least periodically, the land supports predominantly hydrophytes; 2) the substrate is predominantly undrained hydric soil; and 3) the substrate is non-soil and is saturated with water or covered by shallow water at sometime during the growing season of each year. As the

previous discussion shows, Alaska's permafrost soils fit the national criteria. The result is that since the majority of Alaska is underlain with permafrost or discontinuous permafrost, soil temperature, a transitory condition and non-applicable from a contiguous state's perspective, creates nearly half of this nations wetlands.

Although the majority of permafrost soils fall under the definitions of wetlands, many "permafrost soils do not contain the beneficial characteristics" (Clifford, 1986) of traditional wetlands that past legislation has been designed to protect (ie. fish, shellfish, and waterfowl habitat; water quality maintenance pollution filter, sediment removal; flood control; groundwater recharge and water supply) (Drew, 1986).

Let's briefly address each of these beneficial characteristics as applicable to Alaska. The vast majority of Alaska's wetlands contain only perched water and freeze solid for half of each year or longer which eliminates their value from a fish and shellfish standpoint. As for waterfowl habitat, flooded tundra (Moss-Lichen Wetland) which, "may make up as much as 50% of the total surface area of all wetlands on the Arctic Coastal Plain -- seemed to be the least important to all water birds despite their tremendous surface area (Derkesen, 1981)." Alaska's other major wetland type, Forested Wetland, "Black Spruce Forests of Interior Alaska do not provide valuable waterfowl breeding, nesting and feeding habitat (Clifford, 1986)."

In regard to water quality maintenance and ground water recharge the majority of Alaska's wetlands have perched water tables above permafrost and primarily subject to evaporation during the thaw period and are non-functional during spring run-off because they are frozen.

With regard to flood control the majority of Alaska's wetlands are above

flood plains and because they are either frozen or saturated down to the permafrost level in fact may compound flooding.

From a drinking water standpoint, the majority of Alaska's drinking water comes from ground water (see above) and all major drainage basins are headwatered in glacial influenced streams and therefore carry silt loads of glacial flour unacceptable for drinking purposes.

Coupled to the lack of "real benefits" from the majority of Alaska's permafrost created wetlands are applications of regulations and court ruling from non-permafrost areas which create hardship for both regulator and user. A case in point is the United States Court of Appeals, fifth circuit court decision of September 26, 1983 in Avoqelles Sportsman's League Vs. Marsh which held that certain agricultural land clearing activities previously held exempt from Section 404 permit requirements were subject to regulation by the Army Corp of Engineers under Section 404 of the Clean Water Act (Edgar, 1985).

The soils being developed for agriculture in Alaska are the Forested Wetlands Black Spruce, which as pointed out earlier, have few values and following either natural or mechanical disturbance thaw and no longer have the characteristics of wetlands. In fact the "benefits of filtration, flood prevention, groundwater recharge and waterfowl habitats (when grain crops are grown) normally received from wetlands, are better realized from Alaska's permafrost soils after they have been thawed (Clifford, 1985).

The above came to an enlightened conclusion this past spring when, according to the Congressional Record, Alaska's Senator Stevens introduced an ammendment to the "swampbuster" provisions of the 1987 Farm Bill - "For purposes of this act, and any other Act, this term shall not include lands in Alaska identified as having high potential for agricultural development which

have a predominance of permafrost soils." The senate concurred.

CONCLUSIONS

What does this all mean for wetland regulators and users in Alaska, as well as for national policy?

The key is to recognize that permafrost soils are something which do not fit nicely into the existing national classification system and certainly most "Alaska perm-frost wetlands" do not provide the beneficial characteristics envisioned by formulators of previous laws and regulations.

Secondly, there is a crying need to identify those permafrost wetland ecosystems which do provide beneficial wetland attributes and declassify those transitory wetlands, so that both regulators as well as users may recognize and protect real wetland values.

REFERENCES

(1) Alaska Rural Development Council, 1983, "Alaska's Agriculture and Forestry", Cooperative Extension Service, University of Alaska, Fairbanks, Alaska.

(2) Clifford, B.L., 1986. Requested letter by Alaska Soil and Water Conservation Districts to U.S. Senator Frank Murkowski, U.S. Department of Agriculture, SCS, Anchorage, Alaska.

(3) Derkesen, D.V., Rothe, T.C., Eldvidge, W.D., 1981, "Use of wetland Habitats by Birds In the National Petroleum Reserve-Alaska,", U.S. Dept.

of Interior - F. & W.S., Washington, D.C.

(4) Drew, J.V., 1986, Letter to the Honorable Richard Lyng U.S. Secretary of Agriculture, School of Agriculture and Land Resource Management/ Agriculture and Forestry Experiment State, University of Alaska Fairbanks, Fairbanks Alaska.

(5) Edgar III, C.E. 1985, Regulatory Guidance Letter, No. 85-4, Army Corps of Engineers, Office, Chief of Engineers, Washington, D.C.

(6) Public Lands Law Review Commission, 1970, One Third of the Nations Land, U.S. Government Printing Office Washington, D.C.

(7) Senate, 1986, Congressional Record, U.S. Government Printing Office, Washington, D.C.

(8) U.S. Department of Agr. SCS, 1985, Hydric Soils of the State of Alaska 1985, 1st Edition. USDA/SCS.

(9) U.S. Dept. of Agr. SCS, 1979, Exploratory Soil Survey of Alaska, USDA/SCS.

(10) U.S. Dept. of Interior, 1979, Classification of Wetland and Deepwater Habitats of the United States, USDI/F&WS.

United States Department of Agriculture
Soil Conservation Service
201 E. 9th Ave., Suite 300
Anchorage, AK 99501-3687
Telephone (907) 261-2424

February 13, 1986

* * * * * * * * * * * * *

The following material is a letter developed, at the request of Alaska Soil and Water Conservation Districts, to Senator Frank H. Murkowski, relative to the "Swampbuster" provision of the 1985 Farm Bill. The Conservation Districts surfaced the concern because of the impact on permafrost soils with agricultural potential. This information is being used to issue the concern raised by the Conservation Districts.

* * * * * * * * * * * * *

The following is provided in response to your request concerning the impacts on Alaska, of what has commonly become known as the "Swampbuster" and "Sodbuster" provisions of the 1985 Farm Bill.

The "Swampbuster" and "Sodbuster" provisions are designed to encourage landowners to stop the development of wetlands, and the plowing out of potential highly erodible lands for cropland use. The 1985 Farm Bill provides the stipulation that landowners in violation of either or both of these provisions will not be eligible for Federal assistance such as cost share, price support, or loans.

The Soil and Water Conservation Districts in Alaska are concerned with the limitations that these provisions will have on the use of Alaska's soils and have, as we discussed, raised some specific questions about Alaska soils that are somewhat wet in their natural state but when developed have high agricultural potential.

The State of Alaska has developed and probably will continue to develop lands that have a high level of agricultural potential. The native peoples of Alaska also may, at some future date, develop some of their lands for agriculture; they have shown quite a bit of interest in agricultural development. We estimate that there is in the neighborhood of 5 million acres in State and Native ownership that have agricultural possibilities. Many acres of this potential ag land with high to moderately high agriculture value, could be impacted by the "Swampbuster" provision. These lands, through strict interpretation, could be classified as wetlands and if developed a mentioned, would be eligible for future Federal assistance. The problem for lands the districts are concerned about results because of the presence of permafrost (permanently frozen layer of soil).

Soils with permafrost due to their environment, thaw down each year during the summer growing season. This thawed zone (active layer) varies in depth from less than 1 inch to several feet, depending on factors such as shade from trees, thickness of an organic insulation layer on the surface of the soil, latitude, exposure, snowcover, etc. When this active layer is shallow, normal precipitation enters the soil, accumulates and perches on the impermeable permafrost, thus maintaining a saturated soil condition, resulting in an environment that is favorable for growth of a hydrophytic plant community (wetland). However, in many Alaskan soils when the shading effect of trees and/or the insulation effect of the organic surface layer is removed through natural fire or mechanical clearing, the soil warms, the permafrost lowers or completely disappears, and natural drainage of the soil occurs. The soil becomes well or moderately well drained, and will no longer support hydrophytic vegetation.

Over a period of many years in a natural state, trees and shrubs become reestablished and provide shade. The insulating organic surface layer will redevelop from plant leaves and residues, soil temperatures decline, and the impermeable permafrost level rises or returns. Precipitation accumulates and perches on the permafrost and the saturated soil condition is recreated. Hydrophytic vegetation can result, and the cycle is complete until the next major disturbance, allowing the soil to thaw. If those soils are managed to produce cultivated crops or hay, the soil will remain well or moderately well drained permanently.

Although most permafrost soils fall under the definition of wetlands as described in the Department of Interior publication: "Classification of Wetlands and Deepwater Habitats of the United States," December 1979, most permafrost soils do not contain the beneficial characteristics of traditional wetlands that past legislation has been designed to protect. Permafrost soils in Black Spruce forests, for example, (a very common vegetation cover type on permafrost soils in Interior Alaska) do not provide valuable waterfowl breeding, nesting and feeding habitat, and do not act as a natural cleansing system by filtering out nutrients and capturing toxic materials. These soils also do not reduce flood hazards by temporarily storing moisture and they do not recharge groundwater aquifers when in the frozen state. These benefits of filtration, flood prevention and groundwater recharge, normally received from wetlands, are better realized from Alaska permafrost soils after they have been thawed.

The Alaska Soil Conservation Districts fully endorse and support the protection of true wetlands that provide these benefits. The Soil Conservation Service (SCS) and Districts from across the nation routinely provide assistance to landowners for the protection and enhancement of wetlands for wildlife benefits as part of our overall program, and we in SCS carry out an information and education program designed to promote this management ethic. Wildlife habitat and true wetlands are natural resources of great concern to Conservation Districts in Alaska--but as you can see, lands classified as wetlands because of their permafrost condition do not all fit into this category.

The apparent solution to this problem of classification and management of permafrost soils in Alaska, is to provide a special provision in the Swampbuster regulations for those permafrost soils that will thaw and naturally dry when cleared. This special provision should allow the State Conservationist of the Soil Conservation Service in Alaska to determine eligibility for Federal assistance for the development of lands that have agricultural potential and are a part of the State of Alaska and potentially Native peoples Agricultural Development Programs. Such a provision would allow the State Conservationist with his technical staff of Soil Scientists, Biologists, and Conservationists to make the eligibility determination after consultation with other agencies.

In summary:

Alaska lands which have been or will be classified as wetlands, using the definitions contained in the 1985 Farm Bill, occur in, or are adjacent to many of the areas that have a potential for agriculture development or have already been developed. The presence and impact of permafrost on plant communities in Alaska make the intelligent identification and classification of wetlands very difficult. In the absence of permafrost, these soils do not exhibit hydric conditions. Under the "Swampbuster" provision of the 1985 Farm Bill, Alaska landowners developing "permafrost soil wetlands" will be ineligible for Federal assistance which include price support or payments made available under the Agricultural Act of 1949, the Commodity Credit Corporation Act, or any other act, farm storage facility loans made under Section 4(h) of the Commodity Credit Corporation Charter Act, crop insurance under the Federal Crop Insurance Act, disaster payments, loans made insured or granted under the Consolidated Farm and Rural Development Act, or any other provision of the law administered by the Farmers Home Administration.

The issue of "permafrost soil wetlands" is one that I am sure can be properly addressed by way of a special provision in the Farm Bill regulations, through the cooperation of the local Soil and Water Conservation Districts and other agencies involved in wetland management. My staff and I will gladly work with you to help develop this concept.

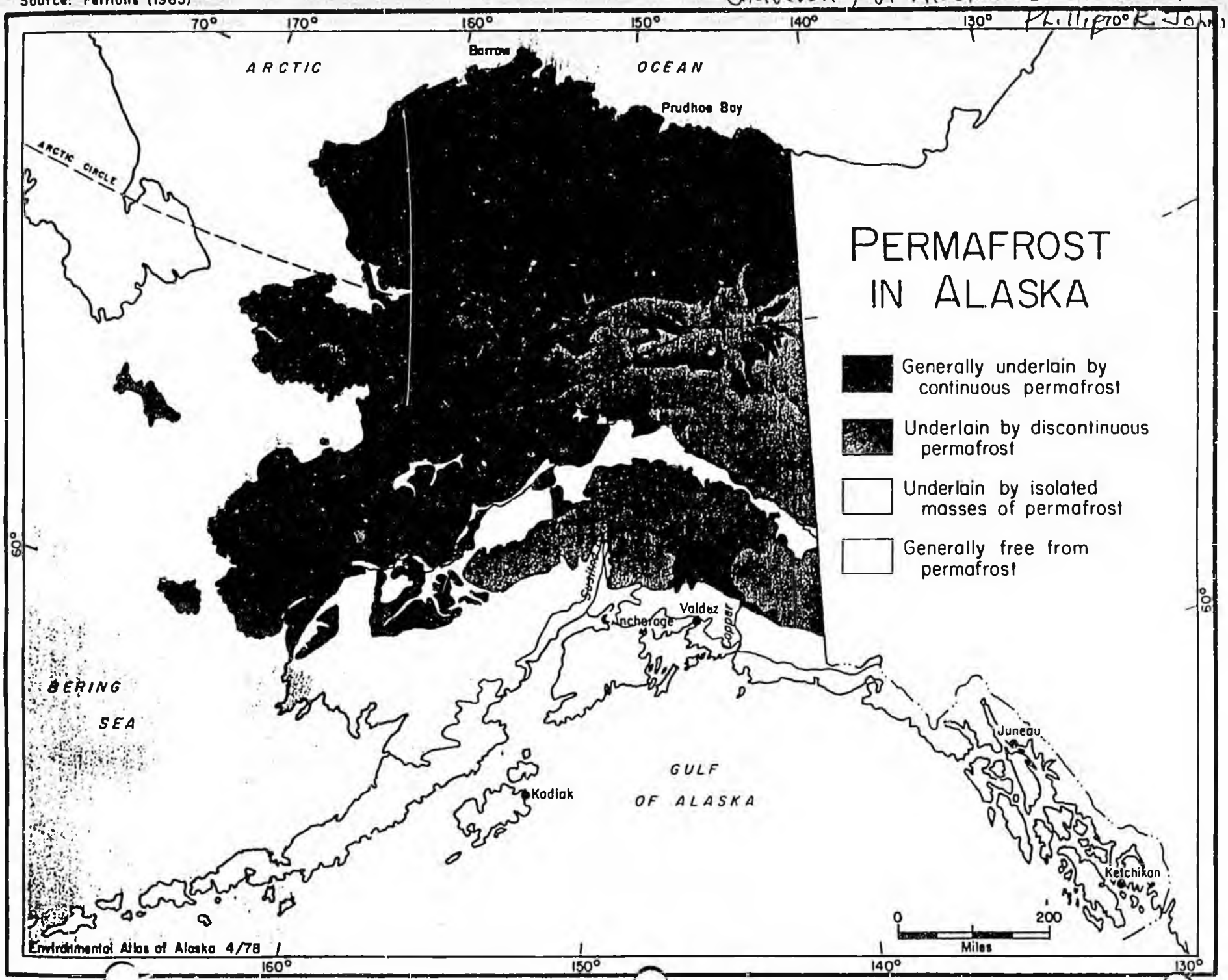
I hope this will give you a better understanding of the concern over wetland classification in Alaska. Please remember the information provided in this letter is general in nature. Because we are dealing with a natural system, there are a variety of conditions that affect the wetland characteristics of our Alaskan soils. For more specific information concerning this or other issues, please contact my office at any time.

Burton L. Clifford

BURTON L. CLIFFORD
State Conservationist

Source: Ferrians (1965)

Environmental Atlas of Alaska
University of Alaska Charles W. Hartman
Phillip R. Johnson



HJR

29

BRISTOL BAY DRIFTNETTERS' ASSOCIATION

3605 Arctic Blvd., Suite 742 Anchorage, Alaska 99503 (907)562-2161, Ext. 742

FOR IMMEDIATE RELEASE--exclusive to the Baytimes Juneau, Alaska

April 2, 1987

Bristol Bay Driftnetter's Association announced today that it has been notified by Senator Ted Stevens that the National Park Service is proceeding with plans for removal of the fish ladder around Brooks Falls during 1987.

Brooks River is located in Katmai National Park about 45 miles east of King Salmon. The falls is a well-known tourist attraction where Alaskan brown bear may be observed fishing for red salmon as they attempt to leap the obstruction. The ladder was completed in 1950 by the U.S. Fish and Wildlife Service with the permission of the Park Service. Alaska Fish and Game officials have estimated that one-half of all red salmon successfully passing the falls utilize the ladder.

In recent years the immediate area has been designated as "Wilderness", and NPS planners see the ladder as an "unnatural intrusion". Intervention by Alaska's congressional delegation and the State administration successfully forestalled removal in 1986.

BBDA Executive Director Dean Paddock today advised the Baytimes that the Association has been in close contact with Governor Cooper's office and those of Congressman Young and Senator Murkowski, as well as that of Senator Stevens. "Bristol Bay fishermen and residents can be very pleased with the support which we are recieving in our fight to prevent the removal", he stated. "The attitude of the Park Service people that the ladder must go is something that I simply can't understand. It has made a real contribution for 37 years now. With a little cooperation, it can continue to do so far into the future. Everybody--commercial fishermen, sportsmen, subsistence users all profit by it. It's not hurting anything. You can stand on the viewing platform and not even know it's there."

The struggle to keep the ladder, however, promises to be difficult. The NPS staff reportedly has the support of high-ranking Department of the Interior officials including Assistant Secretary for Fish and Wildlife and Parks William Horn. To demonstrate the widespread concern for retention of the ladder local state legislators Senator Fred Zharoff (D., Kodiak) and Rep. Adelheit Herrmann (D., Naknek) both plan to introduce resolutions in their respective bodies of the legislature this week. Stated Zharoff, "It is the only fish enhancement device in the Bay. To remove it would be foolish".

Representative Herrmann called attention to the fact that to insist on removal of the ladder while allowing the large public viewing stand on the site to remain is "the height of inconsistency". The Park Service field station and the famous Brooks River lodge, both large installations, are also located close by, as is the road leading from Brooks Camp to the Valley of 10,000 Smokes. All of the foregoing are seen by most observers as being inconsistent with the wilderness designation.

STATE OF ALASKA

OFFICE OF THE GOVERNOR

BILL ANALYSIS

DEPARTMENT	DIVISION	BILL NUMBER	SPONSOR
Fish and Game	Habitat	HJR29	Herrmann, Hanley, Menard, Zawacki

DEPARTMENT POSITION

Department strongly supports this Resolution; additional amendments suggested.

PREPARED BY	DATE	COMMISSIONER'S SIGNATURE	DATE
Habitat Division			4/15/87

SUMMARY

OTHER AGENCIES AFFECTED BY BILL	CONSTITUENT GROUP(S) AFFECTED BY BILL
National Park Service (NPS)	Bristol Bay Commercial, Recreational, and Subsistence fishermen
ORGANIZATIONAL SUPPORT FOR BILL	**ORGANIZATIONAL OPPOSITION TO BILL**
See second page	National Park Service

FISCAL IMPACT: ☒ NONE ☐ FISCAL NOTE ATTACHED

BACKGROUND/LEGISLATIVE INTENT

The NPS wants to remove a 37-year-old concrete fish ladder located at Brooks River Falls in Katmai National Park and Preserve (KNPPr). The NPS feels that the ladder is not compatible with their management of KNPPr. The state, other federal and local agencies and fishing groups in Bristol Bay have opposed removal of the ladder on the grounds that it may negatively impact the fish run, the ecosystem in KNPPr, and the economy of Bristol Bay. The Alaska Department of Fish and Game (ADF&G) denied a Title 16 permit to NPS in

continued on page 2

ANALYSIS OF BILL/PROGRAM EFFECTS

AMENDMENTS PROPOSED

Proposed additions are underlined
Proposed deletions are bracketed

Page 3, Line 10. ...important commercial, recreational and subsistence fishery and the regional salmon-based ecosystem [wildlife resource protection].

continued on page 2

PLEASE ATTACH A SEPARATE SHEET FOR ADDITIONAL COMMENTS OR ANALYSIS.

Department	Sponsors	Bill Number
Fish and Game	Herrmann, Hanley, Menard, Zawacki	HJR29

ORGANIZATIONAL SUPPORT FOR RESOLUTION

Bristol Bay Coastal Resource Service Area
Bristol Bay Driftnetters Association
National Marine Fisheries Service
Alaska Department of Fish and Game
Bristol Bay Native Corporation
Alaska Peninsula Corporation

BACKGROUND/LEGISLATIVE INTENT CONTINUED

1985 to remove the ladder. The NPS is continuing to pursue the removal through federal channels and has received endorsement from Assistant Secretary of the Interior, Bill Horn. The Alaska Congressional Delegation, notably Senator Stevens and Congressman Young, have initiated inquiries into NPS funding for the project.

The Alaska Legislature would join other state, federal, and local agencies and Native and fishing interest groups in opposing the removal of the fish ladder. This joint resolution is non-binding but may prompt the Department of Interior to reexamine its own motives and costs for removing the ladder. The bill may help to resolve the issue in a manner favorable to the state.

AMENDMENTS PROPOSED CONTINUED

Page 3, Line 11, Insert. Be it further resolved that the Secretary of the Interior is respectively requested to direct the National Park Service to remove the boards that are blocking the outlet to the ladder and to prepare a Memorandum of Understanding (MOU) with the Alaska Department of Fish and Game (ADF&G) that will allow ADF&G to maintain and operate the ladder in a manner consistent with its historical use and with current uses of the area.

Department	Sponsors	Bill Number
Fish and Game	Herrmann, Hanley, Menard, Zawacki	HJR29

ORGANIZATIONAL SUPPORT FOR RESOLUTION

Bristol Bay Coastal Resource Service Area
Bristol Bay Driftnetters Association
National Marine Fisheries Service
Alaska Department of Fish and Game
Bristol Bay Native Corporation
Alaska Peninsula Corporation

BACKGROUND/LEGISLATIVE INTENT CONTINUED

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AMENDMENTS PROPOSED CONTINUED

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STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

Bill Version : HJR 29
Publish Date :

REQUEST:

Revision Date:
Title : Brooks River Falls Fish Ladder

Agency Affected : Fish and Game
BRU :

Sponsor : Herrmann, Hanley, Menard, Zawacki
Requestor :

Components :

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS						
OTHER						
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS : (Attach a separate page if necessary)

Prepared by : Bruce H. Baker, Acting Director
Phone : 465-4105
Division : Habitat
Date :

Approved by Commissioner :
Date :
Agency :

Distribution (by preparer) :
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)
Senate Secretary

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

REQUEST:

Bill Version : HJR 29
Publish Date : 4-8-87

Revision Date:
Title : Relating to the Brooks River Falls fish ladder
Sponsor : Herrmann, Et. Al.
Requestor : House Resources

Agency Affected : None
BRU :
Components :

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES		0	0	0	0	0
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING		0	0	0	0	0
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND		0	0	0	0	0
FEDERAL FUNDS						
OTHER						
TOTAL		0	0	0	0	0

POSITIONS:

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

ANALYSIS : (Attach a separate page if necessary)

Prepared by : House Resources Committee
Phone : 465-4942
Division :
Date : April 14,1987

Approved by Commissioner :
Date :
Agency :

Distribution (by preparer) :
- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)
- Senate Secretary

PRESS RELEASE

April 24, 1987

Contact: Rona Sorensen
465-4942

Representative Adelheid Herrmann's House Joint Resolution 29 relating to the Brooks Fall Fish Ladder passed the House unanimously today!

HJR 29 requests Secretary of the Interior Hodel, to intervene and reverse the decision of the National Park Service to remove the Brooks River Falls fish ladder located in Katmai National Park.

"The fish ladder at the Brooks River Falls is the single fishery enhancement device in Bristol Bay, and so it's quite apparent how this ladder is of vital importance to us," stated Herrmann. The ladder was constructed in 1949 by the U.S. Fish and Wildlife Service, for the purpose of providing salmon with easier access to spawning habitat above the falls.

The Park Service's decision to remove the ladder has been opposed by the National Marine Fisheries Service, Bristol Bay fishing groups, the Alaska Department of Fish and Game, and the State of Alaska.

Representative Herrmann (D-Naknek) added, "our own biologists have looked at this issue carefully and refuted every argument made by the Park Service for removing the ladder. I think anyone looking at the record of the Park Service's determination will agree not only with the findings of the state that support retaining the fish ladder, but would be glad to give their full support to this resolution."

REP. HERRMANN - FLOOR SPEECH FOR HJR 29 - 4/24/87

Mr. Speaker, I am here today on behalf of Resources Co-chair Herrmann to ask for unanimous support of the House on HJR 29.

HJR 29 requests the Secretary of the Interior to intervene and revise the decision of the National Park Service to remove the Brooks River Falls fish ladder located in Katmai National Park.

The Park Services decision to remove the ladder has been opposed by the National Marine Fisheries Service, Bristol Bay fishing groups, the Alaska Department of Fish and Game, and the State of Alaska.

The ladder was constructed in 1949 by the U.S. Fish and Wildlife Service, for the purpose of providing salmon with easier access to spawning habitat above the falls. Our own Department of Fish and Game has estimated that the fish ladder allows as much as 50% of the salmon in the area to use the ladder to ascend the falls. The ladder helps them to reach their spawning grounds under all flow conditions.

Our own biologists have looked at this issue carefully and refuted every argument made by the Park Service for removing the ladder. I think anyone looking at the record of the Park Service's determination will agree not only with the findings of the state that support retaining the fish ladder, but will be glad to give their vote in support of this resolution.

Mister Speaker, I ask you to join me in sending a clear message to Secretary of the Interior Hodel to intervene and reverse the Park Service's decision by voting in favor of HJR 29.

Thank you.

C4H-
FY7

For example, the Park Service has argued that the ladder allows exotic species of fish to enter the upper Brooks River Ecosystem. What I would like to know is how this can be a problem when our own biologists can't even find any evidence of exotic species in the area.

Upon further examination the logic of their decision seems even less credible. They have argued that the ladder causes bank erosion and degrades the scenic quality of the falls. There is no evidence of massive erosion from the ladder, despite the presence of the ladder in the area for forty years. Only a minute portion of the corner of the ladder is noticeable. The photographs I am circulating illustrate this point. With regards to the scenic quality, in testimony before the House Resources Committee a visitor to the park noted that what is ugly is not the ladder but the Park Service's viewing stand.

What the Park Service fails to note is that a fish bypass benefits the fishery resource and makes a significant contribution to sockeye salmon production. Retention of the ladder plays an important role in carrying out the states mandates for managing fisheries resources.

Was this area originally in the Park or was it added by ANILCA? If it was in the Park originally, ANILCA doesn't matter as much as the original bill or executive order.

Memorandum from Joan Katz, March 4-87

LADDER MAINTENANCE COSTS:

Annual maintenance costs for the fish ladder are estimated to be less than 1% of the annual ex-vessel value ($134,000). on 15,000 Sockeye Salmon

approximately $1,340.00 for maintenance costs. (maximum estimate)

↑ correction - Kim Sundberg ADF&G quoted $1,000 annual maintenance cost. (primarily travel to the ladder)

ex-vessel value doesn't include the added value accrued from processing and retailing commercially caught salmon. or the economic and biological contributions that these salmon make to subsistence, tourism, and to the overall Katmai National Park and Preserve (KNPP) ecosystem.

According to Bruce Baker, Habitat Biol., ADF&G maintenance of the ladder is way less than 1% of ex-vessel value. Actual work to maintain ladder would include a couple of hours to go in and clean away debris. Removal of the ladder is not a budget issue, it is a park policy issue.

5-10335

Original sponsors: Herrmann, Menard, Manley, et al.

IN THE HOUSE BY THE RESOURCES COMMITTEE

CS FOR HOUSE JOINT RESOLUTION NO. 29 (Resources)

IN THE LEGISLATURE OF THE STATE OF ALASKA

FIFTEENTH LEGISLATURE - FIRST SESSION

Relating to the Brooks River Falls fish ladder.

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

WHEREAS the National Park Service has recently stated that it will remove the fish ladder at Brooks Falls on the Brooks River in Katmai National Park; and

WHEREAS the fish ladder was installed at the falls in 1949 in response to the concerns of fisheries biologists who had recognized as early as the 1920's that a ladder was necessary to allow more sockeye salmon to migrate above the falls, and that it would allow pink, coho, and chum salmon access to the area above the falls; and

WHEREAS the partially successful attempt to construct a bypass of the falls in 1929 and the later construction of the present fish ladder were done with the knowledge and support of the appropriate national fisheries management and National Park Service personnel; and

WHEREAS on-site observers estimate that in recent years approximately one-half of the sockeye salmon that spawn above the falls use the fish ladder to get there; and

WHEREAS the Alaska Department of Fish and Game and National Marine Fisheries Service biologists who have firsthand knowledge of the Brooks River system feel that the removal of the ladder will ultimately prove detrimental to the fishery resources of the river; and

WHEREAS the National Park Service is removing the fish ladder on the basis that the ladder

(1) is insignificant to the production of sockeye salmon;

(2) is inconsistent with National Park Service management objectives and federal mandates;

(3) allows exotic species and races of fish to enter the upper Brooks River ecosystem; and

(4) causes bank erosion and degrades the scenic quality of the Brooks River Falls; and

WHEREAS the State of Alaska has refuted each of these points and has presented its evidence and arguments to the Department of the Interior to no avail; and

WHEREAS fisheries biologists of the State of Alaska and the National Marine Fisheries Service believe that the ladder makes a significant contribution to sockeye salmon production, and they presented the scientific data to back up that belief; and

WHEREAS the State of Alaska has found no provisions in the Alaska National Interest Lands Conservation Act or in the legislative history of that Act that compel the National Park Service to remove the fish ladder; and

WHEREAS a careful review of historic species lists for fish, wildlife, and aquatic organisms upstream and downstream of the ladder does not provide an indication that exotic or nonindigenous species, disease vectors, or gene pools have entered the upper Brooks River drainage by way of the ladder; and

WHEREAS on-site inspection of the area by State of Alaska personnel has found no riverbank erosion caused by or in the area of the fish ladder; and

WHEREAS most people who visit the falls are not even aware that the ladder exists because of the heavy brush and vegetation that have grown around the ladder since 1949; and

WHEREAS it seems inconsistent for the National Park Service to say

that the ladder is incompatible with the wilderness qualities of Katmai National Park when the service itself installed a viewer platform by the falls, accessed by a well traveled trail from a commercial lodge and the National Park Service headquarters, and from which there is a road into the heart of the beautiful Valley of 10,000 Smokes;

BE IT RESOLVED by the Alaska State Legislature that the Secretary of the Interior is respectfully requested to intervene in the decision of the National Park Service to remove the Brooks River Falls fish ladder in Katmai National Park and reverse that decision in the best interests of an important commercial, recreational, and subsistence fishery and the regional salmon-based ecosystem; and be it

FURTHER RESOLVED that the Secretary of the Interior is respectfully requested to direct the National Park Service to remove the boards that are blocking the outlet to the ladder and to prepare a Memorandum of Understanding that will allow the Alaska Department of Fish and Game to maintain and operate the ladder in a manner consistent with its historical use and with current uses of the area.

COPIES of this resolution shall be sent to the Honorable Ronald Reagan, President of the United States; to the Honorable Donald P. Hodel, Secretary of the Interior; and to the Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

STATE OF ALASKA
THE LEGISLATURE

POUCH Y · STATE CAPITOL
JUNEAU, ALASKA 99811
907·465·3800

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May, 1988

Copies of minutes listed below were originally included in this file. The minutes are available on the STAIRS database CMPR. In order to save space copies of minutes have not been left in the files.

Mary Van Nimwegen

House Resources 4-15-87 8:30a.m.

MAR 1 9 1987

STEVE COWPER
GOVERNOR

STATE OF ALASKA
OFFICE OF THE GOVERNOR
WASHINGTON, D.C.

March 4, 1987

MEMORANDUM

TO: THE HONORABLE TED STEVENS, U.S. Senate
THE HONORABLE FRANK MURKOWSKI, U.S. Senate
THE HONORABLE DON YOUNG, U.S. House of Reps

FROM: JOHN W. KATZ, Director of State/Federal Relations and Special Counsel to the Governor

SUBJECT: BROOKS RIVER FISH LADDER

The State of Alaska has reviewed Assistant Secretary of the Interior Bill Horn's October 10, 1986 letter (enclosure 1) responding to objections expressed by you, the National Marine Fisheries Service (NMFS), Bristol Bay fishing groups, and the Alaska Department of Fish and Game (ADF&G) concerning the National Park Service (NPS) plans to remove the Brooks River fish ladder.

The state is disappointed that Assistant Secretary Horn is continuing to support removal of the ladder and is basing his decision upon the NPS's opinion that the ladder: (1) is insignificant to the production of sockeye salmon; (2) is inconsistent with NPS management objectives and federal mandates; (3) allows exotic species and races of fish to enter the upper Brooks River ecosystem; and (4) causes bank erosion and degrades the scenic quality of the Brooks River falls. We believe the NPS arguments for removal of the ladder are not supported by the available facts, and would like to respond to each of these points.

First, the state believes that the ladder makes a significant contribution to sockeye salmon production. Fishery biologists with the ADF&G and NMFS feel that the ladder is important because it provides salmon with easier access to spawning habitat above the falls. The need to provide safe and reliable fish passage around the Brooks River falls was recognized by fisheries biologists as early as the 1920s when attempts were made to construct a bypass around the falls. This need was finally met when the present fish ladder was constructed in 1949. Since that time, the ladder

has ensured that salmon can continue to get over the falls to spawning grounds under all flow conditions.

In 1985, approximately 31,000 sockeye salmon escaped to spawn in Brooks River, Brooks Lake, and its tributaries above the falls. This represents about 1.6 percent of the 1985 sockeye salmon escapement in the Naknek River system. In recent years, counts indicate that approximately one-half of the sockeye salmon in the upper Brooks River/Lake use the ladder to gain access to spawning habitat (the other one-half jump the falls). It is significant that even though the ladder comprises only a small portion of the falls area and is not fully functional, about 50 percent of the salmon apparently use the ladder to ascend the falls.

In recent years, it is estimated that salmon using the ladder contributed approximately $134,000 annually to the Bristol Bay sockeye salmon fishery (see enclosure 2). In contrast, the anticipated annual maintenance costs for the fish ladder are estimated to be less than 1 percent of this annual ex-vessel value. It is also important to recognize that this ex-vessel value does not include the added value accrued from processing and retailing commercially caught salmon or the economic and biological contributions that these salmon make to subsistence, tourism, and to the overall Katmai National Park and Preserve (KNPPr) ecosystem.

maximum 1% of 134,000 ex vessel value = $1,340

Second, the state believes that the ladder is consistent with the administrative and legislated requirements of NPS management of KNPPr and with the Alaska National Interest Lands Conservation Act (ANILCA). The state has found no provisions in ANILCA that compel the NPS to remove the ladder. The ANILCA simply requires that populations of fish and wildlife in areas designated as national parks be maintained in a natural and healthy condition which is defined as "a condition which assures stable and continuing natural populations and species mix of plants and animals in relation to their ecosystems."

The NPS relies heavily upon a quote from Senate Report 96-413, p. 171, concerning manipulation of habitat to support its claim that the ladder is inconsistent with ANILCA. However, examination of this portion of Senate Report 96-413 (enclosure 3) shows the quote is taken out of context from the record concerning subsistence uses within national parks, monuments, preserves, and recreational areas. Clearly, Congress did not direct the NPS to remove the Brooks River fish ladder when it discussed guidelines for maintaining subsistence uses within national park system units.

Third, the NPS presents no scientific evidence to support its concern that the Brooks River ladder is allowing exotic species to enter the upper Brooks River system. A careful review of historic species lists for fish, wildlife, and aquatic organisms upstream and downstream of the ladder does not provide any indication that any exotic or unnatural species, disease vectors, or gene pools have entered the upper Brooks River drainage by way of the ladder.

Fourth, the contention that removal of the ladder is required to stop the erosion of the riverbank of the Brooks Falls area is without factual basis. The enclosed photo (Photo 1) taken in 1985 shows the "erosion" to which the NPS refers. As you can see, there is no significant erosion of the riverbank, only a breach in the ladder. We have been told that by a number of people that this breach was initiated by an NPS employee to allow salmon to escape from the fish ladder after KNPPr personnel placed boards across the outlet to block fish passage in 1979.

This eroded slot has provided the only way for fish to use the ladder since 1979. There is no major erosion as claimed. If NPS decides to retain the ladder, ADF&G would agree to repair the eroded slot and to restore the conventional outlet to the ladder by removing the boards.

Finally, the ladder has had no significant effect on the scenic quality of the area as claimed. The enclosed Photo 2 shows the view of the falls and ladder that park visitors see from the viewing platform. As you can tell from the photograph, it is difficult, if not impossible, to see the ladder from the platform. Most people who visit the falls are not aware that the ladder exists. Heavy brush and vegetation have grown around the ladder since 1950, and obscure it from all but the most observant visitors. However, the NPS plans for removal of the ladder could cause a noticeable visual impact which would persist until the natural vegetation becomes reestablished.

In summary, the state does not believe the NPS has presented any justifiable reason for removal of the Brooks River fish ladder and objects to the NPS's intention to remove it. We think the ladder can be maintained and operated in conformance with protection of the natural ecosystem and in a manner consistent with NPS mandates. The ADF&G has agreed to assume responsibility for the operation and maintenance of the ladder if NPS will cooperate. Any assistance you can offer in resolving this matter would be greatly appreciated.

Attachments
Photos
cc: Bill Horn

ENCLOSURE 1

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

OCT 1 0 1986

Honorable Ted Stevens
United States Senate
Washington, D.C. 20510

Dear Senator Stevens:

Thank you for your letter of June 12, 1986, concerning the Brooks Falls fish ladder in Katmai National Park. We have delayed responding to your inquiry, while the National Park Service (NPS) put together detailed responses to a number of issues related to the fish ladder. For your information, I am enclosing a copy of the materials prepared by the Service.

We are well aware of the opposition to the NPS proposal to remove the fish ladder expressed by the Alaska Department of Fish and Game (ADF&G), the National Marine Fisheries Service (NMFS), and the Bristol Bay fishing group. Nevertheless, I am persuaded that the fish ladder makes no appreciable contribution to the production of sockeye salmon in Bristol Bay and that removal of the ladder will have an insignificant effect on the regional fishery economy.

Under the constitution, laws, and regulations of the State of Alaska, ADF&G is responsible for the management, protection, maintenance, enhancement, rehabilitation, and extension of the State's fish and wildlife resources. Within NPS areas, however, State management of fish and wildlife resources must be consistent with the provisions of the Alaska National Interest Lands Conservation Act and other Federal laws and regulations. Maintenance of the ladder is considered to be incompatible with the legal requirements of NPS management and with the purposes for which Katmai was established. Moreover, removal of the Brooks Falls fish ladder will enable the NPS to stop the erosion to the riverbank that is occurring at the upper end of the ladder and also will improve the scenic quality of the Brooks Falls area.

The dewatering and filling in of the fish ladder and the improvement of road access to the Three Forks Overlook and the Valley of the Ten Thousand Smokes are very different projects for different purposes. I strongly support the concept of providing a more dependable means for visitors to reach the overlook during periods of high water, whether by a footbridge or some other kind of crossing. The Federal Highway Administration has

been working with the NPS to develop alternative methods and costs for transporting visitors across the drainages in this area. This report is in the final stages of preparation. We will be happy to provide you with more information on this project when the report is completed.

I would be pleased to respond to any additional questions you might have on the Brooks Falls fish ladder or on land access to the Valley of the Ten Thousand Smokes.

Sincerely,

/s/ William P. Horn

Assistant Secretary for Fish and Wildlife and Parks

Enclosures 2

Enclosure 1

POSITION SUMMARY
BROOKS FALLS FISH LADDER
(See Environmental Assessment for Further Details.)

1. Proposed Action:

ADF&G: Remove flashboards partially blocking upper end of fish ladder; repair eroded slot; provide regular maintenance of ladder.

NPS: Phase 1 - Construct cofferdam; repair eroded riverbank and dewater fish ladder to verify river hydrology. Phase 2 - Remove visible, aboveground level concrete and, using this and other material, fill in the fishway and restore landscape and riverbank to most natural condition feasible.

2. Effect of the Ladder on Biotic Resources:

ADF&G: The ladder allows more sockeye salmon to migrate above Brooks Falls, and the fish are in better spawning condition because of reduced stress. It allows access above the falls for coho and pink salmon that previously could not get over the falls. It provides better fish access above the falls during low-water conditions and an alternative route which serves as a safeguard against a possible future seismic event which could block fish migration over the falls.

NPS: Dewatering and filling in of the fishway will benefit the full spectrum of aquatic species native to the Brooks Lake drainage through the restoration of natural biotic associations. The cumulative biological effect would be to restore the natural abundance, behavior, diversity, and ecological integrity of aquatic species and subspecies within the Brooks River and Brooks Lake drainage. Aquatic species and subspecies native to the Brooks Lake drainage and upper Brooks River are potentially subject to predation, unnatural gene pool changes, and competition by other fish species and subspecies that can be unnaturally introduced via the ladder. Existence of a functional fish ladder alters the natural selection effects of the falls for all fish species and subspecies including salmon, grayling, and lamprey eels. There is no evidence, scientific or otherwise, that the ladder has increased the number of sockeye salmon passing the falls and/or enhanced the salmon productivity of the Brooks Lake drainage. In fact, considerably greater numbers of sockeye salmon were counted ascending the falls naturally and entering Brooks Lake before the ladder was constructed. It is unlikely that the falls present even a minor barrier to coho salmon migrations. No year has yet been recorded in which low water levels have impeded passage of

salmon over the falls. If a year were to occur in which few fish were able to surmount the falls, the multiple age classes of returning salmon would facilitate natural recovery of the stock. A seismic event that would alter the falls to the point where salmon could not pass upstream is extremely unlikely and, if it occurred, it would probably render the fish ladder inoperable as well.

3. Potential "Harm" Done to Salmon Populations:

ADF&G: Removal of the Brooks River fish ladder could or would "harm" salmon populations.

NPS: Unharmed salmon populations existed for thousands of years prior to construction of the Brooks River fish ladder in 1949-1950.

4. Effect of Ladder Removal on Production of Sockeye Salmon in Bristol Bay and on Fishery Economy of Bristol Bay:

ADF&G: No position stated to date.

NPS: Even under a very worst case scenario, removal of the Brooks Falls fish ladder would have virtually unmeasurable and, therefore, insignificant effects on the production of sockeye salmon in Bristol Bay and virtually unmeasurable and, therefore, insignificant effects on the fishery economy of Bristol Bay. This is because the number of salmon that would be potentially influenced by the proposal (whether positively, negatively, or neutrally) is proportionately inconsequential in comparison to average annual salmon runs in Bristol Bay.

5. Management of Anadromous Fish Streams:

ADF&G: The Commissioner of the ADF&G is charged to "manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the State . . ." (Alaska Statute (AS) 16.05.020). AS 16.05.840 requires that "every dam or other obstruction built by any person across a stream frequented by salmon or other fish shall be provided . . . with a . . . fishway and a device for efficient passage of downstream migrants." AS 16.05.870 requires that "If a person or governmental agency desires to construct a hydraulic project, or use, divert, obstruct, pollute, or change the natural flow or bed of a specified river, lake, or stream, . . . the person or governmental agency shall notify the Commissioner of this location . . ." and secure approval.

NPS: Dewatering and filling in of the ladder is consistent with improving the condition of fish species since it will prevent the future establishment of non-native species and subspecies above the falls, restore the natural selection efforts of the falls and, to the extent possible, restore natural biotic associations within the Brooks Lake drainage. The Commissioner's responsibility to "extend" fish and game species is inconsistent with the purposes for which Katmai was established (ANILCA, 1980, and Senate Report 96-413, pg. 171). AS 16.05.840 does not apply since Brooks Falls is not a "dam or other obstruction built by any person." AS 16.05.870 does not apply because the NPS does not propose "to construct a hydraulic project or use, divert, obstruct, pollute, or change the natural flow or bed" of any water body. On the contrary, the action proposed by the NPS is to restore the natural flow of the river, which is consistent with AS 16.05.870.

6. Length of Time that the Ladder has Existed:

ADF&G: A fish ladder has existed for 35 years, and some form of man-made fish bypass has existed for up to 63 years.

NPS: The number of years that the ladder or bypass has been in place does not alter its incompatibility with congressionally mandated park purposes (ANILCA, 1980, and Senate Report 96-413, pg. 171).

7. Coastal Zone Management:

ADF&G: Closure of the fish ladder would be inconsistent with the Alaska Coastal Management Program (ACMP). It would not maintain or enhance aquatic habitats of the river. Removal of the ladder carries a significant risk of leading to a decline in productivity of salmon in the Brooks Lake drainage.

NPS: The ACMP standard is met by either maintenance or enhancement of the aquatic habitat. As a result of covering the ladder, which is a man-made artificial structure that was cut into the bank of the river, the aquatic habitat of the river would revert from an altered condition to a protected, maintained, and more natural condition, consistent with the letter and the intent of the ACMP. Data do not indicate that the falls is a significant hindrance to salmon migration or production. Artificially increasing productivity of fish and wildlife in park areas to achieve maximum utilization of natural resources is not an objective of NPS management (Senate Report 96-413, pg. 171).

8. Erosion of the Riverbank and Condition of the Fish Ladder:

ADF&G: The ladder is functional and should be restored and reopened. The eroded slot can easily be repaired, and maintenance of the ladder should be carried out annually.

NPS: Erosion of the riverbank at the head of the ladder is diverting flow from the falls into the ladder. The erosion must be arrested and repaired. The NPS has no legal authority or responsibility to repair, restore, or reopen the ladder. In fact, such an action, if taken, would be contrary to congressionally mandated park management objectives (ANILCA, 1980, and Senate Report 96-413, page 171).

The above ADF&G positions are derived from letters and memoranda written by employees of the State of Alaska concerning the Brooks Falls fish ladder and the NPS proposal to remove it.

Enclosure 2

NPS COMMENTS ON NMFS AND ADF&G REVIEWS OF BROOKS FALLS FISH LADDER ENVIRONMENTAL ASSESSMENT

NPS Memo from William Heard to George Snyder

1. Page 1, Para. 1, Lines 5-7. If no compelling evidence exists, scientific or otherwise, that the ladder has had a significant impact on any fish populations or fish production upstream or downstream from the falls since it was installed in 1949-1950, then it would seem that there is no compelling evidence to support the biological arguments presented for retention and restoration of the ladder.

2. Page 1, Para. 1, Lines 7-11. Contrary to the cited original purpose of the ladder, no such extreme low flow conditions have ever been observed or recorded since the establishment of Katmai National Monument (now Park and Preserve) in 1918.

3. Page 1, Para. 2, Line 5. There is no scientific evidence to support the argument that the fish ladder is not doing any harm. However, the potential for unnatural ladder-caused changes in park ecosystem dynamics is supported in the scientific literature.

4. Page 1, Para. 3. We agree that the text on Page 37 may erroneously suggest that some or many coho salmon are unable to leap Brooks Falls. Line 3 will be changed to read: "any salmon that may be unable to jump Brooks Falls would remain below the falls."

5. Page 2, Para. 2. The points are well taken. Upon rereading page 37, paragraph 2 of the Environmental Assessment, we realize that we have inadvertently incorporated some vague and inaccurate statements concerning natural ecosystem dynamics, the leaping abilities of coho salmon, and the present status of non-anadromous fish species and subspecies within the Brooks Lake drainage. The entire paragraph is being rewritten as follows:

> "Implementation of the recommended alternative will be an affirmative effort to restore the natural abundance, behavior, diversity and ecological integrity of aquatic species and subspecies within the Brooks River and Brooks Lake drainage. Any salmon that may be unable to jump Brooks Falls would remain below the falls. However, any non-anadromous aquatic species or subspecies that may have become established within the Brooks Lake drainage as a result of the fish ladder could continue to be present."

We also intend to rewrite several paragraphs on page 25 and possibly add several additional paragraphs to more clearly describe and analyze present and potential biological effects of the fish ladder on natural biotic associations of native species and subspecies. The analysis will also include statements concerning the present status of non-anadromous fish species and subspecies in Brooks River and within the Brooks Lake drainage.

Another planned addition is the inclusion of a new evaluation factor entitled Salmon Production and Bristol Bay Fishery Economy in Table 1, pages 26-30.

NMFS Memo from K. Koski to George Snyder

1. As you know, there is a longstanding historical practice to permit fishing in all park areas in accordance with applicable State and Federal laws and regulations.

Memo from Ted Merrell, NMFS, to Carl Burger, USFWS

1. Mr. Merrell's comments are not about the Environmental Analysis. Instead, they constitute a formal review of two very early drafts of NPS-funded reports prepared by the USFWS. Both reports are directly related to the Brooks River fish ladder and all of Mr. Merrell's comments have been addressed or incorporated in later versions of the reports.

We note Mr. Merrell's statement on Page 1, Para. 1, Lines 3-8:

> "The reports are well written and I have no disagreement with your conclusions that removal or renovation of the fish ladder would be unlikely to have any significant impact one way or the other on fish passage or production of sockeye from the Brooks system, and that the Brooks River stock is genetically the same above and below the falls but different than Brooks Lake tributary stocks." (Emphasis added)

Letter from ADF&G to NPS

1. Page 1, Para. 1. The discussion in the Environmental Assessment on Page 19 concerning the number of salmon which used the ladder versus jumping the falls draws no conclusions concerning the ladder's "importance." It simply reports comparative counts in different years under different conditions. No conclusions are possible, and none were stated in the Environmental Assessment. However, we disagree that the "importance" of the fish ladder would be revealed if comparative counts were conducted after removing all barriers and cleaning all debris out of the ladder. We suggest that the above important biological and/or economic question is: Does a fully functional fish ladder in operation at Brooks Falls significantly increase the production of sockeye salmon in Bristol Bay and significantly augment the fishery economy of Bristol Bay? Considering the available evidence, we believe not.

2. Page 1, Para. 2. The discussion on page 23 makes no conjectures concerning the significance, biological effects or importance of the fish ladder. It simply summarizes available fishery statistics and the opinions of two investigators concerning the utility of available

weir count information. The single conjecture (by the authors of the Environmental Assessment) found in this section entitled Numbers of Sockeye Salmon is actually found on page 24, paragraph 1, last sentence. It reads as follows:

> "Most importantly, these records suggest that although the ladder probably was not responsible for the decline, neither did it mitigate a decline in the Brooks drainage which reflected the area-wide decline."

The comments about the difficulties inherent in comparing different types of salmon counts and the significance of different harvest levels are noted and appreciated. However, we believe use of all available data appropriate if one is attempting an assessment of the contribution of the Brooks River fish ladder to the productivity of Brooks Lake salmon runs.

3. Page 1, Para. 3. The Environmental Assessment on page 25 does not "indicate that the fish ladder has allowed predatory Dolly Varden, rainbow trout, and sculpins to enter Brooks Lake and prey on Sockeye salmon." No such statement is made on page 25. However, we agree that the purpose, intent, and content of paragraph 2, page 25, is ambiguous.

Similar problems of ambiguity may also be present in at least two other paragraphs under the Environmental Assessment section entitled Biotic Associations. We intend to rewrite all three paragraphs and possibly add several additional paragraphs to more clearly describe and analyze present and potential biological effects of the fish ladder on natural biotic associations of native species and subspecies. The analysis will also include statements concerning the present status of non-anadromous fish species and subspecies in Brooks River and within the Brooks Lake drainage.

Similar ambiguities were noted by NMFS in their comments, notably on page 37, paragraph 2, of the Environmental Assessment in which we inadvertently incorporated some vague and inaccurate statements concerning natural ecosystem dynamics, the leaping abilities of coho salmon, and the present status of non-anadromous fish species and subspecies within the Brooks Lake drainage. The entire paragraph is being rewritten as described earlier.

4. Page 2, Para. 2. We have provided the requested documents to individual biologists of ADF&G in the past and would be pleased to provide additional copies to the Commissioner's Office of ADF&G as an attachment to a future public review draft of the Environmental Assessment.

5. Page 2, Para. 3. The stated argument is as follows:

> ". . . unless NPS has scientifically supportable information that the fish ladder is interfering with the environmental integrity of the Brooks River system, there is no biological reason to pursue the removal of the fish ladder at this time."

Our response to this argument is as follows:

> Unless ADF&G has scientifically supportable information that the 36-year operation of the fish ladder at Brooks Falls has significantly increased or will significantly increase the production of sockeye salmon in Bristol Bay and significantly assist the fishery economy of Bristol Bay, there is no biological or economic reason to resist dewatering and filling in of the fish ladder in order to restore the natural abundance, behavior, diversity, and ecological integrity of aquatic species and subspecies within the Brooks River and Brooks Lake drainage.

The NPS has no legal authority or responsibility to repair, restore, or reopen the fish ladder. In fact, such an action, if taken, would be contrary to congressionally mandated park management objectives. (ANILCA, 1980, and Senate Report 96-413, page 171).

We agree that increased emphasis needs to be placed upon public interpretation of the natural ecosystem dynamics of salmon within Katmai National Park and Preserve. However, we disagree that the fish ladder would be an appropriate choice as a focus for this interpretive theme as our interpretation program would, of necessity, explore ecosystem management concepts differing substantially from those represented by the fish ladder.

Enclosure 2

Estimated Annual Value of Sockeye Salmon Using Brooks River Fish Ladder to Bristol Bay Commercial Fishermen

$ value to fishermen = (number of spawners)
x (average return per spawner)
x (exploitation rate)
x (ex-vessel price per fish)
= 15,000[1/] x 2.56[2/] x 0.5[3/] x $7.00[4/]
= $134,400

1/ Approximate number of sockeye salmon using fish ladder in 1985.

2/ The average return per spawner is based upon 26 years of data for the Naknek River system.

3/ The exploitation rate is based upon 1985 catch and escapement data for the Naknek River system.

4/ The ex-vessel price per fish is an average based upon prices paid in Naknek during the last three years.

decisions in close consultation with the State of Alaska and affected communities and local rural residents.

In authorizing subsistence uses within National Parks, Monuments, Preserves, and National Recreational Areas, it is the intent of the Committee that certain traditional National Park Service management values be maintained. It is contrary to the National Park Service concept to manipulate habitat or populations to achieve maximum utilization of natural resources. Rather, the National Park System concept requires implementation of management policies which strive to maintain the natural abundance, behavior, diversity, and ecological integrity of native animals as part of their ecosystem, and the Committee intends that that concept be maintained. The National Park Service recognizes, and the Committee agrees, that subsistence uses by local rural residents have been, and are now, a natural part of the ecosystem serving as a primary consumer in the natural food chain. The Committee expects the National Park Service to take appropriate steps when necessary to insure that consumptive uses of fish and wildlife populations within National Park Service units not be allowed to adversely disrupt the natural balance which has been maintained for thousands of years. Accordingly, the Committee does not expect the National Park Service to engage in habitat manipulation or control of other species for the purpose of maintaining subsistence uses within National Park System units.

Several of the new park units established by this legislation, most notably the Gates of the Arctic, Wrangell-St. Elias, the Denali additions, and Lake Clark, encompass some of the most magnificent, remote and untouched mountain terrain in North America. Within these units, whole mountain ranges intersect in a spectacular jumble of unclimbed, uncharted peaks, with rugged spires, great glaciers and snow fields and deep, glacier-carved gorges. These features offer unparalleled opportunities for the whole range of climbing and mountaineering activities, from short day hikes and overnight trips to long treks and major expeditions in truly rugged and remote terrain. The Committee expects that future management of these areas for such purposes will allow such recreational uses with minimal formal regulatory requirements, and with recognition of the desire of such users for solitude, self-reliance and freedom of movement. These uses, and management practices, must be accomplished in a manner consistent with the purposes for which the areas are established and within the limits of sound management principles, including providing for visitor and resource protection.

Section 204: Native selections

Section 204 provides that valid Native selections or nominations of lands within the boundaries of the Wrangell-St. Elias National Park and Preserve are recognized and shall be honored and conveyed by the Secretary in accordance with the Alaska Native Claims Settlement Act and title IX of this bill. The Committee has determined that the fairest and most equitable means of resolving the dual withdrawal status of lands withdrawn both for Native selection under section 11 and for possible inclusion in one of the conservation systems pursuant to section 17(d)(2) of the Alaska Native Claims Settlement Act is to recognize and honor valid Native selections in the dual-withdrawn

HOUSE COMMITTEE REPORT

(9)

Date referred: 4/8/87 **FURTHER REFERRALS:**

DATE: April 15, 1987

The Resources **Committee has considered** HJR 29

Relating to the Brooks River Falls fish ladder.

RECOMMENDS:

[x] **replace with** CSHJR 9 (Rlc) [x] the same title

[ ] **attached amendment(s)** [ ] a new title

[x] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[ ] additional referral to the _____ Committee

ADOPTS: [ ] _____ letter of intent

ATTACHES NEW FISCAL NOTE(s):

[ ] fiscal impact

[x] zero fiscal note

[ ] zero with analysis

[ ] same as previous fiscal note published _____

[ ] same as previous zero fiscal note published _____

SIGNING DO PASS:

SIGNING OTHER RECOMMENDATIONS:

Chairman's signature

From: Representative Adelheid Herrmann

Date: April 15, 1987

Subject: Summary of HJR 29; relating to the Brooks River Falls fish ladder in Katmai National Park

The National Park Service plans to remove the fish ladder at Brooks Falls on the Brooks River in Katmai National Park. The decision has been opposed by the National Marine Fisheries Service, Bristol Bay fishing groups, the Alaska Department of Fish and Game, and the State of Alaska. HJR 29 requests the Secretary of the Interior to intervene and reverse the Park Service's decision to remove the ladder.

The Brooks River is about one and a half miles long, and through it the Brooks Lake drains into the Naknek Lake. The Brooks Falls, where the fish ladder is located, is about halfway in the length of the Brooks River.

The falls has long been regarded as a partial block to the migration of sockeye salmon to the spawning area above the falls, and some form of man-made assistance for a fish passage around the falls has been attempted since the early 1920s. In the mid 1930s a channel was blasted through the rock on one side of the falls, where the ladder is now located, in an effort to make it easier for salmon to reach the spawning area. Discussion then began about laddering the falls. The laddering project was halted in the 1940s during World War II, but became a priority in 1949 and was completed by the U.S. Fish and Wildlife Service in 1950. The Alaska Department of Fish and Game has estimated that 50% of the salmon use the ladder to ascend the falls.

The National Park Service's decision to remove the fish ladder is based on its opinion that the ladder is insignificant to the production of sockeye salmon; causes bank erosion and degrades the scenic quality of the falls; is inconsistent with NPS management objectives and federal mandates; and allows exotic species of fish to enter the upper Brooks River ecosystem.

The opinion of the National Park Service has been refuted by the Alaska Department of Fish and Game and by the State of Alaska.

According to the Alaska Department of Fish and Game, the fish ladder successfully passes fish over the falls; a fish bypass benefits the fishery resource; the fish ladder provides an efficient and unobstructed alternative route to fish migration over the falls; and the removal of the ladder is inconsistent with the Alaska Coastal Management Program, the Bristol Bay Borough Coastal Management Program, and the

statutory mandates of the Department.

According to the State of Alaska, the fish ladder makes a significant contribution to sockeye salmon production by providing safe and reliable fish passage around the falls; there is no significant erosion of the riverbank in the falls area; the ladder is consistent with the administrative and legislated requirements of NPS management of KNPPr and with the Alaska National Interest Lands Conservation Act; and the NPS has not presented scientific evidence to support its concern that the fish ladder allows exotic species to enter the upper Brooks River ecosystem. Regarding erosion, the State believes there is a breach in the ladder, possibly initiated by an NPS employee to allow salmon to escape from the ladder after KNPPr personnel placed boards across the outlet to block fish passage in 1979. The eroded slot has provided the single outlet for fish to use the ladder.

Regarding scenic quality --- it's not really visible ---

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

REQUEST:

Bill Version : HJR 29
Publish Date : 4-8-87

Revision Date:
Title : Relating to the Brooks River Falls fish ladder
Sponsor : Herrmann, Et. Al.
Requestor : House Resources

Agency Affected : None
BRU :

Components :

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES		0	0	0	0	0
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING		0	0	0	0	0
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND		0	0	0	0	0
FEDERAL FUNDS						
OTHER						
TOTAL		0	0	0	0	0

POSITIONS:

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

ANALYSIS : (Attach a separate page if necessary)

Prepared by : House Resources Committee
Division :
Phone : 465-4942
Date : April 14,1987

Approved by Commissioner :
Agency :
Date :

Distribution (by preparer) :
- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)
- Senate Secretary

Introduced: 4/8/87
Referred: Resources

IN THE HOUSE

BY HERRMANN, MENARD, HANLEY AND ZAWACKI

HOUSE JOINT RESOLUTION NO. 29

IN THE LEGISLATURE OF THE STATE OF ALASKA

FIFTEENTH LEGISLATURE - FIRST SESSION

Relating to the Brooks River Falls fish ladder.

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

WHEREAS the National Park Service has recently stated that it will remove the fish ladder at Brooks Falls on the Brooks River in Katmai National Park; and

WHEREAS the fish ladder was installed at the falls in 1949 in response to the concerns of fisheries biologists who had recognized as early as the 1920's that a ladder was necessary to allow more sockeye salmon to migrate above the falls, and that it would allow pink, coho, and chum salmon access to the area above the falls; and

WHEREAS the partially successful attempt to construct a bypass of the falls in 1920 and the later construction of the present fish ladder were done with the knowledge and support of the appropriate national fisheries management and National Park Service personnel; and

WHEREAS on-site observers estimate that in recent years approximately one-half of the sockeye salmon that spawn above the falls use the fish ladder to get there; and

WHEREAS the Alaska Department of Fish and Game and National Marine Fisheries Service biologists who have firsthand knowledge of the Brooks River system feel that the removal of the ladder will ultimately prove detrimental to the fishery resources of the river; and

WHEREAS the National Park Service is removing the fish ladder on the basis that the ladder

(1) is insignificant to the production of sockeye salmon;

(2) is inconsistent with National Park Service management objectives and federal mandates;

(3) allows exotic species and races of fish to enter the upper Brooks River ecosystem; and

(4) causes bank erosion and degrades the scenic quality of the Brooks River Falls; and

WHEREAS the State of Alaska has refuted each of these points and has presented its evidence and arguments to the Department of the Interior to no avail; and

WHEREAS fisheries biologists of the State of Alaska and the National Marine Fisheries Service believe that the ladder makes a significant contribution to sockeye salmon production, and they presented the scientific data to back up that belief; and

WHEREAS the State of Alaska has found no provisions in the Alaska National Interest Lands Conservation Act or in the legislative history of that Act that compel the National Park Service to remove the fish ladder; and

WHEREAS a careful review of historic species lists for fish, wildlife and aquatic organisms upstream and downstream of the ladder does not provide an indication that exotic or nonindigenous species, disease vectors or gene pools have entered the upper Brooks River drainage by way of the ladder; and

WHEREAS on-site inspection of the area by State of Alaska personnel has found no riverbank erosion caused by or in the area of the fish ladder; and

WHEREAS most people who visit the falls are not even aware that the ladder exists because of the heavy brush and vegetation that have grown around the ladder since 1949; and

WHEREAS it is inconsistent for the National Park Service to

that the ladder is incompatible with the wilderness [illegible] Katmai National Park when the service itself installed a viewer platform by the falls, accessed by a well traveled trail from a commercial lodge and the National Park Service headquarters, and from which there is a road into the heart of the beautiful Valley of 10,000 Smokes;

BE IT RESOLVED by the Alaska State Legislature that the Secretary of the Interior is respectfully requested to intervene in the decision of the National Park Service to remove the Brooks River Falls fish ladder in Katmai National Park and reverse that decision in the best interests of an important subsistence fishery and wildlife resource protection.

COPIES of this resolution shall be sent to the Honorable Ronald Reagan, President of the United States; to the Honorable Donald P. Hodel, Secretary of the Interior; and to the Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

ATTACHMENT 1

Detailed Rationale for Decision

by the Alaska Department of Fish and Game to Deny Approval

for Removal of the Brooks River Fish Ladder

The decision by the Alaska Department of Fish and Game (ADF&G) to deny approval to the National Park Service (NPS) to remove the Brooks River fish ladder is based upon the following factors:

1. Documentation provided to ADF&G in support of the NPS proposal does not justify removal of the fish ladder because: (a) the fish ladder is functioning and successfully passes fish over the falls, (b) some form of man-made fish bypass has existed at this location for up to 65 years and a fish ladder has existed for 35 years, (c) professional fisheries biologists with NMFS and ADF&G agree that a fish bypass benefits the fishery resource, and (d) the fish ladder provides an alternative route to ensure efficient and unobstructed fish migration over the falls;

2. Removal of the fish ladder is inconsistent with the Alaska Coastal Management Program (ACMP) and the Bristol Bay Borough Coastal Management Program (BBBCMP); and

3. Removal of the fish ladder is inconsistent with the statutory mandates of the Department of Fish and Game.

Additional information on each of these factors follows:

1. The documentation NPS provided to ADF&G does not support removal of the fish ladder. ADF&G staff reviewed USF&WS reports, provided by the NPS, supporting the proposal to remove the fish ladder, and contacted the biologists who were involved in the construction and operation of the fish ladder. We found that additional information exists which indicates that the fish ladder may be much more important in establishing and maintaining upriver salmon runs than the USF&WS report indicates, and which should be considered by the NPS as part of the reevaluation of the proposal. This includes:

A. The fish ladder is functional. The fish ladder continues to pass salmon and other fish despite NPS efforts to obstruct the upper end in 1979. Burger et al. (1985), in one of the USF&WS reports to the NPS, incorrectly stated that the ladder was made inoperative in the early 1970s. The eroded (or man-made) gap at the upper end has continued to keep the ladder functioning and poses no immediate threat to the stability of the bank or ladder. This gap can easily be repaired when the boards blocking the open end of the ladder are removed. With minimal repair and annual maintenance, the fish ladder should continue to function for decades.

B. A fish bypass has been in existence at the falls since 1920. The Brooks River Falls fish bypass was conceived of and partially constructed in 1920 by Dennis Winn of the Bureau of Fisheries and A.T. Looff of the College of Fisheries, University of Washington. This information was obtained from a Bureau of Fisheries publication entitled Alaska Fishery and Fur-Seal Industries 1920 and was not included in the historical documentation that NPS provided to us. These men, with the help of a small crew, cut a 10 by 15 foot slot into the side of the falls, presumably the site of the existing ladder, and later widened the slot using dynamite in 1921. The work was done to alleviate what they felt was an obstruction to fish migration during low water levels at the falls. A portion of their account follows:

> Kidawik Creek [Brooks River] is an ideal salmon stream with fine spawning bottom its entire length of about 2 miles. It connects Naknek Lake with Toms Lake [Brooks Lake] which is 12 by 4 miles in extent, the greater portion being clear and suitable for spawning grounds. About midway between the two lakes there is a waterfall from 5 to 8 feet high, over which it would be impossible for fish to ascend during low-water stage. It is a stone shelf of volcanic formation extending clear across the river, and, having no powder, we felt that a cut could be made with steel bars, etc. We therefore secured several stone-cutting gads, a steel bar, top maul, hammer and pick, and, after diverting the flow of water near one side of the stream, a cut was made 10 feet in width, sloping back

about 15 feet, through which the fish could easily pass.

We have to conclude that the bypass (and later the ladder) were constructed to alleviate a problem with fish passage that early fishery biologists observed or felt would occur during low water conditions. We understand from a personal conversation with Mr. George Eicher, who was director of Bristol Bay fisheries management for the Bureau of Commercial Fisheries (BCF) from 1947-1955, that the present day ladder was originally conceived of in 1938 by Mr. George Kelez who was then the BCF director of Bristol Bay fisheries management. Mr. Eicher stated that both the planning and construction were done with the concurrence of Mr. Al Buehl, the NPS Regional Director in San Francisco. Only the disruptions caused by World War II prevented the ladder from being built prior to 1949. Mr. Eicher believes that the ladder should be left in place and maintained for the following reasons:

i. the ladder allows access above the falls for pink and coho salmon which previously could not get over the falls,

ii. the ladder allows more sockeyes to migrate above the falls and the fish are in better spawning condition because of reduced stress, and

iii. the ladder allows fish access above the falls during low-water conditions.

C. ADF&G and NMFS biologists believe that the fish bypass benefits the fish resource. None of the fishery biologists in ADF&G and NMFS who have firsthand knowledge of Brooks River system feel that removal of the fish ladder will be beneficial to the fishery resources. Many of the biologists feel that removal of the ladder could ultimately prove detrimental to the resource.

D. The fish ladder provides an alternative route over the falls. During the July 1983 inspection by ADF&G, salmon were only successfully passing the falls through one location in one small area near the center of the falls and within the fish ladder. The one location where fish could pass the falls appeared to be defined by a narrow slot in the rock face and a deep plunge pool below.

Should the plunge pool fill in or the slot change, perhaps as the result of erosion, deposition, seismic event, etc., the falls could become impassable to salmon. The ladder provides a valuable safeguard against changes which may block fish migration in the future; an event that would cause significant impacts to the fishery resource, to the productivity of Brooks Lake, and to wildlife such as bears, wolves, fox, eagles, waterfowl, etc., that depend upon the annual return of salmon to waters above the falls.

2. Removal of the fish ladder is inconsistent with the Alaska Coastal Management Program and the Bristol Bay Borough Coastal Management Program. The Brooks River is located within the coastal zone of Alaska. Removal of the fish ladder with its associated effects upon regional fisheries is likely to have a direct and significant effect upon the coastal zone of the Bristol Bay Borough. Projects such as the removal of the fish ladder with its associated impacts on fish and wildlife directly affect Alaska's coastal zone and are subject to review for consistency with the ACMP and the BBBCMP.

Standard 6 AAC 80.130(b) of the ACMP states:

> The habitats contained in (a) of this section [including rivers, streams and lakes] must be managed so as to maintain or enhance the biological, physical, and chemical characteristics of the habitat which contribute to its capacity to support living resources.

Our finding is that removal of the fish ladder will not maintain or enhance the biological, physical, and chemical characteristics of the Brooks River which contribute to its capacity to support living resources.

Uses and activities in the coastal area which will not conform to the standards contained in (b) and (c) of this section may be allowed by the district or appropriate state agency if the following are established:

(1) there is a significant public need for the proposed use or activity;

(2) there is no feasible prudent alternative to meet the public need for the proposed use or activity which would conform to the standards contained in (b) and (c) of this section; and

(3) all feasible and prudent steps to maximize conformance with the standards contained in (b) and (c) of this section will be taken.

Significant public need has not been demonstrated for removal of the fish ladder, therefore the project is not consistent with 6 AAC 80.110.

General Policy No. 4 of the BBBCMP states:

> Maintenance and enhancement of fisheries shall be given priority consideration in reviewing proposals which might adversely impact fisheries habitat, migratory routes and harvest of fish or shellfish species. Alternate designs shall be seriously considered for such proposals, if such potential adverse impacts are significant. Shorelines having banks, beaches, and beds critical to the fisheries resource base shall be maintained in a productive natural condition.

Given that removal of the fish ladder carries a significant risk that this action could lead to future declines in the productivity of fish and wildlife in the Brooks River, Brooks Lake and tributaries above the falls, the project is inconsistent with the ACMP and the BBBCMP. Projects that are inconsistent with the ACMP cannot be approved by ADF&G. Furthermore, federal coastal management regulations 15 CFR 930.30 - 930.33 require any "federal activity involving the planning, construction, modification, or removal of public works facilities or other structures affecting the coastal zone of states with approved management programs to be fully consistent with such programs unless compliance is prohibited based upon the requirement of existing law applicable to the federal agency's operations."

3. Removal of the fish ladder is contrary to Alaska Statutes. AS 16.05.020 charges the Commissioner of the Department of Fish and Game to among other things, "manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state." Moreover, AS 16.05.840 requires:

> If the commissioner considers it necessary, every dam or other obstruction built by any person across a stream frequented by salmon or other fish shall be provided by that person with a durable and efficient fishway and a device for efficient passage for downstream migrants. The fishway or device or both shall be maintained in a practical

> and effective manner in the place, form and capacity the commissioner approves, for which plans and specifications shall be approved by the department upon application to it. The fishway or device shall be kept open, unobstructed, and supplied with a sufficient quantity of water to admit freely the passage of fish through it.

AS 16.05.870(b) and (d) further require:

> If a person or governmental agency desires to construct a hydraulic project, or use, divert, obstruct, pollute, or change the natural flow or bed of a specified river, lake, or stream, or to use wheeled, tracked, or excavating equipment or log-dragging equipment in the bed of a specified river, lake, or stream, the person or governmental agency shall notify the commissioner of this intention before the beginning of the construction or use.
>
> The commissioner shall approve the proposed construction, work, or use in writing unless the commissioner finds the plans and specifications insufficient for the proper protection of fish and game. Upon a finding that the plans and specifications are insufficient for the proper protection of fish and game, the commissioner shall notify the person or governmental agency which submitted the plans and specifications of that finding by first class mail.

This letter and attached rationale constitute a finding by ADF&G that plans and specifications for removal of the Brooks River fish ladder are insufficient for the proper protection of fish and game.

THE EFFECTS OF LADDERING A FALLS IN A SALMON STREAM

George J. Eicher, Jr.

It is seldom possible to obtain an accurate measurement of the effects of ladders in assisting fish over obstructions in streams because facilities are not available to obtain complete counts of these fish, or records of counts before laddering are not available. In the case of a ladder built at the falls on Brooks River in the Bristol Bay district of western Alaska, however, a counting weir had existed a short distance above the falls providing records of salmon counts over a nine-year period previous to that affected by the ladder. These combined with counts of six ensuing years provide a record of some interest.

Brooks River, also known as Kidrelik Creek, is a stream of approximately one and a half miles in length and 250 c.f.s. flow draining Brooks Lake into Naknek Lake. Midway in its length is a falls of approximately seven feet in height caused by a fault transversing the stream. Figure 1 shows a vertical aerial view of the stream. Figure 2 shows the falls with the fish ladder installed. Under normal conditions the falls have not been a block to red salmon, Oncorhynchus nerka, the principal species spawning in the area. During seasons of low water, however, it was observed that many died unspawned below the falls, presumably because of damage caused in attempting to negotiate them. The U. S. Fish and Wildlife Service decided to alleviate such mortality by laddering.

In the season of 1949 work was commenced, and a seven-step ladder was completed midway during the 1950 run. This was constructed by blasting a trough in the rock at one side of the falls and keying concrete weirs into

this. Figure 3 shows the dry ladder. It proved quite efficient in operation, the fish passing over with little apparent effort. Figure 4 shows the ladder in operation. The ladder was opened to use too late in 1950 to affect the main part of the red salmon run, however, it was ready by the time most coho salmon, O. kisutch, ordinarily reach this point, the latter species being a later-spawning fish.

The counting weir, or fence, has been annually built by the U. S. Fish and Wildlife Service across the outlet of Brooks Lake since 1940 with the exception of 1943. Figure 5 shows an aerial view of the weir. While it has been primarily operated to record the escapement of red salmon into Brooks Lake, records have also been kept of other species. Table 1 shows the counts of the various species in the years covered. In addition to those species previously mentioned, chum salmon, O. keta, pink salmon, O. gorbuscha, king salmon, O. tsawytscha, and rainbow trout, Salmo gairdneri, pass through the weir in the numbers indicated. Figure 6 graphically shows the occurrence of these fish in the years involved.

The average runs of the various species in the nine years prior to ladder operation were: reds - 197,058, pinks - 2.6, chums - 1.6, coho - 0.8, kings - 4.6 and rainbow trout - 52.6. In the six years since opening of the ladder in 1950, the averages have been: reds - 56,087, pinks - 23.5, chums - 9.8, coho - 37.8, kings 5.3 and rainbow trout - 47.2. The histogram of Figure 7 shows the comparative levels of each species.

The red salmon is the principal species of Bristol Bay, and it seems likely that the downward trend noted may be due to operation of the fishery

or is due to causes other than the ladder, since the majority of runs of this species in Bristol Bay have experienced similar declines in this period. It is too early to judge if the ladder will enhance survival of red brooks. The average age composition of the Brooks Lake red salmon escapements in the past nine years has included 3.5% four years, 37.9% five years, 54.7% six years and 3.9% seven years.

No noticeable effect by the ladder on the runs of king salmon or rainbow trout is in evidence. It seems likely that these negotiated the falls without too much difficulty. In the case of the other three species, however, a decided increase is apparent. Pinks and cohos showed an immediate increase in the year that the ladder was first opened, with pinks reaching a peak previously unattained in 1953. Cohos and chums peaked in 1954.

There has been ample time for the first pinks passing the ladder in 1950 to reproduce themselves, since they are universally two-year fish, and the progeny of the 1950 brood would return in 1952. Assuming that the young return to the parental spawning grounds, there could be a buildup of pinks in the area, although this could be tempered by the fact that the species does not normally travel this far from salt water to spawn.

Chum salmon showed little increase in 1950, the year the ladder was opened. Chums, however, are a fairly early spawning species, occurring about the same time as reds. At the time of opening the ladder on August 7, 1950, it seems likely that most of the chum run would have been over. In 1954, the largest chum count on record into Brooks Lake was 95% complete by that date. It may seem surprising that the chums, a normally larger species than reds, should have had more trouble negotiating the falls. However, an item

of possible explanation is the fact that chums are nearly all in spawning colors and much more advanced in this respect at Brooks River than the reds, which are still bright and green at that point. It is normally the case that the fresher fish have more vigor than those approaching spawning maturity.

It is indeed surprising that coho salmon apparently were largely unable to leap the falls, particularly in view of the fact that they, like reds, are fresh, green, and in good condition at this point. These fish are, over most of their range, larger than red salmon and quite vigorous, although in this latitude they are smaller than normal being little larger than reds, a 50-fish sample at Brooks weir in 1955 averaging 58.6 cm. in total length as against 55.3 cm. for a red sample of the same size in 1955. This is possible due to the fact that growth conditions are poorer in the colder water than farther south, and while the reds compensate for this by spending more years in the ocean, no available coho age composition records for the area show any deviation from the normal ocean age, that is, one year at sea, although a greater period of freshwater life is indicated. Many coho in this latitude apparently migrate in their third or fourth year, whereas those in Canada, Washington and Oregon almost all migrate in their second year. Of 34 coho sampled in the 1955 Brooks weir escapement, 91.2% were four years old and the remainder five years. The two coho peaks of Figure 6 occuring in 1950 and 1954 fit a four-year periodicity.

TABLE 1.- Counts of Fish at Brooks Lake Weir

	Red	King	Chum	Pink	Coho	Rainbow	Removal Date
1940	97,106	11	0	8	0	64	9-14
1	165,918	2	1	1	0	61	8-19
2	360,899	3	0	8	0	60	8-26
3	Weir Not Installed						
4	272,922	5	8	3	0	100	9-6
5	184,310	4	4	1	1	47	8-30
6	125,114	2	1	0	0	46	8-25
7	87,354	0	0	2	1	98	8-25
8	78,327	0	0	0	3	27	8-22
9	54,022	7	0	0	2	70	8-16
		fish ladder installed					
1950	55,794	7	1	20	2	15	8-25
1	52,029	11	11	12	3	11	8-26
2	49,612	7	9	9	4	23	8-16
3	81,540	0	11	57	3	104	8-17
4	62,365	4	22	41	139	62	8-22
5	34,858	3	5	2	58	38	9-2

Fig. 1 Vertical aerial view of Brooks River from 10,000 feet altitude. Brooks Lake is above and Naknek Lake below.

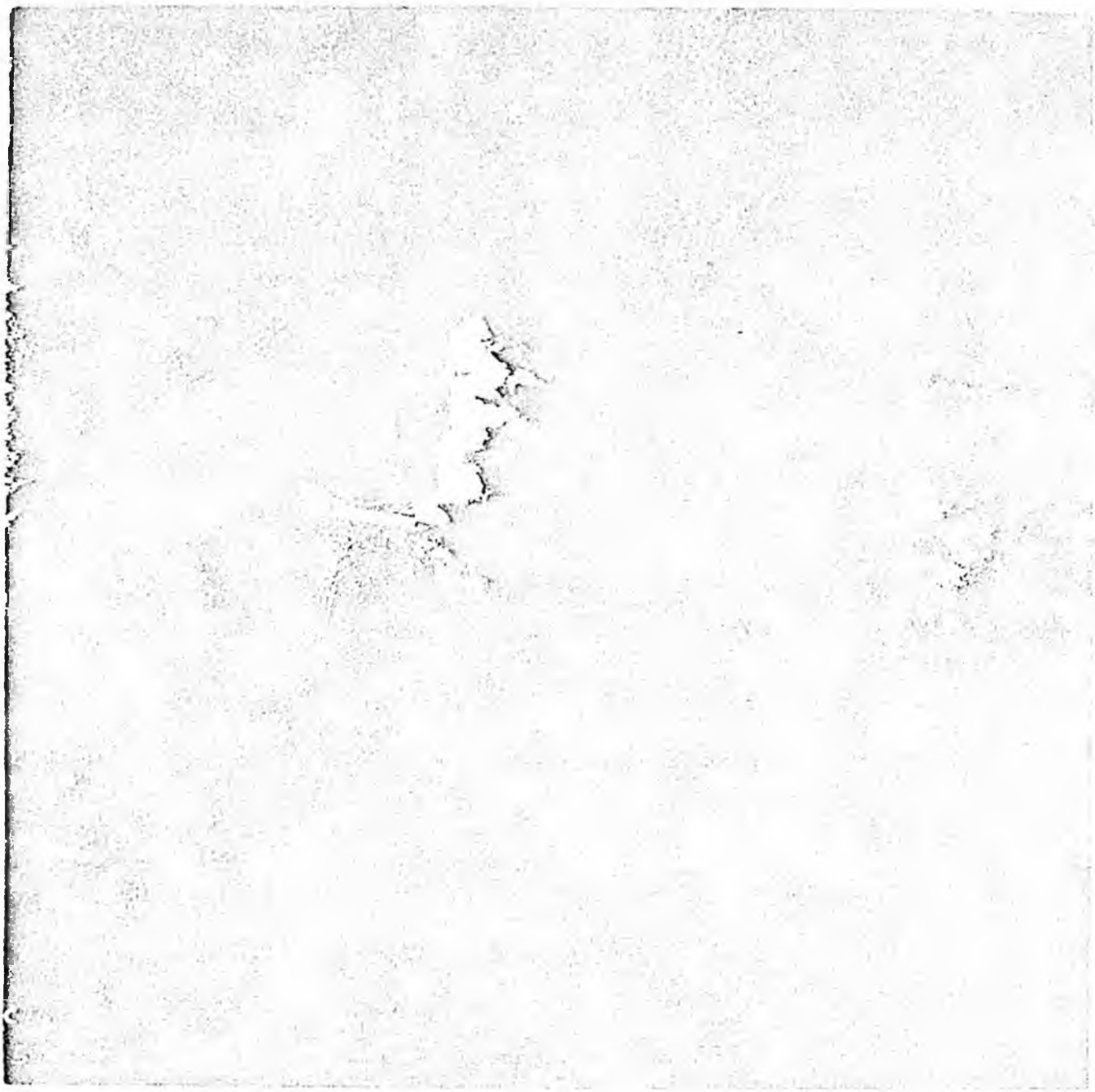

Fig. 2 Vertical aerial view of Brooks falls with fish ladder installed—from 1000 foot altitude

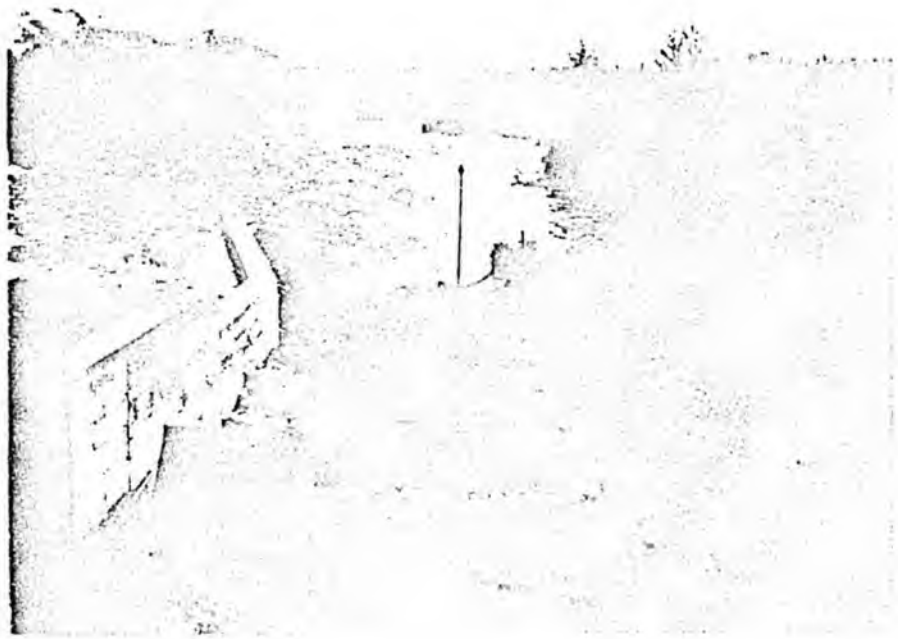

Fig. 3 Dry fish ladder immediately prior to opening to fish use.

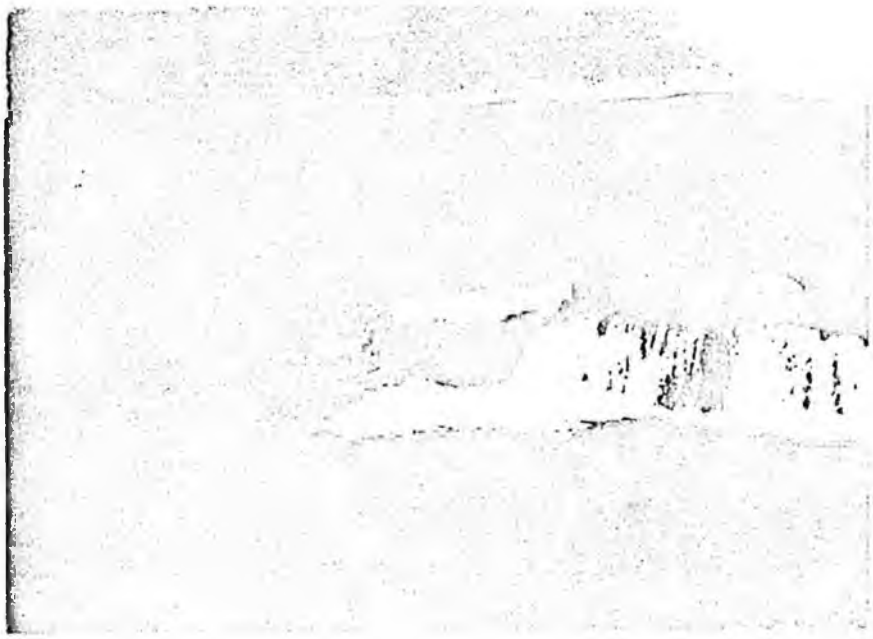

Fig. 4 Flash Indoor in operation