ALASKA LEGISLATURE COMMITTEE FILES 1987-1988 8672
4991 HRES HJR 9

563

North America. Its exploration and development can be an enormous benefit to the state, if conducted in a manner congruent with the best interest of Alaska and her citizens. Determination of that "best interest" will require considerable discussion and debate, but I am convinced that the gravity of issues associated with ANWR development dictate a conditional statement of support from this body. We cannot rush headlong into an endorsement of coastal plain development, as HJR 7 would have us do.

ALASCOM Telegram

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REP SAM COTTEN

JUNEAU AK

HJRS OPPOSES NATIVE LAND TRADES FOR LANDS IN ANWR, CHIEFLY ON THE BASIS THAT THE STATE NEEDS THE 90 PERCENT OF FEDERAL ROYALTIES THAT IT WOULD GET UNDER PRESENT LAW IF THE U.S. GOVERNMENT OWNS AND LEASES THE LAND. THIS REASONING IS MISGUIDED FOR FIVE REASONS.

FIRST, 90 PERCENT OF NOTHING IS STILL NOTHING. NATIVE INVOLVEMENT AND SUPPORT WILL BE ESSENTIAL IF CONGRESS IS TO OPEN ANWR AT ALL. ALASKA IS SEEN OUSIDE AS HAVING HAD ITS FLING, AND HOW MANY NEW VOTES CAN THE OIL COMPANIES DELIVER? CONGRESSIONAL SUPPORT IN D.C. TOWARD NATIVE AMERICANS AND WILDLIFE REFUGE ENHANCEMENT THROUGH NATIVE TRADES WILL OFF-SET THE INCLINATION TO CAST AN EASY PRO-ENVIRONMENTAL VOTE TO KEEP ANWR CLOSED. LANDS GIVEN UP BY THE NATIVES WILL INCLUDE EXTREMELY IMPORTANT INHOLDINGS IN OTHER WILDLIFE REFUGES IN ALASKA, SUCH AS THE MAJOR HABITAT FOR SEVERAL THREATENED SPECIES OF GEESE AND BRANDT. FEDERAL ACQUISITION OF SUCH IN-HOLDINGS WILL WIN THE SUPPORT OF SEVEREL WILDLIFE ORGANIZATIONS, AND FORM

THE BASIS FOR THE KIND OF COMPROMISE WHICH WILL BE NEEDED TO OPEN ANWR. OPPOSING THESE LAND TRADES PLAYS RIGHT INTO THE HANDS OF THOSE WHO WOULD LOCK UP ANWR FOREVER.

SECOND, THE 90 PERCENT FIGURE IS CERTAIN TO BE REEXAMINED IF CONGRESS OPENS ANWR TO OIL AND GAS DEVELOPMENT. NATIVE SUPPORT WILL BE VALUABLE FOR THE STATE IN ITS ATTEMPT TO KEEP ITS SHARE OF FEDERAL ROYALTIES AT A HIGH LEVEL.

THIRD, THE POTENTIAL SIZE AND IMPACT OF THE NATIVE TRADE ON THE ANWR LANDS HAS BEEN GREATLY EXAGGERATED. WHILE THE NATIVES WILL BE TRADING IN VERY SUBSTANTIAL ACREAGE IT WILL BE TRADED ON A VALUE BASIS. THE VALUE OF THE ANWR LANDS FAR EXCEEDS THAT OF THE NATIVE LANDS.

FOURTH, THE TRADES WILL ESTABLISH A STRONG TAX-BASE. STATE PRODUCTION TAXES WILL BE PAID FOR NATIVE ROYALTY PRODUCTION FROM NATIVE LANDS.

FIFTH, NATIVE CORPORATIONS, BEING PRIVATE, CAN IMPOSE AND ENFORCE ALASKA HIRE PROVISIONS IN A WAY THAT THE STATE CAN NEVER HOPE TO MATCH CONSTITUTIONALLY.

FINALLY, THE BOTTOM LINE IS NOT TO LOSE SIGHT OF THE ULTIMATE OBJECTIVE OF OPENING ANWR, CREATING JOBS AND DEVELOPMENT, AND ESTABLISHING A SOUND TAX BASE FOR THE STATE. IT IS AN HISTORICAL AXIOM THAT ALASKA HAS NEVER ACHIEVED MAJOR LAND LEGISLATION IN CONGRESS WHEN THE STATE WAS DIVIDED.

ON BEHALF OF OUR 6300 SHAREHOLDERS AND THE 12 VILLAGE CORPORATIONS IN OUR REGION AND WESTERN ALASKA COMPRISING THE NATIVE LANDS GROUP, COOK

INLET REGION INC. ASKS FOR YOUR CONSIDERATION IN REMOVING THE PROVISIONS IN HJR9 OPPOSING NATIVE LAND TRADES.

ROY M. HUHNDORF, PRESIDENT
COOK INLET REGION INC.

CC: GOVERNOR STEVE COWPER
COMMISSIONER BRADY
COMMISSIONER KELSO
COMMISSIONER COLLINGSWORTH
COMMISSIONER SMITH
COMMISSIONER MALONE
COMMISSIONER GUITTEREZ
JOHN KATZ, SPECIAL ASSISTANT TO THE GOVERNOR

Alaska State Legislature
HOUSE OF REPRESENTATIVES
COMMITTEE ON RESOURCES

POUCH V
JUNEAU, ALASKA 99811
(907) 465-3715

Representative Sam Cotten, co-Chair - 465-3715
Representative Adelheid Herrmann, co-Chair - 465-4942

Committee Schedule February 9 - 13, 1987

Monday, February 9, 1987
8:30 - 10:00 a.m., Capitol 124

HB 29 "An Act making a supplemental appropriation to the Department of Commerce and Economic Development for distribution to qualified regional aquaculture associations; and providing for an effective date."

* HB 61 "An Act relating to the renewal of permits for the use of mental health land of the state, and providing for an effective date."

Tuesday, February 10, 1987
8:00 - 10:00 a.m., Governor's Conference Room, (Senate invited)

8:00 a.m. Commonwealth North
8:30 a.m. Senate of Canada Standing Committee on Fisheries

Wednesday, February 11, 1987
8:30 - 10:00 a.m., Capitol 124

Department of Natural Resources
Overview by Judith Brady

Thursday, February 12, 1987
8:30 - 10:00 a.m., Capitol 124

* HB 18 "An Act establishing the Willow Creek State Recreation area; and providing for an effective date."

* HB 93 "An Act establishing a system of recreation rivers; and providing for an effective date."

Alaska State Legislature
HOUSE OF REPRESENTATIVES
COMMITTEE ON RESOURCES

POUCH V
JUNEAU, ALASKA 99811
(907) 465-3715

Friday, February 13
8:30 - 10:00 a.m., Capitol 124

8:30 a.m.	Bills previously heard before committee
9:30 a.m.	Overview by the Alaska Water Resources Board

Official Business

COMMITTEE: Resources

DATE: Feb 5

SIGN-IN

Subject of meeting: HJR 9 HJR 7

NAME	ADDRESS	PHONE	REPRESENTING	DO YOU WANT TO TESTIFY?
Ron Somerville	Juneau	789-3950	AK Outdoors Council	Yes

5-0230B
Bradley
3/5/87

Original sponsors: Cotten, Pourchot, Rieger, et al.

MASTER

IN THE HOUSE BY THE RESOURCES COMMITTEE

CS FOR HOUSE BILL NO. 93 (Resources)

IN THE LEGISLATURE OF THE STATE OF ALASKA

FIFTEENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act establishing six recreation rivers; and providing for an effective date."

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

Section 1. FINDINGS. The legislature finds that the special values and uses of certain river corridors in centralcentral Alaska justify their retention for public use. The river corridors can support many public uses, including some that will enhance the local economy as well as improve public access to retained lands. The designation of these corridors as recreation rivers recognizes the value of the affected land and should not become an undue impediment to the use and enjoyment of adjacent lands or to development of access across, within, and around the rivers.

(2) conservation of the scenic and natural integrity of the recreation river corridor and continued recreational and economic use and enjoyment by the public, including hunting, fishing, trapping, boating, hiking, snowmachining, skiing, dog mushing and wildlife viewing;

(3) management of upland activities within the recreation river corridor for the protection and maintenance of water quality and stream flow; and

(4) accommodation of access for recreation, tourism, and other compatible economic uses of the river corridor.

Sec 41.23.205 COMPATIBLE ACTIVITIES. In accordance with a management plan adopted pursuant As 41.23.220, the commissioner shall allow and may regulate activities including but not limited to:

5-0230B
Bradley
3/5/87

Original sponsors: Cotten, Pourchot, Rieger, et al.

MASTER

* Section 1. AS 41.23 is amended by adding new sections to read:

ARTICLE 3. RECREATION RIVERS.

Sec 41.23.200 PURPOSES. The purpose of AS 41.23.200 - 41.23.280 is to establish the recreation rivers land and water presently owned by the state and all land and water acquired in the future by the state lying within the boundaries described in AS 41.23.280 (b). The primary purposes for the establishment of the recreation rivers are

(1) the protection and maintenance of the fish and wildlife populations and habitat on a sustained-yield basis;

(2) conservation of the scenic and natural integrity of the recreation river corridor and continued recreational and economic use and enjoyment by the public, including hunting, fishing, trapping, boating, hiking, snowmachining, skiing, dog mushing, and wildlife viewing;

(3) management of upland activities within the recreation river corridor for the protection and maintenance of water quality and stream flow; and

(4) accommodation of access, for recreation tourism, and other compatible economic uses of the river corridor.

Sec 41.23.205 COMPATIBLE ACTIVITIES. In accordance with a management plan adopted pursuant to AS 41.23.220, the commissioner shall allow and may regulate recreation activities including but not limited to:

(1) use of aircraft, powerboats, snowmachines, all-terrain vehicles, and other motorized transportation;

(2) harvest of wood products;

(3) ~~mineral~~ mining/leasing and oil and gas leasing;

(4) sand and gravel extraction for public use; and

(5) public use facilities.

Sec. 41.23.210. GENERAL MANAGEMENT OF RECREATION RIVER CORRIDORS. (a) The state-owned land and water within the area established as a recreation river corridor under AS 41.23.280(b) is assigned to the commissioner for management consistent with the purposes of AS 41.23.200 - 41.23.280.

(b) The commissioner shall reserve to the state under AS 46.15.-145 an instream flow or level for the water in the rivers described in AS 41.23.280(b) that is adequate to achieve the purposes of AS 41.23.-200 - 41.23.280.

(c) The provisions of AS 41.23.200 - 41.23.280 do not affect the authority of

(1) the Department of Fish and Game, the Board of Fisheries, the Board of Game, or the Guide Licensing and Control Board under AS 08.54, AS 16, or AS 41.99.010;

(2) the Department of Environmental Conservation under AS 46.03; or

(3) state agencies and municipalities under AS 44.19.145-(a)(11) and AS 46.40.100.

(d) The commissioner may not restrict the use of weapons, including firearms, within a recreation river corridor except in sites of high public use such as picnic areas, boat ramps, camping grounds, and parking areas when the commissioner determines that the use of weapons constitutes a threat to public safety. Except as provided in

this subsection, the commissioner may not restrict fishing, hunting, or trapping within a recreation river corridor.

~~(e) The commissioner may lease land competitively within a recreation river corridor for the construction and operation of a public use facility.~~

(e) The commissioner may not restrict commercial or private activities on state-owned land within the boundaries of a recreation river corridor ~~existing~~ committed on the effective date of this Act unless the commissioner determines that the activity is incompatible with AS 41.23.200~~(b)~~.

Sec. 41.23.220. MANAGEMENT PLAN. (a) After consultation with local authorities and state agencies, including the commissioner of fish and game, the commissioner shall adopt ~~and may revise~~ a management plan for a recreation river corridor. The commissioner shall comply with the notice requirements of AS 38.05.945 and shall hold at least one public hearing in the municipalities and communities near the recreation river corridor and with the local fish and game advisory committee in the area in the adoption or revision of a management plan. The management plan shall establish long-range guidelines and management practices consistent with AS 41.23.200~~(b)~~ to

(1) protect, maintain, or enhance the fish and wildlife habitat and the free-flowing nature of the river;

(2) identify special recreational values and manage the level of intensity and types of recreational uses;

(3) designate compatible land uses and management guidelines for associated development;

(4) manage commercial activities or development, including recreational services such as guiding;

(5) provide for necessary public services, such as

transportation and utility corridors, public safety, and law enforcement; including municipal lands that may be offered for sale,

(6) allow reasonable and necessary access to public land and private inholdings and to land beyond the recreation river corridor;

(7) establish criteria and timelines to review future proposed uses for compatibility with AS 41.23.200[~~(b)~~];

(8) establish guidelines and setback restrictions for an activity occurring under AS 41.23.[~~200(c)~~] 205 or for ~~minerals~~ mining leasing and oil and gas leasing under AS 41.23.250(b) - (d).

(b) The commissioner may adopt regulations necessary to implement the plan.

(c) A management plan adopted [~~or revised~~] by the commissioner under (a) of this section shall be submitted to the legislature for review within the first 10 days of the first regular session of the legislature to convene after its adoption or revision by the commissioner.

Sec. 41.23.230. MANAGEMENT OF MUNICIPAL LAND. If a municipality commits land for inclusion in a recreation river corridor established under AS 41.23.280(b), the commissioner shall obtain the concurrence of the municipality to the management plan proposed under AS 41.23.220 as it applies to municipal land. The commissioner shall cooperate, at the request of a municipality, in planning for municipal land adjacent to a recreation river corridor.

Sec. 41.23.240. ACQUISITION OF ADDITIONAL LAND. (a) The commissioner may acquire in the name of the state land that is adjacent to or located within the land described in AS 41.23.280(b) by purchase, lease, gift, or exchange.

(b) The commissioner may not acquire land for inclusion in -

recreation river corridor by eminent domain.

Sec. 41.23.250. APPLICATION OF PUBLIC LAND LAWS. (a) Except to the extent that a provision is inconsistent with a provision of AS 41.23.200 - 41.23.280, the provisions of AS 38.04, AS 38.05, AS 38.35, and AS 38.95 apply to land described in AS 41.23.280(b).

(b) [~~Except as provided in (c) of this section,~~] The state-owned land and water within a recreation river corridor is closed to mineral location [~~and entry~~] under AS 38.05.195 and to disposal of leasable minerals under AS 38.05.150 - 38.05.175.

(c) Except on state-owned land ~~within 200 feet of a stream~~ below ordinary high-water or mean high tide, the commissioner may permit mineral prospecting under AS 38.05.245 and, upon a subsequent discovery, ~~mineral~~ mining leasing under AS 38.05.205 in an area within a recreation river corridor if leasing is allowed under a management plan that has been adopted by the commissioner. The commissioner shall establish appropriate conditions in permits, operating plans, and leases to protect the environment and prevent degradation of the recreational uses of the river.

stream buffer?

(d) The state-owned land and water within a recreation river corridor is available for oil and gas leasing subject to conditions in an adopted management plan.

(e) To enhance public use and enjoyment of a recreational river corridor in accordance with an adopted management plan, the commissioner may ~~[illegible]~~ provide for the construction and operation of commercial facilities such as lodges, campgrounds, and boat launches by

1) competitively leasing land, among prequalified bidders, under ~~[illegible]~~ AS 38.05.070; and

2) contracting for the construction or operation of facilities ~~[illegible]~~ under AS 36.30.

1 recreation river corridor by eminent domain.
2 Sec. 41.23.250. APPLICATION OF PUBLIC LAND LAWS. (a) Except to
3 the extent that a provision is inconsistent with a provision of
4 AS 41.23.200 - 41.23.280, the provisions of AS 38.04, AS 38.05,
5 AS 38.35, and AS 38.95 apply to land described in AS 41.23.280(b).
6 (b) ~~Except as provided in (c) of this section,~~ The state-owned
7 land and water within a recreation river corridor is closed to mineral
8 entry by location ~~and entry~~ under AS 38.05.195 and to disposal of leasable
9 minerals under AS 38.05.150 - 38.05.175.
10 (c) Except on state-owned land within 700 feet of or below ordinary high-water or mean high tide, the
11 stream bed?

21 (f) The commissioner of administration shall separately account
22 for funds collected under this section and deposited in the general
23 fund. The annual estimated balance in the account may be appropriated
24 by the legislature to the department to carry out the purposes of this
25 chapter.
26 Sec. 41.23.260. COOPERATIVE MANAGEMENT AGREEMENTS. (a) The
27 commissioner may enter into a cooperative management agreement for the
28 management of land and water described in AS 41.23.280(b) or of other
29 adjacent land and water with a federal agency, a municipality of the

state, another agency of the state, or a private landowner.

(b) The commissioner may transfer the management of a specific site within a recreation river corridor described in AS 41.23.280(b) to a state agency to assist in the development of a facility or to carry out a program authorized by law.

(c) The commissioner may not manage a recreation river corridor described in AS 41.23.280(b) as a unit of the state park system. The commissioner may assign management of a recreation facility or site such as a campground or a boat launch to the division of parks and outdoor recreation and may adopt regulations allowing the division of parks and outdoor recreation to manage recreation activities in a recreation river corridor. ~~(Same concern as page 5, line 8 HB (S?))~~

Sec. 41.23.270. ESTABLISHMENT OF RECREATION RIVER CORRIDORS. State-owned land and water may be established as a recreation river ~~corridor~~ unit only by the legislature.

Sec. 41.23.280. DESIGNATED RIVERS. (a) Subject to valid existing rights, the state-owned land and water established as a recreation river corridor under (b) of this section is reserved as a special purpose area under art. VIII, sec. 7, Constitution of the State of Alaska, and is not subject to fee surface disposal under AS 38.

(b) The land and water presently owned by the state and all land and water acquired by the state in the future, including shore and submerged land, that lies within the following described parcels are established as recreation rivers:

(1) Talachulitna State Recreation River

(A) Township 16 North, Range 10 West, Seward Meridian

Section 6: W1/2

Section 7: NW1/4

(B) Township 16 North, Range 11 West, Seward Meridian

Section 1: E1/2, SW1/4

Section 35: NW1/4, W1/2NE1/4

ARTICLE 4. GENERAL PROVISIONS.

Sec. 41.23.900. DEFINITION. In this chapter, "commissioner" means the commissioner of natural resources.

* Sec. 2. Until a management plan has been adopted for a recreation river corridor under AS 41.23.220(a) as enacted in sec. 1 of this Act, interim management shall be consistent with AS 41.23.200. The commissioner of natural resources shall adopt management plans for the [three] most ~~extensively used~~ rivers by July 1, 19~~89~~92.

* Sec. 3. This Act takes effect immediately under AS 01.10.070(c).

SPONSOR: Senate Resources

pub hear work ses inv hear

T/C DATE/DAY: 2-13-89

TIME: [illegible]

LEGISLATIVE REFERENCE: [illegible]

JUNEAU ROOM: [illegible]

SUBJECT: [illegible]

BRIDGE:

OF PORTS:

CONTACT: [illegible] PHONE: DATE TAKEN/BY:

****

SITES PARTICIPATING:

LIO'S	LTC'S	VTS'S
✓Anchorage		See List on
✓Barrow	Fort Yukon	Reverse Side
✓Bethel	Galena	
Delta Junction	Homer	
✓Dillingham	✓Naknek	
✓Fairbanks	✓Newhalen	ALL LIO'S
Glennallen	St. Paul	ALL LIO's/LTC'S
Juneau	Sand Point	
Ketchikan	Togiak	
Kodiak	Unalaska	OTHER SITES WELCOME
Kotzebue	Wrangell	WITH PRIOR NOTIFICA
✓Mat-Su		
Nome		
Petersburg		
Sitka		
Soldotna		
Valdez		

OFFNETS: Larson Bay

CHAIRING SITE:

CHAIRPERSON:

[ ] CONFORMS TO LEGISLATIVE COUNCIL POLICY 4/85

Thomas K. McCauley Feb. 9, 1989

SIGNATURE OF SPONSOR/CONTACT PERSON DATE

****

SPECIAL INSTRUCTIONS

Alaska State Legislature
HOUSE OF REPRESENTATIVES
COMMITTEE ON RESOURCES

POUCH V
JUNEAU, ALASKA 99811
(907) 465-3715

M E M O R A N D U M

To: Representative Mike Navarre
Representative Lyman Hoffman
Representative Drue Pearce
Representative John Sund
Representative Cliff Davidson
Representative Henry Springer
Representative Dick Shultz

Fr: Representative Sam Cotten, Co-Chair
Representative Adelheid Herrmann, Co-Chair
House Resources Committee

Dt: January 29, 1987

Re: Committee Procedure

Committee staff has asked us to be sure that you never leave the committee room with your bill files, ~~unless you promise to bring them back.~~ except for duplication. Bill files should be available for you during the day prior to a hearing on a new bill. (Sharon - where?)

Also, in the interest of a more informed committee, ~~it is good~~ we would appreciate (whenever possible) ~~to~~ your provide~~s~~ the chair, and staff, with possible amendments before a meeting so that they can be duplicated and circulated.

Many thanks.

nf2:smc

Alaska State Legislature
HOUSE OF REPRESENTATIVES
COMMITTEE ON RESOURCES

JOHN RINGSTAD, CO-CHAIRMAN
RICHARD SHULTZ, CO-CHAIRMAN
POUCH V
JUNEAU, ALASKA 99811
(907) 465-3715

February 5, 1987

The Honorable William Horn
Assistant Secretary for Fish,
Wildlife and Parks
U. S. Department of the Interior
Washington, D. C. 20240

Dear Secretary Horn:

We are writing to invite you or a representative of your office to appear before the House Resources Committee of the Alaska Legislature on the issue of proposed land trades in the Arctic National Wildlife Refuge. Our meeting on this topic is scheduled for Friday, February 13, from 1:00 - 3:00 p.m., in the State Capitol Building.

Several members of the Committee and other legislators are deeply interested in the land exchange proposals. At this time in our consideration of HJR 9 (enclosed), it would be very informative to have the Interior Department come before us to:

(1) describe any proposed/possible land exchanges in ANWR, and their possible national and state benefits;

(2) explain the proposed land exchange agreements;

(3) describe the land and subsurface appraisal process; and

(4) explain why inholdings in national parks have not been included in the proposed exchanges.

The meeting will not be limited to these issues, but we expect discussion on at least these topics and would be most interested in starting out with a briefing by Interior Department policy makers.

We look forward to your response and appreciate your cooperation. Please contact Representative Cotten's office to arrange any details.

Sincerely,

Sam Cotten

Rep. Sam Cotten
co-Chairman
(907) 465-3711

Adelheid Herrmann

Rep. Adelheid Herrmann
co-Chairman
(907) 465-4942

SC:smc

THE OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-8000

ACQUISITION AND LOGISTICS

DASD(P)DARS

29 JAN 1986

In reply refer to:
DAR Case 86-3

MEMORANDUM FOR THE DIRECTOR, NATIONAL SECURITY AGENCY
THE DIRECTOR, DEFENSE COMMUNICATIONS AGENCY
THE DIRECTOR, DEFENSE INTELLIGENCE AGENCY
THE DIRECTOR, DEFENSE NUCLEAR AGENCY
THE DIRECTOR, DEFENSE MAPPING AGENCY

SUBJECT: Section 8078, 1986 Defense Appropriations Act - Restrictions on the Employment of Personnel for Work on Construction/Service Contracts

On 24 January 1986, the DAR Council approved the attached new Subpart 22.72 of the DFARS for publication in the Federal Register as an interim rule and for immediate Departmental implementation. This action is necessary because Section 8078 of the FY 1986 Defense Appropriations Act, enacted on 23 December 1985, requires that whenever the unemployment rate in Alaska or Hawaii exceeds the national average as determined by the Secretary of Labor, service and construction contracts awarded in FY 1986 and calling for performance in whole or in part within those states must contain a restriction on who can be employed to perform work on that contract. This requirement is implemented by a new clause at DFARS 52-222-7002. Contracting officers shall include the clause in all new solicitations, as well as modify existing solicitations to incorporate the clause when to do so will not unduly delay the procurement. For contracts already awarded in FY 1986, contracting officers should attempt to modify them to include the clause on a no cost basis, provided the Government's interests are adequately protected.

This Departmental is effective immediately.

Otto J. Guenther

OTTO J. GUENTHER, COL, USA
Director
Defense Acquisition
Regulatory Council

Attachments
DFARS 22.72 and 52-222-7002

THE OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-8000

ACQUISITION AND LOGISTICS

DASD(P)DARS

28 JAN 1986

In reply refer to:
DAR Case 86-3

697.9125

SUBJECT: Section 8078, 1986 Defense Appropriations Act - Restrictions on the Employment of Personnel for Work on Construction/Service Contracts in Alaska and Hawaii

The attached Departmental Implementation Letter was issued by the Military Departments and by this office to the Defense Agencies under our cognizance.

OTTO J. GUENTHER, COL, USA
Director
Defense Acquisition
Regulatory Council

Attachment

Add a new Subpart 22.72 as follows:

SUBPART 22.72—SECTION 8078, 1986 DEFENSE APPROPRIATIONS ACT - RESTRICTIONS ON THE EMPLOYMENT OF PERSONNEL FOR WORK ON CONSTRUCTION/SERVICE CONTRACTS IN ALASKA AND HAWAII

22.7200 Policy.

(a) Except as provided in (b) and (c) below, Section 8078 of the 1986 Defense Appropriations Act requires that notwithstanding any other provision of law, every contract awarded during FY 1986 calling for construction or services to be performed in whole or in part within the State of Alaska or the State of Hawaii shall include a provision requiring the contractor to employ, for the purpose of performing that portion of the contract work within the particular state, individuals who are residents of that state, and who, in the case of any craft or trade, possess or would be able to acquire promptly the necessary skills to perform the contract.

(b) This section shall not apply at any time during FY 1986 when the unemployment rate in Alaska is not in excess of the national average rate of unemployment as determined by the Secretary of Labor.

(c) This section shall not apply to contracts to be performed in whole or in part within the State of Hawaii unless in FY 1986 the unemployment rate in Hawaii is in excess of the national average rate of unemployment as determined by the Secretary of Labor.

22.7201 Waivers. This section may be waived by the Secretary of Defense, the Deputy Secretary of Defense, the Assistant Secretary of Defense for Acquisition and Logistics, and any Secretary, Undersecretary, or Assistant Secretary of the Army, Navy, and Air Force, in the interest of national security. Requests for waiver shall be processed in accordance with Departmental or agency procedures.

22.7202 Contract Clause. The contracting officer shall insert the clause at 52.222-7002, Restrictions on Employment of Personnel, in all solicitations and contracts in accordance with 22.7200.

Add a new clause as follows:

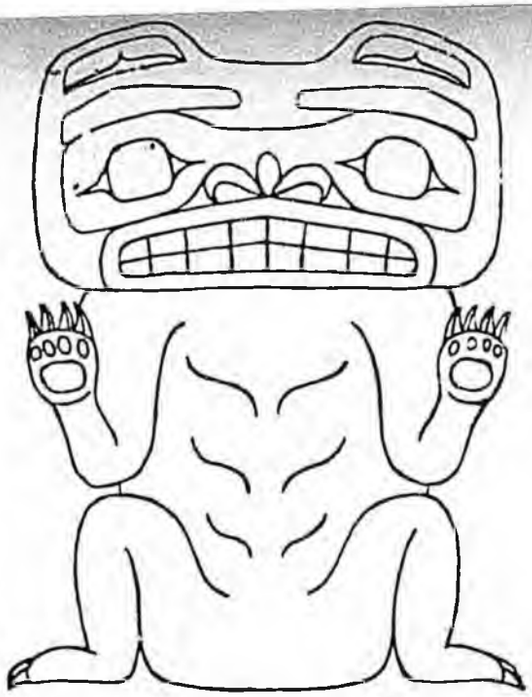
52.222-7002 Restrictions on Employment of Personnel. As prescribed in 22.7202, insert the following clause.

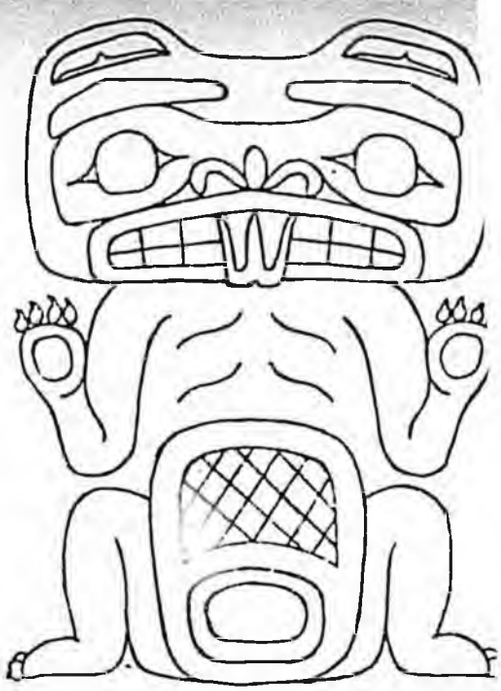
RESTRICTIONS ON EMPLOYMENT OF PERSONNEL (JAN 1986)

(a) The Contractor shall employ, for the purposes of performing that portion of the contract work in the State of (insert appropriate state), individuals who are residents of the state, and who, in the case of any craft or trade, possess or would be able to acquire promptly the necessary skills to perform the contract.

(b) The Contractor agrees to insert the substance of this clause, including this paragraph (b), in each subcontract.

(End of clause)





City of Saxman

Rt. 2, Box 1
Saxman, Alaska 99901
907-225-4166

CITY OF SAXMAN, ALASKA

RESOLUTION #86-12-029

A RESOLUTION ON THE ALASKA'S ARCTIC NATIONAL WILDLIFE REFUGE (ANWR) COASTAL PLAIN

WHEREAS, Alaska's Arctic National Wildlife Refuge includes more than 19 million acres of land, amounting to approximately five percent of the entire state landmass, and

WHEREAS, the Coastal Plain is approximately eight percent of the refuge, it is considered to be highly prospective for the discovery of large quantities of oil and gas; and

WHEREAS, Congress has reserved the discretion to decide if the 1.5 million acres will be opened to further exploration, development and production; and

WHEREAS, the petroleum industry had consistently demonstrated its ability to operate in conditions similar to those found on the coastal plain in a safe, responsible manner without significant adverse environmental impacts, and

WHEREAS, the United States must prepare to develop domestic petroleum resources if it is to preclude overwhelming dependence on foreign petroleum sources in the 21st century; and

WHEREAS, the value and development potention of state-owned tidelands and federally-owned OCS lands offshore of the ANWR Coastal Plain would be enhanced by a Congressional decision to open the coastal plain to further exploration, development and production; and

WHEREAS, facilities developed to transport petroleum resources on the coastal plain to Pump Station One may allow marginal discoveries between the ANWR Coastal Plain and Prudhoe Bay to developed; and

WHEREAS, national energy security depends on the development of domestic oil and gas resources to replace depleted U.S. reserves; and

WHEREAS, the nation stands to derive revenues including portions of bonuses, royalties and rents from oil and gas development; and

WHEREAS, opening the ANWR Coastal Plain to further exploration, development and production will generate increased employment and business opportunities for all Alaskans and all Americans;

NOW THEREFORE, BE IT RESOLVED that the Saxman City Council strongly urges the Congress of the United States to the ANWR Coastal Plain to environmentally responsible oil and gas exploration, development and production.

APPROVED by a vote of 6 for and 0 against on December 18, 1986, constituting a majority of the City Council.

James E. Swink, Mayor

Attest:

Nora DeWitt, Administrative City Clerk

ANWR Hearings

DRAFT

General Information for Requested Witness

Hearing times and Places

1st Hearing: Friday, March 6th, Fairbanks, Borough Assembly Chambers
Saturday, March 7th, Fairbanks

2nd Hearing: Friday, March 13th, Anchorage, Z.J. Loussac Municipal Library
Saturday, March 14th, Anchorage

3rd Hearing: Friday, March 20th, Ketchikan, Community College
Saturday, March 21st, Ketchikan / Forum Room

4th Hearing: Friday, March 27th, Kodiak, Assembly Chambers
Saturday, March 28th, Kodiak

Friday Format: 9am opening of hearing
Testimony from:
US Fish and Wildlife Service
Bureau of Land Management

Testimony will include a 30-minute background presentation on the agencies' role in development of the draft 1002 (h) report for Congress, on the ANWR. The remaining time will be for the answering of questions from the committee.

12pm Break for Lunch

Friday Afternoon
Format: 1pm reconvene hearings
Testimony will be heard from the state departments of Natural Resource, Fish and Game, and Environmental Conservation. 30 minutes will be allowed for the agency to present its role in the development of the 1002 (h) report, with the remaining time being for questions from the committee.

5pm recess until 9am the following day.

Saturday Format: 9am reconvene hearings
Testimony will be heard from requested witnesses, including industry and individuals with specific expertise on ANWR, related to the 1002(h) report.

11am Testimony will be heard from the general public, with 3 minutes allowed for comment and 2 minutes for questions from the committee.

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Saturday Continued

12pm to 1pm Lunch Break

1pm reconvene general public testimony

3pm close location hearing

Saturday's hearing may run over to 5pm, depending on public interest.

The purpose of these hearings is two fold. One is to build a public record which the Alaska State Legislature will utilize, in making an informed decision on proposed development activities in the coastal plain of the ANWR. The second is to allow the public as great an opportunity as possible to have input into this decision making process, and access to the same information which the legislature will be basing it's findings.

Requested Witness will have a limited amount of time for general comments. Time allocations will be determined by the structure of the presentation, i.e. single witness or panel; and by the total number of witnesses. Only two hours are set aside for this portion of the hearing.

General Witness Catagories

Environmental
- representative organizations
- biological experts

Labor
- union leaders

Industry
- environmental
- engineering
- geology
- regulatory

Native
- organization
- corporate

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Industry related areas of concern

1. Regulatory framework industry would be working within in ANWR.
   - Environmental protection
   - Permitting process
   - Timelines associated with permits

2. Work that industry has done or participated in, dealing with ANWR and the 1002 report.
   - Geologic data gathering
   - Development feasibility studies
   - Wildlife assessments including: offshore - Bow Head
     onshore - PCH
     Subsistence

3. Specific involvement in development of the 1002 report

4. How the information that has been collected influences industries evaluation of ANWR's potential to be an oil producer.

5. What sort of development scenarios might take place, given a range of recoverable oil reserve being located in ANWR.

6. How long would it take to get a range of discoveries into production.

7. How long might the range of reserves last

8. What other advantages to development on the North Slope exist if recoverable economic reserves are discovered in ANWR.

Ned Farquhar

07/02/86

ARCTIC NATIONAL WILDLIFE REFUGE (ANWR)

INFORMATION NOTEBOOK

PREPARED BY

THE AOGA NORTH SLOPE LANDS TASK FORCE

CONTENTS

INTRODUCTION

Purpose

The purpose of this notebook is to provide background and briefing material on a number of concerns which will have direct bearing on the ultimate decision by Congress on whether to allow oil and gas exploration in the Coastal Plain of the Arctic National Wildlife Refuge (ANWR). The advocacy paper, presents concise and factual reasons why the ANWR coastal plain should be opened to oil and gas exploration and development. The advocacy paper and briefing and background papers are to be used by members of the oil and gas industry in contacts and efforts to provide congressional members, other public officials and private organizations the information needed to form responsible opinions and make informed decisions on this important national issue. These materials will be used in conjunction with other AOGA material, such as the ANWR Slide Presentation and the ANWR Video Presentation.

Executive Summary

The ANWR coastal plain has the highest potential of any unexplored region in the onshore United States. The United States must continue to explore for and develop its petroleum resource potential in the face of increased dependence on foreign sources.

July 2, 1986

ADVOCACY PAPER

REASONS TO OPEN ANWR COASTAL PLAIN TO OIL AND GAS EXPLORATION DEVELOPMENT AND PRODUCTION

Why explore ANWR?

- Most other high potential frontier basins have been tested with disappointing results.

- The Arctic National Wildlife Refuge (ANWR) has the highest potential of any unexplored region in the onshore U.S.

- Development of new domestic hydrocarbon supplies is critical to the national interest.

- Oil and gas activities on the North Slope provide significant economic benefits to federal and state governments and to Alaskans.

ANWR offers an extraordinarily high potential for oil and gas discoveries

- Geologists agree that the hydrocarbon potential is high in the region: USGS mean estimate for oil resources in the ANWR Coastal Plain is almost 4.9 billion barrels in-place; a

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

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Executive Summary

The ANWR coastal plain has the highest potential of any unexplored region in the onshore United States. The United States must continue to explore for and develop its petroleum resource potential in the face of increased dependence on foreign sources.

The decision to open the Coastal Plain needs to be made now, since it is likely to take 15 years to bring resources from the coastal plain to market if commercial discoveries are made. Leasing on federal lands is a major source of revenue for federal, state and local governments. Exploration and development in ANWR will create jobs and employment in Alaska and in other states that provide the equipment and materials for the oil and gas industry. Finally, the oil and gas industry has developed the experience and technology in arctic Alaska to safely operate in the Coastal Plain of the ANWR in harmony with the environment.

NS1:7

July 2, 1986

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similar statistic prepared by the National Petroleum Council in 1981, prior to the conduct of seismic surveys of 1984 and 1985, indicates a mean estimate of 2.3 billion barrels of recoverable oil.

- Geologists also agree that the same hydrocarbon-bearing geologic strata of the Prudhoe Bay oil field and Pt. Thomson gas/condensate field are believed to occur in the subsurface of the ANWR Coastal Plain; only drilling and testing can confirm the viability of oil and gas production from these units.

National interest will be served by ANWR exploration and production

- Reduced dependency upon imported oil: at this time one third of the nation's trade deficit results from imported oil (net payments for imported oil amounted to almost $53 billion in 1984).

- Reliable sources of domestic oil should be developed and maintained: an API survey indicates that domestic crude oil production would fall from 8.9 million barrels a day in 1985 to 6.2 million barrels a day in 1991 if prices remain at $15 per barrel. Domestic production is forcast to fall below 3

million barrels a day by year 2000, the earliest any ANWR discovery is likely to be produced.

- Foreign policy implications: prevention of disruption of oil supplies is key factor in foreign policy decisions.

- The U.S. will be vulnerable to serious economic and security dislocations if it allows itself to become unnecessarily dependent on foreign oil: foreign sources of petroleum are concentrated in the Middle East--the region contains about two-thirds of the free world's proven reserves; Saudi Arabia alone contains over one-forth; the Middle East is no more stable now than it has been during the Iranian revolution (1979) and the Iran-Iraq war (1980 to date) when oil import curtailments occurred.

- In light of declining domestic reserves and increased domestic consumption resulting from present low oil prices, opportunities to develop new commercial fields should not be precluded.

- Sixty percent of the U.S. flag tanker tonnage is employed in transportation of North Slope crude oil to U.S. markets: reduced production from the North Slope will result in increased retirement of vessels from this service and an overall decline of the merchant marine fleet.

Sam — Some national interest arguments here

ANWR COASTAL PLAIN
EXPLORATION DEVELOP-
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ion to explore and develop the ANWR Coastal Plain

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Alaska supplies our nation with approximately 20% total domestic production. Lead times are long in Alaska regions--at least 10 years from discovery to first production, but more likely to extend beyond 15 years. Without significant new discoveries, our nation could be dependent upon foreign sources for 60% of its demand by the year 2000.

- U.S. consumes more than 25 percent of worldwide petroleum production even though it has less than 4 percent of proven worldwide reserves; policies which slow or prohibit replenishment of domestic reserves exacerbate this problem.

- The argument has been presented that depressed oil prices will result in bids at less than fair market value for oil and gas leases in ANWR. This argument ignores, however, the discretion that the government has to establish the type of bidding system including the long-term royalty and revenue criteria to insure realization of fair market value. The federal government can reject bids not considered fair market value.

REASONS TO OPEN ANWR COASTAL PLAIN TO OIL AND GAS EXPLORATION DEVELOPMENT AND PRODUCTION

- While the bidding system can provide significant up-front revenues to the government, it is the royalties that provide major revenues over a long period of time. The highly prospective area will attract broad industry competition. The industry needs access to the most promising areas now to insure timely development of needed future reserves. The fact is that classifying the ANWR Coastal Plain as wilderness insures that there will be no return to the federal government and no access or future benefit to U.S. citizens from the oil and gas that may be in place in the region.

Oil and gas development provides economic benefits

- Leases on federal lands are a major source of revenue for the government; in 1984 the federal government received $1 billion in oil and gas lease bonuses, rentals, and royalties, as well as about 25 percent of the revenue generated by North Slope state leases through excise and income taxes; in 1984 alone, Alaska received about $3.5 billion in oil and gas royalties, bonuses, and taxes, primarily from the North Slope operations.

- Exploration and production activities provide jobs. Thirty percent of Alaskan households have members holding jobs in the oil and gas industry; decline in Cook Inlet and North Slope construction work will significantly affect statewide

unemployment levels; opening additional lands to exploration and potential development will have an important positive effect on employment in the state.

- North Slope Borough (the local government) presently derives about seventy percent of its income from property taxes on oil and gas facilities; these revenues will decline as book value of taxed properties declines; real property values at Prudhoe Bay/Kuparuk are expected to peak at $16 billion in 1987 and decline to $813 million by 2010.

<u>Oil exploration, development and production is consistent with ANWR management goals</u>

- Oil and gas exploration, development and production are now occurring in the Swanson River Field in the Kenai National Wildlife Refuge in southcentral Alaska and many other refuges in the United States; production has continued in the Kenai refuge since 1962 without adverse impacts to moose that browse throughout the Refuge and to salmon that spawn in the Swanson River and its tributaries.

- Implementation of migratory waterfowl treaties affecting ANWR will not be hampered by petroleum exploration and production; many of the same species now utilize habitats in the Prudhoe

Bay/Kuparuk area west of ANWR where crude oil has been produced since 1977.

- Subsistence species (primarily caribou and waterfowl) in the Coastal Plain will not be diminished by petroleum exploration and development; access to these resources by Natives would not be significantly affected by oil and gas activities. Caribou herds coexist with oil and gas development in other areas on the North Slope; the Central Arctic Caribou Herd, whose summer range includes the Prudhoe Bay and Kuparuk oil fields has grown from about 3,500 animals in 1975 to 18,000 in 1985.

<u>Proven technology can be applied to exploration and production in ANWR in a manner to protect the environment</u>

- Application of forty years of engineering experience in Arctic Alaska culminating in developments in the Prudhoe Bay and Kuparuk oil fields demonstrate that oil development can and does exist in harmony with the environment.

- Directional drilling techniques have been developed that allow consolidation of facilities to minimize the amount of surface area impacted by exploration and development facilities.

REASONS TO OPEN ANWR COASTAL PLAIN TO OIL AND GAS EXPLORATION DEVELOPMENT AND PRODUCTION

- In addition to reducing the size of facilities to the greatest extent possible, developers routinely consider wildlife habitat, drainage, and wildlife usage in selecting sites for production facilities, roads, and pipelines; in the Prudhoe Bay development botanical maps have been generated to assist engineers in selection of new sites for facilities and in designing expansions for existing ones.

- Climatic conditions provide additional protection for wildlife and tundra (for example, onshore seismic work and construction activities are conducted during the winter months when the tundra is frozen and wildlife are scarce in the area) and assures a high degree of protection for important renewable resources.

- A transportation facility to deliver production to an ice-free port in Valdez (the Trans Alaska Pipeline) already exists.

<u>Development in ANWR would affect an extremely small percentage of the Refuge and would not interfere with refuge management goals</u>

- Roughly 8 million acres (approximately 45%) of ANWR has already been set aside as wilderness and is closed to any oil and gas exploration and/or production activities.

REASONS TO OPEN ANWR COASTAL PLAIN TO OIL AND GAS EXPLORATION DEVELOPMENT AND PRODUCTION

- Only 1.5 million acres (approximately 8% of the Refuge) is under consideration for exploration, development and production at this time.

- Given existing technology, coupled with the expected size of any potential discoveries, a development in the Refuge would comprise an extremely small portion of the Coastal Plain.

- Because the economics of operating in ANWR are generally extreme due to the physical conditions and geographic isolation, it is relatively certain that only giant oil fields (larger than 500 million barrels of recoverable oil) will be commercial. Such fields are rare and even in ANWR it is unlikely that more than 2 or 3 of them will be discovered. Consequently the most optimistic production scenario will physically utilize only a very small area of the coastal plain. Conversely production from three giant fields could be measured in millions of barrels of oil per day.

Conclusion

- The present glut of oil on the world market and distortions of crude oil prices are temporary situations which will have an adverse effect on the medium and long term energy supplies for the U.S. Current market conditions are causing a rapid

shut-down of exploration which means a decrease in already declining future production. Other effects are a decrease in conservation efforts, a shut-in and permanent loss of stripper well production (up to 1/8 of all U.S. production), huge job losses in the oil and service industries, international debt payment problems, (e.g. Mexico, Brazil, etc.), and a cessation of research into alternate energy sources.

- These adverse economic and market effects can be significantly offset by successful exploration and development in the Coastal Plain of the ANWR. The potential in the Coastal Plain for large future oil production with proven protection of the wildlife and environment, is unique in the United States. Nowhere else, not even on the Continental Shelf, are the factors so positive for improving an energy situation which makes us a pawn of Middle East exporting countries, reduces our national security and cripples our international balance of payments. By the year 2000, the Coastal Plain of the ANWR could produce enough oil to help maintain U.S. foreign policy based on strength and domestic policy based on a more complete knowledge of U.S. energy availability.

- Concerning the wilderness issue, if ANWR is not opened to exploration, development and production, the potential losses to our national energy position will be incalculable while the "gains" would only be a slight increase (2.6%) in the

amount of wilderness designated lands in Alaska. Further, the coastal plain of ANWR would be managed to protect the environment and wildlife values should discoveries result in the development of the Coastal Plain.

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07/02/86

PAPER 1

PETROLEUM POTENTIAL IN THE ARCTIC NATIONAL WILDLIFE REFUGE

The Arctic National Wildlife Refuge (ANWR) could contribute significantly to offsetting a rapidly declining domestic proven reserves. It is estimated that that daily U.S. production from existing fields will decline from the nearly 9 million barrel today to less than 3 million barrels by the year 2000. To supply the U.S. demand in the year 2000, we will need an additional 12 million barrels per day from new domestic reserves or become even more dependent on foreign sources. ANWR could go a long way in providing those additional discoveries.

The Coastal Plain of the ANWR has long been recognized by geologists as a potential major petroleum province with undiscovered reserves on the order of billions of barrels of recoverable oil. ANWR is located less than 100 miles east of the two largest oil fields in North America (Prudhoe Bay and Kuparuk) and west of major oil and gas discoveries in the Mackenzie Delta and Canadian Beaufort Sea. The major geologic trends and rock formation in those areas are believed to extend into ANWR.

The Arctic coastal plain within ANWR is a narrow strip of land gently sloping from the foothills of the Brooks Range to the Arctic Ocean shore. It is occasionally interrupted by rolling hills. Drainage north to the sea is divided among a dozen or so streams, the largest being the Canning, Hulahula and Kongakut Rivers. The Coastal Plain described in ANILCA Section 1002 for study covers about 1.5 million acres - - 8% of the ANWR total - - between Canning River on the west and the Aichilik River on the east, an area of about 100 miles long and varying in width from 17 to 40 miles.

The earliest investigations in the ANWR consisted of boundary and reconnaissance surveys beginning in 1900. Between 1906 and 1914, a monumental task of topographic and geologic mapping and investigation was carried out by Ernest de K. Leffingwell in the Canning River area, Franklin Mountains, and Romanzof Mountains. Among his discoveries were a number of oil seeps and outcrops of oil-stained sandstones. Commencing in 1944, in cooperation with the U.S. Navy (1944-53), and continuing to the present time, the U.S. Geological Survey (USGS) has compiled detailed geological maps and reports on this area through the efforts of many investigators. From limited rock outcrops on the Coastal Plain and numerous exposures in the rugged and remote northeastern end of the Brooks Range strata representing virtually every geologic age, from pre-Cambrian to the present, have been identified. Several cycles of deformation and mountain-building, modified by erosion and glacial action, have caused the complex geological situation of today. (Brosge and Tailleur, 1972.) Most importantly, geologists first recognized in the ANWR foothills

and northern flanks of the Brooks Range the major rock units that form the oil and gas reservoirs later proved to be oil producing to the west of the refuge. They also recognized that sequences of prospective reservoir rocks as much as 20,000 feet thick lie beneath ANWR. These include older rocks probably equivalent to those at Prudhoe Bay as well as younger rocks in which important oil and gas discoveries have been made in the Mackenzie Delta and Canadian Beaufort Sea to the east. Also recognized were other important geologic characteristics favorable for oil and gas occurrence, such as petroleum generating source rocks and large geologic structures to trap petroleum.

As geologic knowledge of ANWR was gained in the 1960's, exploration west of the refuge resulted in the discovery of the Prudhoe Bay Field in 1968, the largest oil field in North America, lying 65 miles to the west. Also, the Canadian Beaufort/Mackenzie Delta area about 120 miles to the east was being explored in the 1980's and resulted in a number of major oil and gas discoveries. A large gas and condensate reservoir has also been discovered near the Pt. Thomson/Flaxman Island area in the coastal plain adjoining ANWR.

In his paper on the geology and mineral assessment of the ANWR, Hartman (1972, revised 1973) described the large Marsh Creek anticline which has a surface expression in the Tertiary rocks in the coastal area just south of Camden Bay. He suggested that at least four formations, all hydrocarbon productive in other areas of the Arctic Slope, are prospective in this Marsh Creek structure, and

calculated a potential reserve of nearly 14 billion barrels of oil, which exceeds that of the Prudhoe Bay Field.

Later, USGS investigators Grantz and Mull (1978), recognizing that available rock exposures were insufficient to understand the complex geology beneath the Coastal Plain, used seismic data from offshore in the Beaufort Sea to extrapolate onshore, since at that time, no seismic data in ANWR existed. Using this technique, they suggested that the primary hydrocarbon potential of the ANWR "is for a number of medium to large gas and oil accumulations in Cretaceous and Tertiary rocks." Additionally, the seismic data together with other geologic information, including the presence of three known oil seeps and two outcrops of oil-stained sandstones, convinced the authors that the Arctic Coastal Plain has significant petroleum potential.

Estimating undiscovered hydrocarbon resources is difficult even when good data are abundant. Within the ANWR, geological information was sparse consisting of only proprietary aeromagnetic data, gravity data and surface geology. Data adjacent to ANWR included surface geology, subsurface geology (several wells), and both onshore and offshore seismic profiles. One of the most valuable types of data for resource assessment is seismic, but, as noted, there were no seismic data available for ANWR. In the absence of seismic data in ANWR, geologists made interpretative judgments by projecting available information into the subsurface and by constructing one or more "models" describing the subsurface geology. (Mast, et al 1980)

However, the need for more exacting hydrocarbon resource estimates encouraged explorationists to develop better assessment techniques.

One such technique, the "play-analysis" method, was used by the USGS, as well as the oil and gas industry. Utilizing this method, geologists provide (1) their professional judgments on the relative favorability of various geologic conditions necessary for petroleum accumulation within a given play area, and (2) quantification of a set of geologic variables. A sophisticated data processing technique then generates probability distributions of undiscovered hydrocarbons in-place as well as estimates of field size.

There have been several assessments of the petroleum potential of the ANWR Coastal Plain by the USGS in recent years based on the play-analysis method. Mast and others (1980) estimated a potential ranging from 160 million barrels up to 17 billion barrels of oil in-place with the average being 4.85 billion barrels of oil. In analyzing field size distribution, they estimated the mean oil field to contain 890 million barrels which is classified as a supergiant field.

USGS investigator Kenneth Bird (1984), in a similar analysis, estimated a potential ranging from one billion barrels of oil in-place up to 22.4 billion barrels, with an average 6.9 billion barrels of total oil in-place. He also determined the average field size to be in the supergiant class and contain 900 million barrels of oil. Results of these USGS assessments confirm and quantify what

geologists have believed for years -- that the ANWR Coastal Plain has the potential for large hydrocarbon reserves.

Finally, these estimates of major potential should be placed in the context of lower 48 oil field discoveries. In recent years, the typical oil field discovered was less than one million barrels. As a prospective petroleum province, ANWR may exceed that of Beaufort Sea, offshore California and the deeper waters of the Gulf of Mexico.

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Mast, R.F., McMullin, R.H., Bird, K. J., and Brosge, W. P., 1980, Resource appraisal of undiscovered oil and gas resources in the William O. Douglas Arctic Wildlife Range: U.S. Geological Survey Open-File Report 80-916, 62 p.

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07/02/86

PAPER 2

PROTECTING THE NATURAL ENVIRONMENT: MINIMIZING IMPACTS TO ARCTIC COASTAL PLAIN VEGETATION, SOILS, WATER BODIES AND STREAMS IN THE COURSE OF OIL AND GAS EXPLORATION AND DEVELOPMENT

The natural physical and vegetational characteristics of the Arctic National Wildlife Refuge's coastal plain closely resemble those found across Alaska's Arctic rim north of the Brooks Range. Petroleum exploration and development activities have taken place in comparable areas west of the ANWR since 1944 when the Navy began its exploration program on the National Petroleum Reserve. Activities have continued through the development of production facilities in the Prudhoe/Kuparuk region. Forty years of operating experience on the North Slope has provided the oil and gas industry the expertise and technology to develop oil and gas resources while protecting the Arctic environment.

Two key points should be kept in mind when discussing potential impacts to ANWR's coastal plain. First, the actual physical area which may be disturbed by exploratory and, if successful, development activities will represent a extremely small fraction (probably less than 1%) of the 1.5 million acres which constitute that plain. Secondly, oilfields and their associated facilities are only temporary uses of the land.

What's To Be Protected?

The dominant characteristic of the coastal plain is its organic mat of tundra plants that overlay the permanently frozen earth and ice rich formations beneath. Even this surface mat is hard-frozen and snow covered for more than three quarters of the year in this harsh and frigid climate. This situation--a frozen operating surface--is the major source of environmental protection from disturbance. The many water bodies (lakes, thaw ponds, streams, rivers, and lagoons) are frozen to thicknesses that can support without significant damage the passage of heavy vehicles and equipment during the eight or more months they remain in that condition. It is during the brief summer season when rivers and streams break up and flow freely, when the tundra mat is thawed and dotted with melt ponds and the lakes are ice free that the surface is subject to serious impact. It is during this time that the most careful planning and thorough protective measures must be used.

Plants consist of two main categories: lichens and mosses, which provide significant forage for the caribou; and vascular plants, which in their many species and variety make up the principal biomass of the tundra organic mat. These plants are of two main kinds: herbaceous (grass-like and broad-leaf) and woody. They grow low to the ground, have developed effective nutrient storage mechanisms designed to withstand the lengthy dormant winter season.

The period of germination, growth, and maturity must all be accomplished in the brief six to eight weeks of summer. They must also endure many natural disturbances common to the Arctic such as fire, frost-heaving, and erosion.

The physical features of the coastal landscape are also most susceptible to damage in the summer. Stream and riverbanks are subjected to the dual forces of waterflow and thermally induced erosion. Where sensitive areas have been disturbed by either natural or man-made actions, thawing in the permafrost or ice lenses dramatically reshapes the landforms. It is therefore necessary to protect sensitive areas during the thaw season.

Measures Taken To Insure Environmental Protection.

The principal measures taken to insure that landforms and plant communities are not significantly disturbed during exploratory activities are tied to the use of the frozen protective cover that shields both land and water bodies throughout the long winter. Access roads are constructed from ice and snow and are built to thickness standards capable of sustaining the heavy loads to be transported without either destroying the plant communities that lie dormant beneath them or unduly compacting the soils in which they live. Specially designed low-ground-pressure vehicles are employed extensively on both seismic survey and materials and personnel transport operations. For example, the broad-tired Rolligon,

despite its size, distributes less pressure per square inch on the ground surface than does a human foot.

Geophysical Service, Inc., the firm which undertook the seismic exploratory work on the ANWR coastal plain in the winters of 1984 and 1985 was carefully monitored by the Fish and Wildlife Service during its operations. The areas physically touched in this seismic work were then subjected to detailed inspection in summer. The inspectors were able to report without serious qualification that no significant impact on ANWR's coastal plain resulted from the geophysical operations.

Exploratory drill pads may be constructed of foam insulation and removable timbers which prevent the thaw of the permafrost. This material is removed from the site after the completion of operations. Other alternatives for the construction of drill pads include the use of gravel to insulate the tundra, and possibly the use of ice pads (in winter) if there is a ready source of fresh water and if the drilling depth is shallow enough to be reached in a single winter season. Removal of any human debris around the pads is accomplished at the time of demobilization, and any that might remain entrapped in the site's snow and ice is thoroughly cleaned up after the thaw.

If exploratory drilling in the coastal plain is allowed and if commercial discoveries result, there is ample evidence from other Arctic operations (TAPS, Prudhoe Bay, Kuparuk, and Milne Point) to

demonstrate the development can be undertaken in a manner which protects surface values. Roads and drill pads will be constructed in accordance with proven engineering practices. Facilities will be consolidated and surface use minimized. Construction activity can be concentrated in the winter months to protect the frozen tundra and to minimize environmental disturbance.

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07/02/86

PAPER 3

WILDLIFE AND HABITAT PROTECTION DURING PETROLEUM EXPLORATION AND DEVELOPMENT

I Habitat Impacts

The Arctic National Wildlife Refuge (ANWR) comprises 18 million acres in northeast Alaska, largely uplands and mountainous terrain of the Eastern Brooks Range. Of this approximately 1.5 million acres, or 8%, is coastal plain. It is beneath this coastal plain that oil and gas potential exists. Should oil and gas be found in commercial quantities and developed, only a small portion of this coastal plain would be affected. As a comparison, the giant Prudhoe Bay oilfield, largest in North America is developed from a combined operating area of 212,000 acres. This is approximately 1% of the surface area of ANWR, and 14% of the area of the coastal plain. The Kuparuk oil field, probably more likely to be the size of a developed field in ANWR, would comprise less than 10% of the coastal plain, or 0.8% of ANWR. Only an extremely small surface area would actually be impacted by facilities.

Of the small area that might be developed as a result of the discovery of a major oilfield, the vast majority of this oilfield will contain accessible habitat potentially utilized by caribou and waterfowl. Habitat loss is minimized in the development of Arctic

oilfields by consolidating production wells and development facilities. Consequently, the direct loss of habitat due to gravel pads, roads and pipelines becomes vanishingly small, less than 0.1% of the coastal plain.

Exploration and production activities have little lasting or significant impact on wildlife and habitat using today's accepted techniques. The U.S. Fish and Wildlife Service (FWS) will require that oil and gas exploration and production operations in Alaska wildlife refuges be conducted in a manner consistent with the purposes of those refuges. ANILCA mandates that all oil and gas activities on lands leased pursuant to Section 1008 be performed in accordance with plans of operation approved by the FWS. These plans will ensure that refuge values will not be harmed by such activities as has been true for the exploratory activities already permitted and carried out in ANWR, and will further ensure that no unacceptable social costs will result from operations on refuge lands. It is also entirely likely that plan approvals will be conditioned upon satisfaction of additional mitigating measures to promote refuge values and further refuge purposes. To the extent that these additional conservation benefits are provided by the lessees at no direct economic cost to the public, such benefits are additional factors that enhance the national interest in permitting evaluation and development of the petroleum resources of refuge lands in Alaska.

PROTECTING WILDLIFE AND HABITAT

Modern petroleum exploration and development activities are compatible with environmental protection objectives for refuges and other sensitive lands. Petroleum industry activities are usually temporary in nature and conducted in a manner that protect environmental values. Petroleum operations today are carried out conscientiously, mindful of environmental goals and in compliance with the comprehensive body of laws enacted to further these goals. Moreover, oil industry activities may complement environmental objectives. In a number of instances, the oil industry has contributed toward the development of environmental data bases and studies on the effects of operations on refuges and has financed the development of infrastructure improvements (roads, weirs and other water control structures, etc.) that not only serve petroleum operations, but further proper management of these lands.

A recent survey concluded that oil and gas lease activities in wildlife refuges "have had little or no adverse effect on wildlife in most refuges...and have often enhanced other economic and recreational uses which occur on the refuges..."API Research Study, Survey of Oil and Gas Activities on Federal Wildlife Refuges and Waterfowl Production Areas (Study #031, October 1983).

Modern petroleum activities demonstrate that energy production and environmental protection are compatible with a clean, protected environment. Special care is taken to protect living resources (including threatened and endangered species), minimize disturbance of the land, reduce air and water pollution and protect archaeo-

logical and cultural resources. Millions of barrels of oil are produced safely in the U.S. every day in sensitive environments, including wells in wildlife refuges on the Gulf Coast and in the extremely fragile tundra of the North Slope of Alaska.

Petroleum exploration and production operations usually are relatively brief occupations of the land that have no long term adverse impact on environmental values. For example, the acreage involved in drilling an exploratory well is small, normally five acres or less. Even that acreage will not be used unless seismic and other data indicate that drilling is warranted. Most successful oil fields are depleted of their recoverable reserves within 20 to 30 years. While production activities are ongoing, the nation benefits from the availability of secure domestic supplies of energy. After production ceases, the land can be reclaimed with little evidence remaining to indicate oil and gas exploration and production had ever occurred.

The Palisades area in the Bridger-Teton National Forest is one example of the effectiveness of reclamation. After an exploratory well was drilled and abandoned, the site was reclaimed by company personnel working with Forest Service experts. Shortly thereafter, Congress designated the Palisades are as a wilderness, thereby acknowledging the lack of any lasting impact from oil and gas operations.

The following additional examples of the environmental compatibility of petroleum operations with sensitive areas, derived from pp. 46-50 of the API Onshore Oil Publication, illustrate that the petroleum industry can conduct its activities in different types of environments by sharing sensitive lands with sensitive and endangered species.

- Aransas National Wildlife Refuge in south Texas. Extensive drilling and production operations have co-existed since 1947 with several endangered species, including the Whooping Crane (which makes this area its winter home), the southern Bald Eagle, Attwater's great prairie chicken and five species of sea turtles. Over these years, the Whooping Crane population has steadily increased. Shared use of this area has been facilitated by deferring seismic and drilling during winter months when birds are in the refuge.

- Delta National Wildlife Refuge, southeast of New Orleans. This, the site of Chevron's Romere Pass production field and terminal station, is also a feeding and resting ground for thousands of water fowl.

- Kenai National Wildlife Refuge in southern Alaska. Oil operations, beginning in the 1930's, have successfully shared this area with a moose populations of more than 4000. The area is also visited by swans, eagles, wolves, and loons.

- Rockefeller State Wildlife and Game Preserve. The state of Louisiana has a multimillion dollar income from petroleum production in this sanctuary, where the American alligator, once thought to be threatened with extinction, has come back. Revenues from the oil and gas leases contribute to a trust for research and wildlife conservation and management of this reserve.

- Avery Island, Louisiana. This is a private bird sanctuary where, since the early 1940's, petroleum exploration and production have been conducted in harmony with numerous birds and animals through careful wildlife management and environmental practices.

- National Audubon Society's Paul J. Rainey Sanctuary in southern Louisiana. Thousands of migratory birds use this 26,000 acre preserve with its valuable marshland that serves as the wintering ground of the lessor snow goose. Royalties from more than 25 years of petroleum production have helped support wildlife management and research in this sanctuary.

- Big Cypress Swamp in southern Florida. The Florida Department of National Resources recently conducted an investigation of the effects of oil exploration and production on the swamp and concluded that 30 years of petroleum operations have had no significant adverse effects on this wetland area.

- National Audubon Society's Corkscrew Swamp Sanctuary in Florida. This area also illustrates how environmentalists and petroleum operators have developed a drilling plan that protects marshes and wildlife.

- Texas coastal plain. These areas, the site of numerous wellheads, drilling sites, and pipelines, are also the mating and breeding grounds for the endangered Attwater prairie chicken. Studies have shown that the prairie chickens behave no differently on artificially maintained grounds near oil operations than on their natural mating and breeding grounds.

- Alaska's North Slope. The extensive measures undertaken by industry on the North Slope and along the Trans-Alaska Pipeline (TAPS) are outstanding examples of this compatibility of oil operations and the environment. Oil companies operating in this area cross the tundra by rolligons with huge soft tires, concentrate construction in the winter months and minimize building of permanent roads by building temporary ice roads to protect the tundra, use insulated casing for wells, lower noise levels by muffling engines, and install redundant safety systems. Drilling pads, roadways, building sites, and pipelines are insulated from the tundra by layers of gravel, elevation, or other methods to prevent the underlying soil from thawing.

In some cases, innovative restoration and reclamation techniques have enhanced wildlife habitat over its original status. In

Louisiana's coastal marshes, for example, operators have established water control networks to prevent saltwater intrusion and loss of marsh lands during periods of drought and low tides.

In summary, industry's concern for wildlife habitat and the modern techniques now used, together with governmental programs for environmental protection, ensure that sensitive environments will be protected while oil and gas activities are conducted on these lands. Petroleum companies take positive measures in sensitive areas both during and after exploration, development and production operations, including funding of environmental research and wildlife and habitat management programs and land restoration once petroleum activities are completed. These comprehensive measures should be considered when evaluating the national interest in exploring and developing the petroleum resources of Alaska's refuge lands.

II CARIBOU

In trying to predict the impact of oil field development on the Porcupine Caribou Herd there is an excellent case history to base predictions upon. That is, the 18 year history of the coexistence of the Central Arctic Herd (CAH) with the development of the Prudhoe Bay and Kuparuk oilfields.

The Prudhoe Bay and Kuparuk oil fields lie within the summer range of the 13,000 member CAH. There has been a great deal of controversy and research on the impact of the oilfields on the herd. All

of these studies have concentrated on the effects of facilities on individuals or groups of caribou. The translation of these studies of disturbance on groups of animals to effects on the population dynamics of the entire herd is difficult, if not impossible.

Census figures produced by the Alaska Department of Fish and Game show that between 1973 and 1982 the herd has increased at an average annual rate of 13%. More recent estimates are even higher, between 14-20%. All indicators show a healthy and expanding herd, despite the pipeline and Dalton Highway bisecting their range and the growth of oil field activities in the summer range. These data clearly indicate that during the period of maximum developmental growth at Prudhoe Bay and Kuparuk, the CAH has continued to proliferate at rates rivaling and even exceeding those observed for herds existing in areas where no development has occurred.

Exploration drilling and geophysical surveys are occasionally conducted during summer months and routinely during the winter months on the North Slope. During this time the Porcupine Caribou Herd is largely wintering away from the Coastal Plain. Even when caribou are present, one of the conclusions from the NPR-A Caribou/Waterbird workshop conducted by the BLM in May 1982 that "winter seismic and exploratory drilling operations have had little impact on caribou to date". Further, "these activities would be unlikely to have significant impacts in the future given current

standard operating permits and procedures". (Gilliam and Lent, 1982)

During the early 1970s there was concern that the Trans-Alaska Pipeline and Dalton Highway would fragment the Central Arctic Herd and disrupt free movement across it's range. These fears have not been realized primarily due to two factors. Studies allowed design elements to be incorporated into pipeline construction that included buried and elevated portions that did not present an impenetrable barrier (Child, 1973) and caribou have proven to be more adaptable than was recognized 15 years ago (Davis et al., 1983, Bergerud et al., 1984). Caribou habituate to stimuli that do not present a threat to their survival, as indeed, they must, or they would spend their whole lives constantly reacting to non-threatening stimuli. The adaptability of the species to human presence is underscored by the fact that the species (reindeer) is semi-domesticated throughout much of its Scandanavian range. An extreme example of a caribou herd's adaptability comes from the Delta Caribou Herd (Davis et al., 1983). The herd calves on a military bombing range and is subjected to bombing, strafing and frequent low level flights. The herd has also experienced habitat alteration by wildfires covering large portions of their core calving area. Despite these significant disturbances, "the herd has increased at an annual rate of 19-22% since 1976 and is now larger than ever recorded" (Davis et al., 1983).

Studies of the herd reaction to low level aircraft show that they react significantly less violently than the western Arctic herd (Valkenburg and Davis, 1983). Their conclusion is "that the Delta herd has become habituated to aircraft or never learned to fear them".

In general, roads with low traffic levels are not physical or behavioral barriers to caribou movements. (Curatolo and Murphy 1983, Smith and Cameron 1985). The Dempster Highway, initiated in 1959 and completed in 1979, bisects the winter range of the Porcupine Caribou Herd in Canada. At the low levels of traffic this highway supports (10 vehicles per day), there have been no significant effects on the daily activity budgets of caribou using the road corridor, or their migration success (Russel and Martell, 1983, A. M. Martell, Per. Comm.). A pipeline elevated sufficiently to allow caribou to pass underneath (current regulations require 1.5 m) is generally not a barrier to most caribou, dependent on the intensity of insect harassment, the sex/age composition of the group, and the group size. (Curatolo and Murphy 1983) Pipelines next to heavily traveled roads do present an impediment to movement, but studies have shown that these effects can be effectively mitigated by increasing the road-pipeline separation and/or imposing traffic restriction.

Due to the fact that cows are sensitive to disturbance during calving, and calving is such a critical period for a herd's overall welfare, the issue of "cow/calf avoidance of TAPS" has been contro-

versial. ADF&G reports, primarily those of Whitten and Cameron, present data which indicate lower proportions of cows with calf along the TAPS corridor during the calving season (other times of the year show no difference). Cameron and Whitten have interpreted these data to indicate that cows and calves avoid the pipeline corridor (Cameron and Whitten, 1976, 1977, 1978, 1980).

Carruthers et al., 1984, found similar low numbers of cows and calves along the TAPS corridor. However, the TAPS line runs along the Sagavanirktok River and Carruthers found that throughout the Central Arctic Herd's summer range cows with calves avoided all riparian (river associated) habitats. Their conclusion was that cows with calves preferred open tundra areas to avoid predators and that their low numbers near the TAPS line was a natural avoidance of riparian habitat, not the TAPS line.

Debate has occurred concerning the assertion by some individuals that caribou have been displaced by the Prudhoe Bay oilfield. It is uncertain whether these effects have indeed occurred, and therefore, if any caribou have been negatively affected. The point is, however, that the Prudhoe Bay oilfield was built during a period when the areal extent of the oilfield was very small and Arctic oilfield technology and environmental awareness was evolving. For example, in the Prudhoe Bay oilfield some flowlines are only 2-3 feet above the tundra and present an obstacle to caribou movement.

PROTECTING WILDLIFE AND HABITAT

In the years following the construction of the Prudhoe Bay oilfield the oil and gas industry and environmental resource agencies have learned much about wildlife/oil field interactions. This information has been utilized to design enhanced mitigation measures in the construction of the Kuparuk River oilfield, about 25 miles west of the Prudhoe Bay field. When wildlife/oilfield relationships and dynamics are discussed, data from the Kuparuk field should be cited not data from the Prudhoe field - they are not built like that any more.

III. BIRD STUDIES

Two main issues concerning potential impacts of oil development on birds on the North Slope are:

1. Alteration of critical habitat, such as barrier islands for nesting, salt marshes for feeding, and lagoons and ponds for molting and staging.

2. Possible disturbance due to low flying aircraft, road traffic, noise, and other activities.

Four years of studies in ANWR by the U.S. Fish and Wildlife Service and numerous studies of the use of critical habitat in and around oil fields to the west have greatly expanded the body of knowledge about North Slope birds. USF&WS is currently conducting studies on the ecology of lesser Snow Geese, baseline studies on Tundra Swans,

migratory bird use (primarily Oldsquaw) of coastal lagoons, and terrestrial bird populations and habitat use in ANWR (USF&WS 1984 Update Report). Future planning of facilities can build on this data base to minimize impacts to critical habitats. Regulatory agencies are keenly aware of sensitive wildlife areas and routinely advocate and promulgate stipulations with permits that protect critical habitats.

Disturbance studies on birds in the Prudhoe Bay area have been done on the Lisburne, Endicott, and Mukluk Island projects. These projects have attempted to quantify the degree of disturbance of oil field activity on birds and examine the consequence of any disturbances. Hampton and Joyce, 1984, found that "Snow Geese and Brant displayed accommodation to the oil field activities (Lisburne Development Area) and were not significantly disturbed". Murphy, (pers. comm.) concluded that "it does not appear that the activity budgets of brant and Snow Geese were significantly affected by development activity. The budgets of Canada and Greater White-Fronted Geese, on the other hand, did appear to be altered by oilfield activity; but these effects apparently were not detrimental". During spring/summer of 1983, Thetis Island (Mukluk Island Project) was used as a staging area for over 1 million cubic meters of gravel used to build an artificial island. Facilities included a support camp for several hundred workers and the construction of a landing pad supporting regular helicopter service to mainland. A

study conducted by LGL that season concluded that the industrial activity did not have a measurable effect on the number and distribution of nests and the nesting success of common Eiders. The study also determined that the activities had no measurable effect on the number and distribution of moulting Oldsquaw Ducks (Johnson, S.R., 1984).

Although there are large differences from species to species on how birds will accommodate disturbance by oilfield activities, generally most species can and do successfully adapt. Since most of these species winter in the continental US and Mexico, they come into contact with development activities regularly throughout their lifecycle.

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PAPER 4

HISTORY AND CULTURE OF THE ARCTIC NATIONAL WILDLIFE REFUGE'S NATIVE INHABITANTS

Eskimo (Inupiat) and Indian (Gwich'in Athabaskan) have used the lands and adjoining Beaufort Sea waters of today's Arctic National Wildlife Refuge (ANWR) for millenia. Both peoples lived as nomadic hunting and fishing bands until the twentieth century when first commercial whaling and then fur trading and reindeer herding added important new dimensions to their economies and began a stimulus among them for occupying permanently settled places. Over the past two generations this movement toward permanent settlement has resulted in the creation of the village of Kaktovik on Barter Island, which lies wholly within ANWR's boundaries. The following discussion briefly traces the evolution of this process leading to today's ANWR Native peoples.

Prehistory and Archaeology

Known archaeological sites in ANWR number in the hundreds, but there are few remains of settlements and camps. Many sites have not been dated nor can they be fully interpreted from the paucity of surface scattered artifacts that are characteristic of ephemeral occupations or activities.

The earliest peoples of this northern province may have been those of the American Paleo-Arctic tradition. The cultural manifestation is undoubtedly richer than the few stone tools that are left from this period. Small and large blade cores, often wedge or boat-shaped, are reminiscent of a generalized sophistication in blade technology. Large bifacially-chipped pieces probably served as cutting implements or projectile points. These tools are not unlike those of the remainder of Alaska and those of northeastern Asia. Representing life some 10,000 years ago or earlier, this period was one of continental glaciation. Man existed as a hunter and gatherer in the grasslands of this colder, dryer, environment replete with large herbivores. Mammoth, horse, and bison comprised the majority of the game animals. Caribou in these times were relegated to small tundra communities. The large herds of caribou today are attributable to the demise of cold steppes and the rise of vast tundra.

Recent History

The Exploratory Period of the region began with the Franklin Expedition of 1826. The party descended the MacKenzie River and proceeded westward. They noted habitation and grave localities along the way and also remarked that many of the people met had trade goods that were not British in origin, but from Russian

ironworks. It would seem that many selected cultural items, such as metal and tobacco, preceeded direct contact, likely through established native trade systems.

Trade evolved with the later expeditions. The Simpson Expedition of 1837 followed the same course as did Franklin, but reached Point Barrow. Simpson traded with the people along the way and made note of many Russian goods.

A second northern expedition of John Franklin ended tragically. Collinson, who captained the H.M.S. Enterprise, wintered in Camden Bay in 1853-54. He gathered place-name information about many of the major geomorphic features of the north coast.

Capt. Stockton of the U.S.S. Thetis explored this coast in 1889 and reported that Barter Island was exactly that: a place for inland Indians and coastal Inupiat to trade. Harrison confirmed this name during his explorations of 1905-07. Stockton, however, did not note the presence of permanent settlements, although earlier explorers had found some. The effects of trade associated with commercial whaling farther west may have enticed the previous inhabitants away. Stockton also noted that the marine area just north of ANWR possessed nearly year-round ice. Commercial whaling did not produce much direct acculturation on the area.

The Whaling Period in general brought sweeping changes to North Alaska. It ushered in a quickening of trade in metal tools,

firearms, and European ways. Unfortunate side effects included alcohol and disease, such as influenza and tuberculosis, for which the indigenous coastal population had little immunity. Population restructuring took place in the 1880s and 1890s; the void left by the demise of most of the coastal people was filled by their mountain counterparts. Today, much of the present population may have come from the Brooks Range.

Periods and Themes in 20th Century ANWR Native History and Culture

The twentieth century historical development and cultural evolution of the Native societies which had traditionally occupied and used the Arctic National Wildlife Refuge and adjacent lands falls into four broadly defined periods. The era of fur trading extended from the abrupt end of commercial whaling in 1908 until the mid-1930's. It was accompanied by the effort to establish domestic reindeer herding. In the short decade and one half (1936 to 1950) that followed, Inupiat migrated in significant numbers to both Barrow and various Canadian MacKenzie Delta settlements where schools and other social services were available. The Athabaskan Indian populations south of the Brooks Range continued to occupy their traditional hunting and fishing grounds although they were locked in the grinding poverty which the termination of commercial fur trapping produced. The period of permanent resettlement within ANWR was stimulated by opportunities associated with the construction of DEW Line stations beginning in 1947 and continuing

to the year 1971 when, with the passage of the Alaska Native Claims Settlement Act, the contemporary period was ushered in.

Three over-riding themes serve to characterize both the fundamental continuities and profoundly disruptive changes which have shaped Native societies as they exist in the region today. First, the economic bases of life were shifted from exclusive reliance on wild game and fish resources by small, widely dispersed bands of hunters to a growing dependence on articles that could be bought with cash earned from wages or wild resources, such as furs, that bore a commercial value. Technological change went hand in hand with this shift as at first rifles and whale-catching weapons and later mechanized land and water transport replaced bow and arrow, spear, skin boat, canoe, and dog team. These fundamental shifts in the economic bases of Native economies occurred while many of the traditional cultural and social values surrounding older lifeways were either preserved or modified to meet the new circumstances.

The second main theme expresses these continuities and changes in Native social and cultural institutions and values. It has been obvious to all observers that family and kinship ties--the social, political, and economic cement that kept the traditional hunting bands together and regulated their relations one with the other--continue to play a central role in contemporary Native life at all levels. And yet the circumstances in which families and kinship groups now exist (as residents of permanent settlements from which many key members have migrated) bear little resemblance

to the pre-1950 situation. In the past families and kin groups were dispersed as far-flung hunting bands. Today it is the individual families and kin groups themselves which are dispersed. This new situation underlies the often expressed Native goal of restoring traditional social and cultural values in order to address problems which the breakdown of tight family and kin structures has produced.

The third over-riding theme--and certainly the one that has captured the greatest attention and imagination by all interested parties--is the consequence of the shift from the traditional Native usufruct (value based on use) conception of land to that of freehold ownership. Since the conveyance of lands under the Alaska Native Claims Settlement Act in 1971 definitively carried with it the obligation for Natives to organize all manner of political and economic institutions to manage and use what were for them extensively reduced domains of land ownership, a political consciousness was fostered that had no prior analog. So much has this been the case that the history of Native societies in the ANWR and adjacent regions (as elsewhere in Alaska and Canada) has been written largely over the past generation in terms of growth of regional and local governments, profit and nonprofit Native corporations, land use planning and regulation, relations both amiable and contentious with state and federal governments, and reactions to private capital development.

As this fascinating and internally complex story continues to unfold, the keen desire to maintain preferential Native rights in all the lands used for hunting and fishing rests at the core of the new political consciousness. For ANWR, this theme is both symbolically and practically expressed in the concern over the health and status of the Porcupine caribou herd and the Bowhead whales of the Beaufort Sea. Despite the fact that daily concerns deal with the same mundane topics faced by all the rest of us--employment, schools, housing, etc.--these two powerful political and cultural symbols are never far in the background.

The following brief treatments of twentieth century Native history and culture are intended to survey matters of particular importance in each period as measured against the three central themes suggested above.

When commercial whaling ended in 1908, Northeast Alaska's Native peoples who resided on or near the coast, along with their kinsmen in nearby Canada, were forced back to heavy reliance on their old patterns of nomadic hunting. While commercial whaling had never wholly displaced the old patterns, the benefits which it provided in the form of Western goods and occasional cash-earning opportunities were responsible for drawing to the coastal areas many groups whose earlier lifeways and places of seasonal occupation dispersed them widely throughout a huge arctic domain.

But it was no longer sufficient or even acceptable to the Native to return to his ancient uses of the land and sea. Native peoples, by their own desires as well as those of the Europeans who had remained to continue trading, proselytizing, and intermarrying among them, sought ways in which all the elements of new technologies and cultural innovations might be preserved.

During the 30 years stretching from World War I through the conclusion of World War II, two things happened that worked towards that preservation. The first was the growth of the fur trade in which Native hunters and trappers might agreeably blend their traditional food harvesting activities with opportunities to trade a portion of their take for the desired Western goods. The second was the introduction of domesticated reindeer which, it was hoped by the missionary and government officials who vigorously promoted the scheme, would create a stable, healthy and more modern life for those whose cultures had been so rudely jolted in the whaling era.

And so began in the decade of the world elsewhere at war what might reasonably be called modern times for the Inupiat and Indian populations who had for centuries lived in or near the Arctic National Wildlife Refuge. For many the fur trade in its halcyon years of the 1920s brought the desired results: furbearers were in adequate supply, prices were good if not lavish, trading posts were established whose managers extended credit in goods to the trappers. All this constituted a new system that satisfactorily married the basically peripatetic lifeway to a mechanism for

increasing its rewards. But the system was short-lived, and it broke down altogether when the market for furs collapsed during the Great Depression.

Reindeer herding never enjoyed the level of success attained by the fur trade. Actually getting breeding stock to this remote corner of the Arctic proved to be extraordinarily difficult. And, once herds were established there, profitably maintaining them seemed literally beyond the capacity of the small, widely dispersed Native groups who were the intended beneficiaries of the reindeer. By the 1940s it was clear to all that domesticated reindeer were not providing an answer to the growing impoverishment of Native societies which, with the demise of the fur trade, had yet again to face the stark reality of feeding, clothing, and housing themselves primarily from wild fish and game resources.

Timid actions were taken by both the American and Canadian governments as well as missionary organizations to meet this crisis. Schools and rudimentary health services were established at Barrow in Alaska and in some of the MacKenzie River Delta Inuit communities. To these centers all but a remnant few of the groups struggling to live out on the land migrated and temporarily settled. For the first time in many generations, human use and occupation of ANWR was virtually abandoned in the late 1930s and early 40s.

However, the abandonment was never complete. The period during which it occurred saw frequent seasonal use by its former occupants then residing in settlements far to the east and west. Rather, the period immediately preceeding and following World War II should be regarded as a brief hiatus in the extensive Native use and occupancy of ANWR. It was succeeded by one in which a new and compelling reason arose that caused many of the emigrants to Barrow and Canada to return. That reason was the construction of the DEW Line network of stations along the Beaufort Sea coast, an activity which held out the promise of working for cash. Barter Island, a site of considerable importance in both whaling and fur trading eras, became the chief location for this segment of the DEW Line, and to it a number of families who had moved to Barrow or Canada returned. Along with three families who had never left, the returnees established the nucleus of today's Kaktovik.

From roughly 1950 on, a new pattern of settled life for the Inupiat was laid out. Where a trading post had stood a town now grew. Jobs there, if not plentiful, were nonetheless available especially during the construction phases of the DEW Line sites. Housing, a school, a store, and better access to social services became available, too. But from the Inupiat point of view, of great importance was the fact that they, despite settling into town life, could still effectively pursue their traditional hunting and fishing activities. This represented no mere variation in the cycle of up-and-down opportunities of the whaling, trapping, and herding periods. This was something new. Permanent settlement

meant far greater access to the money required and means necessary for taking game and fish. As these wild resources continued to grace most family tables for most meals, the hunting lifeway had clearly taken on a new dimension.

The generation of the 1950s and 1960s witnessed the evolution of this new lifeway which blended permanent residential settlement, cash incomes, and enhanced hunting and fishing technologies with what many Native people regarded as their old, preferred way of life. In particular, it was the experience of all these things that became an important crucible in which the attitudes and outlook of today's leaders in the Native communities were forged. While they might hold wage-paying jobs, they still spoke mainly in their Inupiaq tongue; while a whole array of manufactured goods were to be had, their use was turned to traditional pursuits such as hunting and, by the 1960s, to the rather costly enterprise of whaling; while their children might be drawn into a school that stressed Western education and a separation from the language, values, and pursuits of the traditional hunting culture and economy, many felt that an adequate accommodation had been reached between the old and the new in their new lifeway.

The most recent generation of ANWR residents has seen the accommodation represented by this new lifeway changed in many and very substantial ways. It is represented by the rise of a Native political consciousness that speaks to the desire for protecting the new lifeway so painfully, and with so many setbacks, crafted

over the course of nearly eighty years. The impetus which began and continues to feed this political consciousness came not from one, but many sources.

The first was the need for defining both the role and rights of Natives in the new State of Alaska after 1957. The State had selected lands which many considered a part of their rightful traditional heritage. Beyond that, the State exercised regulatory authority over what Natives considered to be their wild resources. And, notably, the State's concurrence was required in the institutionalization of local government and its services. The second impetus to political awakening followed from the discovery of oil at Prudhoe Bay with all that discovery forebode for massive industrial development on the State lands lying not all that far from ANWR. The third was the challenge and response to competing claims for the land itself in which the old usufruct notion was jettisoned in favor of dividing the land on the basis of exclusive property ownership. This matter, of course, was definitely formalized with the passage of ANCSA in 1971. And finally, closest to home, the new political consciousness was directed toward the actions of the Federal government in its management of and plans for ANWR (created in 1960) itself. All these factors contributed to the perceived need to craft a political program that would protect the cherished, if relatively recent, lifeway which the Native communities had evolved.

It is surely too much to assert that the last twenty years of Native history and cultural development in ANWR and adjacent areas is wholly dominated by the search for answers to the pressing political issues which developed during them. Many other ingredients have gone into making up the brew of social, economic, and cultural change. Yet politics, political awareness, and the effort to build suitable political institutions and alliances to meet both the threats and opportunities prompted by the massive changes of recent years are clearly central to an understanding of contemporary Native culture and history in ANWR.

The Contemporary Subsistence Lifeway of ANWR's Native Peoples.

Of all the features which draw together the themes and threads discussed above, that which is called in the modern political vocabulary "subsistence" is central. Most would agree on careful inspection of the phenomenon that the present use of the term refers to two things: One, the capture of wild animal and fish resources for domestic (i.e., non-commercial) use as food and clothing regardless of the technologies employed in the taking (as for example, rifles, snow machines, motorized boats instead of bow and arrow, spear, skin boat, and dog team). And two, the distribution and exchange of such resources with other members of the Native community--usually family or kin no matter where they reside, and friends and neighbors--serves above all else to reinforce the social ties that bind the community together. As one can see, something more than strict dietary dependence on wild

resources is involved here. Many proponents of this lifeway would argue that the second, or socio-cultural, features of the subsistence lifeway have greater importance than the first.

However, the extent of the problem in developing an adequate description of subsistence goes far beyond the barebones elements suggested here. First, the subsistence species of first choice is caribou, a migratory beast whose range sweeps across numerous land jurisdictions, especially in the case of the Porcupine caribou herd which supplies the needs and requirements of ANWR Native residents. Consequently, subsistence in its present configuration seems to those residents a practice which also requires careful political management as well as biological and habitat protection. Indeed, their political energies are focused on ensuring just that: preferential access to caribou no matter who owns the lands they roam across. Here perhaps is the clearest demonstration of how usufruct land use concepts conflict squarely with present day circumstances of divided land ownership in which Native holdings represent but a fraction of the animal's total range. The physical and archeological evidence for caribou hunting in the pre-contact period has been discussed in the first part of this paper. Historical and documented land use in the twentieth century equally reveals a huge hunting range in the coastal area, river valley systems, and mountain foothills north and south of the Brooks Range that remain in use to the present day. This is discussed in great detail in many subsistence land use studies written over the last ten years or more. Among the very best of them is the volume