

ALASKA LEGISLATURE COMMITTEE FILES 1995-1996 8672

8746 HOUSE RESOURCES

237

COOK INLET REGION, INC.

April 24, 1996

VIA FAX: (907) 465-4316

Honorable Joe Green
Co-Chairman
House Resources Committee
State Capitol
Juneau, Alaska 99801-3810

Dear Representative Green:

I am writing to you today as a follow up to my earlier testimony to the Committee and my conversations with you about House Bill 548. As you are aware, CIRI is heavily involved in the oil industry in Alaska through our own developments on the Kenai, as a working interest owner in Endicott, and through our three subsidiary companies, PEAK Oilfield Services, Construction Machinery, Inc. and Alaska Interstate Construction. So we benefit from more than our alliances and partnerships as a contractor on Alaska's North Slope.

It is our belief that HB 548, which would allow the development of Northstar, is a most vital piece of legislation. It will do more than just put hundreds of Alaskans to work and inject millions of private sector dollars into our economy. It will maintain flow in the Trans Alaska Pipeline. Clearly, the State must continue to support these smaller field developments or we will reach a point where it is uneconomic to transport oil through the pipeline. If the pipeline shuts down we can forget any future developments such as ANWR.

We believe the Executive Branch is properly empowered under the Constitution to negotiate deals within a general statutory framework established by the Legislature. And while the Legislative Branch may read into the record what it believes should be or should have been included in a contract, it is bad constitutional precedent and poor practical policy for the Legislature to get into the business of rewriting or re-negotiating contracts carefully negotiated by the Executive Branch.

I fully understand the role of the Legislature in our system of checks and balances and your duty to review what the Administration is proposing in terms of lease amendments. You have made it clear that -- had you negotiated the deal -- it would have been somewhat different. But this is the agreement that was hammered out between the State of Alaska and BP Exploration and should be the only agreement on the table.

Representative Green
April 24, 1996
Page 2

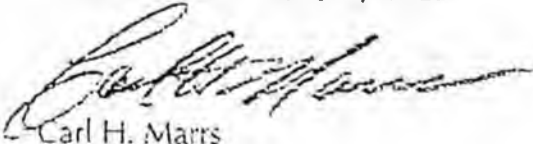
Cook Inlet Region, Inc. fully supports this negotiated agreement. For our part, we are satisfied that BP will do everything in its power to fulfill its commitments on local hire and local business participation in Northstar's development. We do not base this belief on misguided optimism, but on cold political reality. If, for any reason, BP does not live up to its commitments, they will find scarce support among Alaska businesses and public officials for any future development opportunities. Moreover, I am advised that there is a real danger, from a legal perspective, that this well-intentioned attempt to put more "teeth" into the Alaska hire and contracting provisions could amount to "throwing out the baby with the bath water." It also may substantially increase the chance that this entire piece of legislation will be ruled illegal or unconstitutional under state and federal law.

In summary, we believe BP means what they say and that the Northstar project is our best opportunity to forge a new standard for Alaskan's participation in oil development. It also sends the right message to other companies thinking about investing in Alaska. The legislature worked hard to pass HB 207 last year to send the message that Alaskans are willing to work with the industry on issues critical to the future development of Alaska's resources. This is one of those issues so let's -- as Alaskans live up to the intent of HB 207 and pass HB 548 as recieved from the Administration.

Accordingly, on behalf of Cook Inlet Region, Inc., I strongly urge you to support HB 548 as it was introduced and keep this vital legislation moving forward. Thank you.

Sincerely,

COOK INLET REGION, INC.



Carl H. Marrs
President & CEO

CHM/Sp
0022a

cc: Representative Gail Phillips, via Facsimile: (907) 465-3472

HJR

7

Alaska State Legislature

716 W. 4TH AVE, SUITE 240-A
ANCHORAGE, ALASKA 99501-2133
258-8190 FAX: 258-8171



WHILE IN SESSION:
STATE CAPITOL
JUNEAU, ALASKA 99801-1182
465-2435 FAX: 465-2864

Representative David Finkelstein

Sponsor Statement for HJR 7

Requesting Congress to Lift the Ban on the Export of Alaska Crude Oil

HJR 7 endorses federal legislation removing restraints on the export of Alaska North Slope crude oil, and requests that the President of the United States present a recommendation to lift the oil export ban.

Lifting the export ban will enhance the economic vitality and security of Alaska. Exporting Alaska North Slope crude oil will encourage and facilitate further oil exploration in Alaska and other states, creating a greater degree of national energy self-sufficiency.

Alaska would gain from billions of dollars in added revenue and economic benefits. Exporting oil would foster more oil exploration and development by making economically marginal ventures more lucrative. Oil export would also help offset the United States' trade deficit.

The potential vulnerability of the United States to embargoes - which led to the imposition of the ban - has been greatly mitigated. President Bush partially lifted the ban on exporting from California, recognizing that national security and scarcity of domestic oil no longer outweigh potential economic gains. Clearly, the time to lift the ban is now.

I urge you to support HJR 7. Lifting the ban on exporting oil is critical to the future economic security of our state.

CS FOR HOUSE JOINT RESOLUTION NO. 7(O&G)
IN THE LEGISLATURE OF THE STATE OF ALASKA
NINETEENTH LEGISLATURE - FIRST SESSION

BY THE HOUSE SPECIAL COMMITTEE ON OIL AND GAS

Offered:
Referred:

Sponsor(s): FINKELSTEIN, Navarre, Grussendorf, Brown, B.Davis, Porter, Davies, Kubina

A RESOLUTION

1 Supporting the lifting of the ban on the export of Alaska North Slope crude oil,
2 requesting the President of the United States to present to the United States
3 Congress a recommendation that it is both in the national interest to lift the ban
4 on the export of Alaska North Slope crude oil and discriminatory to the state
5 to maintain the ban, and endorsing passage of H.R. 70 and S. 70, companion
6 federal legislation to remove restraints on the export of that oil.

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

8 WHEREAS the President of the United States has, by executive order, continued the
9 ban on the export of Alaska North Slope crude oil contained in 50 U.S.C.S. Appx. 2406(d)
10 (sec. 7(d), Export Administration Act of 1979) that prohibits, with tightly restrictive
11 exceptions, the export of domestically produced crude oil transported by pipeline over the
12 right-of-way granted by 43 U.S.C. 1652 (sec. 203 of the Trans-Alaska Pipeline Authorization
13 Act); and

14 WHEREAS the ban on the export of Alaska North Slope crude oil effectively limits
15 its sale to the domestic American market; and

1 WHEREAS Alaska North Slope crude oil required to be transported and delivered for
2 sale in the domestic market incurs approximately \$2 - \$4 per barrel in higher transportation
3 charges than if the oil could be exported to Pacific Rim countries; and

4 WHEREAS the higher transportation cost associated with shipping Alaska North Slope
5 crude oil to the Gulf Coast states reduces the wellhead price of the oil; and

6 WHEREAS, over a seven-year period of time, Alaska would gain \$700,000,000 to
7 \$1,600,000,000 in state taxes and royalties if the ban is lifted; and

8 WHEREAS lower wellhead prices make uneconomic the threshold for exploring for
9 and producing all North Slope oil and, as a result, production from certain existing and newly
10 discovered oil fields is currently uneconomic; and

11 WHEREAS the transportation cost savings from lifting the Alaska North Slope crude
12 oil export ban will be available for reinvestment in domestic exploration, and development of
13 marginal and newly discovered oil reserves will increase production and enhance the nation's
14 energy and economic security; and

15 WHEREAS, according to the June 1994 U. S. Department of Energy report on
16 exporting Alaskan North Slope crude oil, reserve additions in Alaska alone could be as large
17 as 200,000,000 to 400,000,000 barrels, a size that roughly equals the known reserves in major
18 North Slope fields, such as Point McIntyre; and

19 WHEREAS the export ban singles out Alaska, effectively penalizing the state and
20 reducing revenue needed for vital state programs; and

21 WHEREAS, according to the U. S. Department of Energy June 1994 report, exporting
22 Alaska North Slope crude oil to Pacific Rim nations will decrease the substantial trade deficit
23 with nations that have expressed a strong interest in purchasing Alaska produced oil; and

24 WHEREAS the proposal to lift the Alaska North Slope crude oil ban has enjoyed
25 strong support in the Legislature of the State of Alaska, the Legislature of the State of
26 California, and the United States Congress; and

27 WHEREAS lifting the oil export ban would result in a net increase in United States
28 employment from 11,000 to 16,000 jobs nationwide; and

29 WHEREAS, by the end of the decade, exporting Alaska North Slope crude oil could

1 generate from 10,000 to 25,000 jobs;

2 **BE IT RESOLVED** that the Alaska State Legislature supports lifting the ban on
3 export of Alaska North Slope crude oil; and be it

4 **FURTHER RESOLVED** that the President is respectfully requested to present to the
5 United States Congress a recommendation that it is both in the national interest to lift the ban
6 on the export of Alaska North Slope crude oil and discriminatory to the state to maintain the
7 ban; and be it

8 **FURTHER RESOLVED** that the Alaska State Legislature endorses H.R. 70 and S.
9 70, pending companion federal legislation removing the restraints on the export of Alaska
10 North Slope crude oil.

11 **COPIES** of this resolution shall be sent to the Honorable Bill Clinton, President of the
12 United States; the Honorable Al Gore, Jr., Vice-President of the United States and President
13 of the U.S. Senate; the Honorable Newt Gingrich, Speaker of the U.S. House of
14 Representatives; the Honorable Bob Dole, Majority Leader of the United States Senate; to the
15 Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the
16 Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress;
17 and to all other members of the United States Senate and the United States House of
18 Representatives serving in the 104th United States Congress.

FISCAL NOTE

STATE OF ALASKA

BILL NO. HJR7

1995 LEGISLATIVE SESSION

Revision Date: Original Dept Affected: Natural Resources
 Title: Opposing the ban on the export of Alaska North BRU: Resource Development
 Slope crude oil: . . . Component: Oil & Gas Development
 Sponsor: Reps. Finkelstein, Navarre, Grussendorf, Brown, B. Davis, Porter
 Requestor: _____ Component Serial No. 439

Expenditures/Revenues		(Thousands of Dollars)					
OPERATING EXPENDITURES	FY96	FY97	FY98	FY99	FY00	FY01	
PERSONAL SERVICES							
TRAVEL							
CONTRACTUAL							
SUPPLIES							
EQUIPMENT							
LAND & STRUCTURES							
GRANTS, CLAIMS							
MISCELLANEOUS							
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0	
CAPITAL EXPENDITURES	0.0	0.0	0.0	0.0	0.0	0.0	
CHANGE IN REVENUES ()	0.0	0.0	0.0	0.0	0.0	0.0	

FUND SOURCE		(Thousands of Dollars)					
1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1006 GF/MHTIA							
Other							
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	

Estimate of any current year (FY95) cost: \$ None

POSITIONS		FY96	FY97	FY98	FY99	FY00	FY01
FULL-TIME		0	0	0	0	0	0
PART-TIME		0	0	0	0	0	0
TEMPORARY		0	0	0	0	0	0

ANALYSIS: (Attach a separate page if necessary)

There is no fiscal impact associated with implementation of this resolution.

Prepared by: Jim Eason, Director Phone: 762-2547
 Division: Oil & Gas Date: 20-Jan-95
 Approved by Commissioner: _____ Date: 1/30/95
 Agency: Natural Resources

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FISCAL NOTE

STATE OF ALASKA
1995 LEGISLATIVE SESSION

BILL NO. HJR7

Revision Date: 1/27/95 Dept. Affected: Revenue
 Title: A resolution urging the lifting of the ANS BRU: Revenue Operations
export ban Component: Oil and Gas Audit
 Sponsor: Finkelstein, Grussendorf, Navarre
 Requester: Finkelstein COMPONENT SERIAL NO. 115

Expenditures/Revenues (Thousands of Dollars)

OPERATING EXPENDITURES	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES						
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CHANGE IN REVENUES ()	80,000.0	40,000.0	0.0	0.0	0.0	0.0
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FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

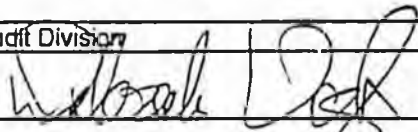
Estimate of any current year (FY95) cost: \$ _____

POSITIONS

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

If the export ban were lifted, Alaska North Slope oil (ANS) in excess of U.S. West Coast needs could be shipped to the Far East instead of making the long and costly trip via Panama to the U.S. Gulf Coast. Assuming current prices and transportation costs mandating use of Jones Act tankers, lifting the ban would increase the wellhead value of ANS by over \$.50/bbl and thus increase State taxes and royalties. The window of opportunity to enhance State revenues by lifting the export ban is closing. ANS production is projected to continue to decrease so that the West Coast surplus of ANS is projected to disappear by FY 1997. When the West Coast ANS surplus disappears so will the direct benefit to the state treasury from lifting the export ban.

Prepared by: John Pilkinton Phone: 277-5627
 Division: Oil and Gas Audit Division Date: 1/27/95
 Approved by:  Date: 1/27/95
 Commissioner: Deborah Vogt
 Agency: Revenue

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H.L.C.

104TH CONGRESS
1ST SESSION

H. R. 70

IN THE HOUSE OF REPRESENTATIVES

Mr. THOMAS of California (for himself and Mr. YOUNG of Alaska) introduced the following bill; which was referred to the Committee on

A BILL

To permit exports of certain domestically produced crude oil, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*

2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. EXPORTS OF ALASKAN NORTH SLOPE OIL.**

4 Section 28 of the Mineral Leasing Act (30 U.S.C.

5 185) is amended—

6 (1) by amending subsection (s) to read as fol-

7 lows:

FORM4 THOMAS THOMAS.005

H.L.C.

2

1 "EXPORTS OF ALASKAN NORTH SLOPE OIL

2 "(s)(1) Subject to paragraphs (2) and (3), notwith-
3 standing any other provision of law (including any regula-
4 tion), any oil transported by pipeline over a right-of-way
5 granted pursuant to section 203 of the Trans-Alaska Pipe-
6 line Authorization Act (43 U.S.C. 1652) may be exported.

7 "(2) Except in the case of oil exported to a country
8 pursuant to a bilateral international oil supply agreement
9 entered into by the United States with the country before
10 June 25, 1979, or to a country pursuant to the Inter-
11 national Emergency Oil Sharing Plan of the International
12 Energy Agency, the oil shall be transported by a vessel
13 documented under the laws of the United States and
14 owned by a citizen of the United States (as determined
15 in accordance with section 2 of the Shipping Act, 1916
16 (46 U.S.C. App. 802)).

17 "(3) Nothing in this subsection shall restrict the au-
18 thority of the President under the Constitution, the Inter-
19 national Emergency Economic Powers Act (50 U.S.C.
20 1701 et seq.), or the National Emergencies Act (50 U.S.C.
21 1601 et seq.) to prohibit exportation of the oil."; and

22 (2) by striking subsection (u).

104TH CONGRESS
1ST SESSION

S. 70

To permit exports of certain domestically produced crude oil, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JANUARY 4, 1995

Mr. DOLE (for Mr. MURKOWSKI) (for himself, Mr. BREAUX, Mr. STEVENS, and Mr. HEFLIN) introduced the following bill; which was read twice and referred to the Committee on Banking, Housing, and Urban Affairs

A BILL

To permit exports of certain domestically produced crude oil, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1 EXPORTS OF ALASKAN NORTH SLOPE OIL.**

4 Section 28 of the Act entitled "An Act to promote
5 the mining of coal, phosphate, oil, oil shale, gas, and so-
6 dium on the public domain", approved February 25, 1920
7 (commonly known as the "Mineral Leasing Act") (30
8 U.S.C. 185), is amended—

9 (1) by striking subsection (s) and inserting the
10 following:

1 “EXPORTS OF ALASKAN NORTH SLOPE OIL

2 “(s)(1) Subject to paragraphs (2) and (3), notwith-
3 standing any other provision of law (including any regula-
4 tion), any oil transported by pipeline over a right-of-way
5 granted pursuant to section 203 of the Trans-Alaska Pipe-
6 line Authorization Act (43 U.S.C. 1652) may be exported.

7 “(2) Except in the case of oil exported to a country
8 pursuant to a bilateral international oil supply agreement
9 entered into by the United States with the country before
10 June 25, 1979, or to a country pursuant to the Inter-
11 national Emergency Oil Sharing Plan of the International
12 Energy Agency, the oil shall be transported by a vessel
13 documented under the laws of the United States and
14 owned by a citizen of the United States (as determined
15 in accordance with section 2 of the Shipping Act, 1916
16 (46 U.S.C. App. 802)).

17 “(3) Nothing in this subsection shall restrict the au-
18 thority of the President under the Constitution, the Inter-
19 national Emergency Economic Powers Act (50 U.S.C.
20 1701 et seq.), or the National Emergencies Act (50 U.S.C.
21 1601 et seq.) to prohibit exportation of the oil”; and

22 (2) by striking subsection (u).

3

1 SEC. 2. EFFECTIVE DATE.

2 This Act and the amendments made by it shall take

3 effect on the date of enactment.

○

BP Testimony on the Lifting of the
Export Ban on Alaska North Slope Crude
Presented to the House Resources Committee
February 1, 1995

Good morning, Mr. Chairman and members of the House Resources Committee. My name is Jim Palmer and on behalf of BP, I am pleased to provide the following testimony to the Alaska State Legislature. This testimony discusses the future of oil production on Alaska's North Slope, and how artificial federal constraints, such as the ban on its export, effect our ability to market it efficiently.

The history of Alaska North Slope oil production is one of remarkable achievement. In the past two decades, the oil industry has invested more than \$50 billion (in today's money terms) in realizing the Alaska North Slope's hydrocarbon potential.

We've nearly doubled the volume of oil we expect to recover from the region through a combination of technological advances and massive capital investment. In 1977, we expected to recover less than 10 billion barrels of oil from a single Alaska North Slope field. Today we're producing oil from a number of fields surrounding Prudhoe Bay. The industry has just produced our 10 billionth barrel of oil, yet we have a similar amount in booked and likely reserves. We postponed Prudhoe's inevitable decline by nearly four years, and today based on the State of Alaska's own forecasts, the North Slope is producing some 600,000 barrels more per day than were projected less than a decade ago.

These achievements are particularly remarkable given the competitive disadvantages of Alaska's North Slope -- disadvantages stemming primarily from harsh climatic conditions, remoteness, and federal restrictions on access to world crude oil markets imposed by the ANS export ban.

But today, the future of this critical domestic resource is in double jeopardy. Production is in decline, and margins that are the lifeblood of the ongoing investments that sustain production are being squeezed as never before by upward pressure on Alaska North Slope costs.

BP, along with our industry partners, have been at the forefront of the industry in doing everything we can to enable Alaska North Slope oil to compete effectively for investment capital in a fiercely competitive world oil market. We've left no stone unturned in searching for new ways to do more for less, and we've stemmed the tide of soaring costs in the late '80s and early '90s.

We've completely retooled our relationships with contractors and field partners. We've reduced our staff levels and overhauled the way we do business within BP. These efforts have reduced our operating costs and enabled us to actually reduce per-barrel operating costs in an atmosphere of declining production without sacrificing safety or our environmental performance.

Because of Alaska's high field development costs, as well as restricted access to world crude oil markets, netbacks on Alaska North Slope production are disproportionately low vis-a-vis those of lower-cost hydrocarbon areas of the world that have unrestricted access to crude oil markets.

Much of the Alaska North Slope production we currently project for the year 2000 depends on investments yet to be made.

More than ever before, the environment dictates that investments be directed to areas offering the highest margins at the lowest risks. With the end of the Cold War and so much of the world now competing for energy investment, returns on those investments have become the prime consideration as companies allocate increasingly scarce capital resources.

The competitiveness of these investments is crucial not only to BP and the Alaskan oil industry, but to the federal government and to the State of Alaska.

The federal government has a significant economic stake in the health of the domestic oil industry.

Many of the individual states also hold large stakes in the health of the domestic industry. Those with significant oil production, like Alaska and California, realize substantial tax and royalty revenues. They also benefit from a significant number of jobs both directly and indirectly linked to oil industry investment.

Much has been said and written about the hydrocarbon potential of Alaska's North Slope. There's a general consensus that the potential significantly exceeds reserves already produced on the company books. This potential comes from existing discoveries, additions and extensions that would be economic, given the availability of investment resources. We at BP concur with this assessment.

It is important to understand that noncompetitive margins have two effects. First, they reduce production of both existing and potential resources and remove cash from the system, making investments more difficult even in potentially profitable opportunities.

It's no longer enough that BP and the rest of the industry, through hard work and innovation, are reducing our costs. In order to maintain the competitiveness of Alaskan investments, it's critical that everyone with a stake in the future of the Alaskan oil industry does his and her part to help ensure its long-term health.

Federal restrictions on our ability to market Alaska North Slope oil where it will generate the highest possible returns hurt producers and the State of Alaska by reducing netbacks on North Slope oil. These restrictions are costly and an unnecessary burden on our ability to compete. Lifting these restrictions will help to restore Alaska's competitiveness for future investment by boosting the wellhead value of ANS crude.

The world has changed dramatically from the days when export restrictions on ANS crude were first imposed ... days of real and perceived supply shortages and an energy crisis mentality. Today, with open markets, improved trade flows, access to new oil and gas provinces and significant discoveries throughout the world, the supply-demand balance has reversed itself.

Restrictions on ANS exports that were based on fears of supply shortages are no longer appropriate. But failure to maintain investment because of loss of competitiveness will not help. Removing the restrictions and providing incentives will maximize domestic production if supply crises should occur in the future.

BP and the Alaskan oil industry will continue to do our part by doing all we can to make Alaska North Slope investments competitive. But we can no longer do it alone.

By directly or indirectly relieving the burden of unnecessary restrictions on our ability to compete, the federal government will not only demonstrate its commitment to do its part to enhance the competitiveness of Alaska North Slope oil, but also to help ensure the long-term health of this critical domestic resource.

BP strongly encourages the State of Alaska to support lifting the ANS export ban.

Thank you for this opportunity to address these important issues.

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

Mary Pagenkopf

House Resources
2-1-95
Tape #95-7, Side A, #000
HJR7

HOUSE RESOURCES COMMITTEE



Alaska State Legislature
House of Representatives

SUBJECT OF MEETING:
H.J.R 7 - EXPORT OF AK OIL

DATE: 2/1/95

PLACE: ROOM 124

NAME	REPRESENTING	BUSINESS/PERSONAL MAILING ADDRESS	ZIP	(H) PHONE	(W) PHONE	DO YOU WANT TO TESTIFY?		WHAT SUBJECT/ WHICH BILL?
						Y	N	
Tom Palmer	BP					<input type="radio"/>	<input type="radio"/>	
Beverly Ward	Arco					<input checked="" type="radio"/>	<input type="radio"/>	HJR 7
						<input type="radio"/>	<input type="radio"/>	
						<input type="radio"/>	<input type="radio"/>	
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						<input type="radio"/>	<input type="radio"/>	

HOUSE COMMITTEE REPORT

(9)

Date Referred: February 1, 1995

FURTHER REFERRALS:

Finance

Date of Committee Action: 2/1/95

The RESOURCES Committee considered:

HJR 7

HOUSE JOINT RESOLUTION NO. 7

EXPORT OF ALASKA OIL

Opposing the ban on the export of Alaska North Slope crude oil; endorsing federal legislation to remove restraints on the export of Alaska North Slope oil; requesting the Congress of the United States to pass legislation to permit the export of Alaska North Slope crude oil; and urging the President of the United States to support the legislation to lift the ban on the export of Alaska North Slope crude oil.

recommends it be replaced
with the following committee substitute

CSHJR 7 (O+G)

the same title
 a new title

additional referral to _____ Committee

attached amendment(s)

ADOPTS: _____ Letter of Intent

ATTACHES NEW FISCAL NOTE(S): _____ (Dept)

APPROVES PREVIOUS: _____ (Dept/Date)

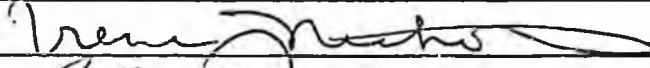
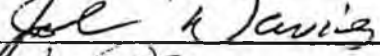

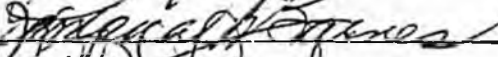

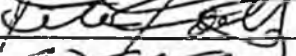
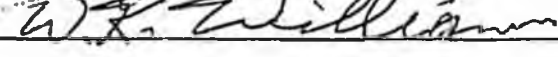
fiscal note(s) _____

fiscal note(s) _____

zero fiscal note(s) _____

zero fiscal note(s) DNR Rev

2/1/95

SIGNING WITH RECOMMENDATIONS		DP	DNP	NR	AM
	Nicholia	X			
	Davies	X			
	Ogden	X			
	Barnes	X			
	Austerman	X			
	Kott	X			
	Williams	X			

CHAIR'S SIGNATURE



Williams

HJR

13

HOUSE RESOURCES COMMITTEE
Roll Call and Members' Bill Votes

* (indicates first public hearing)

Room 124, Capitol Bldg.

(Mon.) Wed., Fri.

Date: 11/30/95

Tape# 95-5 Joint _____

Time: 8:02 am/pm Time Adjourned: _____ am/pm

ROLL CALL:	PRES	ABS	TIME AR	<u>HJR13</u>		
Rep. Joe Green	✓			Y		
Rep. Bill Williams			8:15	Y		
Rep. Scott Ogan	✓			Y		
Rep. Alan Austerman	✓			Y		
Rep. Ramona Barnes			8:55	Y		
Rep. John Davies						
Rep. Pete Kott	✓			Y		
Rep. Eileen MacLean						
Rep. Irene Nicholia			8:20	N		

6-1

Other Legislators Present _____

AGENDA:

Bill No.	Short Title	Action Taken
<u>HJR 13</u>	<u>Endorsing AWR Leasing</u>	
<u>ADF+G OVERVIEW</u>		
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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

Mary Pagenkopf

House Resources
1-3-95 8:02 am
Tape #95-5, Side A
HJR 13

HOUSE RESOURCES COMMITTEE



Alaska State Legislature
House of Representatives

DATE: 1/30/95

PLACE: ROOM 124

SUBJECT OF MEETING:
HJR 13 - Endorsing ANWR
Leasing
Department of Fish + Game Overview

NAME	REPRESENTING	BUSINESS/PERSONAL MAILING ADDRESS	ZIP	(H) PHONE	(W) PHONE	DO YOU WANT TO TESTIFY?		WHAT SUBJECT/ WHICH BILL?
Jara Hannan	AK Environ Lobby	PO Box 22151	995802	463-3115	463-3366	<input checked="" type="radio"/>	N	HJR 13
Beverly Ward	Arco	134 W. Franklin	99501	586-3680		<input checked="" type="radio"/>	N	HJR 13
						<input type="radio"/>	N	
						<input type="radio"/>	N	
						<input type="radio"/>	N	
						<input type="radio"/>	N	
						<input type="radio"/>	N	
						<input type="radio"/>	N	
						<input type="radio"/>	N	
						<input type="radio"/>	N	

HOUSE COMMITTEE REPORT

(9)
Date Referred: January 25, 1995

FURTHER REFERRALS:

Finance

Date of Committee Action: 1/30/95

The RESOURCES Committee considered:

HJR 13

HOUSE JOINT RESOLUTION NO. 13

ENDORISING ANWR LEASING

Endorsing, in principle, legislation authorizing oil and gas leasing, exploration, and development on the coastal plain within the Arctic National Wildlife Refuge, provided the legislation does not contain a provision decreasing this state's royalty.

recommends it be replaced with the following committee substitute CSHJR 13(D+G) the same title a new title

additional referral to _____ Committee
 attached amendment(s)

ADOPTS: _____ Letter of Intent

ATTACHES NEW FISCAL NOTE(s): (Dept) _____ APPROVES PREVIOUS: (Dept/Date) _____
 fiscal note(s) _____ fiscal note(s) _____

zero fiscal note(s) _____ zero fiscal note(s) DNR 1/25/95

SIGNING WITH RECOMMENDATIONS	DP	DNP	NR	AM
<i>[Signature]</i>				X
<i>W.K. Williamson</i>	✓			
<i>Scott [Signature]</i>	✓			
<i>[Signature]</i>	✓			
<i>[Signature]</i>	✓			
<i>[Signature]</i>	✓			
<i>[Signature]</i>	✓			

CHAIR'S SIGNATURE *[Signature]*

MIKE NAVARRE

REPRESENTATIVE

DISTRICT 9

ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES

DURING SESSION
STATE CAPITOL
JUNEAU, AK 99801-1182
(907) 465-3779

HOME ADDRESS
Box 169 — KENAI, AK 99611
(907) 262-7842

SPONSOR STATEMENT

January 25, 1995

TO: Representative Joe Green, Co-Chair, House Resources Committee
Representative Bill Williams, Co-Chair, House Resources Committee

FROM: Representative Mike Navarre *[Signature]*

SUBJECT: HJR 13, Supporting oil and gas leasing, exploration, and development on the coastal plain within the Arctic National Wildlife Refuge.

.....
House Joint Resolution 13 was introduced to encourage federal legislation authorizing oil and gas leasing, exploration, and development of the coastal plain of Alaska's Arctic National Wildlife Refuge. A caveat to this request for action includes that the United States Congress should recognize and support the statehood compact which will not include a reduction in the state's royalty rights.

The State of Alaska continues to support safe, reasonable, and responsible development of the Arctic National Wildlife Refuge. Advancing technology combined with an industry that has continually become more sensitive to responsible development ensures environmentally sound development.

Approximately 85% of the current state budget is derived from oil and gas. The responsible development of ANWR means a wide range of economic possibilities for the State of Alaska, ranging from jobs for Alaskans, to contracts for support industries, to an improved revenue stream for quality of life enhancements. Revenue generation would also add significantly to the Permanent Fund.

America's dependence on imported oil continues to increase and we are now at a point where 50.4% of our domestic demand is supplied by imports. The increase of imports is due to declining U.S. oil production (a 40 year low according to the American Petroleum Institute).

I believe opening the coastal plain of the Arctic National Wildlife Refuge is a positive move for both the United States and the State of Alaska. The dependence on imported oil must be reduced and economic stability of Alaska must be secured.

HJR 13 passed out of the House Special Committee on Oil and Gas on January 24th.

Thank you for your consideration.



FISCAL NOTE

STATE OF ALASKA
1995 LEGISLATIVE SESSION

BILL NO. HJR13

Revision Date: Original Dept Affected: Natural Resources
 Title: Endorsing, in principle, legislation authorizing oil BRU: Resource Development
and gas leasing, exploration, and development on the coastal... Component: Oil & Gas Development
 Sponsor: Rep. Navarre, Grussendorf, Brown
 Requestor: _____ Component Serial No. 439

Expenditures/Revenues		(Thousands of Dollars)				
OPERATING EXPENDITURES	FY96	FY97	FY98	FY99	FY00	FY01
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL EXPENDITURES	0.0	0.0	0.0	0.0	0.0	0.0
CHANGE IN REVENUES ()	0.0	0.0	0.0	0.0	0.0	0.0

FUND SOURCE		(Thousands of Dollars)				
1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY95) cost: \$ None

POSITIONS		FY96	FY97	FY98	FY99	FY00	FY01
FULL-TIME		0	0	0	0	0	0
PART-TIME		0	0	0	0	0	0
TEMPORARY		0	0	0	0	0	0

ANALYSIS: (Attach a separate page if necessary)

There is no fiscal impact associated with implementation of this resolution.

House Joint Resolution 13 does not enact any legislation that will require action by the Division of Oil & Gas, as this is strictly a resolution document stating that the Alaska State legislature supports in principle federal legislation authorizing oil and gas leasing, exploration, and development on the coastal plain of the Arctic National Wildlife Refuge, but opposes any unilateral reductions in royalty revenue from that exploration and development and any attempts by the Congress or the President to coerce the State of Alaska into accepting less than was promised at statehood.

Prepared by: Jim Eason, Director *1/23/95* Phone: 762-2547
 Division: Oil & Gas Date: 23-Jan-95
 Approved by Commissioner: *Rep. Navarre, Grussendorf, Brown* Date: 1/23/95
 Agency: Natural Resources



ANWR:

**JOB AND ENERGY
FOR AMERICA**

4220 B Street
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ARCTIC POWER

Arctic Power is a grassroots, non-profit organization of Alaska citizens organized to promote oil exploration and production within the Coastal Plain of ANWR. Arctic Power opposes a wilderness designation of this region.

Arctic Power has secured more than 10,000 members since its inception in mid-1992 and is enrolling new members daily.

Arctic Power membership spans the economic spectrum - including miners, fishermen, loggers, tourism operators, transportation businesses, labor unions, banks, teachers, the legal community, retail firms, service industries, non-profit organizations, Alaska Native corporations, local elected officials, and many others. Interest groups represented on the Arctic Power board and through its membership are The Alaska Support Industry Alliance, the Alaska State Chamber of Commerce, the Resource Development Council, the Alaska Trucking Association, the Alaska Oil & Gas Association, the Anchorage Chamber of Commerce, the Alaska Miner's Association, and the Alaska Forest Association.

A statewide board oversees the activities of Arctic Power and includes representatives from Barrow to Ketchikan - all regions of the state are represented. The board of Arctic Power includes businesses from a variety of industry sectors, including but not limited to, law firms, trucking businesses, the visitor industry, media firms, Native corporations, oilfield service companies and public relations agencies.

The Alaska congressional delegation has endorsed Arctic Power and works closely with the board and staff of the organization. Arctic Power and the state of Alaska work together in their congressional outreach efforts in Washington, D.C.

The organization is committed to securing congressional and presidential approval of legislation opening the Coastal Plain of ANWR to responsible oil development.

ANWR STATUS 11/8/94

Pro-ANWR Efforts

Working with sympathetic Democratic leaders and pro-business Republican leaders, Arctic Power has been educating new members of Congress and attempting to gain allies for pro-ANWR legislation. Earlier concerns that the Clinton administration would work to place the Coastal Plain of ANWR in wilderness have subsided and in fact, have been replaced by assurances from appointees that the ANWR issue will be revisited in a more positive fashion.

Legislative Action

There are two bills, S. 39 and H.R. 39, that would designate the Coastal Plain of ANWR as permanent wilderness. Both bills have a number of co-sponsors, and the environmental lobby is working them to continue to sign up supporters. A national group, the Alaska Wilderness League, was formed one year ago in Washington, D.C. to push wilderness legislation. Former congressman, Bob Mrazek, and Idaho Governor Cecil Andrus were designated as the leaders of this group, which has not gained much momentum in the ensuing year.

At this point, based on research and interviews by Arctic Power consultants and the Alaska governor's office, it appears that a House vote would result in passage of wilderness legislation, but there is not currently enough support in the Senate. Alaskans are focusing much of their effort on the Senate to maintain that margin. House leaders such as Congressman George Miller, currently have no intention of pushing wilderness legislation during this congressional session. ANWR development supporters are continuing to present the economic arguments regarding jobs that would be generated by development as a *counter* to locking up the region under S. 39 and H.R. 39.

In the meantime, Arctic Power is working on creative pro-ANWR legislation and will work with key Democrats and Republicans to push a development bill. There is support from several Democratic factions and national labor leaders for an ANWR jobs bill.

State/Private Sector Efforts

Arctic Power is continually briefing the new congressional members on the downside of closing the Coastal Plain, and the economic benefits of ANWR oil development. The organization works closely with the state of Alaska on these briefings. In addition, there continues to be emphasis placed on countering the non-development movement to find sponsors for wilderness legislation.

The jobs issue will continue to be the number one focus of state and private sector efforts to open the Coastal Plain in the short-term.

Oil overall importance -- ANWR outlook

Oil development fuels not only Alaska's public sector through state royalties and taxes, but provides an important private sector job base throughout the state. Despite the downturn in Prudhoe Bay production and downsizing of major companies, oil-related jobs continue to be an important element in Alaska's economy.

Since Prudhoe Bay construction began in 1975, more than \$50 billion has been spent across the United States to develop North America's largest oilfield. The TransAlaska Pipeline alone employed 22,000 people during a four-year period.

As oil production declines, companies are looking for others areas to explore in the United States -- and abroad. Although low oil prices have played a factor in recent months, long-term analysts point to an upcoming five-year trend of rising oil prices. When coupled with disappointing exploration projects scattered across the globe, the case for ANWR becomes more convincing.

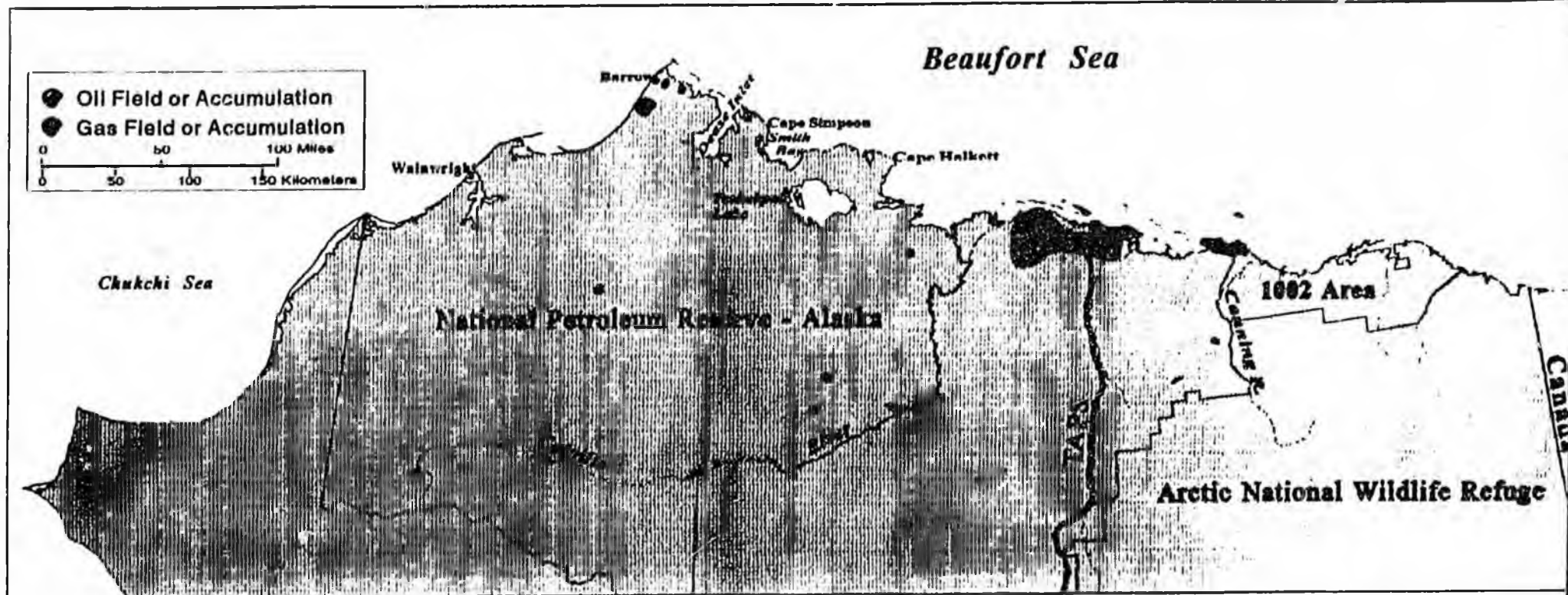
ANWR is the only known prospect that can be produced with the highest amount of American jobs, the smallest footprint on the environment, and the most stringent regulation and oversight in the world. Estimates of the amount of produceable oil in the Coastal Plain range from 3 billion barrels to 12 billion barrels. With its proximity to Prudhoe Bay, which lies 65 miles to the west, Coastal Plain development would require minimal infrastructure, thus reducing the impact on the region.

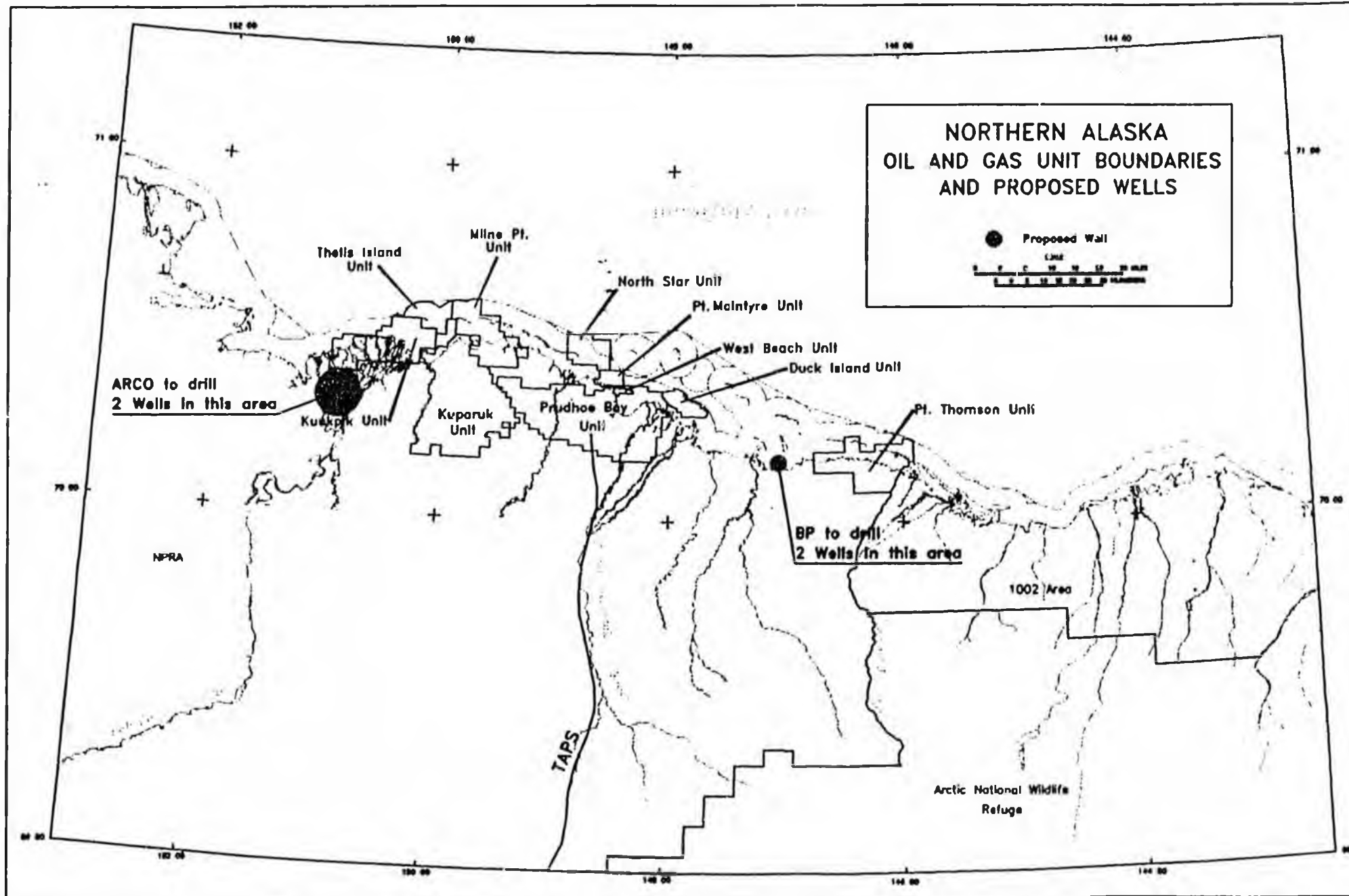
In addition, the residents of the area -- who reside in the North Slope Borough -- are on record in favor of Coastal Plain development. Villagers in Nuiqsut and Kaktovik have overseen Prudhoe Bay development and are confident of their ability to regulate oil production, both on federal lands and on their own Native land in the 1002 study area.

Government estimates show that a minimum of 250,000 jobs would be created as a result of Coastal Plain development. These jobs are scattered throughout the United States. Private sector studies place the number of jobs as high as 735,000. These jobs range from electrical to construction workers -- from computer operators to transportation workers.

Alaskans overwhelmingly support ANWR development -- statewide polls conducted annually for the past six years show that support ranges between 78 and 82 percent of the residents supporting Coastal Plain development.

Northern Alaska Oil & Gas Fields





Statistics may add pressure to open ANWR

Oil imports account for half of U.S. use for the first time

By H. JOSEF HEBERT
Associated Press Writer

WASHINGTON — Oil imports reached nearly 8.9 million barrels a day in 1994, for the first time accounting for more than half of U.S. petroleum use, an industry group said Wednesday.

Imports last year reached 50.4 percent of domestic demand, largely because of continued decline in U.S. oil production, which fell to a 40-year low, the American Petroleum Institute said in its annual supply and demand review.

"Overall, U.S. (domestic) crude oil production fell to 6.6 million barrels a day, its lowest annual level since 1954," said the API report. It said imports climbed 3.4 percent compared to 1993, when foreign oil accounted for 49.9 percent of all petroleum used in the United States.

The statistics were expected to add support in Congress for expansion of domestic oil drilling, including pressure to open the Arctic National Wildlife Refuge in Alaska to drilling. It also could support demand for tax benefits for U.S. independent oil companies that have had hard economic times for years.

Sen. Frank Murkowski, R-Alaska, chairman of the Senate Energy and Natural Resources Committee, already has promised a broad review of U.S. energy policies, including a hard look at the growing imports and what should be done to boost domestic production.

Murkowski has been a strong advocate of drilling along the coastal strip of the Arctic refuge. Environmentalists have fiercely opposed it, arguing it would lead to ecological damage in a pristine region that should be preserved in its natural state.

The API said the nearly 8.9 million barrels of oil imported daily in 1994 eclipsed the previous high for imports recorded in 1977 by 109,000 barrels a day. This occurred even though Americans used 800,000 fewer barrels a day last year than in 1977.

The annual review also found:

■ Petroleum's share of the total energy supply continued to decline to just over 40 percent. It had been 48.7 percent in 1977. Demand for natural gas continued to grow faster than oil demand, largely because of wider gas availability and more electric utilities turning to natural gas.

■ Gasoline deliveries totaled 7.6 million barrels a day in 1994, about the same as in 1978, as greater highway travel and the growth in the number of vehicles offset improved fuel efficiency. Gasoline demand increased 1.7 percent between 1993 and 1994.

■ Demand for home heating oil continued a four-year decline, reflecting the continuing shift from oil to natural gas and relatively warm weather in parts of the country that use oil for heating. Since 1990, the demand has dropped nearly 20 percent.

■ Overall demand for distillate fuel overall rose 4.6 percent as increased demand for diesel offset the decline in demand for heating oil.

■ Demand for kerosene jet fuel jumped 9.4 percent from 1993, reflecting greater demand from airlines and conversion of some military aircraft to the fuel.

Meanwhile, refineries operated at 92.7 percent of capacity last year, up from 91.5 percent in 1993. At year's end, total inventories of crude oil and refined products stood at 1.064 billion barrels, 0.4 percent more than at the end of 1993.

Anchorage Daily News

VOL. XLX, NO. 4 84 PAGES

ANCHORAGE, ALASKA, WEDNESDAY, JANUARY 4, 1995

PRICE 51

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TO

01-23-1995 03:04PM FROM Arctic Power:

TOTAL P.03

Young enters new Congress swinging

Alaska representative targets environmentalists, land-use policies

By DAVID WHITNEY
Daily News reporter

WASHINGTON — When the 104th session of Congress opens today under Republican control, it will be Day One of an expected two-year battle between the Alaska congressional delegation and environmentalists over federal land-use policy.

Rep. Don Young, the new chairman of the House Resources Committee, is itching for the fight.

In an interview, Young called

■ **OPENING DAY:** Eager Republicans plan an ambitious start. A-3

national environmental groups "despicable" promoters of the lock-up of federal lands from public use. He vowed to reverse years of land-use policy that he said puts environmental protection ahead of jobs.

"People will see I'm a good steward," Young said. "I'll prove

to the American people that I'm correct."

In the Senate, land-use policy will be in the hands of Sen. Frank Murkowski, who takes over as chairman of the Senate Energy and Natural Resources Committee. While Murkowski spoke more cautiously than Young in a recent meeting with reporters, he is at least as passionate about environmental organizations.

National environmental leaders so far have been reluctant to say

much about the delegation's new powers, fearing that they will prematurely ignite a confrontation with the Alaskans.

At a recent press conference, National Wildlife Federation chief Jay Hair said environmentalists will work with Young and Murkowski where they can, and oppose them where they must.

Murkowski has yet to say in detail what his agenda will be.

Please see Back Page, YOUNG



Rep. Don Young

Continued from Page A-1

The first order of business will be hearings on U.S. assistance in constructing nuclear power plants in North Korea under an agreement to keep the communist nation from building nuclear weapons, Murkowski said.

After that, he said, the panel will hold hearings on domestic energy production and oil imports, which could become the background for a push to open the Arctic National Wildlife Refuge to drilling.

Legislation to turn the refuge's coastal plain into wilderness off limits to drilling is a top item on environmentalists' agenda. The area, prized for its unspoiled wildlife habitat, is also regarded as the most promising site for a

giant oil discovery in North America.

"One of the priorities we are going to address is the energy review coming out in April by the Department of Energy," Murkowski said. "We feel that ANWR is going to be a part of that, relative to how we decrease our dependence on imported oil. Half our trade deficit is the price of imported oil."

In the House, where Speaker Newt Gingrich has outlined an aggressive schedule in the opening months of the Congress, Young predicted quick action on a slate of bills.

Sweeping revisions to the Endangered Species Act that are certain to weaken it, laws to pay private-property owners for federal actions that regulate use of their land, and

a wetlands protection bill that will ease development restrictions in Alaska will pass the House by July, Young pledged.

After that, Young said, he will turn his attention to Alaska issues. Among these are attacks on Forest Service policies that he said are hampering timber production in the Tongass National Forest and lifting the ban on the export of North Slope crude oil.

Young also predicted that legislation allowing oil drilling in the Arctic refuge will be enacted before the 1996 presidential elections, although he declined to say how he intends to pull that off.

Young concedes that his agenda amounts to frontal assault on environmentalists who lobby on Capitol

Hill. He said he intends to limit their influence by not inviting them to testify at committee hearings and conducting most of those hearings outside Washington and in the local communities around the country that will be most affected by the panel's decisions.

"Our major goal is to solve some of these environmental issues that have swung so far to the left," he said.

"What I'm going to do in my reign as chair is to show people who environmentalists are, who the people who drive around in their limousines and live in their big mansions and say 'I'm an environmentalist' and how elitist they really, truly are," he said.

"There's 57 different organizations that live

around this hill that make a living telling the farmer he's wrong, that make a living telling the guy who's cutting a tree down that he's wrong, that make a living telling everyone that man's occupation on the earth is a cancer on the Earth," Young said.

"That's why I get so frustrated with them because they are the most despicable group I've ever dealt with," he said.

Scott Kearin, executive director of the Alaska Wilderness League, a group set up by former New York Rep. Bob Mrazek to fight oil development in the Arctic refuge and protect the Tongass from over cutting, was incensed by Young's attack.

"To insult environmentalists like this is very unfair," he said. "I don't

even own a car and know a single rich environmentalist. We are this for the money. certainly don't make much money as a men."

Still, Kearin saw new power of the delegation is trouble.

The result, he predicted, will be the reinvigoration of the national environmental movement turned lethargic after Clinton's election in 1992.

"There's been some placency in the movement for the last couple of years but this will certainly help that," Kearin said. "Alaska is special to Americans, and this situation has them worried."

NATION A-3

Most oil used in U.S. in 1994 was imported

The Associated Press

WASHINGTON—For the first year ever, more than half of the oil used in the United States in 1994 came from foreign sources, with total imports for the year setting a record, a trade association reported today.

Nearly 8.9 million barrels of oil a day were imported last year, or 50.4 percent of total domestic demand, while U.S. oil production fell to a 40-year low, the American Petroleum Institute said.

The statistics were expected to provide ammunition for those in

Congress favoring tax breaks for domestic oil producers and for new oil and gas development in the United States, including in controversial areas such as the Arctic National Wildlife Refuge in northern Alaska.

Sen. Frank Murkowski, R-Alaska, chairman of the Senate Energy and Natural Resources Committee, already has promised a broad review of U.S. energy policies, including a hard look at the growing imports and what should be done to boost domestic production.

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CRS Report for Congress

Domestic Oil: Past, Present, and Future

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Joseph P. Riva Jr.
Specialist in Earth Sciences
Science Policy Research Division

March 14, 1994



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DOMESTIC OIL: PAST, PRESENT, AND FUTURE

SUMMARY

Annual domestic crude oil¹ production peaked in 1970 at about 3.33 billion barrels and then began a slow decline that continued for the next seven years. Then, between 1977 and 1986, production leveled off, with yearly oil output fluctuating around three billion barrels. The long production decline was arrested by a significant increase in domestic oil drilling, especially of development wells within known fields. During the drilling boom of the early 1980s, only one percent of the successful oil wells were wildcats that discovered new fields, and these new fields provided only about seven percent of proved reserve additions. The drilling boom was a domestic response to rising world oil prices, but in 1986 world oil prices fell sharply and domestic oil well drilling again responded in kind. Since 1987 fewer than 20,000 oil wells have been drilled yearly (compared to a peak of over 61,000 in 1984) and the number of producing oil wells has declined by more than 55,000 in the past three years. The dramatic decrease in domestic drilling was mirrored in reduced oil production, by 1992 down about 20 percent from 1985. Domestic crude oil demand in 1992 was about 4.7 billion barrels, some 2.2 billion barrels of which was supplied by imports. This amount of imported oil is equal to an average of 15 supertankers entering U.S. ports each day. OPEC countries contributed about 54 percent of these 1992 oil imports. Domestic crude oil production is estimated to continue to decline, by four percent in 1993 to 20 percent by the decade's end (compared to the 1992 level). Future declines in domestic oil production will lead to increasing imports, most of which will likely have to come from the Middle East. The future output from the mature oil producing regions of the United States will depend on an even more intensive exploitation of known fields through massive infill drilling and enhanced oil recovery operations and the search for ever smaller undiscovered oil accumulations. Such activities require extensive development activity, with even marginal production gains dependent upon significant increases in drilling effort. Since a return of the drilling boom is unlikely, as it is primarily dependent on world oil price, the extent of the projected domestic oil production decline will depend mostly on future exploration and development success in the key frontier regions of Alaska's North Slope and the outer continental shelves (especially offshore California), where there are still prospects for the discovery of giant fields. Since exploration and development activities in frontier regions have long lead times, near-term Federal leasing decisions will greatly affect end of century production and, therefore, imports and balance of payments.

¹Excludes natural gas liquids.

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DOMESTIC OIL: PAST, PRESENT, AND FUTURE

INTRODUCTION

The United States today is powered by oil. It provides 41 percent of total domestic energy requirements, a far larger portion than any other single energy source. Nearly half of this oil is imported, while over 80 percent of the total oil consumed is for transportation, asphalt, and petrochemical feedstocks, where a substantial substitution of economic non-oil based substances is not expected soon. Thus, domestic oil production and oil imports will remain a very important component of domestic energy demand into the foreseeable future. Because of the energy security and balance of payments problems associated with importing very large amounts foreign oil, projections of future domestic oil production are important in energy, economic, and foreign policy considerations.

DOMESTIC OIL PRODUCTION HISTORY

The Drilling Boom

When crude oil output in a mature oil producing region peaks and begins to decline, past experience has been that the decline is irreversible. Thus, when domestic crude oil production peaked in 1970 at about 3.33 billion barrels per year and began a slow decline, there was a general expectation that the decline would continue. This judgement was based upon the knowledge that proved reserves were decreasing and that even optimistic estimates of undiscovered resources indicated that some two-thirds of the Nation's original recoverable oil resource base had already been discovered. However, it was also assumed that field growth would persist at historic rates. Oil fields often appear to grow over time as continuous development proves additional reserves by infill drilling on closer spacing, field extension, exploitation of new producing zones, or enhanced oil recovery operations. About a decade after the production peak, domestic drilling increased to unprecedented levels in response to world oil price increases (see table 3). In the early 1980s, about 99 percent of the successful oil wells were development wells associated with known fields. About 95 percent of the development drilling was of infill wells, drilled on closer spacing within the boundaries of known fields. The remaining successful development wells either found new reservoirs in producing fields or extended their boundaries. Of the total successful domestic oil wells drilled, only one percent were wildcats that discovered new fields, and these new discoveries provided only about seven percent of proved reserve additions. In spite of the poor exploration results, domestic production did not continue its decline; rather it was sustained at

The average per well oil reserve additions since 1980 and the number of wells estimated to have been drilled for oil in 1993 are shown in table 1 for each region. The two values are multiplied to estimate yearly regional reserve additions to be used in the 13-year projection (to 2005) shown in table 2.

TABLE 1. Regional Reserve Additions and Estimated Oil Wells Drilled in 1993
(in million barrels)

Region	Reserve Additions Per Oil Well 1980-1992 Average	Estimated Oil Wells Drilled	Regional Reserve Additions
Alaska	4.369	130	568
California	.144	1735	250
Rocky Mts./N. Gt. Plains	.117	648	76
W. Texas/E. New Mexico	.074	4452	329
Gulf Coast	.121	2173	263
Midcontinent	.024	2813	68
Eastern Interior	.010	1085	11
Michigan Basin	.083	31	3
Appalachians	.006	467	3

SOURCE: Derived from: U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves. 1980 to 1992 Annual Reports. DOE/EIA-0216 (80-92), and Quarterly Completion Reports, American Petroleum Institute, 1980-1993.

It can be seen from table 1 that Alaska and California have been the best regions of the United States in which to drill an oil well, with average per well reserve additions substantially higher than those in the other domestic regions. During the 1980s, more than half of the oil reserve additions in California came from enhanced recovery operations in the large heavy oil fields of the San Joaquin basin. About one-third of California oil reserve additions came from large fields discovered offshore. New offshore fields accounted for most of the oil reserve additions in 1981 and 1982. In the early 1980s, drilling was resumed in the Santa Barbara Channel and several offshore fields were discovered and developed in the region, which includes the Santa Maria basin. Enhanced heavy oil recovery operations accounted for most reserve additions in 1984 through 1989. For California to continue to record average per well reserve additions that are considerably higher than the national average, both enhanced oil recovery projects and offshore exploration and development must be successfully continued.

CORRECTION

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DOMESTIC OIL: PAST, PRESENT, AND FUTURE

INTRODUCTION

The United States today is powered by oil. It provides 41 percent of total domestic energy requirements, a far larger portion than any other single energy source. Nearly half of this oil is imported, while over 80 percent of the total oil consumed is for transportation, asphalt, and petrochemical feedstocks, where a substantial substitution of economic non-oil based substances is not expected soon. Thus, domestic oil production and oil imports will remain a very important component of domestic energy demand into the foreseeable future. Because of the energy security and balance of payments problems associated with importing very large amounts foreign oil, projections of future domestic oil production are important in energy, economic, and foreign policy considerations.

DOMESTIC OIL PRODUCTION HISTORY

The Drilling Boom

When crude oil output in a mature oil producing region peaks and begins to decline, past experience has been that the decline is irreversible. Thus, when domestic crude oil production peaked in 1970 at about 3.33 billion barrels per year and began a slow decline, there was a general expectation that the decline would continue. This judgment was based upon the knowledge that proved reserves were decreasing and that even optimistic estimates of undiscovered resources indicated that some two-thirds of the Nation's original recoverable oil resource base had already been discovered. However, it was also assumed that field growth would persist at historic rates. Oil fields often appear to grow over time as continuous development proves additional reserves by infill drilling on closer spacing, field extension, exploitation of new producing zones, or enhanced oil recovery operations. About a decade after the production peak, domestic drilling increased to unprecedented levels in response to world oil price increases (see table 3). In the early 1980s, about 99 percent of the successful oil wells were development wells associated with known fields. About 95 percent of the development drilling was of infill wells, drilled on closer spacing within the boundaries of known fields. The remaining successful development wells either found new reservoirs in producing fields or extended their boundaries. Of the total successful domestic oil wells drilled, only one percent were wildcats that discovered new fields, and these new discoveries provided only about seven percent of proved reserve additions. In spite of the poor exploration results, domestic production did not continue its decline; rather it was sustained at

around three billion barrels per year. The proved reserve additions needed to sustain domestic oil output mostly came from the greater than historic field growth that resulted from the more intensive development drilling. Waterflooding and enhanced oil recovery projects also helped stabilize domestic production. The rise in world oil prices that caused the drilling boom greatly increased the number of stripper wells (those producing ten or fewer barrels of oil per day) that remained economical, and therefore were not abandoned, making additional reserves available for production. In 1981 fewer than 7,000 stripper wells were abandoned, less than half the number abandoned yearly in the early 1970s.

The Drilling Slump

In 1986, Saudi Arabia increased oil production to protect its share of a declining world oil export market. This action caused a sharp decline in world crude oil prices. In the United States, rapidly falling oil prices resulted in a dramatic drop in domestic oil well drilling (which fell by two-thirds from a record number of 61,339 in 1984), and an equally dramatic increase in stripper well abandonment (to about 19,000). The drilling slump had a pronounced impact on domestic crude oil production, which, to date, has decreased by about 20 percent. It is possible that domestic oil production would have been sustained at early 1980s levels for at least several more years had the drilling boom continued.

It is more difficult to raise oil production than to sustain it. Even the drilling boom did not return domestic output to the 1970 peak. Production is now falling due to the drilling slump and stripper well abandonment in excess of 16,000 wells per year. Fewer than 20,000 wells per year have been drilled for oil since 1987. Domestic oil output is derived from about 594,000 wells, about three-quarters of which are strippers. Average per-well production has declined from 17.2 barrels per day in 1970 to a current 11.2 barrels per day. The number of producing wells has decreased by more than 55,000 in the past three years.

Projected Domestic Oil Production

Because of considerations of energy security and the balance of payments problems associated with substantial oil imports, it is useful to estimate future domestic oil production. A method to make such a projection entails the disaggregation of the United States into nine oil producing regions on the basis of geologic and geographic homogeneity. A production and reserve projection is then made for each region on the basis of average reserve additions per oil well drilled during the past 13 years (1980s and 1990s). This per well average is multiplied by the total number of wells (exploratory, development, and dry holes) estimated to be drilled for oil in the region during 1993 to calculate total yearly oil reserve additions. The additions are then added to the region's proved reserves and an estimate of oil production derived by the use of expected reserve/production ratios. The regional projections are then added to give an oil production and reserve estimate for the entire United States. In the same manner, oil production estimates can be projected year by year into the future.

The average per well oil reserve additions since 1980 and the number of wells estimated to have been drilled for oil in 1993 are shown in table 1 for each region. The two values are multiplied to estimate yearly regional reserve additions to be used in the 13-year projection (to 2005) shown in table 2.

TABLE 1. Regional Reserve Additions and Estimated Oil Wells Drilled in 1993
(in million barrels)

Region	Reserve Additions Per Oil Well 1980-1992 Average	Estimated Oil Wells Drilled	Regional Reserve Additions
Alaska	4.369	130	568
California	.144	1735	250
Rocky Mts./N. Gt. Plains	.117	648	76
W. Texas/E. New Mexico	.074	4452	329
Gulf Coast	.121	2173	263
Midcontinent	.024	2813	68
Eastern Interior	.010	1085	11
Michigan Basin	.083	31	3
Appalachians	.006	467	3

SOURCE: Derived from: U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves. 1980 to 1992 Annual Reports. DOE/EIA-0216 (80-92), and Quarterly Completion Reports, American Petroleum Institute, 1980-1993.

It can be seen from table 1 that Alaska and California have been the best regions of the United States in which to drill an oil well, with average per well reserve additions substantially higher than those in the other domestic regions. During the 1980s, more than half of the oil reserve additions in California came from enhanced recovery operations in the large heavy oil fields of the San Joaquin basin. About one-third of California oil reserve additions came from large fields discovered offshore. New offshore fields accounted for most of the oil reserve additions in 1981 and 1982. In the early 1980s, drilling was resumed in the Santa Barbara Channel and several offshore fields were discovered and developed in the region, which includes the Santa Maria basin. Enhanced heavy oil recovery operations accounted for most reserve additions in 1984 through 1989. For California to continue to record average per well reserve additions that are considerably higher than the national average, both enhanced oil recovery projects and offshore exploration and development must be successfully continued.

TABLE 2. Past and Projected Regional Oil Production
(in million barrels)

Region	1970	1975	1980	1981	1982	1983	1984	1985	1986	
Alaska	83	70	591	692	627	665	638	667	670	
California	372	322	360	383	394	400	416	417	378	
Rocky Mts./N. Gt. Plains	281	259	258	257	249	252	254	255	247	
W. Texas/E. New Mexico	792	809	670	646	625	620	608	620	596	
Gulf Coast	1,381	1,118	812	774	755	773	803	786	778	
Midcontinent	324	231	200	218	224	221	233	223	228	
Eastern Interior	63	38	27	27	30	30	32	34	33	
Michigan Basin	12	24	37	34	29	31	27	30	24	
Appalachians	18	17	16	15	19	24	25	20	19	
Totals	3,326	2,888	2,971	2,945	2,952	3,016	3,035	3,052	2,973	
Region	1987	1988	1989	1990	1991	1992	1993*	1994*	2000*	2005*
Alaska	718	749	683	652	656	625	578	575	575	570
California	397	382	365	344	346	344	341	340	330	320
Rocky Mts./N. Gt. Plains	222	227	208	206	194	186	173	170	125	100
W. Texas/E. New Mexico	555	537	517	493	487	471	458	450	445	435
Gulf Coast	711	658	577	588	614	618	598	560	350	300
Midcontinent	203	191	177	166	160	152	145	140	95	85
Eastern Interior	29	32	28	24	23	23	22	21	16	14
Michigan Basin	21	19	18	16	17	14	12	12	7	5
Appalachians	17	16	15	16	15	13	12	11	7	6
Totals	2,873	2,811	2,586	2,505	2,512	2,446	2,389	2,279	1,950	1,834

*Estimate.

The super-giant Prudhoe Bay field on the North Slope of Alaska still accounts for nearly three-quarters of the State's oil production and one-fifth of total U.S. oil production. The daily output from an average Prudhoe Bay production well is about 1,200 barrels, compared to nine barrels for the rest of the United States. An average Prudhoe Bay well is worth more than 133 average domestic wells. However, the field began to decline in 1988 at a rate that is projected to average between eight and ten percent per year through the year 2000. Year to year decline rates may be above or below this amount because projects such as the recent infill drilling and gas injection program will partially offset the field's natural decline. All of Alaska's oil fields are expected to be in decline by 1995. If the oil deficit is to be made up, the additional output will have to come from new discoveries. However, exploration efforts in the Gulf of Alaska, the Bering Sea basins, the Chukchi Sea, and the Beaufort Sea, with a very few exceptions, have been unsuccessful.

A major prospective region that remains undrilled lies between Prudhoe Bay and the Canadian border. This is the Arctic National Wildlife Refuge. The region contains the largest undrilled onshore geologic structures known in the United States and has been assessed by the Department of the Interior to contain an economically recoverable oil resource ranging to over nine billion barrels. The actual amount of recoverable oil in the refuge can not be known without exploration drilling and could be more, or less, than estimated. Because of the lack of exploration success in other regions of Alaska, sustaining its recent per well reserve additions of 60 times the Lower-48 State average very likely will depend upon a successful exploration and development program in the Arctic National Wildlife Refuge.

Such development is currently the subject of great controversy, with the final decision to be made by Congress. The refuge, one of the premier wildlife reserves in the United States, does, however, hold the prospect of a giant oil discovery. Giant oil fields in the United States (those that originally contained at least 100 million barrels of recoverable oil) are relatively scarce. Of the 33,900 domestic oil fields that have been discovered to date, only 288 are giants (0.8 percent).² Yet, these few fields have contributed nearly 60 percent of total domestic oil production and still contain just over 61 percent of proved domestic oil reserves. Because of their large size and anomalous geology, they are usually found early in the exploration cycle. About half of the known giant oil fields were discovered before World War II. Recently few giant fields have been found, because almost all of the remaining undiscovered domestic giant oil fields are likely to be site-specific to a relatively few areas in Alaska and on the outer continental shelves. New giant fields, from which large amounts of oil can be produced from relatively few wells, are needed to shore up declining domestic oil production, thus helping to keep energy affordable. Civilizations are built and maintained with energy. While conservation holds great promise, and energy R&D may contribute substantially, for the foreseeable future the economic prosperity of the United States, as well as the rest of the industrial

²U.S. Fields With Ultimate Oil Recovery Exceeding 100 Million BBL. Oil and Gas Journal, Jan. 31, 1994. p. 82-83.

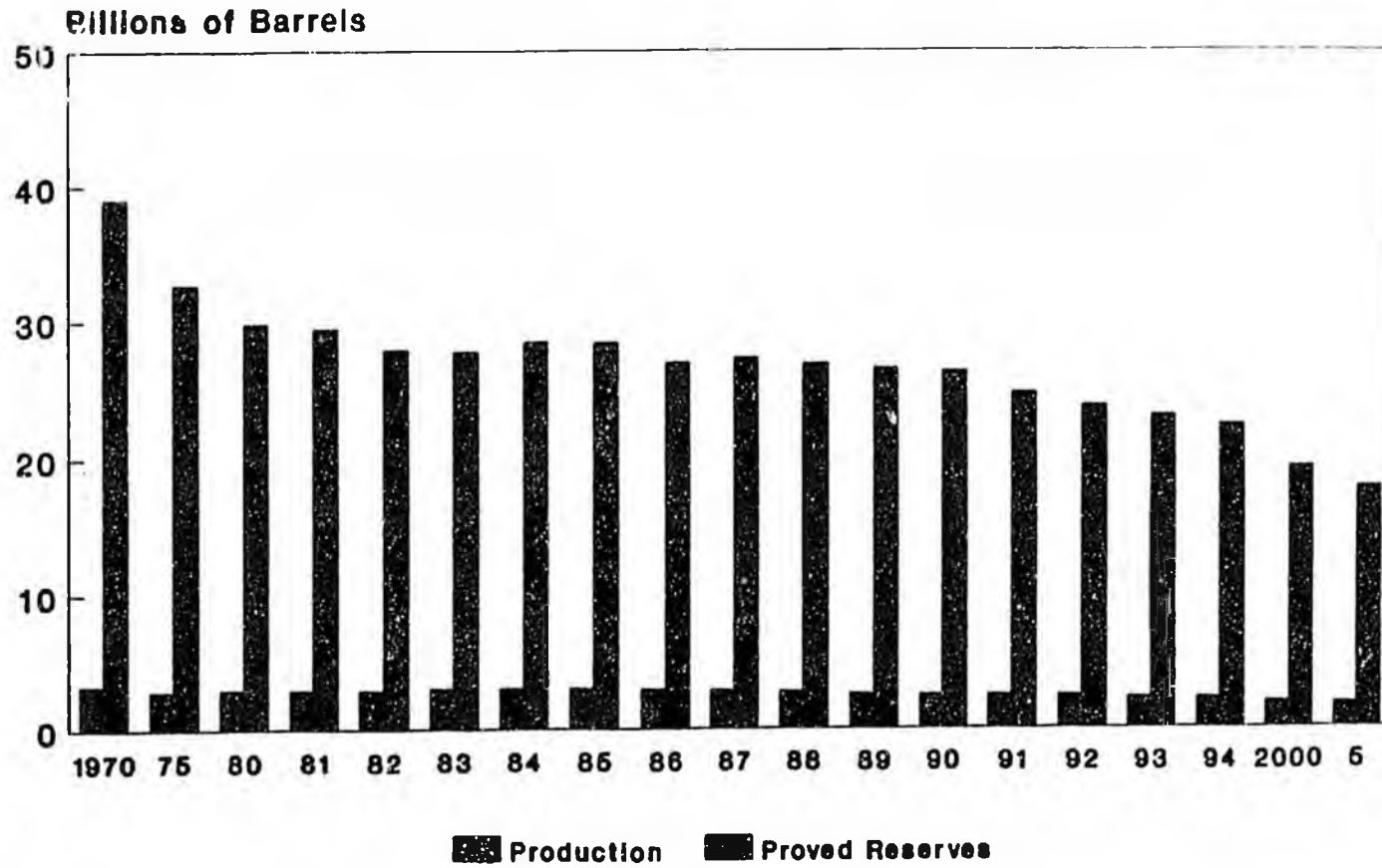
world, is dependent upon adequate supplies of petroleum. There is a price for not exploring for oil giants, and that price could be very high.

The regional oil production projections derived from the yearly reserve additions computed in table 1 are shown in table 2, beginning in 1970 for historical comparison. With a diminishing contribution from Alaska and significant production declines in the Rocky Mountains/Northern Great Plains, Gulf Coast, Midcontinent and Eastern regions, total domestic oil production is projected to fall by 25 percent by 2005. Further Alaskan drilling could moderate or perhaps even reverse this decline, but a successful exploration for and development of the oil potential of the Arctic National Wildlife Refuge would be needed.

Table 3 and figure 1 shows the past and projected oil status of the United States for the next 13 years (to 2005), with average regional per well reserve additions remaining about the same as those achieved in the past 13 years. Reserve additions per oil well drilled in 1970 were much higher than in any of the following years because the reserves of Alaska's super-giant Prudhoe Bay field were booked in that year. Also, domestic oil production peaked in 1970. Table 3 shows that domestic proved crude oil reserves are expected to decline by 25 percent by 2005, if the current low level of drilling activity continues. Average reserve additions per oil well drilled in the 1980s decreased as more wells were drilled, indicating that the quality of the prospects declined as the quantity tested increased. As drilling decreased toward the end of the 1980s, per well average reserve additions increased since only the better prospects were being tested with the drill. However, thus far in the 1990s, even though drilling continues to be depressed, average per well reserve additions have again fallen. Since the best prospects usually are drilled first, this reduction in average reserve additions is a reflection of the general scarcity of good drilling prospects and of the very limited access to the remaining unexplored domestic oil regions that geologists believe to be the most promising.

New giant fields are unlikely to be found in the mature oil producing provinces where several million wells already have been drilled. In these intensively explored regions, usually only the smaller fields remain undiscovered. Future production in mature regions will depend on even more intensive exploitation of existing fields through massive infill drilling based on detailed reservoir geology. Additional oil can be recovered from complex reservoirs if reservoir stratigraphy and geometry are identified by the application of advanced geophysical technology. Then infill wells can be located to intercept oil that may not have been in communication with the original production wells. Such enhanced recovery from existing fields will require the additional expense of the necessary geophysical surveys as well as of the infill drilling. The process will not be as effective in the many homogenous domestic reservoirs in which there is widespread communication of the reservoir fluids that resulted in efficient oil

Figure 1.
 Past and Projected
 United States Oil Status



The years of 1993, 1994, 2000 and 2005 are estimates.

TABLE 3. Past and Projected United States Oil Status
(in million barrels)

Year	Production	Proved Reserves	R/P	Total Wells Drilled for Oil	Reserve Additions Per-Well
1970	3,326	39,001	12/1	21,522	.590
1975	2,888	32,682	11/1	26,253	.051
1980	2,971	29,805	10/1	45,316	.066
1981	2,945	29,426	10/1	60,940	.042
1982	2,952	27,858	9/1	55,600	.025
1983	3,016	27,735	9/1	52,577	.055
1984	3,035	28,446	9/1	61,339	.061
1985	3,052	28,416	9/1	48,489	.062
1986	2,973	26,889	9/1	26,523	.055
1987	2,873	27,256	9/1	23,870	.136
1988	2,811	26,825	10/1	18,130	.131
1989	2,586	26,501	10/1	13,896	.163
1990	2,505	26,254	10/1	16,008	.141
1991	2,512	24,682	10/1	17,393	.054
1992	2,446	23,745	10/1	12,389	.122
1993*	2,339	22,977	10/1	13,534	.116
1994*	2,279	22,299	10/1		
2000*	1,950	19,262	10/1		
2005*	1,834	17,765	10/1		

*Estimates

recovery from production wells that were normally spaced. Future output in the mature oil provinces in the Lower-48 States also will depend upon the meticulous search for the numerous, but generally very small, fields thought to remain undiscovered. Thus, reserve additions in such mature areas mostly will be a function of the number of holes drilled. Since a very high level of drilling activity, which does not appear to be forthcoming, will be necessary to sustain production, domestic oil output is projected to decline.

The Status of the Domestic Petroleum Industry

The prospects of a return to a drilling boom are not favorable. Currently less than 20,000 wells (exploratory, development, and dry holes) are drilled for oil per year and the number of producing wells has declined by more than 55,000 in the past three years (to about 584,000). It is estimated that only 13,534 wells were drilled for oil in 1993, an increase over the 12,389 wells drilled in 1992, but a decline from the 17,393 wells drilled in 1991. The domestic fleet of drilling rigs has been declining since 1982, from 5,644 to 2,043, and less than half of the remaining rigs are normally drilling at any one time. In June 1992, the active rig count fell below 600 for the first time since record-keeping began in 1940. The average for 1992 was 718.2 active rigs, a new low. The decreasing rig count put an estimated 45,000 oil workers out of work in 1991 and 1992, part of 450,000 oil workers who have lost their jobs in the past decade.³

Another indication of the depressed nature of domestic oil exploration is the small number of seismic crews prospecting for oil, the fewest since the count has been recorded (74 percent less than in 1974). Laws and regulations that limit access to the high potential areas in the United States, coupled with crude oil prices below \$20 per barrel, have resulted in very low rates of return on domestic investments, causing exploration and development activities by U.S. petroleum companies to be focused internationally where, because of larger prospects, the potential return on investment is much higher. U.S. oil companies spent only 74 percent as much on domestic oil exploration in 1992 as in 1991. Since 1988, domestic exploration and development spending by the 30 largest oil companies has decreased by 30 percent (to \$10.5 billion). Domestic spending accounted for only 35 percent of the companies' exploration and development budgets in 1992. The U.S. oil industry, in the past five years, has spent some \$30 billion more finding and developing foreign oil resources than developing domestic oil fields.⁴

As a result, domestic crude oil production in May 1992 fell to its lowest monthly level (7.05 million barrels per day) in 30 years, while in July crude oil

³Oil Rig Count Drops to Record Low. The Energy Daily, June 18, 1992. p. 3.

⁴Anderson: Oil and Gas Firms Continue Foreign Flight. The Energy Daily, June 1, 1992. p. 3; Foreign Exodus of Oil Firms Continuing, Anderson Finds. The Energy Daily, July 1, 1992. p. 1-2; Domestic Oil Exploration Off Sharply - Anderson. The Energy Daily, May 27, 1993. p. 4; and Oil Exodus Slowed in '92, But Trend to Continue. Salomon. The Energy Daily, Sep. 8, 1993. p. 4.

imports exceeded 50 percent of demand. Domestic proved crude oil reserves declined by four percent in 1992, to 23.745 billion barrels. California had the largest percentage drop, double the U.S. average. Low oil prices and numerous local and State environmental regulations contributed to California's steep reserve decline. Total discoveries of crude oil in 1992 decreased to 484 million barrels from 554 million barrels the previous year. In 1985, crude oil discoveries totaled 1.144 billion barrels. An even greater drop occurred in new oil field discoveries which, at eight million barrels, were exceptionally low in 1992. This can be compared to the 6.7 million barrels that is produced in the U.S. daily and to the 97 million barrels discovered in new fields in 1991. The prior 10-year average for new field discoveries was 15 times higher than the 1992 amount. The ten largest producing companies held 66 percent of proved U.S. oil reserves in 1992. These companies concentrated their domestic operations on fewer fields and expended more of their resources on foreign operations. As a consequence, collectively they experienced a six percent decline in their domestic proved oil reserves. The rest of the producers averaged a two percent increase.⁶

Last year, comprehensive Federal energy legislation was enacted that included a provision to reform the alternative minimum tax applied to independent oil and natural gas producers. The tax reform allowed independents (who, together, drill about 85 percent of U.S. wells and produce about 31 percent of domestic oil) to claim more of their drilling costs as tax-exempt business expenses. Included were the costs of drilling development wells, injection wells for enhanced oil recovery operations, and horizontal wells. Although an additional 1,145 wells were drilled for oil in 1993 compared to 1992, a total of only 13,534 wells were drilled, the second lowest number in a decade.

The Oil Pollution Act of 1990 is in the implementation process. The Minerals Management Service has proposed a \$150 million financial responsibility requirement for offshore oil facilities, more than four times higher than the current amount (\$35 million). Even a narrow interpretation of the Act's requirements would place significant new cost burdens on offshore operators. The cost would fall most heavily on relatively small to mid-sized companies, who are now the most active in offshore exploration in the Gulf of Mexico and are becoming more important offshore producers. The added costs may result in the loss of oil production and reserves due to early well abandonment and could create an additional barrier for potential bidders on offshore leases.

Enhanced Oil Recovery

Oil wells are removed from production long before all of the in-place oil has been recovered from the reservoir. The amount of in-place oil that will flow unaided or can be pumped from the reservoir rock matrix to the surface varies considerably from as much as 80 percent to as little as five percent. The factors that determine the efficiency of such primary recovery are the energy (pressure)

⁶U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves. 1992 Annual Report. U.S. Dept. of Energy, Energy Information Administration, DOE/EIA-2016(92), Oct. 1993. p. 27-33.

of the reservoir fluids, the viscosity (resistance to flow) of the oil, and the permeability (ease of flow permitted) of the reservoir rock.⁶

In general, world primary recovery averages 20 percent of the in-place oil. In the United States, however, average primary recovery has been about 30 percent, due to the large highly permeable reservoirs of East Texas and southern Louisiana, that have strong water drives, and to the super-giant Prudhoe Bay oil field on the North Slope of Alaska. Such reservoirs allow a more efficient primary production than others with less porosity, permeability, and reservoir energy that are common in some oil producing regions.

Recently, primary recovery has been enhanced by horizontal drilling. Usually horizontal wells are drilled with a top-drive rotary system, starting with a long vertical section drilled to a point where the well is deviated and then further deviated at a greater depth to a high angle approach (about 70 degrees from the vertical) to a target where horizontal drilling begins. The main objective in the horizontal phase of drilling is keeping the hole within the reservoir. The horizontal lateral hole is usually longer than 1,000 feet, while the longest laterals are in excess of 10,000 feet. The longer the horizontal lateral (as long as it remains within the reservoir) the better. The reason for drilling a horizontal well involves increasing reservoir contact area to the wellbore. A higher reservoir contact area allows a horizontal well to increase productivity in many reservoirs and in most stages of recovery. The largest contributing factor to improved recovery may be the crossing of untapped complex stratigraphic oil saturated zones within heterogenous reservoirs. There are many reservoirs which exhibit a low continuity of producing zones. These would be prime candidates for horizontal development. One such reservoir is the Austin Chalk of Texas. More than three-quarters of the horizontal wells drilled in the United States have been into this reservoir. Although many other domestic reservoirs have been horizontally drilled or are candidates for horizontal drilling, an economic utilization of the method is site specific to certain heterogenous reservoirs and, thus will not be universally applied to raise production in all reservoirs.

Secondary recovery methods can be used to increase the percentage of in-place oil recovered by attempting to maintain or restore reservoir pressure by the injection of gas or water. Waterflooding has become so commonplace that the domestic oil industry produces seven barrels of water for each barrel of oil. Waterflooding results, on average, in about a 40 percent recovery of in-place oil. As oil companies increase their oil recovery efficiencies, they are reporting much lower residual oil saturations in watered-out portions of their reservoirs. Using this new information, the remaining volume of domestic in-place oil could be reduced from the 300 billion barrels commonly reported, to 210 billion barrels.⁷

⁶Riva, Joseph P., Jr. *Exploration Opportunities in Latin America*. PennWell Books, Tulsa, Oklahoma, 1992. p. 242-244.

⁷Elkins, L. F. *The Uncertainties of Remaining Oil In-Place as a Target of Tertiary Oil Recovery*. The Interstate Oil Compact Commission Committee Bulletin, v. xxvii, no. 2, Dec. 1985. 16 p.

The volume is not only smaller, the oil left in the fields will be more difficult to extract.

After secondary recovery methods have been used, the extraction of additional oil requires more sophisticated and expensive techniques. These enhanced oil recovery techniques usually attempt to reduce oil viscosity by the introduction of heat (steam) or of other injected substances such as carbon dioxide, polymers, solvents, surfactants, micellar fluids, or even microorganisms in various combinations depending upon reservoir conditions and crude oil properties. These processes (sometimes termed tertiary recovery techniques) can further increase recovery to 40 to 80 percent of the in-place oil depending upon the process employed and the physical properties of the reservoir and of the oil.⁸

In 1980, some 333,000 barrels of oil per day were lifted by enhanced oil recovery operations. By 1992, domestic enhanced oil recovery had more than doubled to about 761,000 barrels per day (11 percent of total production). In the future, the achievement of such significant increases in enhanced oil recovery production will present substantial problems. About 61 percent of current enhanced oil recovery production is derived from thermal (steam) treatment of heavy oil fields, but such production is lower than in 1986, being inhibited by the low price of heavy oil and the environmental laws in California. Thermal recovery has been most successful in California-type reservoirs that are over 50 feet thick and contain high saturations of heavy oil. Increased heavy oil production has been constrained in California because of the air pollution associated with the burning of the oil to produce steam. However, natural gas is increasingly being used to fuel thermal projects, helping to ease environmental impacts and restrictions, and allowing a small (1.4 percent) increase in thermal recovery in the past two years.

Gas injection recovery increased by 36 percent since 1990 due to additional carbon dioxide injection projects in West Texas and hydrocarbon gas injection at Prudhoe Bay. Carbon dioxide flooding has been relatively successful in West Texas carbonate reservoirs, principally because of high residual oil saturation and the proximity of large natural sources of carbon dioxide in Colorado and New Mexico. The oil development infrastructure in West Texas is in place, making the expansion of carbon dioxide injection into other nearby oil fields economical. Prudhoe Bay contains a huge natural gas cap that can be used for pressure maintenance to recover additional oil in the field since it cannot be otherwise commercially produced. Thermal recovery plus gas recovery accounts for about 99 percent of domestic enhanced oil recovery. These are relatively site-specific processes, as described above.⁹

Chemical recovery has more general application, but has declined by 90 percent since 1988 and accounts for only about one percent of domestic

⁸Ibid.

⁹Moritis, Guntis. EOR Increases 24% Worldwide; Claims 10% of U.S. Production. Oil and Gas Journal, Apr. 20, 1992. p. 51-79.

enhanced oil production. The decline was partially a result of low oil prices (injected chemicals are expensive) and partly due to technical problems. In chemical recovery projects, the reservoir sometimes appears to inhibit the chemical processes and the desired oil recoveries are not achieved. Since each reservoir has unique properties, specific chemical systems must be designed for each application. Chemical recovery projects, as well as thermal and gas injection projects, will have to be increased to offset declining primary and secondary production. However, no enhanced recovery technology will be able to provide production rates comparable to those achieved in the exploitation of new oil discoveries.¹⁰

Oil Imports

It appears that the Earth originally contained around 2,332 billion barrels of recoverable oil, of which some 31 percent already has been produced and consumed. If the remaining oil were evenly distributed and exploration and development everywhere proceeded at the average pace achieved in the United States, world oil production could be sustained at about its current level (22 billion barrels per year) for around 75 years. Then, toward the end of the next century, a declining resource base would force down yearly world oil production.¹¹ However, since the world's remaining oil is very unevenly distributed (see table 4), future oil production must be projected on a country-by-country basis. This can be illustrated by calculating the number of years into the future a country may be able to sustain current production by using the U.S. experience as a model of exploration and development.

The results of such projections are shown in table 5, with the countries listed downward in order of increasing time of sustainable production. It is interesting to note that the United States is the leading member in the short-term sustained production category. The next two members, Canada and the United Kingdom, export large amounts of oil to the United States. Due to projected future production declines, however, they can not be expected to be long-term suppliers. Likewise, Trinidad ships substantial amounts of crude oil to the United States, and may experience increasing difficulties in doing so in the future. Norway and Colombia, both important exporters of crude oil to the United States, are estimated to be unable to sustain current production levels past the end of the century.

The countries with the long-term production potential and the potential to significantly increase current crude oil production are, with the exception of a few former Soviet republics, grouped in the Persian Gulf. It is to this region that the United States, and the rest of the world, must turn for future major oil supplies. As a representative of most of these countries, OPEC is reacting to

¹⁰Doscher, T.M. and J. A. Kostura. Enhanced Oil Recovery and Domestic Oil Reserves 10 Years Later. SPE/DOE Fifth Symposium on Enhanced Oil Recovery, Tulsa, Oklahoma, Apr. 20-23, 1986. p. 7.

¹¹Riva, Joseph P., Jr. Dominant Middle East Oil Reserves Critically Important to World Supply. Oil and Gas Journal, Sep. 23, 1991. p. 62-68.

TABLE 4. World Oil Distribution
(in billion barrels)

	<u>Cumulative Production</u>	<u>Current Production</u>	<u>Proved Reserv.</u>	<u>R/P Ratio</u>	<u>Probable Additions</u>	<u>Total Oil</u>
Saudi Arabia*	71.5	2.98	261.2	88/1	41	374
United States	165.8	2.45	23.7	10/1	76	266
Russia	92.6	2.55	49.0	19/1	119	261
Iraq*	22.8	0.16	100.0	625/1	45	168
Iran*	42.9	1.33	63.0	47/1	52	158
Venezuela*	47.3	0.85	63.3	74/1	37	148
Kuwait*	27.6	0.68	96.5	142/1	4	128
U.A.E."	15.1	0.80	56.2	70/1	49	120
Mexico	20.5	0.97	27.4	28/1	60	108
China	18.8	1.06	24.0	23/1	48	91
Canada	16.1	0.61	5.1	8/1	33	54
Libya*	19.0	0.50	22.8	46/1	8	50
Kazakhstan	3.2	0.18	3.3	18/1	40	46
Nigeria*	15.5	0.69	17.9	26/1	9	42
Indonesia*	15.2	0.48	5.8	12/1	10	31
Norway	6.3	0.82	9.3	11/1	15	31
United Kingdom	12.3	0.68	4.6	7/1	11	28
Algeria*	9.1	0.27	9.2	34/1	2	20
Egypt	6.2	0.33	6.3	19/1	5	18
Brazil	3.6	0.23	3.6	16/1	9	16
Azerbaijan	7.4	0.08	1.3	16/1	6	14
Turkmenistan	5.1	0.04	1.5	38/1	6	13
India	3.6	0.19	5.9	31/1	3	12
Oman	4.1	0.28	4.7	17/1	2	11
Malaysia	2.9	0.23	4.3	19/1	4	11
Qatar*	4.8	0.16	3.8	24/1	2	11
Australia	3.9	0.19	1.6	8/1	5	10
Colombia	3.6	0.16	1.9	12/1	3	9
Romania	4.8	0.05	1.6	32/1	1	7
Tunisia	0.9	0.04	1.7	43/1	4	7
Yemen	0.4	0.08	4.0	50/1	2	6
Ecuador	2.0	0.12	2.0	17/1	2	6
Angola	2.3	0.18	1.5	8/1	2	6
Brunei	2.2	0.06	1.4	23/1	2	6
Trinidad	2.7	0.04	0.5	12/1	2	5
Uzbekistan	0.4	0.02	0.3	15/1	4	5

*OPEC Members

Modified from: U.S. Geological Survey and Oil and Gas Journal.

consumer nation efforts to decrease the use of oil in the long-term by such environmental/economic means as a carbon tax. OPEC states that it would be a mistake to overlook the second half of the 1990s, during which the anticipated growth in world oil demand will require the producer nations to consent to a massive expansion of their productive capacities, at great expense. It would be

TABLE 5. Time to Which Current Oil Production Can Be Sustained

<u>Mid 1990's</u>	<u>End of 20th Century</u>
United States	Indonesia*
Canada	Colombia
United Kingdom	Egypt
Australia	Argentinian
Trinidad & Tobago	Norway
Angola	Ecuador
	Oman
<u>Early 21st Century</u>	<u>Mid 21st Century</u>
Brazil	India
Russia	China
Malaysia	Ukraine
Qatar*	Libya*
Algeria*	Brunei
Nigeria*	Romania
<u>Late 21st Century</u>	<u>22d Century</u>
Azerbaijan	Turkmenistan
Yemen	Uzbekistan
Mexico	Kazakhstan
Iran*	Venezuela*
	Saudi Arabia*
	UAE*
	Iraq*
	Tunisia
	Kuwait*

*OPEC Countries

self-defeating, according to OPEC, to thus create short-term security of supply without first obtaining long-term security of demand at the higher levels. However, with increasing oil demand and the declining productive capacity in the rest of the world, the longer term economic prospects of OPEC appear quite favorable.

Some 2.223 billion barrels of crude oil was imported into the United States in 1992, about 48 percent of supply. This amount of imported oil would require an average of 15 supertankers entering U.S. ports each day. OPEC contributed about 54 percent of 1992 oil imports. Since most of OPEC's long-term production capacity is centered in the Middle East (a region in which tensions have reached the explosion point on numerous occasions, triggering wars, illegal occupations, coups, revolutions, sabotage, terrorism, and oil embargoes), the security of the U.S. energy supply remains a concern.

CONCLUSIONS

Modern civilization is powered by oil. In the United States, oil and oil products provide by far the largest portion (41 percent) of total energy requirements. Since over 80 percent of U.S. oil is used for transportation, asphalt, and petrochemical feedstocks, where widespread substitution of economic non-oil based substances is not expected soon, domestic oil production and foreign oil imports can be expected to remain a very important component of the total domestic economy into the foreseeable future. Domestic crude oil production is projected to decline, by four percent in 1993 and by 20 percent at the end of the century. New giant fields, from which large amounts of oil can be produced from relatively few wells, are needed if declining domestic production is to be shored up, thus helping to keep energy affordable. However, almost all of the remaining undiscovered domestic giant size oil fields are likely to be site-specific to a relatively few areas in Alaska and on the outer continental shelves. Although great controversy, reflecting differing societal values, surrounds the search for and development of oil in these areas, successful oil exploitation there likely would help to ameliorate both balance of payments and energy security concerns, although would not break OPEC' control of the world oil market.

CRS Issue Brief

Arctic Resources: Over a Barrel?

COMPLIMENTS OF THE
ALASKA STATE LIBRARY

Updated January 22, 1992

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Arctic Resources: Over a Barrel?

SUMMARY

On Nov. 1, 1991, the Senate rejected an attempt to consider S. 1220, a bill which contains a title that would open the Arctic National Wildlife Refuge (ANWR) to development. The Senate sponsor of that bill stated that he now sees ANWR development legislation as unlikely for the remainder of the 102d Congress. Because of the Senate vote, it seems unlikely that the House will take up ANWR legislation.

ANWR is an area rich in fauna, flora, and oil potential. Current law forbids energy leasing. Development proponents argue that any ANWR oil would help to insulate our energy markets from the recurring crises of the Middle East, and could be developed safely. Opponents argue that ANWR's balanced ecosystem is more valuable intact, provides no lasting energy security, can be replaced by a variety of cost-effective alternatives, and should be legally designated as wilderness, or at least remain as an area in which energy development is forbidden. The Bush Administration supports ANWR development. In January 1991, the Department of the Interior increased its estimate of "the marginal probability of economic success (i.e., the potential for oil recovery)" from 19% (a high figure by industry standards) to 46%.

Efforts in the 100th and 101st Congresses to allow development of the coastal plain of the ANWR in northeastern Alaska terminated with the *Exxon Valdez* oil spill. However, the crisis in the Persian Gulf gave a major boost to development proponents, though the failure of the market to sustain the higher prices of late 1990 has diminished their arguments somewhat. In addition, President Bush made increased drilling in frontier areas, including ANWR, a centerpiece of his proposed national energy policy. Proponents argue that, while an ANWR discovery would not eliminate dependence on foreign oil, it could alleviate the problem to some degree. As before, the current legislative options include designating the area as wilderness, thereby ending the potential for development. Congress could also allow exploration, with or without development, to proceed. Another option is to take no action. This choice, the one made by the last two Congresses, also prevents development, since the relevant statute requires congressional action for oil development to occur.

Many complex and difficult issues would be involved with a decision to proceed. Though seismic studies and drilling outside the ANWR coastal plain strongly suggest there is or was a significant quantity of oil, whether and how exploratory drilling might proceed, who would pay the costs, and how the leasing options would be awarded are some of the many questions involved. How would the small Native population (around 200 people) living on the Refuge fare, and how would Native groups dependent on caribou calving in the area be affected? What environmental protection measures would be appropriate, and how would change of habitat affect the great wealth of plant and animal populations? Assuming there are development revenues from bonuses, rents, and royalties, how would these monies be divided among the Federal Government, the State of Alaska, and others?

ISSUE DEFINITION

The coastal plain of the Arctic National Wildlife Refuge (ANWR) is currently the most promising U.S. onshore oil and gas prospect. It could even contain as much oil as the giant field at Prudhoe Bay, which is on State land west of ANWR. On the other hand, the Refuge is home to a spectacular variety of plants and animals in a nearly undisturbed state. The conflict between oil potential and pristine nature creates a dilemma: should Congress open the area for oil and gas development or should the area's ecosystem be given permanent protection? What factors should determine whether to open the area? If the area is opened, how can damage be minimized? To what extent should Congress involve itself in the management of the area (if it is developed) and to what extent should Federal agencies be left to manage the area under existing law?

BACKGROUND AND ANALYSIS

History and Congressional Actions

Much of what is now the Arctic National Wildlife Refuge was set aside in December 1960 by Public Land Order 2214. Section 1003 of the Alaska National Interest Lands Conservation Act (ANILCA, P.L. 96-487) of 1980 prohibited oil and gas development in the 19-million-acre Arctic National Wildlife Refuge (ANWR) unless authorized by Congress. Under Section 1002 of ANILCA, Congress required the Department of the Interior (DOI) to report on the plant and animal resources and the oil and gas potential in 1.5 million acres of the coastal plain of ANWR, now generally called the "1002 area." This report, the Final Legislative Environmental Impact Statement (FLEIS), was submitted to Congress in April 1987. DOI described leasing alternatives and recommended that the area be fully leased. (For a history of the FLEIS, see CRS Archived Issue Brief 87026.)

In the 100th Congress, four Committees held extensive hearings on ANWR development: House Merchant Marine and Fisheries, House Interior and Insular Affairs, Senate Energy and Natural Resources, and Senate Environment and Public Works. The hearings emphasized the FLEIS, the environmental effects of oil development in ANWR or at Prudhoe Bay, assessments of the need for additional sources of oil, the biological resources of the coastal plain, and a proposed exchange of lands with Native corporations. (For a description of the bills considered in the 100th Congress, see CRS Archived Issue Brief 87228; and CRS Report 88-380 ENR.)

In the 101st Congress, several ANWR bills were introduced, but none received floor consideration. (See CRS Archived Issue Brief 89058 for information on the 101st Congress.) On Mar. 24, 1989, the *Exxon Valdez* ran aground in Prince William Sound near Valdez, Alaska, the site of the southern terminus of the TransAlaska Pipeline System (TAPS). As a result, no action was taken on ANWR development bills in the 101st Congress. Congress passed oil spill legislation in the aftermath of the *Exxon Valdez* spill. (See CRS Archived Issue Brief 89082, and CRS Report 89-266 ENR.) In addition, in response to the Persian Gulf crisis, Senator Murkowski amended the Senate version (S. 2884) of the Defense Authorization (P.L. 101-510) to allow much more ready

access under certain circumstances for energy development in ANWR and on other Federal lands (except national parks). This amendment was dropped in conference. (See CRS Issue Brief 90116 regarding oil and the Persian Gulf crisis.) Hearings have begun in four congressional committees in the 102d Congress. (For a full list of congressional actions on ANWR since the 99th Congress, see CRS Report 91-325.)

In the 102d Congress, the Senate Energy and Natural Resources Committee reported S. 1220 (in lieu of S. 341), which contains a title that would open the 1002 area to development. An amendment to strike the title was defeated in Committee by a vote of 8 to 11. On Nov. 1, 1991, after several days of debate on a motion to proceed to consideration of the bill, a cloture vote occurred on a filibuster organized by various opponents of the bill (including especially those opposed to ANWR development). The cloture motion failed, 50-44. (Sixty votes were needed to invoke cloture.) Sen. Johnston, the sponsor of S. 1220, has stated that he believes that ANWR legislation is dead for the 102nd Congress. Whether that belief is shared by Members of the House remains to be seen.

Legislative Choices

Congress has three basic choices for ANWR legislation. One option is designating the area as wilderness, thereby preventing energy development. This choice, like the failure to find oil, would add to pressures for alternative energy supplies and strategies. Supporters of this option argue that the entire, balanced ecosystem is most valuable in the aggregate and worth preserving intact. (See H.J.Res. 239, H.R. 39, and S. 39.)

A second option is passing legislation permitting energy leasing in the 1002 area. Supporters of development argue that the ANWR area is the best U.S. onshore prospect remaining and that its development is necessary for long-term national security and for improving the balance of trade. They also argue that effects on animals, especially caribou, would not be serious, but concede that wilderness values would be lost. Many observers feel that no ANWR development bill can pass unless it is linked to a broader energy policy which encourages conservation and alternative energy sources. If the development option is chosen, Congress could also decide the pace and conditions for any oil development, and whether to adopt a preliminary exploration program (See S. 109, S. 341, S. 570, S. 1220, H.R. 759, H.R. 1301, and H.R. 1320.)

The third option, and the one actually chosen by the previous two Congresses (and apparently by the Senate in the 102d), is taking no action, thereby preventing onshore energy development at this time. Those supporting delay often argue that not enough is known about either the probability of discoveries or about the environmental impact if development is permitted. Others argue that oil deposits should be saved for an unspecified "right time." Some will argue that the recent volatile oil market demonstrates that now is just such a time.

A central question is whether the petroleum is needed at the possible expense of other values in ANWR. If oil is found in ANWR, it would not contribute to national security or the trade balance until 10 or 15 years from now -- when any oil would first appear in quantity. But 10 to 15 years may be enough time to pursue other energy alternatives. Opponents of development point out that the oil estimate from even a large field is equivalent to one year or less of current national consumption.

Proponents contend that because the TransAlaska Pipeline now delivers over one-fifth of U.S. oil production and because the 1002 area is the best prospect for keeping the pipeline flowing after 2000, ANWR must be developed. Proponents usually encourage pursuing energy alternatives (nuclear, renewable and solar power, and conservation) under any circumstances, believing that other options cannot be prudently ignored. Opponents counter that the national record at pursuing energy alternatives other than fossil fuels has been dismal, except in the face of high fuel prices.

For some issues (e.g., timing and pace of leasing), the debate in the 102d Congress may be whether Congress should legislate at all, or should instead leave those issues to executive agencies.

Finally, an issue has developed in the 102d Congress that is, if not crucial to the substance of the ANWR debate, then at least central to its politics. S. 341 would have set aside some of the revenues that might arise from ANWR development for direct spending on various conservation purposes, and for payments to Alaska. The Congressional Budget Office (CBO) says that, because the 1985 Balanced Budget Act (BBA) requires that asset sales cannot count toward deficit reduction, and because CBO scores ANWR leasing as an asset sale, revenues from any leasing cannot count toward deficit reduction.

On the other hand, since the bill directs spending for other programs without further appropriation (for conservation programs and payments to Alaska), CBO has determined that these outlays would *increase* the deficit, and must be counted under BBA in calculating the deficit. Thus, CBO has determined that this bill does not count as deficit neutral, as envisioned by the sponsors. Any bill that *increases* direct spending is subject to a point of order. To avoid the point of order, supporters of the bill would either have to (1) make the spending subject to appropriation; (2) cut direct spending elsewhere to *offset* the new direct spending; or (3) *increase* revenues elsewhere in the budget to *offset* the new direct spending. (As a practical matter, it is likely that the offset would occur in the same bill, though the rules do not require this.) Potentially, the necessary offsets could be substantial. Consequently, committees wishing to pass these conservation programs must make them deficit neutral or face a very stiff procedural hurdle. In the end, the Committee on Energy and Natural Resources avoided the conflict by making ANWR revenues go to the Treasury and by requiring that expenditures from the fund be subject to appropriations in S. 1220. However, the Senate Budget Committee agreed not to count the bill's payments to Alaska as *increasing* the deficit.

If any bill with direct spending of ANWR revenues were to pass Congress, notwithstanding the effects on the deficit and CBO's determination (and the resulting point of order), then CBO's position would no longer matter with respect to whether sequestration would result. The reason is that the Office of Management and Budget (OMB) disagrees with CBO and counts these revenues as income, rather than as asset sales. Under OMB's scoring, the revenues could therefore offset the outlays. Even so, the Administration's own proposal would put all revenues in the General Fund (with none going to Alaska), and it contains no provisions for direct spending. At minimum, this budget scorekeeping controversy substantially complicates the drafting of any compromise legislation.

Geological Variables And Development Options

The fundamental conflict of energy development versus wilderness protection is exacerbated by uncertainty over how much oil is present in the 1002 area. This uncertainty prompted some Members of Congress to consider proposals to clarify how much petroleum is at stake in ANWR. The oil industry was encouraged by the discovery in 1989 of an apparently new field only 2 miles from Prudhoe Bay. An initial test well produced 2,500 barrels per day; years ago, discovery wells at Prudhoe produced 10,000 barrels per day. The field has not yet been developed due to low energy prices and the high cost of infrastructure development.

Potential Energy Resources

Few have challenged the DOI interpretation of the 1002 area geological data. Seismic studies and drilling outside the 1002 area strongly suggest a relatively high probability for significant recoverable oil. Estimates of undiscovered economically recoverable reserves range from less than 1 billion barrels to more than 9 billion barrels of petroleum. ANWR by itself would do little to reduce U.S. dependence on foreign oil, but it could reduce the trade imbalance due to importing oil over an extended period.

If the low range of DOI's estimate (one field of less than one billion barrels) is correct, then 30 years of production could begin in about 10 years. More likely are several fields of varying sizes producing sequentially over 50 years or more. Any associated natural gas would not be immediately economic, but its later production could extend beyond 50 years. (Current prices for natural gas are too low make any gas pipeline parallel to TAPS cost-effective.)

While the actual amount of recoverable crude oil in ANWR cannot be known without exploratory drilling, DOI now estimates that if economically recoverable oil is found, the mean resource estimate is about 3.57 billion barrels. This estimate would translate to a production plateau of about 600,000 barrels per day. The plateau would probably spread over 15 years, with lower production before and after that period.

Estimates of Probability of Economic Success

Additional fuel was added to the debate on Feb. 6, 1991, when BLM announced that it had revised its estimate of the marginal probability of economic success (i.e., finding economically recoverable quantities of oil) from 19% to 46%. The latter figure is almost unprecedentedly high by industry standards. In addition, the minimum economic field size was newly estimated at 400 million barrels, down from 440 million barrels. The revision was due to new information concerning "four wells drilled near the coastal plain, 800 line miles of reprocessed geophysical data ..., and additional seismic data from offshore areas near the coastal plain." Further explanation came in a BLM report of Apr. 8, 1991. Among other reasons provided for the large change were the fact that a small decrease in the minimum field size can have a substantial effect on the likelihood of finding such a minimum field; and that new data suggests more strongly than before that the fields inside the 1002 area are continuations of the oil-rich geological strata to the east and west, and not entirely different layers. The Natural Resources Defense Council sued DOI claiming that the new estimate requires a new supplemental LEIS. The case is continuing in Federal court in the District of Columbia.

The 1987 FLEIS estimate of 19% was based on a price of \$33/barrel in 1984 dollars. Yet most observers now predict prices far below that figure for a number of years. Consequently, if prices remain low for a decade or so, the industry may face the situation that it now has at the West Sak oil field near Prudhoe Bay: a marginal location and/or quality of the oil could require more money per barrel to produce than it could be sold for, given the competition from cheaper foreign oil. (In the case of the West Sak field, there has been no production, even though the field is estimated to be quite large.) Congress may wish to consider the prospects in the world oil markets as it debates the fate of ANWR.

ANWR, Energy Security, and Economics

In 1990, U.S. net imports of petroleum averaged 7.1 million barrels per day (mbd) or 41.9% of total petroleum products supplied. Thus, an ANWR production of 0.6 mbd represents less than 10% of present U.S. petroleum imports. According to projections of increased oil imports in 2000 by the Department of Energy, 0.6 mbd would be 5-6% of total imports.

From an economic standpoint, however, ANWR could contribute somewhat to the balance of trade. Replacing 600,000 barrels of oil imports per day at \$20 (an early March 1991 price) per barrel would reduce the trade deficit by about \$4.4 billion per year. (The projected trade deficit due only to imported oil in 2010 is about \$95 billion.) In addition, as other Alaskan resources decline from the current 2 mbd production, ANWR could help keep the Alaska Pipeline at capacity operation, thereby reducing the per-barrel cost of transporting Alaskan oil to market.

These factors raise questions about ANWR development as an energy security issue:

1. To what extent would any added domestic production from ANWR increase U.S. energy security, and help avoid oil price shocks? (In the fall of 1990, U.S. prices were heavily dependent on world oil prices, rather than on purely domestic factors.)
2. Can alternative measures, such as energy conservation and development of other energy sources, meet national energy and economic goals better than ANWR development?

Exploration and Leasing Options

Conventional Federal leases permit exploration and, after discovery, usually extend until production ceases entirely. However, to reduce uncertainty, Congress could permit industry to begin exploration without proceeding automatically to development. Such a strategy is widely opposed by both industry and environmental groups.

DOI and industry prefer that ANWR leasing follow the customary procedures. DOI accordingly wants the discretion to offer for sale any or all of the area. Industry could bid on all or part, and DOI could accept all to none of the bids. However, many prime prospects could go in one sale in a relatively small area.

The 102d Congress may wish to consider several of these issues in any ANWR development legislation:

1. Should some limit be set on the size of DOI's initial lease offerings in the 1002 area, to reduce the chance of selling all of the best prospects in the first sale?
2. Should tract size be limited in order to spur competition and maximize bonus revenues? Or should tract size be larger than usual for onshore leasing in order to encourage development coordination, facilitate wildlife protection, and improve coordination of rehabilitation after industry activity ends?
3. Should a particular leasing period be mandated for the area, and if so, how long should the period be?

Environmental Quality Management

If ANWR is developed, Congress would face three kinds of environmental quality management issues: resource management, pollution, and waste disposal. Congress could choose to leave these matters to administrative agencies under authorities of existing laws. Alternatively, Congress could impose a higher standard of environmental protection because the area is in a wildlife refuge or because of the fragility of the Arctic environment.

Gravel and water resources are essential for oil exploration and development in an arctic setting. Potential legislative issues include protection of water resources necessary for animals, especially fish; regulation of water use and gravel extraction; and setting fees for and allocating any revenues from exploiting these resources. An issue not addressed in the FLEIS is the possibility of a rise in sea level during the active phase of production. In the flat coastal plain, the coast line could change substantially, even with only a moderate rise in sea level; over the course of 50 years of production, developments once on land might need protection from shallow salt water or pack ice. Air and water pollution primarily raise questions of subtle, long-term ecological effects. Potential legislative issues include the adequacy of existing standards, research needs, monitoring, and assurance that the standards are met. Waste disposal includes three major waste streams: drilling fluids, toxic wastes, and nontoxic bulk wastes. Legislative issues include the adequacy of current waste disposal requirements, the development of alternatives to landfills, and also liability concerns that can make consolidation of disposal facilities unattractive to oil companies. (See Archived Issue Brief 89058 for a history of the debate on this issue. For a presentation of a range of specific environmental quality issues, see CRS Videotape *Arctic Oil, Arctic Refuge*.)

General Land Management

The main Federal law governing leasing and production of petroleum on Federal land is the 1920 Mineral Leasing Act. Congress has debated whether this law and its regulations and procedures, other Federal environmental laws, and applicable Alaskan law are adequate for 1002 development. The hearing records of some congressional committees demonstrated a willingness of many Members, in various ways, to deviate from standard practices.

The Refuge has a small human population whose needs may be addressed specifically in ANWR legislation. The village of Kaktovik (over 200 people) and the lands of the Kaktovik Inupiat Corporation (KIC) lie along the coast within the Refuge and mostly adjacent to the 1002 area. There is also a U.S. military Distant Early Warning (DEW) station near Kaktovik, with dozens of employees. The DEW network also has several unoccupied sites of former or uncompleted developments scattered near the 1002 area. Together with Kaktovik, the DEW site operates a garbage dump and a runway.

Animals and Plants: a Purpose of the Refuge

Under ANILCA, one of the purposes of ANWR is to "conserve fish and wildlife populations and habitats in their natural diversity." Opponents of development argue that the entire, balanced complex of caribou, polar and grizzly bears, wolves, falcons, wildflowers, and so on, is worth preserving intact, especially since it represents the least disturbed arctic coastal area under U.S. ownership. Moreover, it is one of the "wildest" habitats of any type left in the United States. Resource development, in their view, would preclude conservation of the ecosystem's diversity generally, of certain species, and most particularly, of its wildness. Scientists and sport hunters both stress the importance of the habitats for migratory game birds taken in both Canada and the United States. Issues before Congress may include:

1. Should the entire area be designated wilderness to protect "populations and habitats in their natural diversity"?
2. If development is permitted, should special protection be given to certain species such as caribou, bears, wolves, musk oxen, snow geese, etc.? If so, should protection take the form of habitat protection and/or management restrictions?
3. Should some species (e.g., wolves) be reduced to enhance populations of other species (e.g., caribou, musk oxen) if the latter are reduced by development? Or should special measures be taken to prevent reduction of predators?
4. Should special efforts be made to prevent the intentional and/or accidental feeding of such species as bears, wolves, foxes, and gulls (in order to prevent the need to kill problem wolves or bears, or to prevent excess populations of predators of nesting birds)?

5. Should the location of major support facilities (e.g., service centers and ports) be restricted to reduce the impact on sensitive species (e.g., polar bears, snow geese)?

Port and Offshore Activity

Section 1003 of ANILCA does not cover the role the 1002 area might play as a land base for State or Federal offshore activity. Both the United States and Alaska are proceeding with offshore leasing adjacent to the 1002 area. Even if the 102d Congress does not open ANWR (thus preventing development), it may wish to consider controlling the use of the 1002 area as a support center, port, or pipeline corridor for offshore development. (See CRS Issue Brief 89028 for background on OCS energy programs.)

Management of Support Services: Avoiding Past Mistakes

Activities of the independent support service industry in the Prudhoe Bay area, particularly at Deadhorse, have been widely criticized. (Firms in this industry are generally employed by, rather than part of, major oil companies.) At Deadhorse, the State leases land for these independent services (repair, cleaning, laundry, aircraft supply, etc.). Issues include:

1. If development is permitted, should Congress specify the location of support facilities within the Refuge or require them to be located outside the Refuge?
2. Should Congress set financial standards or require bonds for participation in ANWR services to minimize abandoned service sites?
3. Should Congress require a unified service center such as the one at Kuparuk field (west of Prudhoe Bay) for ANWR?
4. Should Congress mandate that garbage be hauled out of ANWR?

Access: Roads and Legal Conflicts

For Congress, a key access issue could be the logistical conflict between the area's management as an industrial site versus management as a refuge devoted not only to wildlife conservation but also to recreation (including sport fishing and hunting), and subsistence uses, among other functions. This conflict would become more intense with added human populations and road networks resulting from development. In contrast to the current free but difficult access at ANWR, access to the State-owned Prudhoe Bay complex is strictly (if not always effectively) controlled. Visitors' and workers' belongings are searched for firearms, alcohol, and drugs. None of these requirements now applies to the 1002 area. Moreover, hunting, even for subsistence, is forbidden at Prudhoe and limited in other developed areas. Similar restrictions are not found in the 1002 area, and may conflict with the Refuge's purposes as currently interpreted. The State of Alaska is debating the opening of the TAPS haul road (which is now closed to private vehicles north of the Brooks Range). Private vehicles could drive as far as Deadhorse. Such an opening could pose new risks of poaching or wildlife disturbance,

as well as risks of wider access -- perhaps eventually to any 1002 road network. Specific access issues which Congress may address include:

1. If development is permitted, should firearms be prohibited in the 1002 area for workers? For recreational visitors?
2. If firearms are allowed, should no-shooting buffer zones be required around facilities and structures? If so, how much of the area would remain open to subsistence and recreational hunting?
3. Should developed areas be closed to recreational visitors? If not, should such visitors be allowed to use industry roads? To cross them?
4. Will the increased accessibility of the area lead to excessive hunting pressure? Should the public have access (via the haul road) to the 1002 area? Should public access be restricted?
5. What additional personnel would be needed to enforce these prohibitions? Whose employees would they be?

Areas of Special Environmental Significance

The wildlife debate has focused mainly on the migratory Porcupine Caribou Herd (PCH). However, other species, such as polar and grizzly bears and wolves, may be at greater risk, in the view of some. Congress may consider special protection (e.g., wilderness designation, delayed exploration, or a special regulatory regime) of the most important habitats. The areas most often mentioned for some special status include:

1. the major calving area of the PCH;
2. the area around Sadlerochit Spring (a warm spring which flows all year);
3. the areas near the coast where substantial bird populations occur, and where many female polar bears make their dens; and
4. the area south and west of Angun Point that includes a portion of the snow geese's fall feeding area.

Subsistence Use and Access

Natives of Kaktovik, on the north coast above the 1002 area, are the major users of the resources in the coastal plain, although they depend primarily on marine resources. Kaktovik Natives support leasing generally but oppose both leasing in the primary caribou calving area in the east-central 1002 area and a restriction on discharging firearms. Subsistence hunters (including especially the Gwich'in people who hunt the herd in its winter range in Alaska and Canada) and the Canadian government oppose leasing in the calving area of the herd and support wilderness designation. Congress may consider the following issues regarding subsistence use:

1. If development is permitted, should the current access or hunting rights of Native users be restricted? Should sport hunting be restricted to maintain subsistence opportunities if game populations diminish?
2. Are polar bears, which are currently legally taken only by Natives, at special risk from a potentially increasing Native population and improved Native mobility? If so, should the largely unrestricted Native take be examined by Congress?
3. What voice will subsistence users have in new regulations as 1002 development (if any) evolves?
4. What provision, if any, should be made to minimize impacts of development on Native culture among both north slope and interior groups?

Revenue Allocation

If oil is present, ANWR development revenues from bonuses, rents, and royalties, as well as from sales of gravel and water, could generate billions of dollars for the landowners. Peak annual royalties alone might range from \$200 million to \$2.5 billion, followed by declining revenues for 30-50 years. If Alaska owns submerged lands in the Refuge, it could receive substantial revenues directly. (See **Legal Issues**, below.) Whatever the Federal fraction of the income, Congress must decide:

1. If development is permitted, should Alaska receive its current 90% statutory share of certain revenues from Federal mineral leases on federally owned lands; and considering the terms of the Alaska Statehood Act, could Congress change Alaska's share? (See CRS report 87-63A.)
2. Should any Federal revenues from ANWR be used for land acquisition in Alaska or elsewhere as part of the mitigation for reduced habitat values in a developed 1002 area? If so, how should the revenues be allocated?

Legal Issues

Certain issues are being addressed not only in legislation, but also in various courts.

During the 100th Congress, DOI preliminarily negotiated land exchanges with some Alaskan Native groups, trading oil and gas rights in the 1002 area for land or surface rights belonging to the Natives within seven other refuges in Alaska. Controversy over whether DOI could proceed with the exchanges without congressional approval was resolved by P.L. 100-395. This act expressly requires congressional approval for exchanges or other conveyances involving lands in ANWR's coastal plain. Exchanges could be a part of the development alternatives considered by Congress.

The United States and Alaska dispute the ownership of submerged lands beneath navigable waters within and offshore of ANWR. Depending on how the legal issues are decided, Alaska may own significant inholdings within ANWR. If these inholdings are opened to leasing, not only would management of the remaining Refuge lands be complicated, but substantial revenues from any oil on those inholdings would accrue to Alaska, rather than the United States. P.L. 100-395 addressed these issues in part, but significant issues remain. (For further information, see CRS Report 87-673A.)

Long-Term Cleanup

If no commercial quantity of oil is found in the 1002 area, substantial recovery of the ecosystem from exploratory activities should take only a few years. If major quantities are found, development including natural gas extraction would probably last for decades or even a century. Substantial recovery might then take further centuries in the harsh Arctic environment. Thus, Congress may be debating rehabilitation that might not begin until 2060 or 2090. Furthermore, some types of cleanup might not even be desirable or practical: deep gravel roads and drilling pads, for example, might be impossible to remove without creating further damage, and thus might necessarily become a permanent feature of the landscape. Few existing laws contemplate such long-term planning for a cleanup whose cause may never occur. The 102d Congress may consider various proposals on the long-term fate of the area:

1. If development is permitted, should industry pay a tax or fee to create a trust fund for long-term cleanup, in addition to one for such short-term problems as oil spills and hazardous waste spills? (CRS was unable to find a precedent for such a long-term clean-up program.)
2. Alternatively, should industry be required to pay for performance bonds to ensure cleanup? How would such a long-term bond work?
3. What ultimate rehabilitation goal(s) should apply? Should the area be returned insofar as possible to the pristine pre-development state after oil is extracted? After gas extraction? After offshore energy extraction?
4. What additional information is needed to plan for so distant an event?

LEGISLATION

H.R. 39 (Udall)

Designates the Arctic Coastal Plain (1002 area) as wilderness. Introduced Jan. 3, 1991; referred to Committee on Interior and Insular Affairs.

H.R. 759 (D. Young)

Authorizes the Secretary of the Interior to lease, in an expeditious and environmentally sound manner, lands in the Coastal Plain Study Area of the National Wildlife Refuge for oil and gas exploration, development, and production. Introduced Jan. 30, 1991; referred to Committees on Interior and Insular Affairs, and on Merchant Marine and Fisheries.

H.R. 1188 (Owens)

Amends the Internal Revenue Code of 1986 to deny the option to expense intangible drilling and development costs for any well drilled within ANWR, to provide incentives for the removal of crude oil and natural gas through enhanced oil recovery techniques, and for other purposes.

H.R. 1301 (Dingell, by req.)

One title of a bill to develop a national energy strategy provides for energy leasing on the Arctic Coastal Plain. Introduced Mar. 6, 1991; referred to Committees on Energy and Commerce; Interior and Insular Affairs: Armed Services; Merchant Marine and Fisheries; Science, Space, and Technology; Government Operations; Judiciary; Public Works and Transportation; and Ways and Means.

H.R. 1320 (W. Jones)

Authorizes exploration, leasing, development, and production in ANWR; distribution of any revenues; creates a new National Wildlife Refuge; and for other purposes. Introduced Mar. 7, 1991; referred to Committees on Merchant Marine and Fisheries, and on Interior and Insular Affairs.

H.J.Res. 239 (Mrazek)

A bill to honor former Rep. Morris K. Udall by designating the Arctic Coastal Plain of ANWR as wilderness. Introduced April 30, 1991; Referred to Committee on Interior and Insular Affairs.

S. 39 (Roth)

Amends the National Wildlife Refuge Administration Act to designate the Arctic Coastal Plain of ANWR as wilderness. Introduced Jan. 14, 1991; referred to Committee on Environment and Public Works. Hearing held Apr. 19, 1991 (S.Hrng. 102-88). Reported Nov. 25, 1991 (S.Rept. 102-241).

S. 109 (Murkowski)

Authorizes DOI to lease lands in the coastal plain of ANWR for oil and gas exploration, development and production. Introduced Jan. 14, 1991; referred to Committee on Energy and Natural Resources.

S. 341 (Johnston)

A comprehensive national energy policy bill. Title VII deals with ANWR. Introduced Feb. 5, 1991; referred to Committee on Energy and Natural Resources. Hearings held various dates (S.Hrng. 102-5). S. 1220 reported in lieu - see below.

S. 570 (Johnston, by req.)

One title of this bill to implement the Administration's national energy strategy authorizes energy leasing on the coastal plain; sets up leasing program, environmental requirements; and provides for disposition of revenues. Introduced Mar. 6, 1991; referred to Committee on Energy and Natural Resources.

S. 1220 (Johnston)

Comprehensive national energy policy bill. One title opens ANWR to development. Introduced June 5, 1991; reported by Committee on Energy and Natural Resources

June 5, 1991 (S.Rept. 102-72). Cloture vote on motion to proceed to consideration failed (50-44), Nov. 1, 1991 (Roll call #242).

FOR ADDITIONAL READING

- ARCO Alaska, Inc. NRDC/Trustees for Alaska/National Wildlife Federation report "Oil in the Arctic: the environmental record of oil development on Alaska's north slope" -- comments and critique. 1988: iii-iv, 24.
- Speer, Lisa and Sue Libenson. Oil in the Arctic: The environmental record of oil development on Alaska's north slope. Natural Resources Defense Council, Inc., 1988. 78 p.
- Speer, Lisa. Tracking Arctic oil: The environmental price of drilling in the Arctic National Wildlife Refuge. Natural Resources Defense Council, National Wildlife Federation, and Trustees for Alaska. New York. 1991. 36 p.
- U.S. Department of the Interior. Bureau of Land Management. Overview of the 1991 Arctic National Wildlife Refuge Recoverable Petroleum Resource Update. Washington, April 8, 1991. 8 p., 2 maps.
- U.S. Department of the Interior. Fish and Wildlife Service, Geological Survey, and Bureau of Land Management. Arctic National Wildlife Refuge, Alaska, coastal plain resource assessment. Report and recommendation to Congress of the United States and Final Legislative Environmental Impact Statement. Washington, 1987. 208 p.
- U.S. Library of Congress. Congressional Research Service. After the Exxon Valdez spill: oil pollution liability and compensation legislation, by Martin R. Lee. [Washington] Apr. 24, 1989. 23 p.
CRS Report 89-266 ENR
- *Arctic oil, arctic refuge.* Videotape by Lynne Corn, Bob Nickel, et al. 53 minutes. [Washington] 1991.
- Arctic National Wildlife Refuge: Congressional consideration since the 99th Congress, by M. Lynne Corn and Ted L. Burch. [Washington] 1991. 21 p.
CRS Report 91-325 ENR
- The Arctic National Wildlife Refuge: Major oil development or wilderness? edited by John E. Blodgett and John L. Moore. [Washington] 1988. 162 p.
CRS Report 88-161 ENR
- Legal issues related to the ownership of the submerged lands within and off the coast of the Arctic National Wildlife Refuge, by Pamela Baldwin. [Washington] 1987. 36 p.
CRS Report 87-673 A

- Outer Continental Shelf leasing and development, by Malcolm M. Simmons.
[Washington] Updated regularly.
CRS Issue Brief 89028.
- Oil and Iraq's invasion of Kuwait, by Carl Behrens, Robert Bamberger, Marc Humphries, and Bernard A. Gelb. [Washington] Updated regularly.
CRS Issue Brief 90116
- The proposed St. Matthew Island land exchange: Authority of Secretary of the Interior to exchange lands under the Alaska National Interest Lands Conservation Act, by Pamela Baldwin. [Washington] June 21, 1962. 39 p.
- Whether Congress unilaterally may amend a mineral lease revenue distribution formula that appeared in the Alaska Statehood Act, by Thomas J. Nicola.
[Washington] 1987. 12 p.
CRS Report 87-63 A
- World oil and the ANWR potential, by Robert L. Bamberger and Carl E. Behrens. [Washington] 1987. 14 p.
CRS Report 87-438 ENR

Jobs and
Energy for
America's
future



ANWR

Why is opening the ANWR Coastal Plain such a hot issue?

Today, the United States imports over half its oil from unstable foreign countries that don't care for their environment like Americans do. We spend over one billion dollars a week on imported oil. This means we lose American jobs and add to our deficit woes. And when we have to defend our access to foreign oil, we lose American lives, as in the Persian Gulf confrontation.

But the Coastal Plain of the Arctic National Wildlife Refuge (ANWR) may hold billions of barrels of recoverable oil. In fact, its neighbors to the west at Prudhoe Bay, North America's largest oil field development, currently supply 25% of our domestic oil.

Relying on Alaska to provide energy to heat your home each winter is a lot more sensible than looking to Middle Eastern deserts for stable energy supplies.



North Slope temperatures are at their lowest in February, averaging -20 degrees.

But won't development hurt Alaska's beautiful scenery?

The Alaska that most people are shown is full of bold mountaintops, lush vegetation and spectacular glaciers. However, the Coastal Plain area proposed for development (also known as the 1002 study area of ANWR) is flat, windswept and treeless. With a maximum of five inches of snow per year, it is virtually an arctic desert. Very few outside visitors venture into this region. Plus, very little of ANWR's Coastal Plain would be affected by development — about 12,000 acres, or an area about the size of Dulles airport. Of that 12,000 acres, only 2,000 acres would actually be covered by facilities.

Don't let opponents of American jobs and American oil fool you. If you ever see a picture of ANWR with mountains in the background, you are seeing the protected area to the south — not the 1002 study area.

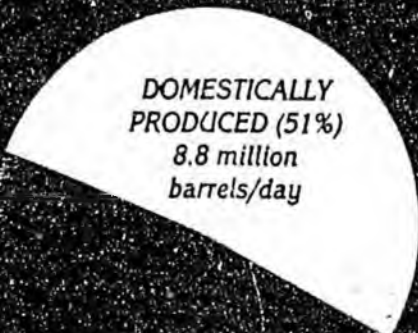
A small portion in northern ANWR, known as the 1002 study area or the Coastal Plain, is the focus of much national debate.



What about the wildlife?

ANWR is used by a large caribou herd about two to three weeks per year. At Prudhoe Bay the caribou population has increased six-fold since development began. Geese and many other migratory birds continue to thrive as well.

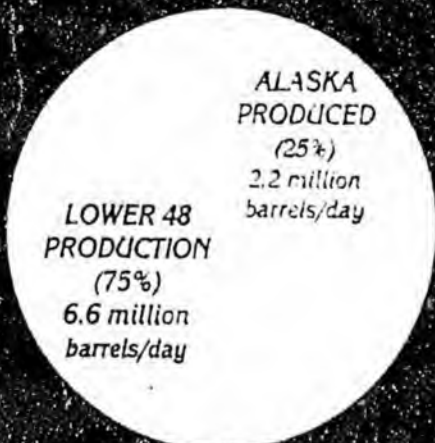
An interesting fact about Prudhoe Bay is that all facilities, roads and support structures must be removed when the field closes. Yet, there is one species of previously threatened bird that now nests on a man-made gravel causeway leading to a drill site. That species is increasing in size, and authorities are talking about keeping this one gravel road in place to provide continued nesting habitat. Just another example of development and the environment co-existing and in fact, providing opportunities for wildlife growth.



**DOMESTICALLY
PRODUCED (51%)**
8.8 million
barrels/day

How much oil does the U.S. import?

The United States uses about 17.4 million barrels of oil and natural gas each day. Of that, we import 8.6 million barrels.



**ALASKA
PRODUCED
(25%)**
2.2 million
barrels/day

**LOWER 48
PRODUCTION
(75%)**
6.6 million
barrels/day

How much of our domestic oil comes from Alaska?

Of the 8.8 million barrels of oil and natural gas produced each day in the U.S., 2.2 million, or about 25 percent, are produced in Alaska.

Is it just the oil companies that want to open the 1002 study area?

Definitely not! More than 70% of Alaskans favor oil exploration and production in the Coastal Plain of ANWR. We have seen the benefits of Prudhoe Bay — both for this state and for the country. We know that oil exploration and recovery in ANWR can be clean and safe and that it's in the best interest of America. The strongest arguments come from the Inupiat Eskimos of Kaktovik, who live right in the area. They are firm supporters of onshore oil development.

What's Arctic Power?

We are a group of Alaskans from all walks of life who realize that the Coastal Plain can be an invaluable source of energy and jobs for our country. We want to help lessen America's dependence on foreign oil. We want to slow the tide of American dollars going overseas and keep that money here — to save and create jobs in the United States. Already, more than 450,000 American oil industry jobs in the last decade have disappeared.

We believe it's important to keep the door to ANWR's Coastal Plain open. The best hope for America's energy independence lies on a tiny, barren sliver of land on our northernmost shore.



Alaska Oil and Gas Association



121 W. Fireweed Lane, Sui. 207
Anchorage, Alaska 99503-2035
Phone: (907)272-1481 Fax: (907)279-8114
Judith M. Brady, Executive Director

January 27, 1995

The Honorable Joe Green, Co-Chairman
Resources Committee
Alaska State House of Representatives
State Capitol
Juneau, Alaska 99801-1182

AOGA Position on CSHJR 13

Dear Representative Green:

The Alaska Oil and Gas Association (AOGA) is a trade association whose 18 member companies account for the majority of oil and gas exploration, production and transportation activities in Alaska.

AOGA supports the Oil and Gas Committee Substitute for House Joint Resolution 13, urging the United States Congress to pass legislation to open the coastal plain of the Arctic National Wildlife Refuge, Alaska, to oil and gas exploration, development and production.

Economic benefits of further North Slope development could be significant to the state and nation. Facilities built to transport petroleum resources from the ANWR Coastal Plain could provide the infrastructure to allow development of marginal fields on state and federal lands in the vicinity of the Coastal Plain. Development of the ANWR Coastal Plain and other state and federal lands in the area also could help insure the long term operation of the trans Alaska Pipeline.

We support the Alaska Legislative leadership's commitment to pass a resolution urging Congressional action to allow oil and gas exploration, development and production in the ANWR Coastal Plain. Such development would enhance national energy security, provide income to both the federal and state governments and would generate jobs and business opportunities for Alaskans as well as for residents in all 50 states.

If I can be of additional assistance on this issue, please contact me at your convenience.

Sincerely,

A handwritten signature in cursive script that reads "Judith M. Brady".

JUDITH M. BRADY
Executive Director



Alaska Environmental Lobby, Inc.

P.O. Box 22151 Juneau, Alaska 99802

Phone: 907-463-3366

Fax: 907-463-3312

GOOD MORNING MY NAME IS SARA HANNAN, AND I AM THE EXECUTIVE DIRECTOR OF THE ALASKA ENVIRONMENTAL LOBBY. THANK YOU FOR THIS OPPORTUNITY TO TESTIFY BEFORE THE HOUSE RESOURCES COMMITTEE.

THE LOBBY IS A COALITION OF ALASKAN ENVIRONMENTAL ORGANIZATIONS, REPRESENTING OVER 9,000 ALASKANS, FROM KETCHIKAN TO KODIAK; FAIRBANKS TO HOMER.

WE ARE INDEPENDENT ALASKANS FROM ALL WALKS OF LIFE, AND WE OBJECT TO THE PASSAGE OF CS FOR HJR 13 - URGING THE UNITED STATES CONGRESS TO OPENING THE COASTAL PLAIN OF THE ARCTIC NATIONAL WILDLIFE REFUGE TO OIL AND GAS EXPLORATION, DEVELOPMENT AND PRODUCTION.

OIL EXPLORATION IS A RISKY BUSINESS. YOU MAY FIND OIL, BUT YOU MIGHT NOT. THE WORLD POLITICS OF OIL ARE COMPLICATED. THE PRICE OF CRUDE MIGHT GO UP, BUT IT MIGHT GO DOWN. TECHNOLOGY AND TOOLS MAY PROTECT THE AREA FROM ECOLOGICAL DISASTER, BUT HUMAN ERROR MIGHT OCCUR.

THE ARCTIC ECOSYSTEM IS UNIQUE AND INTRICATE. WE KNOW ENOUGH TO KNOW THAT WE DON'T KNOW VERY MUCH ABOUT THE CYCLES OF CARIBOU POPULATIONS; ABOUT THEIR ANCIENT MIGRATORY PATTERNS AS THEY FOLLOW THE PATHS OF MILLIONS BEFORE THEM. WE DO KNOW THAT THEY ALWAYS GO TO THE COASTAL PLAIN OF THE ARCTIC WILDLIFE REFUGE TO GIVE BIRTH TO THEIR YOUNG.

ALASKA CENTER FOR THE ENVIRONMENT • ALASKA CLIMATE MOVEMENT • ALASKA FRIENDS OF THE EARTH
ANCHORAGE AUDUBON SOCIETY • ARCTIC AUDUBON SOCIETY • CLEAN AIR COMMISSION • DENALI CITIZENS COUNCIL
DENALI GROUP SERRA CLUB • JUNEAU SERRA CLUB SOCIETY • JUNEAU GROUP SERRA CLUB
KACHEMAK BAY CONSERVATION SOCIETY • KENAI PENINSULA AUDUBON SOCIETY • KODIAK ANGLERS AND KAYAKERS
KUSK GROUP SERRA CLUB • KUSHK ACQUARIUM SOCIETY • LYNGS VALLEY COOPERATION • NORTHERN ALASKA ENVIRONMENTAL CENTER
TERRACE WILLIAMSON CONSERVATION ALLIANCE • SIKA CONSERVATION SOCIETY • SOUTHEAST ALASKA CONSERVATION COUNCIL • TOPKANGA CONSERVATION SOCIETY



MOST SUPPORTERS OF OPENING THE ARCTIC WILDLIFE CLAIM THAT IT IS IN THE INTEREST OF NATIONAL SECURITY....."IT WILL DECREASE OUR DEPENDENCE ON FOREIGN OIL".....THESE SAME VOICES OFTEN SING A DIFFERENT TUNE WHILE ADVOCATING "STATES RIGHTS" AND "FREE MARKET ECONOMICS" - CLAMBERING THAT THE BAN ON EXPORTING ALASKAN CRUDE OIL FOR SALE SHOULD BE LIFTED!

EVEN IF THE MOST OPTIMISTIC PREDICTIONS OF 3.2 BILLION BARRELS OF OIL IS RECOVERABLE IN THE ARCTIC REFUGE, THAT AMOUNTS TO LESS THEN A THIRD OF OUR ENERGY NEEDS.

MEMBERS OF OUR COALITION ARE OPPOSED TO OPENING THE ARCTIC WILDLIFE REFUGE TO DEVELOPMENT UNTIL A NATIONAL ENERGY POLICY REQUIRES IMPROVED FUEL EFFICIENCY IN AUTOMOBILES, AND WE ARE ACTIVELY WORKING ON DECREASING OUR DEPENDENCE ON A FUEL OUR GRANDCHILDREN WILL PROBABLY LIVE TO SEE COMPLETELY CONSUMED.

ALASKA'S ROLLER COASTER ECONOMIC PATTERN WON'T BE STABILIZED BY THE SHORT SPAN OF EXTRACTION OF OIL FROM THE ARCTIC REFUGE. SURE, SOME INDIVIDUALS WILL GET GOOD PAYING JOBS; SOME CORPORATIONS WILL INVEST, AND MIGHT PROFIT; AND IF THERE IS CORPORATE PROFIT, ALASKA WILL GET SOME ROYALTY MONEYS. THE PUBLIC PROFIT FROM DEVELOPING THE ARCTIC NATIONAL WILDLIFE REFUGE WILL BE SHARED WITH THE REST AMERICA. ALASKA'S PORTION MAY ONLY BE 10% OF THE ROYALTY .

CURRENTLY 90% OF ALASKA'S ARCTIC
COASTAL PLAIN IS OPEN TO OIL AND GAS
DEVELOPMENT. THE PORTION OF THE
COASTAL PLAIN RESTRICTED FROM
DEVELOPMENT IN THE ARCTIC WILDLIFE
REFUGE ARE PROTECTED BECAUSE OF THEIR
UNIQUE BIOLOGICAL PRODUCTIVITY.

WE OPPOSE PASSAGE OF THE OIL AND GAS
COMMITTEES SUBSTITUTE FOR HJR 13, AND
URGE YOU TO SUPPORT STRICT
ENVIRONMENTAL STANDARDS THAT WILL
PROTECT THE LAND, WATER AND WILDLIFE
RESOURCES OF THE ARCTIC REFUGE.

House Resources Committee
Sara Hannan
1/30/95