ALASKA LEGISLATURE COMMITTEE FILES, 1989-1990 8672
6539 SENATE RESOURCES

943

INTRODUCTION

The central Kenai Peninsula area of Alaska is almost completely dependent on ground-water for residential, commercial and industrial water supplies. This area includes the communities of Sterling, Soldotna, Kenai, and Nikiski (fig. 1). At least ten instances of ground-water contamination have been discovered in this area in recent years (Alaska Department of Environmental Conservation, 1988) causing widespread concern over the long-term potability of ground water. These concerns are expressed in a locally-circulated petition containing 213 signatures and in a resolution passed by the Kenai Peninsula Borough assembly (see Appendix). Both documents also express a request for hydrogeological work in the central Kenai Peninsula area to better define ground-water flow systems and risks to local wells. This report briefly reviews several ground-water issues in the area and outlines a comprehensive plan for determining ground-water conditions and movement in order to protect water supplies and facilitate the beneficial use of ground water.

DISCUSSION OF PROBLEMS

The most recent areawide study of the central Kenai Peninsula was conducted by Anderson and Jones (1972). They reported that area wells "are too few and too widely spaced to permit accurate mapping" of the water table or artesian potentiometric surface. These surfaces are useful for determining directions of ground-water flow. An inherent feature of the central Kenai Peninsula is that large areas are developed with lots ranging in size from one to five acres. Each developed lot typically has its own well. With large numbers of wells, the probabilities of any randomly-located contamination event having an effect on some private well is increased.

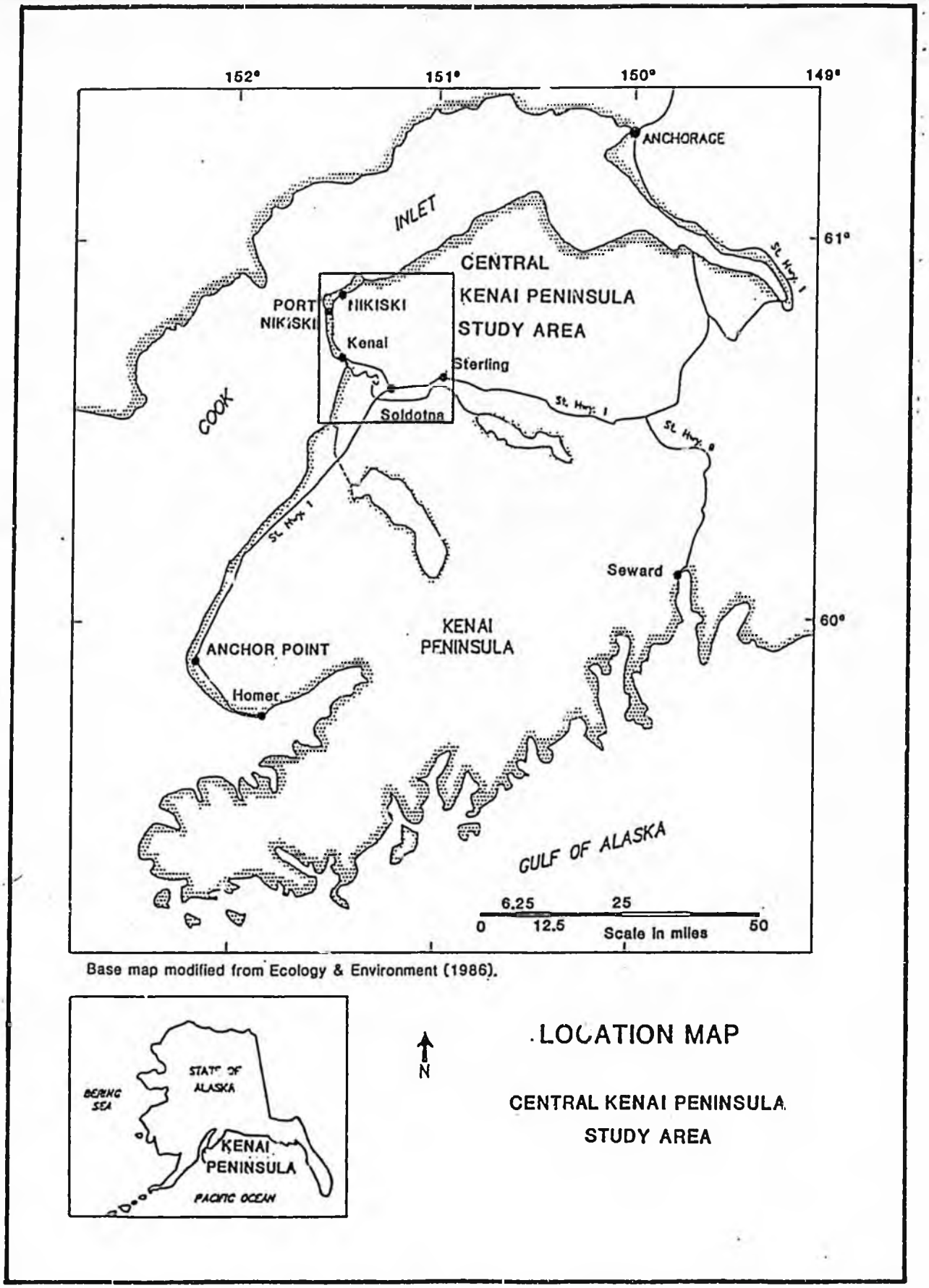


Figure 1. Location of central Kenai Peninsula study area.

Since 1972 substantial growth nas occurred in the central Kenai Peninsula area and hundreds of water-supply wells have been drilled. Except for the Nikiski and Sterling areas, no significant effort has been made to collect the logs from these wells and evaluate their utility for mapping ground-water flow systems. In some areas, such mapping may be feasible and may contribute substantially towards resolving contamination or water supply problems.

Concerns for ground-water quality at Sterling stem from past practices of disposing of liquid wastes in ponds at the Sterling Special Waste Site (Munter, 1988). Hydrogeologic investigations in the area have been limited to on-site evaluations. No clearly defined contaminant plume has been found, possibly because of the extreme heterogeneity of the glacial, alluvial, and lacustrine deposits in the area and the absence of a clear definition of regional flow paths. Existing wells may not be properly located to detect such a plume. The occurrence of numerous residential wells throughout a wide swath of probable down gradient directions from the Sterling Special Waste Site lends particular importance to the issue of whether or not a significant plume actually exists and the direction that it may be travelling.

Nikiski (including the Port Nikiski area) is one of Alaska's leading industrial centers. Past leaks have resulted in areas where fuel products are floating on the water table, and major industrial water-supply wells tapping the upper confined aquifer described by Nelson (1981) have been contaminated by benzene (Bill Ashton, DEC, oral commun., 1989). Other contamination has been documented in nearby mixed commercial and residential areas (J. Hayden, DEC, oral commun., 1989). In addition, lake levels have been drawn down by industrial pumping in the area (Nelson, 1981; Howland and Freethey, 1978).

Unocal Corporation has requested a temporary water-use permit from the Department of Natural Resources to test pump three wells near Cabin Lake at a total combined rate of up to 2200 gallons per minute for three days (C. Rewolinski, Unocal Corp., written commun., 1989). Should historic industrial pumping patterns be significantly changed, resulting changes in the ground-water flow system could affect lake levels, water levels in private wells, and contaminant migration patterns in the area. Evaluation of these possibilities may be an important aspect of future permitting activities.

PROPOSED WORK

The comprehensive hydrogeological study of the central Kenai Peninsula area described below consists of five conceptual components (Table 1).

Table 1. Conceptual components of the central Kenai Peninsula hydrogeological study.

I. Area-wide well log and water quality data acquisition and storage

II. Sterling area hydrogeological evaluation (see Munter, 1988)

III. Nikiski area hydrogeological evaluation

IV. Area-wide ground-water flow system mapping

V. Site-specific analysis and technical advisory

These conceptual components provide a logical means by which hydrogeological work in the central Kenai Peninsula area may be pursued. The first two components are largely self explanatory, and the third component will be reviewed in some detail in a subsequent section. The fourth component should be viewed as a practical task only for selected areas. The identification of these areas is dependent on the results of the first component and locations of contamination events, neither of which are

completely known at this time. The fifth component is dependent on site-specific issues, such as industrial well siting, water rights, and waste disposal permitting and facility clean-up planning. Although industry and regulatory agencies have substantial capabilities for conducting and reviewing pertinent investigations, the volume of work or the complexity of issues surrounding some of these sites may create a need for supplemental technical review or analysis.

NIKISKI AREA HYDROGEOLOGICAL EVALUATION

The water resources of the Nikiski area have been the subject of several investigations (Dames and Moore, 1975; Howland and Freethey, 1978; and Nelson, 1981). These studies have resulted in hydrogeologic cross sections, water-table maps, and conceptual and computer models of ground-water flow systems. Although water table and confined aquifers and confining units have been described in general terms, they have never been mapped in detail. Preparation of subsurface geologic maps showing the distribution of different lithologic units is proposed as Phase I of the Nikiski area hydrogeological evaluation (Table 2).

Phase II of the evaluation consists first of identifying time periods that are representative of relatively steady-state pumping conditions. Maps would be prepared showing the water-table surface of the unconfined aquifer and potentiometric surfaces of confined aquifers, if possible, for those periods. If sufficient data are not available for this task, then additional data collection would be conducted. The collection of additional water-level, well log, and water use data (Phase III) would be done to improve the accuracy of maps described above. Water-quality data collected by industry or state or

Table 2. Phases of the Nikiski area hydrogeological evaluation

I. Reconnaissance-level Subsurface Geologic Mapping
   A. Unconfined aquifer
   B. Upper confining unit
   C. Upper confined aquifer
   D. Lower confined aquifer

II. Reconnaissance-level Flow System Mapping
   A. Identification of representative time periods
   B. Water-level contour maps for each aquifer for each representative time period for which sufficient data exist.

III. Acquisition and Storage of Additional Data
   A. Well-log data
   B. Water-level data
   C. Water quality data (including developing a cooperative database with USGS)
   D. Water-use data

VI. Identification of Major Actual or Potential Flowpaths and Preparation of Report

local agencies would be entered into a permanent database in cooperation with the U.S. Geological Survey in order to provide long-term trends of contaminant levels or concentrations of natural dissolved constituents.

The subsurface geologic, water table, and potentiometric surface maps would be combined with information obtained from site investigations of contaminated ground water to identify major actual or potential contaminant flow paths (Phase IV). This information would be presented in one or more reports containing detailed maps of the area under investigation.

REFERENCES CITED

Alaska Department of Environmental Conservation, 1988, Alaska's groundwater quality protection strategy, draft: Prepared by Alaska Department of Environmental Conservation, Juneau, Alaska.

Anderson, G.S., and Jones, S.H., 1972, Water resources of the Kenai-Soldotna area, Alaska: U.S. Geological Survey Open-File Report, 81 p.

Dames and Moore, 1976, Report, ground water investigation, interrelationships between aquifers and surface water regimes, North Kenai area, Alaska: Prepared for Collier Carbon and Chemical Corporation, Los Angeles, CA, 92. p.

Ecology and Environment, Inc., 1986, Sterling Special Waste Site field investigation, Sterling, Alaska, TDD R10-8506-02, TDD F10-8612-02: Prepared for U.S. Environmental Protection Agency, Seattle, WA 59 p.

Howland, M.D., and Freethey, G.W., 1978, Selected hydrologic data related to the water table aquifer of the North Kenai area, Alaska: Alaska Division of Geological and Geophysical Surveys, Fairbanks, AK, 1 sheet.

Munter, J.A., 1988, Sterling area hydrogeological evaluation, project proposal: Alaska Division of Geological and Geophysical Surveys, Administrative Report 88-1, 5 p.

Nelson, G.L., 1981, Hydrology and the effects of industrial pumping in the Nikiski area, Alaska: U.S. Geological Survey Water-Resources Investigations 81-685, 22 p.

APPENDIX

Lennie Boston-Gorsuch
Commissioner
Dept. Of Natural Resources
400 Willoughby Ave.
Junuea, Ak. 99801

Dear Commissioner:

Enclosed is a petition that has been circulated recently. Some of us here on the North Kenai realize that contamination of groundwater is a widespread problem, not only in our area but in many parts of the country. Perhaps the idea that we were somehow immune to this was fostered by the sheer pristine and primal beauty that we enjoy here. However, times are changing. People are beginning to concern themselves with the important things that we have too long taken for granted. I think the positive response to this petition in the forms of comments such as "It's about time.", "We've got to do something soon.", and many simple earnest thank yous testify to this important change in attitude.

Some of us have seen far too many conflicting "facts about the groundwater" tossed about simply to justify permit applications and requests for variances by the industry. What really is happening with and to our groundwater?

The North Kenai Industrial Complex is the major refining sector of the state. Consequently, our community is not the typical residential area and should not be treated or examined as such. The state has accomodated the energy sector for 20 years, at certain times unchecked and loosely regulated environmentally.

Negative episodes involving the groundwater here are becoming ever more frequent. We believe the time has come for a comrehensive study here, if not for our safety and long term health factors, then certainly for everyones knowledge and above all, peace of mind.

Sincerely

Gary Superman
Box 3425
Nikiski, Ak. 99635

JAN - 6

cc; Gov. Steve Cowper
William A. Mullen
Robert Forbes
Peg Tileston
Bill Ashton
Bill Lamoreuax
Sen. Mike Syzmanski
Sen. Jay Kertulla
Rep. Jim Zawacki

PUBLIC AWARENESS COMMITTEE FOR ENVIRONMENT
Box 3722, Soldotna, Ak. 99669

This summer we have seen a large number of plans and applications for permitsaconcerning:

1.) Waste site openings and closures
2.) Wastewater discharge renewals
3.) Particulate emmisions into the air

In addition, the number of identifiable illegal dumpings may be on the rise. Production rates at some of the industrial facilities are at the upper end of their capacity. Due to these mounting demands on our local groundwater resources and in the absence of any significant, cohesive data on that resource which may or may not be severely impacted by the activities aforementioned, we the undersigned hereby petition the Alaska State Dept. of Geophysical Surveys and the Water Resource Board undertake steps to initiate a comprehensive hydrology assessment of the Nqth Kenai Industrial Complex and surrounding affected areas.

(213 signatures with addresses)

Introduced by: Brown
Date: Jan. 17, 1989
Action: Adopted
Vote: Unanimous

KENAI PENINSULA BOROUGH

RESOLUTION 89-10

REQUESTING THE STATE TO FUND AND CONDUCT HYDROGEOLOGIC SURVEYS IN THE CENTRAL PENINSULA AREA OF THE KENAI PENINSULA BOROUGH

WHEREAS, the communities in and around the cities of Kenai and Soldotna comprise an area of extensive oil and gas and chemical/industrial activity; and

WHEREAS, these activities can create problems with contamination of water supplies through lack of knowledge of movements of underground water; and

WHEREAS, in April, 1988, a hydrogeologic evaluation was proposed for the area around Sterling, Alaska by the Department of Natural Resources, Division of Geological & Geophysical Surveys, to provide information about the ground water movement; and

WHEREAS, such information would be highly useful in locating facilities to handle future waste from the area activities and in alleviating problems of contamination that have occurred or may occur in the area; and

WHEREAS, the activities generating the wastes and their attendant problems in the central Kenai Peninsula area are of significant financial benefit to the entire state; and

WHEREAS, hydrogeologic surveys should be performed for all areas in the central Kenai Peninsula and not just the Sterling area;

NOW THEREFORE, BE IT RESOLVED BY THE ASSEMBLY OF THE KENAI PENINSULA BOROUGH:

Section 1. That the Alaska legislature is requested to provide funding for hydrogeologic surveys of the central Kenai Peninsula areas to determine ground water geology and movement so that the benefits of oil and gas production to the state from that area can continue and be directed using information vital to the protection of the water supplies and resources of the Kenai Peninsula, its residents and visitors.

Section 2. That the clerk shall send copies of this resolution to Governor Cowper; Dennis Kelso, Commissioner of DEC; Lennie Boston-Gorsuch, Commissioner of DNR; Senators Fischer, Szymanski, Binkley, and Kerttula and Representatives Cato, Navarre, Swackhammer, Wallis and Zawacki.

ADOPTED BY THE ASSEMBLY OF THE KENAI PENINSULA BOROUGH ON THIS 17th DAY OF January, 1989.

Jonathan W. Sewall, Assembly President

ATTEST:

Borough Clerk

Hydrogeologists lack money, staff for Nikiski groundwater study

By BEN SWAN
Staff Writer

State water geologists have begun preliminary work on a groundwater survey of the Nikiski area but stressed any results may be long in coming without sufficient money or staff.

"The fact that we're here today means that we've started something," said Jim Munter, head hydrogeologist with the division of geological and geophysical surveys. The division is part of the state Department of Natural Resources. Munter spoke at the North Kenai Chamber of Commerce weekly luncheon Thursday in Nikiski about the process of a comprehensive groundwater survey.

Bill Long, the divison's chief of water resources, prefaced Munter's talk with cold facts about the division's limitations.

"We're a small department with a small budget," Long said. "We have 39 projects statewide and four of those projects are on the Kenai Peninsula. We understand you're concerned about groundwater and will try to integrate a program as far as funds are allowed."

Munter told the group that without additional funding any study would be slow. He also said the upcoming fiscal year did not indicate any study for the area.

"If there's going to be money from the state, it'll have to come from the Legislature," Munter said.

The division's interest in a groundwater survey stems from a petition coordinated by Nikiski resident Gary Superman. Superman gathered more than 250 signatures after it was determined that a Nikiski well was contaminted with tetrachloroethylene, an ingredient found in solvent, degreaser and dry cleaning fluid.

The petition requested a comprehensive groundwater survey on the Nikiski industrial complex and the surrounding area, Superman said. Water flow, water quality, soil identification of upper confining levels and the depths of the aquifer levels — the region under the ground that contains water — would be examined in the survey.

In a teleconference last week, hydrogeologists were asked to come to Nikiski and speak about the logistics of a comprehensive survey, Superman said.

"The timing for the petition was very good," Munter said. "It was a good thing to get us started (on a survey) because we don't just go into an area and tell the people a survey needs to be done."

Although a study has not been initiated, Munter said he was in Nikiski to solicit input and gather feedback from people about the water evaluation. He said any survey conducted should be done from the long-term perspective that the Nikiski groundwater would be the primary water source for years to come.

PENINSULA CLARION: 1/27/89

Alaska Environmental Lobby, Inc.

P.O. Box 22151 Juneau, Alaska 99802 907-586-2345

AEL ISSUE PAPER SCR 15
KENAI HYDROGEOLOGICAL SURVEYS

The Alaska Environmental Lobby strongly supports this legislation.

* Accurate groundwater information is essential to protecting public health in the Kenai Peninsula area, due to toxic contamination of parts of the aquifer.

* Such information is also essential to properly site a· d manage groundwater withdrawals for industrial and other development in the area. The effect of large-scale withdrawals on toxic migration cannot currently be predicted, so further industrial development is essentially blocked until better information is available.

Hydrogeological surveys of the Kenai area are necessary from public health, environmental, and economic standpoints.

March 15, 1989
by Bill Glude

SCR

16

SENATE COMMITTEE REPORT

FIRST COMMITTEE OF REFERRAL

Date of 5-DAY NOTICE 2-9-89
IN ACCORDANCE WITH UNIFORM RULE 23

FURTHER

**FISCAL NOTE(S) MUST BE ATTACHED
IN ACCORDANCE WITH AS 24.08.035

DATE TURNED INTO OFFICE 2-15-89

2/6/89

Mr. President:

Resources Committee considered SCR 16

Commemorating the 1964 Great Alaska Earthquake

and recommended:

[ ] replace with CS ______ [ ] same title [ ] new title

[ ] attached amendment(s) and

[ ] ______ letter of intent adopted

[✓] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[ ] further referral to ______

FISCAL NOTE(S) attached [✓] zero [ ] fiscal impact
[ ] appropriation no FN attached [ ] Gov. FN introduced w/ bill

MEMBERS SIGNING DO PASS | OTHER RECOMMENDATIONS

Chairman signature and recommendation

[ ] Committee backup attached

STATE OF ALASKA
1989 LEGISLATIVE SESSION

BILL VERSION : **SCR 16**
PUBLISH DATE :

FISCAL NOTE

REQUEST:

Revision Date: 13-Feb-89
Agency Affected: **Natural Resources**
Title: **Commemerating the 1984 Great Alaska Earthquake**
BRU: **Management & Administration**
Sponsor: **Sturgelewski,Zharoff,Kelly Fischer,Faiks & Szymanski**
Components: **Commissioners Office**
Requestor: Senate Resources

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
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						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL	**0.0**					

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

Prepared by: **Carol Wilson** Phone : **465-2400**
Division: **Commissioner's Office** Date : **13-Feb-89**

Approved by Commissioner: **Lennie Gorsuch** Date: **13-Feb-89**
Agency: **Department of Natural Resources**

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

January 1989

1989 marks the 25th year since the Great Alaska Earthquake. A planning committee, sponsored by the Alaska Academy of Engineering and Sciences, is coordinating activities in remembrance of the disaster. The theme is 1964/1989--25 Years Later.

Four kinds of events are scheduled:

I. Preparation for disasters

Public awareness of the nature and dangers of large-scale disruptions will be emphasized. Displays will show steps that can be taken to prepare the home and workplace. Prevention and mitigation plans already in place, that serve as models of readiness, will be given special recognition. Programs for particular groups, for instance preparing public workers for quick responses, will also be conducted.

II. Commemorative

Events in remembrance of 1964 are planned. A dinner reunion of Alaskans involved in the Earthquake and recovery was a high point of the 20th anniversary and a similar get-together is anticipated in 1989. A display centering on the 1964 events is planned for the Anchorage Museum of History and Art. Efforts are underway to set up an archive where information can be centralized. We hope to be able to give special recognition to people who were critical in 1964.

III. Historical and educational

Information about the Great Alaska Earthquake will be assembled and made available to the public. Where information has not been collected, it will be sought; we hope to preserve the data in the archive. The 25th Anniversary provides a chance to look back to see what effects the 1964 events had on individuals and groups. Special attention will be given to the lessons that were learned in 1964, particularly those having to do with mitigation and prevention.

IV. Scientific and technical

A series of meetings dealing with current information about natural disasters is planned. A public workshop on how decision-makers can use scientific and technical data is scheduled. Other possibilities include a sectional at the Alaska Science Conference and in conjuction with professional meetings.

A schedule of events is attached.

P.O. Box 107844 • Anchorage, AK 99510-3844 • Telephone (907) 276-3499

January 7, 1989

SCHEDULE OF EVENTS

February 23, 1989 - 10:30 A.M. — MEDIA BRIEFING

A press conference to provide information about the earthquake commemoration activities. Sponsored by the '64/'89 Committee. 3rd floor conference room, Frontier Building, 36th and C St, Anchorage.

February 23-25, 1989 — TEACHER WORKSHOP

Quake and Shake- Earthquakes in Perspective. A teacher workshop for graduate credit sponsored by the Alaska Division of Emergency Services, Anchorage School District, and Alaska Pacific University. Further information: Mike Webb, 249-1370.

March 1989 — EARTHQUAKE AWARENESS MONTH

Earthquake Retrospective. Anchorage Museum of History and Art. Exhibit featuring photographs documenting the 1964 disaster. Sponsored by the '64/'89 Committee and the Cook Inlet Historical Society. Further information: W. E. Davis, 276-3499.

March 4 and 18, 1989 — PREPAREDNESS DISPLAYS

March 4 -- Northway Mall. March 18 -- Dimond Mall. Practical advice on getting ready for a natural disaster. Displays by groups, like the American Red Cross, that deal with emergency services. Sponsored by the '64/'89 Committee. Further information: Sara McCullough, 277-1538.

March 16, 1989 - 8 P.M. — HISTORY OF EARTHQUAKES

Pacific Rim Tectonic Events. Anchorage Museum of History and Art. Talk, with slides, on the major earthquakes, volcanic eruptions, and associated events in the history of the North Pacific. Sponsored by the Cook Inlet Historical Society and the '64/'89 Committee. Further information: W. E. Davis, 276-3499.

P.O. Box 103844 • Anchorage, AK 99510-3844 • Telephone (907) 276-3499

March 20 - 23, 1989 — PUBLIC POLICY WORKSHOP

Seminars and discussions on making scientific and engineering information more useful to decision-makers. Times, locations, and speakers to be announced. Sponsored by the '64/'89 Committee. Further information: Walt Parker, 333-5189.

May 23 - 24, 1989 — UTILITY WORKERS' COURSE

Earthquake Hazard Mitigation for Utility Lifeline Systems. A two-day course for public and private utility officials emphasizing ways to reduce earthquake hazard risks. Conducted by the Emergency Management Institute; sponsored by the Alaska Division of Emergency Services. Advance registration required. Further information: Mike Webb, 249-1370.

June 1 - 2, 1989 — HEALTH CARE FACILITIES COURSE

Non-structural Earthquake Hazard Mitigation. A two-day course for hospital and other health care facility workers stressing ways to reduce risks from non-structural dangers. Conducted by the Emergency Management Institute; sponsored by the Alaska Division of Emergency Services. Advance registration required. Further information: Mike Webb, 249-1370.

September 1989 — U.S.G.S. EARTHQUAKE CONFERENCE

Scientific conference reviewing current data on seismic events. Times, locations, and speakers to be announced. Further information: Mike Webb, 249-1370.

Over 20 million waterfowl and shorebirds, including almost the entire world population of western sandpipers, pass through the Copper River Delta between April 25 and May 20 each year.

Birds from every other continent come to Alaska to nest.

Some birds migrating to Alaska travel great distances. Our smallest bird, the Rufous Hummingbird, migrates over 1,000 miles. Several warblers travel 6,000 to 8,000 mile from the jungles of South America, flying mainly at night at altitudes of 2,000 to 12,000 feet.

American golden plovers find their way to Alaska from Hawaii and Polynesia, apparently making the 2,000 mile trip in a nonstop flight.

Alaska has more seabirds than the rest of the United States put together. More than 80 to 124 million seabirds occur in Alaska waters in summer.

Single flocks of over 10 million shearwaters, a medium-sized member of the albatross family, have been observed gliding over the waves of the Gulf of Alaska and Bering Sea.

There is little question the large number of migrant and resident birds affect the lives of humans living in Alaska. A great portion of the migrant birds are insect eaters, and though they do not decimate Alaska's insect populations, they must consume literally tons of insects each year.

Source: Department of Fish and Game.

Corrections

Alaska ranked fourth among all states and the District of Columbia in the number of sentenced prisoners per 100,000 population, as of June 30, 1985. Alaska's rate was 252 per 100,000. The District of Columbia was highest with 720 per 100,000. North Dakota was lowest with 53 per 100,000. The national average was 201 per 100,000.

Source: State Department of Corrections.

Education

Alaska ranked first in public elementary and secondary expenditures (1982-83) per student with $7,325, compared to the national average of $3,430.

Alaska ranked first in percent of high school graduates in 1980 with an 82.5% rate, compared to the national average of 66.5%.

Source: Center for Statistics, U.S. Department of Education.

Earthquakes

Since the turn of the century, 25% of all earthquake energy released in the world has been released by earthquakes occurring in Alaska.

There have been 37 earthquakes recorded with a magnitude greater than 7.25 in Alaska during this century.

Each year in Alaska there are approximately 1,000 earthquakes that measured more than 3.5 on the Richter scale.

Of the ten strongest earthquakes ever recorded in the world, three have occurred in Alaska: 2nd highest in 1964 in Prince William Sound rated 9.2 as the result of recent recalculations; 3rd highest in 1957 in the central Aleutians measuring 9.1; and the 6th highest in 1965 in the western Aleutians measuring 8.7.

Source: John Davies, Department of Natural Resources, Division of Geological and Geophysical Services.

ALASKA BLUEBOOK -1987

STATE OF ALASKA

Executive Proclamation

by

Steve Cowper, Governor

The State of Alaska is highly susceptible to major earthquakes, tsunamis and other natural hazards. However, there is no reason to live in fear of these natural events if preparations and precautions are taken.

The loss of lire and property can be greatly reduced if preparedness measures are taken before, during and after a damaging quake, tsunami or other natural event. This preparedness information is important to all people since many live in or travel to areas of the State of Alaska with high potential for major earthquakes and/or tsunamis.

1989 marks the 25th Anniversary of the March 27, 1964, Great Alaska Earthquake.

The State of Alaska has learned and applied many lessons from these devastating events. The month of March will focus on these lessons and how to better prepare the State and its people for future catastrophic natural events through the assistance of governmental agencies, service organizations, educational institutions and the business community. It is important to implement the results of these lessons throughout the year.

NOW, THEREFORE, I, Steve Cowper, Governor of the State of Alaska, do hereby proclaim the month of March 1989 as:

EARTHQUAKE AWARENESS MONTH

in Alaska, and urge all Alaskans to recognize the importance of being prepared for future catastrophic natural events.

DATED: December 5, 1988

Done by

Steve Cowper, Governor, who has also authorized the seal of the State of Alaska to be affixed to this proclamation.

FACT SHEET ON THE GREAT ALASKA EARTHQUAKE OF 1964:

DATE - March 27, 1964 AST (March 28, 1964 GMT)

ORIGIN TIME - 5:36 PM AST (03:36:14.0 ± 0.2 GMT)

MAGNITUDE - 9.2 on the Richter scale. Note: In 1977 the magnitude of this and many other great earthquakes were recalculated to take into account energy released at long wavelenghths which was not measurable with seismographs in use in 1964. As a result of this recalculation, the magnitude of the great Alaska earthquake of 1964 was increased from initial estimates of 8.4-8.6 to 9.2, making it the second largest earthquake ever recorded (the largest was a 9.5 earthquake in Chile in 1960).

EPICENTER - 6 mi east of the mouth of College Fiord
61.04°N ± 0.05 & 147.73°W ± 0.07
55 mi west of Valdez
73 mi east of Anchorage

DEPTH - 17 mi ± 4

INTENSITY - The maximum intensity reported was XI (major damage) on the 12-point Modified Mercalli Intensity Scale. The damage zone covered about 50,000 sq. miles. Intensities of IV-V (felt by most people, minor damage) were reported as far away as Cold Bay, Bethel, McGrath, Kotzebue, Deadhorse, Ft. Yukon, Eagle, and Skagway. The felt area was about 500,000 sq. miles. The strong ground motion in the Anchorage area lasted about four minutes and probably reached peak accelerations of 0.2 g (1.0 g is the force of gravity at the earth's surface). This long duration of shaking triggered many landslides and avalanches. Most of the damage in Anchorage was due to landslides from the bluffs along Knik Arm and Ship Creek.

LOSSES - Deaths: 115 in Alaska, 16 in Oregon and California.
Damage: 300-400 million dollars (1964).

CAUSE - The inexorable northwestward motion of the Pacific plate at about 2-3 in. per year causes the crust of southern Alaska to be compressed and warped, with some areas along the coast being depressed and other areas inland being uplifted. After periods of tens to hundreds of years this compression is relieved by the sudden southeastward motion of portions of coastal Alaska as they move back over the subducting Pacific plate.

As a result of the 1964 quake, the Latouche Island area moved about 60 feet to the southeast. Also, the patterns of uplift and subsidence which had been slowly developing prior to the earthquake were suddenly reversed with areas around Montague Island being uplifted 15-30 feet and areas around Portage down-dropped as much as 9 feet. The hinge line (line of no vertical change separating the uplift and subsidence zones) extended from near the epicenter in Prince William Sound to the SE coast of Kodiak Island. This vertical deformation affected an area of approximately 100,000 sq. miles.

TSUNAMI - The tsunami (seismic sea wave) generated was the second largest ever recorded, again following only the 1960 Chile earthquake. The largest amplitudes recorded at tide gauges were (in feet): 7.6 at Yakutat; 14.3 at Sitka; 8.9 at Prince Rupert, B.C., Canada; 8.1 at Tofino, B.C., Canada; 13.0+ at Crescent City, California; 7.4 at San Francisco, California; 7.8+ at Ensenada, Mexico; and 12.5+ at Hilo, Hawaii. Of the 122 deaths attributable to the effects of the ocean, about half were due to the open-ocean tsunami: 4 at Newport Beach, Oregon; 11 at Crescent City, California; and about 51 in Alaska.

Local waves caused by underwater landslides claimed at least 56 lives (and may have been responsible for others): 31 in Valdez, 13 in Whittier, and 12 in Seward. Maximum heights reported for these waves were 220 feet in Valdez Arm, 104 feet in Whittier, and about 30 feet in Seward.

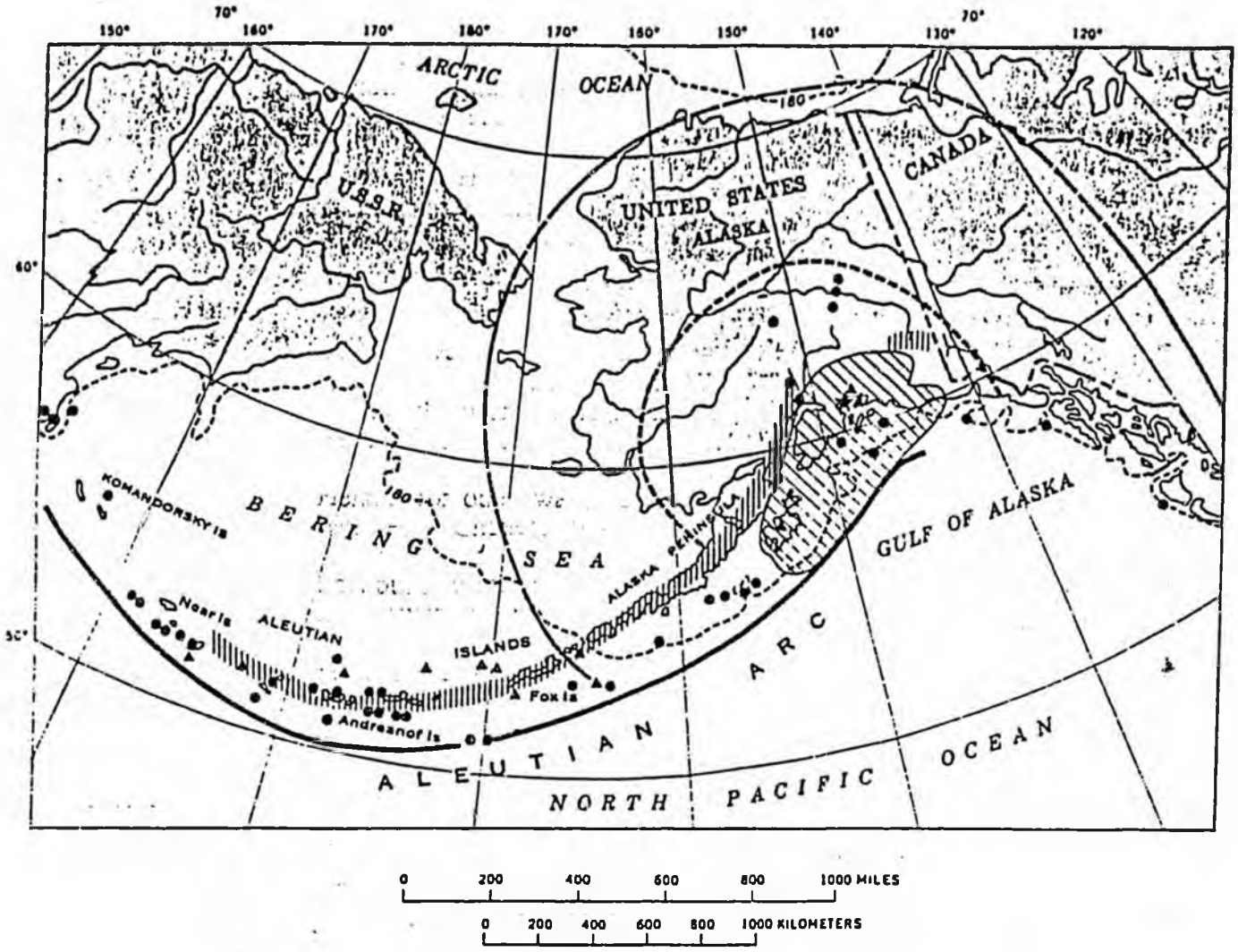
Heights for other waves of uncertain origin were reported as follows (in feet): 90 at Chenega, 50-70 at Port Nellie Juan, 40 at Point Nowell, and 5 at Cordova. These heights are not all referenced to the same stage of the tide, but at these and many other communities the wave arrived near high tide, causing the most possible damage.

Seiches (waves excited in a closed basin of water whose period is near the fundamental resonant period of the basin) were observed as far away as Louisiana where a number of fishing boats were sunk. Changes in water wells were reported from as far away as South Africa.

AFTERSHOCKS - The aftershock zone of this earthquake was about 150 mi wide (NW-SE) and extended about 490 mi from Prince William Sound to the SW end of Kodiak Island. The main shock and its aftershocks occurred on a fault which is part of the boundary between the Pacific and North American plates. This fault surface extends from the trench in the Gulf of Alaska and dips at about 10 degrees to the NW reaching a depth of about 21 mi under Anchorage and increases in dip under Cook Inlet to reach a depth of 67 mi under the volcanos of the easternmost Aleutian Arc. The aftershocks ranged along this surface at depths from 12 mi beneath the Gulf of Alaska to 18 mi beneath the Kenai Peninsula and Kodiak Island.

Thousands of aftershocks were recorded in the months following the mainshock. In the first day there were 11 aftershocks with magnitude greater than 6.0 on the Richter scale; in the next three weeks there were 9 more. Smaller aftershocks continued for more than a year.

Prepared by: Dr. John N. Davies, State Seismologist
Geophysical Institute
University of Alaska Fairbanks
Fairbanks, AK 99775-0800
Tel: (907) 474-6166 FAX: (907) 474-7290



EXPLANATION

★ Epicenter of the 1964 earthquake

Approximate limit of human perceptibility
Dashed where inferred

Approximate limit of landslides, avalanches, and ground cracks

Approximate area of major tectonic deformation
Dashed where inferred

● Shallow depth (<70 km)
▲ Intermediate depth (70–200 km)
Large earthquake epicenters ($M > 7$) for period 1904–52
(From Gutenberg and Richter, 1954)

Aleutian Trench

Aleutian volcanic arc

180
Approximate outer edge of continental shelf
Depth in meters

1.—Map of Alaska and adjacent areas showing the location of the 1964 earthquake, the area affected by the earthquake, epicenters of previous major earthquakes, belts of active volcanism, and the Aleutian Trench.

GEORGE PLAFKER
U.S. GEOLOGICAL SURVEY

Reprinted with minor changes from
U.S. Geological Survey Professional Paper 543-I,
"Tectonics of the March 27, 1964, Alaska Earthquake"

Alaska State Legislature

SENATE

Special Committee on International Trade

P.O. Box V
State Capitol
Juneau, Alaska 99811

AGENDA

SENATE COMMITTEE ON INTERNATIONAL
TRADE AND TOURISM

February 8, 1989

The SITT meeting to hear SJR 16 (a resolution encouraging the acquisition, preservation and development of the Kennecott Mine site) and SRJ 16 and SCR 17 (resolutions supporting the development of the Hatcher Pass Ski Resort) will begin at 3:30 p.m. in the Senate Finance Room .

I. Call to Order

II. Introduction of Guests and Those Presenting Testimony on SJR 16 ALL SUPPORT

A. Neil Johannsen, Director,
Division of Parks and Recreation, DNR

B. Judy Bittner, Chief, Office of History
and Archaeology

C. Janet McCabe, Special Assistant,
National Park Service

D. La Vonne Branshaw, Pat Jones and
Dick Groff of the Cordova Historical Society

E. Hugh Gellert, Director, Division of Tourism

F. Bill Glude, Environmental Lobby

III. Introduction of Guests and Those Presenting Testimony on SR 6 and SJR 17

A. Paula Terrel representing Senator Jay Kerttula

B. Gary Gustafson, Director; Veronica Gilbert;
Rick Thompson, Hatcher Pass Project Coordinator,
Division of Land and Water Management

C. Wolfgang Rood, PKS

IV. Conclusion

SCR

24

SENATE COMMITTEE REPORT

FIRST COMMITTEE OF REFERRAL

Date of 5-DAY NOTICE _____
IN ACCORDANCE WITH UNIFORM RULE 23

FURTHER

**FISCAL NOTE(S) MUST BE ATTACHED
IN ACCORDANCE WITH AS 24.08.035

DATE TURNED INTO OFFICE 3/21/89

3/8/89
Mr. President:

Resources Committee considered SCR 24

state's Russian Orthodox churches

and recommended:

[X] replace with CS SCR 24 (Resources) [X] same title [ ] new title

[ ] attached amendment(s) and

[ ] _____ letter of intent adopted

[ ] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[X] further referral to FINANCE

FISCAL NOTE(S) attached [ ] zero [ ] fiscal impact
[ ] appropriation no FN attached [ ] Gov. FN introduced w/ bill

MEMBERS SIGNING DO PASS

Rick Halford
Unless Steinglewski Do Pass w/ amended fiscal note

OTHER RECOMMENDATIONS

Chairman signature and recommendation

[ ] Committee backup attached

6-0910E
Bannister
3/29/89

Original sponsors: Faiks, Zharoff,
Sturgulewski, and Kelly

IN THE SENATE BY THE RESOURCES COMMITTEE

CS FOR SENATE CONCURRENT RESOLUTION NO. 24 (Resources)

IN THE LEGISLATURE OF THE STATE OF ALASKA

SIXTEENTH LEGISLATURE - FIRST SESSION

Relating to the state's Russian Orthodox churches.

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

WHEREAS the history of the state has been enriched by the contributions of its early Russian settlers; and

WHEREAS the state's Russian Orthodox churches and the cathedrals at Unalaska and Sitka represent the Russian Heritage that is today reflected in the religion and traditions of many of the state's Native people; and

WHEREAS Unalaska's Holy Ascension Russian Orthodox Church, portions of which may date from 1826, has a rich collection of icons, which are religious objects executed in the Russian Orthodox style, books, and other artifacts that convey the craftsmanship and artistry of the Aleut and Russian people; and

WHEREAS in 1970 the United States Secretary of the Interior designated Holy Ascension Russian Orthodox Church as a national historic landmark because of its exceptional value to our nation's history; and

WHEREAS the long-term preservation of the church and the valuable artifacts that it contains is being jeopardized by the serious deterioration of the church, thus endangering one of the most significant collections of Russian Orthodox art in the state; and

WHEREAS it is important that steps be taken to preserve our history and to ensure that future generations can benefit from the rich cultural and religious contributions of Russia; and

WHEREAS the Alaska Regional Office of the United States National Park Service, which is preparing an historic American building survey, and the

Icon Preservation Task Force have expressed an interest in participating with the state in compiling an inventory and documentation of the Russian Orthodox churches in the state;

BE IT RESOLVED that the Alaska State Legislature requests the Governor and the state office of history and archeology to inventory and document the art and architecture of the state's Russian Orthodox churches listed in the National Register of Historic Places including, in particular, the Holy Ascension Russian Orthodox Church in Unalaska.

STATE OF ALASKA
1989 LEGISLATIVE SESSION

BILL VERSION: CSSCR 24 (Resources)

PUBLISH DATE:

FISCAL NOTE

REQUEST:

Revision Date: 29-Mar-89

Agency Affected: Natural Resources

Title: Russian Orthodox Churches

BRU: Parks & Outdoor Recreation

Sponsor: Senator Faiks

Components: Historic Resource Mgt

Requestor: Senator Faiks

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
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		41.5				
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND		41.5				
FEDERAL FUNDS						
OTHER						
TOTAL	0.0	41.5				

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

$37.7 would be used to fund a proposal to assist Soviet Architects document landmark churches on St. Paul and St. George Islands, as described in the attached project description. Ten percent of this amount, or $3.8, would be used by the State Office of History and Archeology to administer the project funds.

Prepared by: Carol Wilson

Phone: 465-2400

Division: Commissioner's Office

Date: 29-Mar-89

Approved by Commissioner: Lennie Gorsuch

Date: 29-Mar-89

Agency: Department of Natural Resources

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

Alaska State Legislature

Senate Resources Committee

Senator Bettye Fahrenkamp, Chairman

Senator Jay Kerttula, Vice Chairman
Senator Dick Eliason
Senator Steve Frank
Senator Rick Halford
Senator Arliss Sturgulewski
Senator Fred Zharoff

P.O. Box V
Juneau, Alaska 99811
(907) 465-4907

March 29, 1989

Senator Tim Kelly,
Senate President
Capitol 111
Juneau, Alaska 99811

Dear Senator Kelly:

The Senate Resources Committee, in considering SCR 24, Relating to the state's Russian Orthodox churches, received a fiscal note of $41,500 from the Department of Natural Resources to inventory and document the art and architecture of the state's Russian Orthodox churches.

Because of the fiscal impact, the committee recommended that the resolution receive an additional referral to the Finance Committee. The committee was also concerned that the proposed funding would only be sufficient to inventory churches at St. George and St. Paul, while the resolution calls for documentation of all of the state's Russian Orthodox churches listed in the National Register of Historic Places.

Thank you for your consideration.

Sincerely,

Bettye Fahrenkamp
Chairman

BF:dc.dnr

A PROPOSAL FOR THE INVENTORY AND DOCUMENTATION OF THE CHURCH OF THE HOLY ASCENSION, UNALASKA AND HABS PHOTO DOCUMENTATION OF NATIONAL REGISTER CHURCHES

Two Soviet architects will be coming to Alaska in 1989 to assist in the documentation of the landmark churches at St. Paul and St. George as part of an international cultural exchange. With additional funding we hope to expand the scope of this international effort and broaden the cooperative effort of the Icon Preservation Task Force to include the State of Alaska and the federal government.

The work will be accomplished under the supervision of the Icon Preservation Task Force, working with the Alaska Association for Historic Preservation (a nonprofit 501c(3) corporation). The work undertaken with the State funds will be done in cooperation with the National Park Service and the Alaska Dioceses of the Orthodox Church.

SCOPE OF WORK: 1. Prior to October 1, 1989 a team, consisting of a curator, an architect, an historian, members of the church, and an objects photographer are to visit and complete a computer inventory of The Church of the Holy Ascension at Unalaska. The inventory will document, for scholarly purposes, the contents of the church and will serve as a document which establishes priority in the preservation and restoration of the building and the icons and religious artifacts within. A total appropriation of $13,890 is sought to cover personnel, travel and supplies.

2. A two year photo documentation project of the 37 Russian Orthodox Churches in Alaska will be undertaken. The professional, large format photographs will be used for scholarly purposes, as a permanent record to be keep in the HABS collection of the Library of Congress and for exhibit in Alaska. Funds are needed to cover contracting expenses with an icon expert, transportation, and per idem for the HABS photographer, IPTF liaison, and for supplies. $23,832 is needed for the first year which will focus on 19 of the 37 churches.

3. The total funds requested for Phase 1 and 11 are #37,722.

BUDGET

SCOPE OF WORK - ITEM #1.....

a. Curator - NPS
   5 days in field
   5 days processing inventory.....No cost

b. Supervisory Priest (translator of Russian and Old Church Slavonic records)
   1 ea x $120 x 8 days.....$ 960
   Per Diem: 8 days x $115.....$ 920

c. IPTF Historian (Coordinate, assist with field inventory and edit report)
   1 ea x $120 x 25 days..... 3,000
   Per Diem: 8 days x $115..... 920

d. Museum Photographer (photograph every accessioned object, 450 approx)
   1 ea x $300 x 8 days..... 2,400
   Per Diem: 8 days x $115..... 920

e. Architect (Soviet exchange - NPS)
   15 days in field
   45 days preparing HABS drawings..... 8,400

f. Transportation:
   5 round trip airfare x $754..... 3,770

g. Supplies:
   film and processing..... 500
   report preparation/printing..... 500

TOTAL COST FOR ITEM #1.....$22,290

SCOPE OF WORK - ITEM #2 - YEAR #1 .....

a. HABS Photographer - HABS
   30 days in field
   15 days in lab.....No cost
   Per Diem: 30 days x $43.....$ 1,290

b. Icon Expert
   1 ea x $200 x 45 days..... 9,000
   Per Diem: 30 days x $43..... 1,290

c. IPTF liaison
   30 days in field
   Per Diem: 30 days x $43..... 1,290

d. Transportation - Year #1

Juneau (Cordova-Tatitlek, Sitka)	
$366 x 3 team members.....	1,098
Hoonah and Angoon	
$100 x 3.....	300
Kodiak $254 x 3.....	792
Kodiak-Old Harbor-Akhiok	
$140 x 3.....	420
Kodiak-Ouzinkie-Port Lions	
$70 x 3.....	210
Kodiak-Karluk	
$130 x 3.....	390
Spruce Island (boat from Kodiak).....	200
Seldovia.....$183 x 3.....	546
Unalaska.....$754 x 3.....	2,264
St George & St Paul..$866 x 3.....	2,598
Russian Mission (Marshall)	
$428 x 3.....	1,184
South Naknek.....$320 x 3.....	960

TOTAL COST FOR ITLM #2 - YEAR #1.....$23,832

SCOPE OF WORK - ITEM #2 - YEAR #2.....

a. The remaining 18 churches will be inventories in FY90. Expenses for year #2 will be the same as year #1.

TOTAL COST FOR ITEM #2 - YEAR #2..... $23,832

TOTAL REQUESTED SUPPORT- FY89.....$37,722**

**plus percentage retained by History and Archeology for grants administration.

Alaska State Legislature

Chairman
(907) 465-4523

Jan Faiks
Post Office Box V
Juneau, Alaska 99811

Senate Judiciary Committee

March 20, 1989

MEMORANDUM

TO: Senator Bettye Fahrenkamp, Chairman
Senate Resources Committee

FROM: Senator Jan Faiks

SUBJECT: SCR 24 - State's Russian Orthodox Churches

The following amendment to SCR 24 was suggested by Representative Leman and I believe it adds to the resolution. For this reason, I would appreciate the Resources Committee's consideration of it when it considers the resolution:

> Page 1, line 16: insert and Russian after "Aleut", so that the line reads "artifacts that convey the craftsmanship and artistry of the Aleut **and Russian** people;

Thank you.

cc: Senator Fred Zharoff
Representative Loren Leman

ICON NEWS

Published by the Icon PreservationTask Force
c/o Alaska Pacific University
Anchorage, AK 99508

Newsletter #2, March 1989

ICON PANEL AT ANNUAL MEETING

Three contemporary icon painters of the Anchorage area will be the guest speakers at the second annual meeting of the Icon Preservation Task Force. The panel discussion, "Icon Perspectives," will be held in the Conference Room, ground floor of the Z. J. Loussac Library, at 7:30 p.m., Tuesday, March 21.

Byron Birdsall, a contemporary interpreter of the icon tradition, and two local church iconographers will discuss the challenge of painting icons in the 1980s. Ron Rollins, iconographer at Holy Transfiguration Greek Orthdox Church in Anchorage, and Robin Armstrong of St. John the Evangelist Antiochian Orthdox Cathedral in Chugiak will join Birdsall. Each of the speakers will present slides of their work.

Rollins paints in a traditional style using tempera on wood. Armstrong recently attended a workshop in Pennyslvania on iconography sponsored by the St. John of Damascus Icongraphic Society. She will report on new thinking about interpreting the ancient forms.

Birdsall, a commercial artist, began painting icons two years ago. His interpretations of some of the world's most famous icons, rendered in nontraditional media, have been a spectacular success in art galleries in Anchorage and Seattle.

An original painting of Alaska's four Orthodox Saints, presented by Birdsall as a gift to St. Innocent Orthodox Cathedral in Anchorage, was blessed by Bishop Gregory and consecreated as an icon in services at the cathedral a year ago. Offset prints of this icon are being sold by the cathedral and Artique, Ltd., with proceeds to benefit the construction fund of the cathedral.

Birdsall is offering one of these prints to the Task Force for a membership drawing (see story on page 4.)

The panel discussion will be preceded by the annual business meeting of the Task Force, including a report on an inventory of the icons and liturgical furnishings of the Church of the Holy Assumption in Kenai.

Future projects, including an international exchange with Soviet architectural historians, will be described.

The public is invited to this event. There is no charge.

NATIONAL PARK SUPPORT

The National Park Service has been active in its support of the IPTF during the past year. Cooperative efforts will continue during the coming summer when the NPS will conduct building condition assessments and architecture documentation of the churches at St. Paul and St. George in the Pribilof Islands. Both churches are National Historic Landmarks. Soviet architects will assist as part of an international cultural exchange between the USA and the USSR.

If the IPTF can find additional funds, the architectural documentation project will be supplemented with the inventory and documentation of the icons and objects in these churches. It is our hope that by the end of the summer we will have completed the inventory of three National Historic Landmarks.

REMEMBER

OUR ANNUAL

MEETING

March 21

7:30 p.m.

Loussac Library

Conference Room

Everyone Invited

YEARLY REPORT

This past year has been a busy one indeed. We have been actively pursuing our goals to inventory and document the icons and the architecture of the historic Orthodox churches on several fronts. We have had discussions with state and federal agencies, representatives of private foundations, and Native coporations.

These efforts combined with the continued dialogue between the IPTF and the Orthdox Church in Alaska have allowed us to move forward in a positive manner. With each discussion of the project, enthusiasm builds. We are excited about our progress in 1988.

Kenai Inventory Completed

In April, the IPTF coordinated an inventory of the Church of the Holy Assumption at Kenai. (See article on page 3.) The results are exciting, and the end product represents the first written and visual record of the architecture and art of an Orthodox church in Alaska.

Legislative Support Sought

In November, Senator Jan Faiks asked us to present a proposal for the inventory and documenation of the Church of the Holy Ascension in Unalaska. Senator Faiks is concerned about the preservation of the building and the icons and historic art objects inside. A resolution in support of the IPTF proposal is winding its way through the legislature.

IPTF Incorporates

In December, the IPTF, now a subcommittee of the Alaska Association for Historic Preservation, began the process of incorporation as a nonprofit organization under its own charter. Bylaws were drafted and filed with our Articles of Incorporation. Attorneys Jim Wanamaker and LeRoy DeVeaux of Wanamaker and DeVeaux donated their time to provide assistance to the IPTF.

ICON TASK FORCE

The Icon Preservation Task Force (ICPTF) is a secular group organized in the spring of 1986 to launch a major effort aimed at preserving and, where necessary, restoring the remarkable legacy of Russian culture in Alaska—a heritage resource significant to the people of Alaska and to the nation as a whole.

As time passes, these irreplaceable treasures are becoming increasingly vulnerable to deterioration, vandalism, and destruction. The effort to preserve these treasures must be multifaceted and support must come from many sources. The IPTF wants to work with other organizations to achieve our common goals.

With full support of the Orthodox Church officials in Alaska, the IPTF has resolved to undertake a long-range program to insure the preservation of the cultural resources by:

- *creating public awareness and educational opportunities for the people of Alaska,*
- *sponsoring an inventory and documentation program to record the objects and historic structures within Alaska, both to serve as a useful historical and cultural reference,*
- *in a cooperative effort, assisting the Orthdox Church, the owners of the art objects, in the restoration, preservation, and maintenance of the art obejcts, icons, and selected structures.*

In our last Newsletter, we printed a letter from Bishop Gregory wherein he clearly states our intentions: "We understand that the intention is to retain all of the icons in the churches where they now reside. If they are removed, it will only be for necessary restoration, and/or brief display in an educational program." He continues, "It is my pleasure to be associated with this dedicated group of Alaskans who have taken on such a big task, which we all know will take many years. Please be assured that my blessings are with your efforts."

Bishop Gregory is right. These goals will take many years to accomplish, but the time to begin is now. We welcome your support for this endeavor and encourage you to become a Task Force member today. (See membership application on page 5.)

World War II Damage Assessments

Finally, in January of 1989, a proposal was submitted to the the Aleutian/Pribilof Islands Association to assist them in their efforts to substantiate damages to the church properties as a result of World War II under the War Reparations Act, which was passed by Congress in 1988.

In summary, our year has been very busy and rewarding. We anticipate that next year will be equally as rewarding as we continue with our inventory efforts and hopefully begin with some of our restoration tasks.

—Steve Peterson

THANKS TO CONTRIBUTORS

We gratefully express our appreication to the following individuals and organizations who have graciously contributed their services, talents, and money to the Icon Preservation Task force:

Alaska Humanities Forum
Alaska Pacific University
Byron Birdsall
Gerri Clark
LeRoy DeVeaux
ERA Aviation
Ayse Gilbert
Mark Air
National Park Service
Southcentral Air
The Alaska Association for Historic Preservation
University of Alaska
Jim Wanamaker

And to the following donors (of Anchorage except where noted):

Alaska State Museum (Juneau)
Joan M. Antonson
John R. Barns (Harrisburg, PA)
Byron Birdsall
Alan Borass (Soldotna)
Phyllis I. Carlson
Cordova Historical Society
Lucien Coutu (Montreal, Canada)
Mr. & Mrs. Ed Crittenden
Dr. Nancy Yaw Davis
Ty Dilliplane (Providence, RI),
James H. Ducker
Robert C. Ely
Leslie Starr Hart
Virginia Heiner (Vancouver, WA)
Robert Isly
Louise Kellogg (Palmer)
Orin Knee (Portland, OR)
Brooke & Wilda Marston
Isabel Miller (Sitka)
Diane Murgalo (Tuckahoe, NY)
Frank Norris (Seattle, WA)
Lee E. Poleske (Seward)
Alba Pratt
George Shaw (Kenai)
Eva R. Trautman
Richard W. Tyler (Homer)
Carol Urness (Minneapolis, MN)

PILOT INVENTORY COMPLETED

Icons by an Alaskan Native iconographer were among the exciting discoveries emerging from the first church inventory undertaken in April 1988 by the IPTF. Three icons in the Church of the Holy Assumption in Kenai were painted before 1858 by **Grigorii Petukhov**, an Aleut born at Unalaska. Petukhov is one of only two known native Alaskan iconographers from the Russian era. Until his death in 1858, he lived in Sitka, while **Vasilii Kriukov**, worked at Unalaska.

Another exciting discovery was an 1896–1906 Russian language inventory in the church archives by Reverend **Marcarius Targonsky**, priest of the parish. This document aided in the dating of many of the items.

Other significant finds include icons donated by monks on Mount Athos in Greece and books used by Abbot Nicholas, the first resident priest.

The inventory of the church was accomplished with money donated by members of the Task Force and with a grant from the National Trust for Historic Preservation.

The Kenai church was selected for the pilot inventory because it has had extensive architectural and historical documentation already, and also for its accessibility. The parish was founded in 1849, and the present church was built in 1894. Some of the furnishings in the church date from the first church.

The National Park Service has architectural drawings and photographs of this church because of its designation as a National Historic Landmark. These will also become part of the inventory file.

The inventory process included describing, measuring, and photographing 171 items, including icons, vestments, liturgical utensils, altar and table coverings, candlestands, banners, crosses, a baptismal font, and historic photographs.

The collected information has been computerized. Each narrative description also includes both black and white and colored photographs. Slides have also been made for a number of the items.

Heading the inventory project was **Barbara Sweetland Smith**; **Rev. Targonsky**; **Rev. Paul Merculief**, Orthodox diocesan liaison on the project; **Patrick McKnight**, assistant curator for the Alaska Region of the National Park Service; **Barry McWayne**, Photograph Curator for the University of Alaska Museum, Fairbanks; and **Gerri Clark**, a freelance conservator. The National Park Service, the University of Alaska, and Clark donated their services to the project.

Transportation was donated by MarkAir, Southcentral Air, and ERA Aviation.

Barbara Smith measuring Kenai church vestment.

BIRDSALL DONATES PRINT FOR DRAWING

Byron Birdsall continues to be an enthusiastic supporter of the Icon Preservation Task Force. Last year, Byron donated proceeds from the sale of one of his icon prints. This year, Byron has donated a copy of "The Four Saints of Alaska" print which depicts Alaskan Saints Innocent, Herman, Juvenalii, and Peter the Aleut.

In May, the IPTF will hold a drawing for the print as part of its membership drive. New or renewing members will be eligible for the drawing. (See form on page 5.)

The Task Force greatly appreciates Byron's generosity and continued support.

The Four Saints of Alaska by Byron Birdsall
Photo courtesy of Artique, Ltd.

CONCERN FOR UNALASKA CHURCH

In February of this year, representatives of the IPFT met with Senator **Fred Zharoff** and his assistant, **Penelope Goforth**, in Anchorage. Senator Zharoff represents the Kodiak-Aleutian region where a major portion of Alaska's Orthodox communities are located. The meeting was an opportunity to introduce the Senator to the goals and objectives of the IPTF and explain how our efforts dovetail with other programs, such as the National Park Service Landmarks at Risk. Senator Zharoff expressed concern over the condition of the Church of Holy Ascension in Unalaska. He is interested in seeking a legislative appropriation for restoration of the structure and for an inventory of the church following the IPTF Kenai model. (See Legislative Support story on page 2.)

DON'T FORGET

Send in your annual membership form today

Be eligible for the special drawing.

Come to our annual meeting

March 21

Loussac Library

7:30 p.m.

THE FORGOTTEN FRONTIER

Barbara Smith, one of the founders of the IPTF, has become the guest curator for the Anchorage Musuem of History and Fine Art, for an exhibit on Russian America entitled "The Forgotten Frontier." **Steven Peterson**, cofounder of the IPTF, prepared a short section for the exhibit on the Architecture of the Russian Colonial Period in Alaska which deals with the art and architecture of the Russian Orthodox Church. The exhibit will open in July 1990 at Tacoma, Washington, in conjunction with the Soviet-American Goodwill Games. In the fall, it will travel to Anchorage, where it will celebrate the 250th anniversary in 1991 of the North American discoveries of explorer Vitus Bering.

Alaska State Legislature

Chairman
(907) 465-4523

Jan Faiks
Post Office Box V
Juneau, Alaska 99811

Senate Judiciary Committee

March 10, 1989

MEMORANDUM

TO: Senator Bettye Fahrenkamp, Chairman
Senate Resources Committee

FROM: Senator Jan Faiks

SUBJECT: SCR 24: Relating to the State's Russian Orthodox Churches

SCR 24 has been referred to the Senate Resources Committee for your review. I would appreciate the opportunity for it to be scheduled for committee consideration at your earliest convenience.

Last Fall I visited Unalaska and the Holy Ascension Russian Orthodox Church. The church, with parts dating from 1826, serves as a reminder of Russia's rich contributions to Alaska's heritage. Its icons, books and artifacts continue to convey the craftsmanship and artistry of the Aleut people.

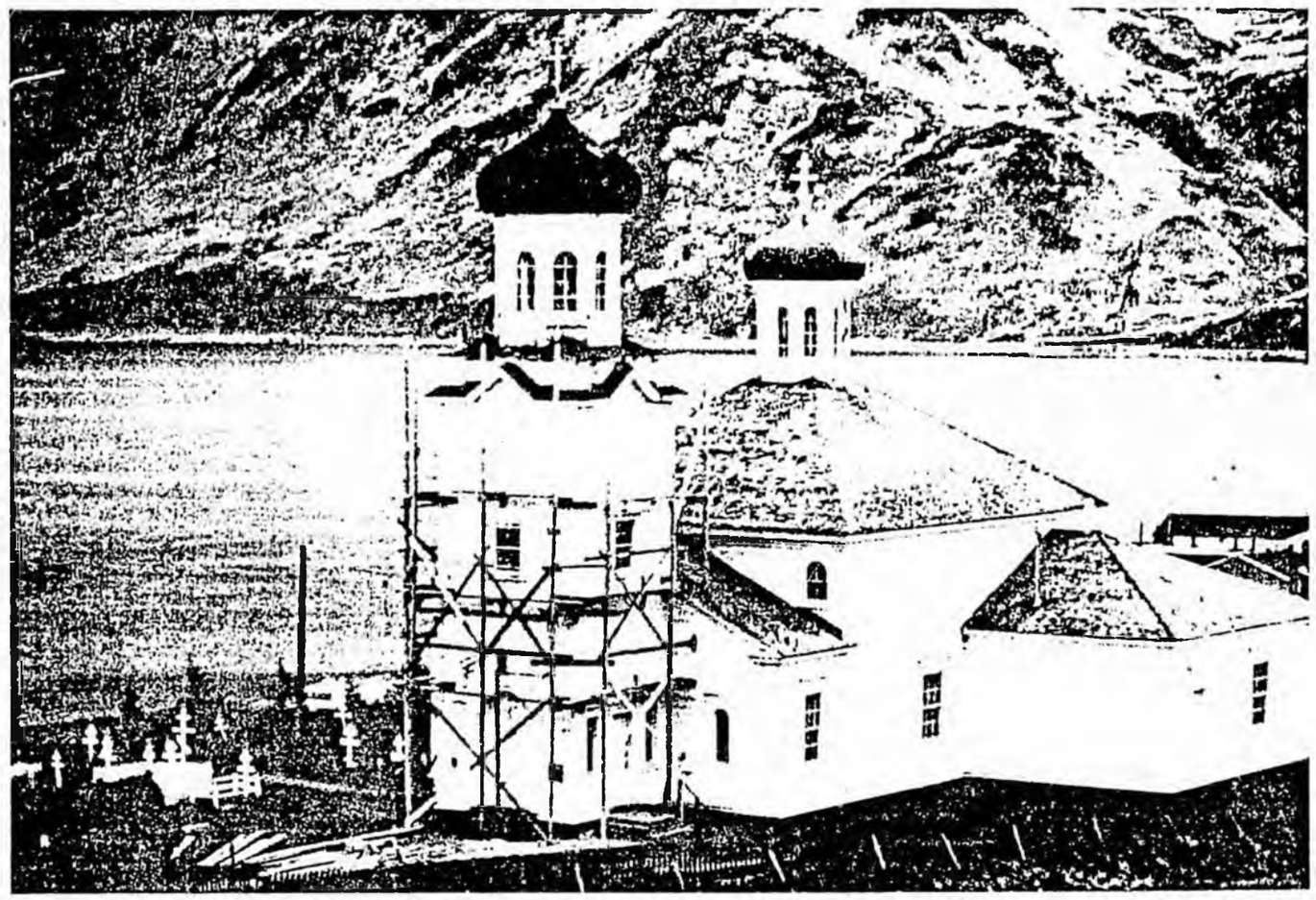
Unfortunately, though, Holy Ascension has been identified by the U.S. Park Service as a "landmark at risk". The church's physical structure is deteriorating. The icons, religious artifacts, and art objects, which are instrinsic to the Orthodox faith and fundamental to their services, are in poor condition. They are uncataloged, with little protection, and kept in a uncontrolled environment without curatorial care.

To ensure future Alaskans will continue to enjoy this part of our heritage, it is extremely important steps be taken to preserve

Alaska's Russian Orthodox churches, and in particular, Holy Ascension.

The National Park Service and Icon Preservation Task Force have expressed interest in working with the state to compile an inventory and documentation of Alaska's Russian Orthodox churches. SCR 24 requests the Governor and state office of history and archeology to take the lead with this project.

Additional information regarding this landmark is attached. Should you have questions or need further information, please just let me know.



Although maintenance work is done on a continuing basis, severe weathering conditions and structural problems threaten the long-term preservation of this magnificent church. Photo: CCC Architects

Landmark Condition

Although the church building is regularly painted and maintained, the cost of undertaking extensive, essential repairs to the foundation, cupola, and roof have been prohibitive for its parishioners. The property's location on the edge of an inlet means that the weathering process is unceasing. At this point, there is a serious structural problem at the bell tower dome and the central nave dome. Intrinsic to the Orthodox faith and fundamental to their services are the iconostasis, religious artifacts, and art objects within the church. These treasures remain in poor condition: uncatalogued, with little protection, and kept in an uncontrolled environment without curatorial care. Major funding will be required to meet the preservation needs of this significant structure for continued public appreciation.

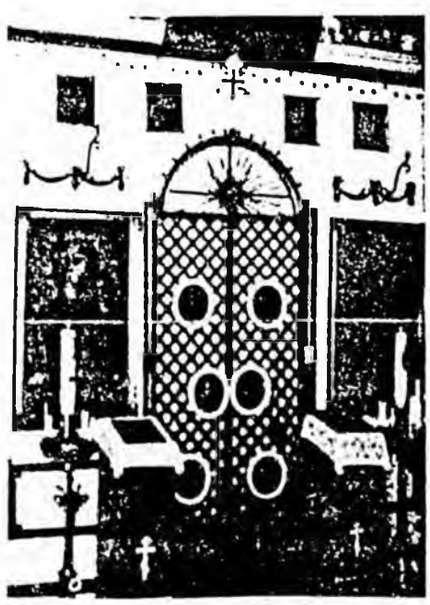
Recommended Work/Costs

Data has been taken from a National Park Service-funded report, "National Historic Landmark Condition Assessment Report: Holy Ascension Orthodox Church, Unalaska, Alaska" by CCC Architects, Anchorage, Alaska. Work recommended for the church exterior totals almost $423,000. Of that amount, $198,000 will be needed to cover the costs of work considered critical to the longevity of the church, including partial replacement of foundation piers, major work on the bell tower, and replacement of deteriorated wood in the onion domes and decking. Another $130,000 will be needed to correct serious exterior problems, such as providing proper ventilation for the foundation and replacing rotted wood "skirting" at the perimeter of the foundation. Finally minor problems, consisting mostly of replacing siding that has deteriorated under multiple layers of paint, then repainting with original colors, could be corrected for about $95,000.

Total interior work is estimated at $328,000. Of that amount, an estimated $273,000 is for work deemed critical, including inventorying, cataloging, and cleaning the church icons based on a conservation plan and replacing rotted flooring. Other interi. work rated serious and minor would cost about $55,000, and includes repairs to rotted horizontal ceiling members in both the central nave and bell tower due to long-term moisture penetration, and replacement of some floor joists. Finally, door trim and frames need repairing, and the entire interior should be repainted to match the original colors.

Incorporating a fire detection system in the church interior, and upgrading heating and electrical systems, are other needs deemed to be critical both to the longevity of the structure and its contents. Providing a fire protection system with auto dialers to the fire department will cost about $15,600. Installation of an HVAC system to provide proper temperature and humidity control is estimated at $108,000. An additional $6,800 will be required to provide a fuel tank appropriate for the proposed HVAC system. The old electrical system will be inadequate when the climate control system is installed; a new panel box, wiring and service to meet code will be required and this is estimated at about $22,500. Finally, cleaning and polishing the church chandeliers will cost about $2,500.

The architects' detailed assessment is available from National Park Service offices (see HOW YOU CAN HELP, over).



The chapel's significant art work is in urgent need of conservation. Photo: CCC Architects

HOLY ASCENSION ORTHODOX CHURCH

Unalaska, Alaska

Its earliest portions dating from 1826, Holy Ascension Orthodox Church is significant as the oldest church in Alaska that features a cruciform plan with three altars. (The three-one story wings and the three-story front tower were added in 1894.) Of particular importance is the interior, with its rich collection of icons —religious objects executed in the Russian Orthodox style that convey the craftsmanship and artistry of the Aleut people.

Although the imposing white wood-frame church almost seems out of place on the shore of a small Aleutian village, its presence is easily explained by historians. After the sale of Alaska to the United States, Unalaska and Sitka became vital economic and religious centers; the church diocese shared administrative responsibilities and each city had its cathedral. This picturesque Church is a visual reminder of the important role of both Russian contact and the Orthodox religion, not only among the Aleuts, but in North America as well. In 1970, the Secretary of the Interior designated Holy Ascension Orthodox Church a National Historic Landmark for its exceptional value to our Nation's history.

Unfortunately, at this date, the long-term preservation of the Church is being jeopardized because of serious building deterioration. Also at risk is what may represent the largest collection of Russian Orthodox art in Alaska.

LANDMARKS AT RISK

HOW YOU CAN HELP

Over 150 deteriorating and endangered National Historic Landmarks across the country need your help now.

You can assist these National Historic Landmarks through donations of money, building materials, or professional services.

The National Historic Landmark Fund, administered by the National Park Foundation in conjunction with the National Park Service, makes possible TAX DEDUCTIBLE MATERIAL AND CASH DONATIONS by individuals, organizations, or companies.

Donations may be used to support threatened Landmarks in general or a Landmark of the donor's choice. Donors may select a Landmark to assist based on its associations with specific historic themes, events or individuals; its architectural style; its building type; or its construction material. Landmarks in need of various services or building products which correspond to a donor's business can also be selected.

The National Park Foundation and the National Park Service give priority to those Landmarks in which critical needs have been identified through professional evaluation and planning.

If you want to donate to the National Historic Landmark Fund, or would like additional information on how you can help Landmarks at Risk, please call or write:

Landmarks at Risk

National Park Service
Preservation Assistance Division
P.O. Box 37127
Washington, DC 20013-7127
(202) 343-9581 or

The National Park Foundation
P.O. Box 57473
Washington, DC 20037
(202) 785-4500

For information on how you may help Holy Ascension Orthodox Church in Unalaska, Alaska, contact the following offices and organizations:

National Park Service

Alaska Regional Office Cultural Resource Division
2525 Gambell St.
Anchorage, AK 99503
(907) 271-2638

State Historic Preservation Office

Alaska Division of Parks and Outdoor Recreation
History and Archeology
P.O. Box 7001
Anchorage, AK 99510
(907) 762-4141

Local/State Preservation Groups

Alaska Association for Historic Preservation
524 West Fourth Avenue, Suite 203
Anchorage, AK 99510
(907) 274-2311

Owner Contact

Rev. Ismail Gromoff
P.O. Box 40
Unalaska, AK
(907) 581-1353

Landmarks at Risk are executive summaries of 1985-86 Landmark Condition Assessment Reports undertaken by the Center for Architectural Conservation, Georgia Institute of Technology; the work has been accomplished through a cooperative agreement with the National Park Service and the National Park Foundation. The National Park Service provided editorial and design assistance in the preparation of these summaries.

BARBARA S. SMITH

Alaska Historical Resources

6751 ROUND TREE DRIVE
ANCHORAGE, ALASKA 99507
(907) ~~344-0810~~ 346-2410

March 27, 1989

Senator Fred F. Zharoff
Alaska State Senate
P. O. Box V
Juneau, AK 99811

Dear Senator Zharoff:

I am writing to support passage of Senate Concurrent Resolution No. 24. For several years, I have been involved with a citizen group, the Icon Preservation Task Force, which has begun the daunting task of documenting the cultural heritage of the Russians in Alaska. Students of Russian America are aware that it is the Russian Orthodox churches which reflect most clearly that unique heritage of Alaska, found nowhere else in the United States. The church structures themselves as well as the artistic and cultural legacy within them are superb examples of Russian construction and artistry. The U. S. government has recognized the exceptional value of many of Alaska's Orthodox church structures by naming no less than 36 to the National Register of Historic Places. Unfortunately, there has not been the same attention to the cultural and artistic objects within the churches. The Icon Preservation Task Force came into existence to meet this need. We have begun, entirely through donated funds and services, an inventory of 48 significant collections scattered throughout every region of Alaska. In the Spring of 1988 we conducted a full-scale inventory of the Church of the Holy Assumption in Kenai. This pilot project allowed us to develop a realistic budget for additional such inventories. It is the intent of SCR 24, as I understand it, to apply this information to additional inventories.

To date, the work of the Icon Preservation Task Force has been accomplished through private donations, most in small amounts, and contributed services. It is entirely appropriate for the State of Alaska to join as a partner in this effort at long-term historic documentation and preservation. The state has a concern for the preservation of its cultural heritage, as reflected in the work of the Office of History and Archeology of the State Division of Parks. The state legislature also has provided funds in the past for renovation of historic buildings, some of them churches. I sincerely hope that this commendable concern will continue by adoption of SCR No. 24. The focus of this resolution on the Unalaska church is important, as this church is not only a National Historic Landmark, but has been designated an "endangered structure" by the National Park Service. This building served the function of a cathedral for the Aleutian Islands for many decades and contains a remarkable collection of Russian cultural objects. An inventory of this collection is a necessary first step toward restoration and preservation. The same is true of the other churches slated for documentation by the Icon Preservation Task Force and included in SCR No. 24. An inventory is required before conservation can begin.

I commend you and the other sponsors of SCR No. 24 for your dedication to historic preservation of this unique Alaskan resource. No other state in the United States has such a rich Russian heritage from the 18th and 19th centuries. With the help of the Alaskan Legislature we can work together to see that this heritage resource is preserved for future generations.

Sincerely,

Barbara Sweetland Smith

Barbara Sweetland Smith

United States Department of the Interior
NATIONAL PARK SERVICE
ALASKA REGIONAL OFFICE
2525 Gambell Street, Room 107
Anchorage, Alaska 99503-2892

IN REPLY REFER TO:
H34(ARO-RCR)

28 MAR 1989

Senator Fred Zharoff
Alaska State Legislature
PO Box V
Juneau, Alaska 99811

Dear Senator Zharoff:

The National Park Service is committed to the preservation and interpretation of Alaska's Russian heritage as a part of its mandate to protect and tell the story of American history.

That commitment was first evidenced in a series of studies in the early 1960s that led to designation of several Russian-era sites such as Kodiak's Erskine House as National Historic Landmarks. The concern was then reflected in grants from the National Historic Preservation Fund that assisted in rehabilitation or reconstruction of some of those properties including St. Nicholas at Juneau, Old St. Nicholas at Eklutna, and St. Michael's Cathedral in Sitka. The most recent evidence of this concern was the October 18, 1988, dedication of the restored Russian Bishop's House in Sitka National Historical Park. The dedication marked completion of a multi-million dollar, multi-year preservation effort by the National Park Service.

Our current efforts to support preservation of Alaska's Russian heritage include a major initiative to document, through measured drawings and photographs, the State's rich architectural legacy of Russian Orthodox Churches. The majority of these churches are listed on the National Register of Historic Places and several have the elevated status of National Historical Landmarks. Scattered throughout the State, often in remote locations and in deteriorating condition, these churches contain an irreplaceable treasure of icons and historic objects unique to the heritage of all Alaskans. These resources are of national, perhaps international, significance and importance.

The National Park Service would like to take this opportunity to offer support for Senate Concurrent Resolution 24, and the efforts of yourself and those of Senators Faiks, Sturgulewski and Kelly. We look forward to working with the Department of Natural Resources, Office of History and Archeology and the Icon Preservation Task Force to further the understanding and preservation of these valued resources. Inventory and documentation will be an important first step in accomplishing this goal.

Sincerely,

Richard J. Stenmark
Acting Regional Director

ICON PRESERVATION TASK FORCE
c/o Alaska Pacific University
Anchorage, Alaska 99508

March 20, 1989

Senator Fred F. Zharoff
Alaska State Legislature
P.O. Box V,
Juneau, Alaska 99811

RE: Senate Concurrent Resolution 24

Dear Senator Zharoff,

Please accept this letter in full support of Senate Concurrent Resolution No. 24. Your efforts and those of your cosponsors in the introduction of SCR.24 are important first steps towards the inventory and preservation of the unique historic architecture and art of the Russian heritage in Alaska.

As you know, the Icon Preservation Task Force (IPTF) is a secular group organized in the spring of 1986 dedicated towards the inventory, preservation and restoration of the architecture and art of the Russian culture in Alaska. It is the belief of the IPTF that this heritage resource is significant to all people of Alaska and to the nation as a whole.

IPTF efforts to this point have focused upon the inventory of the orthodox churches and the art within. The inventories complement the architectural drawings and building condition assessments that have typically been prepared by the National Park Service. The end product is a comprehensive record and priority of preservation needs for each property. Additional scheduled inventory work will be undertaken in 1989 in the Pribilof islands as part of a cultural exchange with the Soviet Union. Support for our efforts has come from many sources, both private and governmental. The IPTF believes that if we are prudent and can all pull towards a common goal of inventory and preservation we can make a significant dent in the preservation of this heritage resource. The IPTF wishes to work with the State of Alaska and serve as a catalyst in this effort.

I have enclosed for your information a copy of our latest newsletter, The Icon News. If we can be of any further assistance to you please contact Barbara Smith at 343-6179 or Steven Peterson at 257-2667 (2900 Wentworth, Anchorage, AK 99508).

SCR 24 is a worthy beginning in the identification and preservation of a heritage resource which is important to all Alaskan's. We thank you for your assistance and support.

Sincerely yours,

Steven M Peterson
Chairman, IPTF

MEMBERSHIP DRIVE

The IPTF is seeking to increase its membership through a membership drive. As you well know, donations are vital and provide critical funds, but they also show evidence of community support to the funding agencies to which we will be appealing. The project is large and will ultimately involve many thousands of dollars. We greatly appreciate your interest and your contributions.

If you send in your tax deductible membership contribution between now and May, you will be eligible for the drawing for the Bryon Birdsall print, "The Four Saints of Alaska." When you send in your contribution, your name will go into the drawing box. The drawing will be held in May.

Should you be interested in aiding us in the completion of this project, please fill in the following and return to the address below. Checks should be made out to the **ICON Preservation Task Force.** The Task Force is a project of the Alaska Association for Historic Preservation and as such is a 501 (c) 3 organization. Donations are tax deductible.

Yes, I am interested in joining your efforts to preserve the historical icons and architecture of Alaska. Please register me as indicated below:

- ❑ Student/Senior citizen $10.00
- ❑ Basic Membership $25.00
- ❑ Corporate Membership $200.00
- ❑ New Membership
- ❑ Renewal

Name_____

Address_____

City_____State_____Zip_____Phone_____

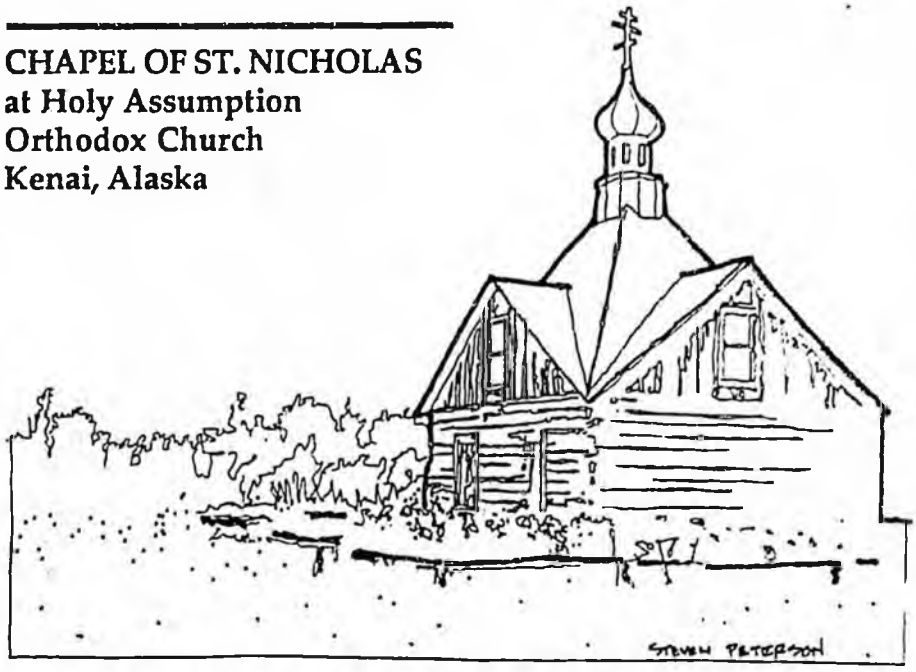
Send to: ICON PRESERVATION TASK FORCE
c/o Alaska Pacific University
4101 University Drive
Anchorage, AK 99508

LANDMARK AT RISK

Holy Assumption Orthodox Church on the Kenai Peninsula was built in 1896. As such, it is the most enduring representative of the Russian culture in southcentral Alaska. Sharing both the history and magnificent setting is the Chapel of St. Nicholas, of significance in its own right as an outstanding example of Russian log construction. Built in 1907, the uncovered log walls recall the craftsmanship and engineering skills of Kenai's Fort St. Nicholas, constructed in 1791. (The chapel is built on the site of the earlier Russian Fort). The grave of Abbot Nicholai, the first missionary in the area, is said to be directly beneath the structure. For its exceptional value in our nation's history, the Secretary of the Interior designated the Chapel of St. Nicholas at Holy Assumption Orthodox Church, a National Historic Landmark in 1970. Unfortuantely, at this date, the structural integrity of the chapel is being jeopardized and the longevity of the resource threatened.

To donate, contact the National Park Service, Cultural Resource Division, 2525 Gambell St., Anchorage AK 99503.

CHAPEL OF ST. NICHOLAS
at Holy Assumption
Orthodox Church
Kenai, Alaska



NATIONAL PARK SERVICE

ICON PRESERVATION TASK FORCE
c/o Alaska Pacific University
4101 University Drive
Anchorage, AK 99508

SCR 30

IN THE SENATE BY THE RESOURCES COMMITTEE

CS FOR SENATE CONCURRENT RESOLUTION NO. 30 (Resources)

IN THE LEGISLATURE OF THE STATE OF ALASKA

SIXTEENTH LEGISLATURE - FIRST SESSION

Urging coordinated research and development of technology and programs for prevention and cleanup of oil discharges.

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

WHEREAS the recent disaster in Prince William Sound has emphasized the need for expedited research and development related to better technology and programs to prevent and clean up oil discharges; and

WHEREAS the Science and Engineering Advisory Commission has been established to assist state agencies in assessing their research needs and to facilitate cooperation between state agencies, the University of Alaska, and industry with respect to technological issues; and

WHEREAS the Alaska Science and Technology Foundation has been established to award grants for the promotion of basic and applied research on issues important to the state; and

WHEREAS the scientific knowledge gained from Alaska's experience with the Prince William Sound disaster and its future effects are of great concern to governments, organizations, industries, and other persons throughout the world;

BE IT RESOLVED that the Alaska State Legislature respectfully requests the Governor to direct the Science and Engineering Advisory Commission and the Alaska Science and Technology Foundation to explore additional ways to coordinate their activities and the activities of other state agencies in order to achieve the development of better prevention and response techniques related to oil discharges; and be it

FURTHER RESOLVED that the legislature respectfully requests the Governor to direct the Science and Engineering Advisory Commission and the Alaska Science and Technology Foundation to explore ways of establishing and funding, as soon as practicable, a Prince William Sound science and technology institute, which would be an integrated scientific research facility in Cordova, Alaska, with a special emphasis on research and development relating to oil spills in coastal water, and that would provide a central repository and logistical support for research of this type; and be it

FURTHER RESOLVED that the Governor consider the possibility of having Alaska host a future conference at which the attention of worldwide experts could be focused on the prevention, consequences, and lessons of oil discharge disasters like the one at Prince William Sound.

COPIES of this resolution shall be sent to the members of the Science and Engineering Advisory Commission; the members of the board of directors of the Alaska Science and Technology Foundation; and to the Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

STATE OF ALASKA
1989 LEGISLATIVE SESSION

BILL VERSION: SCR 30
PUBLISH DATE: 4/5/89

FISCAL NOTE

REQUEST:

Revision Date: _____
Title: A Resolution urging coordinated research and development of technology and programs for prevention and cleanup of oil discharge
Sponsor: Rodey and Szymanski

Agency Affected: Environmental Conservation
BRU: Environmental Quality
Components: Environmental Quality

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING		-0-	-0-	-0-	-0-	-0-
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

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

POSITIONS:

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

ANALYSIS: (Attach a separate page if necessary)

Prepared by: Dan Easton
Phone: 465-2640
Division: Environmental Quality
Date: April 11, 1989

Approved by Commissioner: A.D. Kyle
Date: 4/12/89
Agency: Alaska Department of Environmental Conservation

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

In April 6
1. SJR. For Future (Conference
2. S&T Found. for Spill Coordination
3. SR Leg. Action

Alaska Pacific Consultants

3111 C Street, Suite 200 Anchorage, Alaska 99503 (907) 562-3427

April 2, 1989

Honorable Pat Rodey, Senator
Alaska State Senate
P.O. Box V
Juneau, AK 99811

Dear Senator Rodey:

The Alaska State Senate has passed a bill appropriating $20 million to aid in the Prince William Sound oil spill disaster. If the House has not also passed, I trust it will do so shortly.

I suggest that the State of Alaska can do more. Over one year ago (March 31, 1988, Northern Lights Inn, Anchorage. See attached article), Mr. Henry Cole, Science Advisor to Governor Cowper, addressed the Resource Development Council of Alaska, Inc., stating that the Alaska Science and Technology Foundation would be funded with a $100 million endowment. Unfortunately, that amount of money was not forthcoming. Now is the time to move agressively forward to fund this Foundation for the purpose of researching, and developing recovery programs surrounding the Prince William Sound oil spill.

The Science and Technology Foundation might well address the following:

- **Oil Spill Research:** Recovery, appropriate disperants, skimmers, cleanup technology, wildlife protection and cleaning, plus a myriad of other appropriate technologies.

- **Social Science Research**: Study and development, in conjunction with existing local, state and federal agencies, programs to assist individuals, families and companies through the difficult economic and stressfull days ahead. As people face mortgages, unpaid bills, increased family conflict, mental anguish, and other problems faced with the "fallout" from this disaster, assistance will be needed.

- **Economic Renewal Research:** Study how the recovery of the Prince William Sound's economic/social system will need a total systems approach. All of Alaska will be affected by this disaster, and we Alaskans are capable of designing our collective future, **IF** we choose to work collaboratively in collective best interests. To do this however, will, in my opinion, need the leadership the Foundation could provide.

- **Psychological Leverage:** Provide immediate attention and focus on Alaska's efforts to build toward the future. Not only is this good business, but it will provide Alaskans and potential visitors and investors the "psychological edge" proving that we are indeed in control of our destiny.

Mr. Ed Clinton, Chairman of the Alaska Science and Technology Foundation, will address the Alaska State Chamber of Commerce on Friday April 7, in Anchorage, at the NBA Main Branch, 3rd Floor Conference Room. It may be possible to get Mr. Clinton's attention on this before April 7, and to seek his input.

Further, I am asking that Mr. Clinton, and the other Science and Technology Foundation Board Members, Governor Cowper, appropriate State Department and Agency Heads, Alaska State Legislators, and appropriate private citizens be called to a "summit" on Alaska's Economic and Social Future to address this proposal. If appropriate, legislation addressing this concept might be the best method for moving forward. I, however, leave that to you, Senator Rodey.

Thank you for your kind and timely attention to these ideas.

Sincerely,

Dick La Fever

Dick La Fever, Director

eigners visit oil spill; observe, advise

Times photo by MICHAEL DINGEO

ppeneau, Head of Research, Ministry of the Environment, left, nde, French Minister of the Environment

By BOB ORTEGA
Times Writer

When the supertanker Exxon Valdez disemboweled itself on Bligh Reef nine days ago, crude oil gushed out so furiously that it billowed eight or 10 feet in the air before pancaking out in a vast flat slick.

As fast as the oil spread through the pristine waters of Prince William Sound, word of the disaster leapt by wire around the world — drawing oil spill experts and wannabes from every oil-producing country imaginable.

"We are here to see, and hopefully to learn more about the effects of the oil on the wildlife," said Reidar Hindrum, a nature management director from Oslo who arrived in Anchorage Saturday, along with four other Norwegian oil spill management technicians. The five men were to leave this morning for Valdez, at the south end of the trans-Alaska pipeline, and for the nearby fishing village of Cordova.

Several Canadian researchers arrived early last week, Exxon spokesman Gene Sands said. Technicians and scientists from many other countries are also expected to show up.

"We've heard from literally every oil spill consultant and expert in North America and Europe," Sands said.

Saturday, France's Minister of the Environment, Brice Lalonde, and his head of research, Jean Claude Oppeneau, jetted in. They were to be joined today by another French spill expert bearing a gift — 10 tons of Inipol 90, a chemical dispersant that has been used frequently to break down oil slicks in European waters.

There's been some question as to whether the Inipol 90 will do any good. Early last week, special planes made a few low-altitude runs over the sound, spraying an American-made dispersant on the crude with some success. Then, five days ago, those directing the cleanup effort said that the slick had weathered too much for dispersants to be effective.

But Saturday, at Anchorage International Airport, a senior Exxon environmental scientist waiting with the Frenchmen for their luggage said the Inipol 90 might still prove useful.

The tall, bespectacled Dr. Al Maki agreed that the dispersant could be applied to the fresh oil that the Exxon Valdez continues to burp into the sound. And he said that the chemical might still work on the older, emulsified oil known as "chocolate mousse" for its color and consistency.

"There are long streamers of oil that are coated with mousse on the outside, but inside are relatively unweathered oil," he said.

"As the sea breaks apart the mousse, that fresh oil is exposed to water. That's why you still see that blue-green sheen on the water. The dispersants might work on that oil," he said.

Lalonde is hopeful that dispersants aside, he and his aides can offer sug-

See Spill, page B-8

Spill: World learns

Continued from page B-1

gestions to make the cleanup more effective.

Eleven years ago, when the tanker Amoco Cadiz broke up off the northwest coast of France, it spilled more than 1.5 million barrels of oil, about six times as much as the Exxon Valdez. Huge stretches of the coast of Brittany were slimed with a thick goo that wiped out the wildlife; the local fisheries were destroyed.

At the time, Lalonde was the director of France's chapter of Friends of the Earth. He was involved heavily in the massive cleanup effort. He was involved in setting up new agencies to study the effects of the spill, how to prevent another one, and how to develop new and more effective cleanup techniques.

"We know how it feels," he said, "the anger and the hopelessness . . . but cleaning up the coast is something we've learned to do. We'll see if the same techniques can be of use here."

Lalonde said he believes the rocky shores of Prince William Sound are similar to those of the Brittany coast.

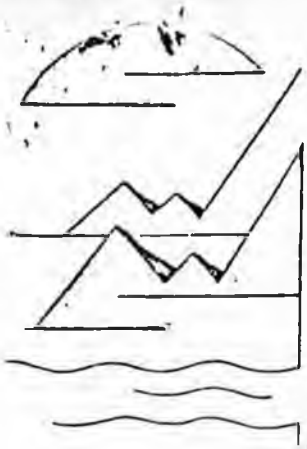
Oyvind Schreiner, assistant director of Norway's State Pollution Control Authority, said the similarity of the sound's geography to Norway's fiords should make his experts' knowledge of shoreline cleanup relevant as well.

The Norwegians nearly didn't come. Wednesday, the U.S. Coast Guard declined their offer.

But Alaska officials quickly extended their own invitation.

Times photo by MICHAEL DINEEN

Jan Nerland, Norway State Pollution Control Authority arrives in Anchorage.



WESTRENDS

121 SECOND STREET 4TH FLOOR SAN FRANCISCO, CA 94105 TELEPHONE (415) 974 6422

WESTRENDS EXECUTIVE SUMMARY

Historically the West has been a region of change and growth. In recent years, however, the fundamental nature of the region has begun to shift. Key demographic and economic changes are permanently altering the socio-economic character of many parts of the region, adding new dimensions and challenges for public policy makers. Among the leading trends transforming the West are:

Fastest Growing Region of the United States

The West grew at a faster rate than any other U.S. region between 1980 and 1987. The region grew 15.1% during this time period, more than double the national average. The South was the second fastest growing region at 11.3%, followed by the Northeast and Midwest at 2.3% and 1.1% respectively. Population growth in the West is well above the national rate due to three factors: high birth rates, relatively high migration rates and very high immigration rates. A majority of western states are participating in the high rate of population growth; however, a handful of states experiencing serious downturns in their economies have had static or declining populations over the past several years.

Highest Dependency Ratio Among Regions

Among the four U.S. regions, the West has the highest dependency ratio. The "dependency ratio" refers to the burden placed on wage earning taxpayers between the ages of 18 and 64 to finance services such as education, and health for older and younger age groups. The region has the highest percent of the population under age 18 with the under-5 age group increasing 51%, or approximately five times the national rate from 1980 to 1987. During the same time period, the 65 and older age group in the West has increased by 49%, more than three times the national rate.

Growing Ethnic Diversity

A third demographic trend is the changing ethnic composition of the western region. The West leads the nation in legal immigration for the decade 1975-85. Asian and Hispanic immigration is highest to the region, where the greatest concentration of Hispanic and Asian Americans reside. In addition, from 1970 to 1980, the West, with the smallest percentage of blacks, experienced the greatest increase in black population among U.S. regions for that decade.

Metropolitization of the West

The growth in population and changes in metropolitan areas contribute to the shifting landscape of the West. The region is no longer a network of small towns; instead, it is largely comprised of sprawling metropolitan areas and newly suburbanized communities separated by large open spaces. In 1986 the West ranked above the national average, with 83.7% of the population residing in metropolitan areas, second only to the northeastern region at 88%. From 1980 to 1986, mountain states experienced an average annual metropolitan growth rate of 2.5%, lead by Arizona at 3.3%. Pacific states experienced an average annual metropolitan growth of 1.9%, with Alaska leading at 4.8%. Both sub-regions exceeded the national average of 1.1% for this time period. This metropolitan growth brings a shift in political and economic emphasis from rural areas to urban centers.

-over-

Importance of Natural Resources

Western states continue to rely upon natural resource industries for revenues and employment well above the national average. While natural resource-based industries have declined in recent years, signs of upturn are now evident in some areas. The creation of value added activities associated with natural resource production and processing will increase employment and productivity. Nonconsumptive uses of natural resources, such as tourism and recreation, are increasingly important revenue producers in the region. The continued importance of natural resources to the West is best understood in the context that the region does not have to import these basic commodities, and indeed they offer significant value added export opportunities for the future.

Increasing Manufacturing and Service Jobs

Concerted efforts have been made to diversify the western economy beyond the traditional natural resource sectors. Although the West has below the national average percent of population employed in manufacturing, the region added a net of 70,000 new manufacturing jobs to its economy between 1980 and 1986; while the other U.S. regions experienced a net decline in manufacturing jobs during this period. Moreover in 1985, the western region led the nation in export-related manufacturing employment. Though the West ranked third among the four regions in service employment from 1980 to 1986, the number of service workers increased by an impressive 1 million.

Pacific Rim Powerbase

Perhaps the most optimal circumstance for the western region is its inclusion in the Pacific Rim, the most dynamic sector of the global economy. In 1984, western states accounted for 23% of U.S. exports and imports. Total 1984 U.S. exports equaled approximately $218 billion, of which $50 billion moved through western ports. All western states, due to proximity to the emerging world class economies in the Pacific Rim, stand to be key players in unprecedented economic growth toward the year 2000 and beyond.

Changing Workforce Composition

The demographic and economic changes the West is experiencing underscore the need for a highly educated, well-trained labor force. Minorities and women will constitute an increasingly larger share of the western labor force, and they must be equipped with relevant skills to maintain the region's economic competitiveness. The West currently has the highest percent of high school graduates and the highest participation of women in the labor force among U.S. regions. The West, with the highest percent of population under age 18, has a sizeable labor pool for the future; however, the region has a significant challenge ahead in educating an increasingly diverse population for more highly skilled service sector employment.

Challenges to Environmental Quality

Compared to other regions, the West has experienced relatively less environmental degradation. Air and water quality has actually improved in many parts of the region in the past two decades. However, rapid population growth concentrated in large metropolitan areas is resulting in heightened concerns about air quality, adequacy of water supplies and general congestion in urban areas. Western states are highly dependent upon tourism to bring revenue to the region and a high quality of life to attract new businesses and residents. Reductions in environmental quality in major metropolitican areas will adversely impact tourism and related economic growth sectors. Therefore, Westerners need to be particularly attentive to the vital role of updating infrastructure including highways, water storage facilities, wastewater treatment plants and mass transit to provide for sound economic expansion and environmental protection.

Less Regional Cohesion

The West is unquestionably the most fractionalized region of the country. It is a land of contrasts, with the nation's most populous state, California, and several of the least populated states, such as Wyoming and Alaska. The citizens of the mountain West and the Pacifc West hold widely different views on basic value issues such as abortion, religion and the role of government. The trends cited above tend to reinforce existing regional differences. Thus, the region will have to work more diligently on interstate issues and communication if it is to gain political cohesion and influence in national policy equal to its growing population.

Conclusion

The foregoing trends are most likely to have sustaining impact on the economic, social and political future of the western region to the year 2000. Together these trends present "good news - bad news" scenarios. Each brings positive values to the region, and each presents risks, or at least missed opportunities, if not appropriately addressed. The challenge for state leaders is to build upon an extraordinatory set of positive attributes embodied in the people and the land. With a comparatively youthful, well-educated and enterprising population, the West continues to be a land of opportunity and is strategically positioned to have an era of sustained prosperity as part of the Pacific Century ahead. Whether the region will in fact realize this bright promise will be determined largely by the extent to which state leaders are willing and able to tackle the tough allocation choices immediately ahead - educating the young, maintaining environmental quality, anticipating the capital needs of fast growth, providing for the elderly, and strengthening regional ties and cooperation with neighboring states.

PROPOSED AMENDMENT TO SENATE CONCURRENT RESOLUTION 30

BE IT FURTHER RESOLVED:

That the Alaska State Legislature respectfully request the Governor to direct the Science and Engineering Advisory Commission and the Alaska Science and Technology Foundation to explore ways of funding and establishing as soon as practicable, The Prince William Sound Science and Technology Institute, an integrated scientific research facility in Prince William Sound in Cordova, Alaska, to coordinate applied and basic research on sub-arctic coastal ecosystems, with special emphasis on research and development relating to oil spills in sub-arctic coastal waters, and to provide a central repository for research data, to provide logistical support for such research.

U. of A. should get a whole school of mar. research & 0.1 spill containment - PWSICR.

Marine Sci.

Lamy ← →

Patrick M. Rodey
Senator

Alaska State Legislature

Senate

3111 C. St., Suite 510
Anchorage, Alaska 99503
(907) 561-7618

During Session:
P.O. Box V
Juneau, Alaska 99811
(907) 465-3793

M E M O R A N D U M

April 24, 1989

TO : Senator Bettye Fahrenkamp, Chair
Senate Resources Committee

FROM: Senator Patrick M. Rodey

RE : SCR 30 - Urging coordinated research and development of technology and programs for prevention and cleanup of oil discharges

Senate Concurrent Resolution 30 requests utilization of the research capabilities and programs of the Science and Engineering Advisory Commission and the Alaska Science and Technology Foundation to review and explore methods of coordinating their activities for development of improved response techniques and prevention of oil discharges.

The Alaska Science and Technology Foundation's technological expertise would make a valuable contribution to facilitating cooperation among the local, state, and federal coordination efforts.

The proposal also requests that the Governor consider hosting a future conference to focus on the prevention, and consequences of oil discharges disasters.

There is a zero fiscal note.

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

SCR 30

IN THE SENATE BY THE RESOURCES COMMITTEE

CS FOR SENATE CONCURRENT RESOLUTION NO. 30 (Resources)

IN THE LEGISLATURE OF THE STATE OF ALASKA

SIXTEENTH LEGISLATURE - FIRST SESSION

Urging coordinated research and development of technology and programs for prevention and cleanup of oil discharges.

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

WHEREAS the recent disaster in Prince William Sound has emphasized the need for expedited research and development related to better technology and programs to prevent and clean up oil discharges; and

WHEREAS the Science and Engineering Advisory Commission has been established to assist state agencies in assessing their research needs and to facilitate cooperation between state agencies, the University of Alaska, and industry with respect to technological issues; and

WHEREAS the Alaska Science and Technology Foundation has been established to award grants for the promotion of basic and applied research on issues important to the state; and

WHEREAS the scientific knowledge gained from Alaska's experience with the Prince William Sound disaster and its future effects are of great concern to governments, organizations, industries, and other persons throughout the world;

BE IT RESOLVED that the Alaska State Legislature respectfully requests the Governor to direct the Science and Engineering Advisory Commission and the Alaska Science and Technology Foundation to explore additional ways to coordinate their activities and the activities of other state agencies in order to achieve the development of better prevention and response techniques related to oil discharges; and be it

FURTHER RESOLVED that the legislature respectfully requests the Governor to direct the Science and Engineering Advisory Commission and the Alaska Science and Technology Foundation to explore ways of establishing and funding, as soon as practicable, a Prince William Sound science and technology institute, which would be an integrated scientific research facility in Cordova, Alaska, with a special emphasis on research and development relating to oil spills in coastal water, and that would provide a central repository and logistical support for research of this type; and be it

FURTHER RESOLVED that the Governor consider the possibility of having Alaska host a future conference at which the attention of worldwide experts could be focused on the prevention, consequences, and lessons of oil discharge disasters like the one at Prince William Sound.

COPIES of this resolution shall be sent to the members of the Science and Engineering Advisory Commission; the members of the board of directors of the Alaska Science and Technology Foundation; and to the Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

STATE OF ALASKA
1989 LEGISLATIVE SESSION

BILL VERSION: SCR 30
PUBLISH DATE: 4/5/89

FISCAL NOTE

REQUEST:

Revision Date: _____
Title: A Resolution urging coordinated research and development of technology and programs for prevention and cleanup of oil discharge
Sponsor: Rodey and Szymanski

Agency Affected: Environmental Conservation
BRU: Environmental Quality
Components: Environmental Quality

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING		-0-	-0-	-0-	-0-	-0-
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

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

POSITIONS:

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

ANALYSIS: (Attach a separate page if necessary)

Prepared by: Dan Easton
Phone: 465-2640
Division: Environmental Quality
Date: April 11, 1989

Approved by Commissioner: A D Hyla
Date: 4/12/89
Agency: Alaska Department of Environmental Conservation

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

in April 6
1. SJR. For Future Conference
2. E&T Found. For Space Coordination
3. SR Log. Coord.

Alaska Pacific Consultants

3111 C Street, Suite 200 Anchorage, Alaska 99503 (907) 562-3427

April 2, 1989

Honorable Pat Rodey, Senator
Alaska State Senate
P.O. Box V
Juneau, AK 99811

Dear Senator Rodey:

The Alaska State Senate has passed a bill appropriating $20 million to aid in the Prince William Sound oil spill disaster. If the House has not also passed, I trust it will do so shortly.

I suggest that the State of Alaska can do more. Over one year ago (March 31, 1988, Northern Lights Inn, Anchorage. See attached article), Mr. Henry Cole, Science Advisor to Governor Cowper, addressed the Resource Development Council of Alaska, Inc., stating that the Alaska Science and Technology Foundation would be funded with a $100 million endowment. Unfortunately, that amount of money was not forthcoming. Now is the time to move agressively forward to fund this Foundation for the purpose of researching, and developing recovery programs surrounding the Prince William Sound oil spill.

The Science and Technology Foundation might well address the following:

- **Oil Spill Research:** Recovery, appropriate disperants, skimmers, cleanup technology, wildlife protection and cleaning, plus a myriad of other appropriate technologies.

- **Social Science Research**: Study and development, in conjunction with existing local, state and federal agencies, programs to assist individuals, families and companies through the difficult economic and stressfull days ahead. As people face mortgages, unpaid bills, increased family conflict, mental anguish, and other problems faced with the "fallout" from this disaster, assistance will be needed.

- **Economic Renewal Research:** Study how the recovery of the Prince William Sound's economic/social system will need a total systems approach. All of Alaska will be affected by this disaster, and we Alaskans are capable of designing our collective future, **IF** we choose to work collaboratively in collective best interests. To do this however, will, in my opinion, need the leadership the Foundation could provide.

- **Psychological Leverage:** Provide immediate attention and focus on Alaska's efforts to build toward the future. Not only is this good business, but it will provide Alaskans and potential visitors and investors the "psychological edge" proving that we are indeed in control of our destiny.

Mr. Ed Clinton, Chairman of the Alaska Science and Technology Foundation, will address the Alaska State Chamber of Commerce on Friday April 7, in Anchorage, at the NBA Main Branch, 3rd Floor Conference Room. It may be possible to get Mr. Clinton's attention on this before April 7, and to seek his input.

Further, I am asking that Mr. Clinton, and the other Science and Technology Foundation Board Members, Governor Cowper, appropriate State Department and Agency Heads, Alaska State Legislators, and appropriate private citizens be called to a "summit" on Alaska's Economic and Social Future to address this proposal. If appropriate, legislation addressing this concept might be the best method for moving forward. I, however, leave that to you, Senator Rodey.

Thank you for your kind and timely attention to these ideas.

Sincerely,

Dick La Fever

Dick La Fever, Director

eigners visit oil spill; observe, advise

Times photo by MICHAEL DINEEN

)ppeneau, Head of Research, Ministry of the Environment, left, nde, French Minister of the Environment

By BOB ORTEGA
Times Writer

When the supertanker Exxon Valdez disemboweled itself on Bligh Reef nine days ago, crude oil gushed out so furiously that it billowed eight or 10 feet in the air before pancaking out in a vast flat slick.

As fast as the oil spread through the pristine waters of Prince William Sound, word of the disaster leapt by wire around the world — drawing oil spill experts and wannabes from every oil-producing country imaginable.

"We are here to see, and hopefully to learn more about the effects of the oil on the wildlife," said Reidar Hindrum, a nature management director from Oslo who arrived in Anchorage Saturday, along with four other Norwegian oil spill management technicians. The five men were to leave this morning for Valdez, at the south end of the trans-Alaska pipeline, and for the nearby fishing village of Cordova.

Several Canadian researchers arrived early last week, Exxon spokesman Gene Sands said. Technicians and scientists from many other countries are also expected to show up.

"We've heard from literally every oil spill consultant and expert in North America and Europe," Sands said.

Saturday, France's Minister of the Environment, Brice Lalonde, and his head of research, Jean Claude Oppeneau, jetted in. They were to be joined today by another French spill expert bearing a gift — 10 tons of Inipol 90, a chemical dispersant that has been used frequently to break down oil slicks in European waters.

There's been some question as to whether the Inipol 90 will do any good. Early last week, special planes made a few low-altitude runs over the sound, spraying an American-made dispersant on the crude with some success. Then, five days ago, those directing the cleanup effort said that the slick had weathered too much for dispersants to be effective.

But Saturday, at Anchorage International Airport, a senior Exxon environmental scientist waiting with the Frenchmen for their luggage said the Inipol 90 might still prove useful.

The tall, bespectacled Dr. Al Maki agreed that the dispersant could be applied to the fresh oil that the Exxon Valdez continues to burp into the sound. And he said that the chemical might still work on the older, emulsified oil known as "chocolate mousse" for its color and consistency.

"There are long streamers of oil that are coated with mousse on the outside, but inside are relatively unweathered oil," he said.

"As the sea breaks apart the mousse, that fresh oil is exposed to water. That's why you still see that blue-green sheen on the water. The dispersants might work on that oil," he said.

Lalonde is hopeful that dispersants aside, he and his aides can offer sug-

See Spill, page B-8

Spill: World learns

Continued from page B-1

gestions to make the cleanup more effective.

Eleven years ago, when the tanker Amoco Cadiz broke up off the northwest coast of France, it spilled more than 1.5 million barrels of oil, about six times as much as the Exxon Valdez. Huge stretches of the coast of Brittany were slimed with a thick goo that wiped out the wildlife; the local fisheries were destroyed.

At the time, Lalonde was the director of France's chapter of Friends of the Earth. He was involved heavily in the massive cleanup effort. He was involved in setting up new agencies to study the effects of the spill, how to prevent another one, and how to develop new and more effective cleanup techniques.

"We know how it feels," he said, "the anger and the hopelessness . . . but cleaning up the coast is something we've learned to do. We'll see if the same techniques can be of use here."

Lalonde said he believes the rocky shores of Prince William Sound are similar to those of the Brittany coast.

Oyvind Schreiner, assistant director of Norway's State Pollution Control Authority, said the similarity of the sound's geography to Norway's fiords should make his experts' knowledge of shoreline cleanup relevant as well.

The Norwegians nearly didn't come. Wednesday, the U.S. Coast Guard declined their offer.

But Alaska officials quickly extended their own invitation.

Times photo by MICHAEL DINEEN

Jan Nerland, Norway State Pollution Control Authority arrives in Anchorage.

WESTRENDS

121 SECOND STREET 4TH FLOOR SAN FRANCISCO, CA 94105 TELEPHONE (415) [illegible] 6422

WESTRENDS EXECUTIVE SUMMARY

Historically the West has been a region of change and growth. In recent years, however, the fundamental nature of the region has begun to shift. Key demographic and economic changes are permanently altering the socio-economic character of many parts of the region, adding new dimensions and challenges for public policy makers. Among the leading trends transforming the West are:

Fastest Growing Region of the United States

The West grew at a faster rate than any other U.S. region between 1980 and 1987. The region grew 15.1% during this time period, more than double the national average. The South was the second fastest growing region at 11.3%, followed by the Northeast and Midwest at 2.3% and 1.1% respectively. Population growth in the West is well above the national rate due to three factors: high birth rates, relatively high migration rates and very high immigration rates. A majority of western states are participating in the high rate of population growth; however, a handful of states experiencing serious downturns in their economies have had static or declining populations over the past several years.

Highest Dependency Ratio Among Regions

Among the four U.S. regions, the West has the highest dependency ratio. The "dependency ratio" refers to the burden placed on wage earning taxpayers between the ages of 18 and 64 to finance services such as education, and health for older and younger age groups. The region has the highest percent of the population under age 18 with the under-5 age group increasing 51%, or approximately five times the national rate from 1980 to 1987. During the same time period, the 65 and older age group in the West has increased by 49%, more than three times the national rate.

Growing Ethnic Diversity

A third demographic trend is the changing ethnic composition of the western region. The West leads the nation in legal immigration for the decade 1975-85. Asian and Hispanic immigration is highest to the region, where the greatest concentration of Hispanic and Asian Americans reside. In addition, from 1970 to 1980, the West, with the smallest percentage of blacks, experienced the greatest increase in black population among U.S. regions for that decade.

Metropolitization of the West

The growth in population and changes in metropolitan areas contribute to the shifting landscape of the West. The region is no longer a network of small towns; instead, it is largely comprised of sprawling metropolitan areas and newly suburbanized communities separated by large open spaces. In 1986 the West ranked above the national average, with 83.7% of the population residing in metropolitan areas, second only to the northeastern region at 88%. From 1980 to 1986, mountain states experienced an average annual metropolitan growth rate of 2.5%, lead by Arizona at 3.3%. Pacific states experienced an average annual metropolitan growth of 1.9%, with Alaska leading at 4.8%. Both sub-regions exceeded the national average of 1.1% for this time period. This metropolitan growth brings a shift in political and economic emphasis from rural areas to urban centers.

-over-

Importance of Natural Resources

Western states continue to rely upon natural resource industries for revenues and employm well above the national average. While natural resource-based industries have declined in rec years, signs of upturn are now evident in some areas. The creation of value added activit associated with natural resource production and processing will increase employment a productivity. Nonconsumptive uses of natural resources, such as tourism and recreation, a increasingly important revenue producers in the region. The continued importance of natur resources to the West is best understood in the context that the region does not have to impc these basic commodities, and indeed they offer significant value added export opportunities for t future.

Increasing Manufacturing and Service Jobs

Concerted efforts have been made to diversify the western economy beyond the traditional natu resource sectors. Although the West has below the national average percent of populati employed in manufacturing, the region added a net of 70,000 new manufacturing jobs to economy between 1980 and 1986; while the other U.S. regions experienced a net decline manufacturing jobs during this period. Moreover in 1985, the western region led the nation export-related manufacturing employment. Though the West ranked third among the four regio in service employment from 1980 to 1986, the number of service workers increased by impressive 1 million.

Pacific Rim Powerbase

Perhaps the most optimal circumstance for the western region is its inclusion in the Pacific Ri the most dynamic sector of the global economy. In 1984, western states accounted for 23% U.S. exports and imports. Total 1984 U.S. exports equaled approximately $218 billion, of whi $50 billion moved through western ports. All western states, due to proximity to the emergi world class economies in the Pacific Rim, stand to be key players in unprecedented econor growth toward the year 2000 and beyond.

Changing Workforce Composition

The demographic and economic changes the West is experiencing underscore the need for a higl educated, well-trained labor force. Minorities and women will constitute an increasingly lar share of the western labor force, and they must be equipped with relevant skills to maintain t region's economic competitiveness. The West currently has the highest percent of high sch graduates and the highest participation of women in the labor force among U.S. regions. T West, with the highest percent of population under age 18, has a sizeable labor pool for the futu however, the region has a significant challenge ahead in educating an increasingly dive population for more highly skilled service sector employment.

Challenges to Environmental Quality

Compared to other regions, the West has experienced relatively less environmental degradati Air and water quality has actually improved in many parts of the region in the past two decad However, rapid population growth concentrated in large metropolitan areas is resulting heightened concerns about air quality, adequacy of water supplies and general congestion in urb areas. Western states are highly dependent upon tourism to bring revenue to the region an high quality of life to attract new businesses and residents. Reductions in environmental quality major metropolitican areas will adversely impact tourism and related economic growth secto Therefore, Westerners need to be particularly attentive to the vital role of updating infrastruct including highways, water storage facilities, wastewater treatment plants and mass transit provide for sound economic expansion and environmental protection.

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

Importance of Natural Resources

Western states continue to rely upon natural resource industries for revenues and employment well above the national average. While natural resource-based industries have declined in recent years, signs of upturn are now evident in some areas. The creation of value added activities associated with natural resource production and processing will increase employment and productivity. Nonconsumptive uses of natural resources, such as tourism and recreation, are increasingly important revenue producers in the region. The continued importance of natural resources to the West is best understood in the context that the region does not have to import these basic commodities, and indeed they offer significant value added export opportunities for the future.

Increasing Manufacturing and Service Jobs

Concerted efforts have been made to diversify the western economy beyond the traditional natural resource sectors. Although the West has below the national average percent of population employed in manufacturing, the region added a net of 70,000 new manufacturing jobs to its economy between 1980 and 1986; while the other U.S. regions experienced a net decline in manufacturing jobs during this period. Moreover in 1985, the western region led the nation in export-related manufacturing employment. Though the West ranked third among the four regions in service employment from 1980 to 1986, the number of service workers increased by an impressive 1 million.

Pacific Rim Powerbase

Perhaps the most optimal circumstance for the western region is its inclusion in the Pacific Rim, the most dynamic sector of the global economy. In 1984, western states accounted for 23% of U.S. exports and imports. Total 1984 U.S. exports equaled approximately $218 billion, of which $50 billion moved through western ports. All western states, due to proximity to the emerging world class economies in the Pacific Rim, stand to be key players in unprecedented economic growth toward the year 2000 and beyond.

Changing Workforce Composition

The demographic and economic changes the West is experiencing underscore the need for a highly educated, well-trained labor force. Minorities and women will constitute an increasingly larger share of the western labor force, and they must be equipped with relevant skills to maintain the region's economic competitiveness. The West currently has the highest percent of high school graduates and the highest participation of women in the labor force among U.S. regions. The West, with the highest percent of population under age 18, has a sizeable labor pool for the future; however, the region has a significant challenge ahead in educating an increasingly diverse population for more highly skilled service sector employment.

Challenges to Environmental Quality

Compared to other regions, the West has experienced relatively less environmental degradation. Air and water quality has actually improved in many parts of the region in the past two decades. However, rapid population growth concentrated in large metropolitan areas is resulting in heightened concerns about air quality, adequacy of water supplies and general congestion in urban areas. Western states are highly dependent upon tourism to bring revenue to the region and a high quality of life to attract new businesses and residents. Reductions in environmental quality in major metropolitican areas will adversely impact tourism and related economic growth sectors. Therefore, Westerners need to be particularly attentive to the vital role of updating infrastructure including highways, water storage facilities, wastewater treatment plants and mass transit to provide for sound economic expansion and environmental protection.