



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Office of the Assistant Secretary for**  
**Oceans and Atmosphere**  
Washington, D.C. 20230

APR 2 2003

To All Interested Government Agencies and Public Groups:

Under the National Environmental Policy Act, an environmental review has been performed on the following action.

**TITLE:** Environmental Assessment of a Regulatory Amendment to Define a Halibut Subsistence Fishery Category in Convention Waters

**LOCATION:** Convention waters (maritime areas off the west coast of the United States and Canada as described in Article I of the Halibut Convention) in and off Alaska.

**SUMMARY:** The action will promulgate fishery regulations to authorize the legal harvest of halibut for subsistence use in the Convention waters in and off Alaska. The action will enable eligible rural Alaska residents, both Alaska Native and non-Native, who depend upon the taking of halibut for food and who have limited alternative food resources to continue to take halibut for that purpose. The action defines halibut subsistence, eligibility, allowable gear, trade, bag limits, and cooperative agreements for data monitoring.

**RESPONSIBLE OFFICIAL:** Jim Balsiger  
Alaska Regional Administrator  
National Marine Fisheries Service

**Phone:** (907)586-7221

The environmental review process led us to conclude that this action will not have a significant impact on the environment. Therefore, an environmental impact statement was not prepared. A copy of the finding of no significant impact, including the environmental assessment, is enclosed for your information. Also, please send one copy of your comment to the Office of Policy & Strategic Planning in Room 6121, U.S. Department of Commerce, Washington, DC. 20230.

Sincerely,

James P. Burgess, III  
NEPA Coordinator

Enclosure



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### **Finding of No Significant Impact**

Environmental Assessment/ Regulatory Impact Review (EA/RIR) for a Regulatory Amendment to Define a Halibut Subsistence Fishery Category in Convention Waters

January 2003

The action analyzed is the promulgation of fishery regulations to define the legal harvest of halibut for subsistence use in the waters in and off Alaska. Subsistence halibut are currently included under the personal use or sportfish regulations, largely because the pattern of subsistence use has not been adequately documented. Sportfish regulations do not reflect the customary and traditional use of halibut in rural communities. The goal is to enable eligible rural Alaska residents, both Alaska Native and non-Native, who depend upon the taking of halibut for food and who have limited alternative food resources, to continue to take halibut for that purpose. The regulatory amendment defines halibut subsistence, eligibility, allowable gear, trade, bag limits, and cooperative agreements for data monitoring.

One of the purposes of an EA is to provide the evidence and analysis necessary to decide whether an agency must prepare an environmental impact statement (EIS). This Finding of No Significant Impact (FONSI) is the decision maker's determination that the proposed action will not result in significant impacts to the human environment and therefore, further analysis in an EIS is not needed. Council on Environmental Quality regulations define significance in terms of context and intensity (40 CFR 1508.27). An action must be evaluated at different spatial scales and settings to determine the context of the action. Intensity is evaluated with respect to the nature of impacts and the resources or environmental components affected by the action. NOAA Administrative Order (NAO) 216-6 provides guidance on NEPA specific issues to line agencies within NOAA. It further specifies the definition of significance in the fishery management context by listing factors that should be used to test the significance of fishery management actions (NAO 216-6 § 6.01 and 6.02). These factors form the basis of the analysis presented in Section 3.0 of the attached EA/RIR, Affected Environment and Environmental Impacts of the Alternatives. The results of that analysis are summarized here for each factor.

*Context:* The setting of the action is the subsistence halibut fisheries of Convention waters. Any effects of the proposed action are limited to these areas. The effect on society within these areas is isolated to the direct participants in the halibut subsistence fisheries. There are no major changes to subsistence fishing practices, as the intent of the action is to legalize existing subsistence fishing practices without expanding them. The principal consequence of the preferred alternative is to define and limit halibut subsistence fisheries in Alaska.

*Intensity:* A listing of considerations to determine intensity of the Effects are in 40 CFR § 1508.27 (b) and NAO 216-6 § 6.01 and 6.02. Each consideration is addressed below in order as it appears in the regulations and guidance.

1. **Beneficial and adverse impacts are required to be considered in this action, including sustainability of target and nontarget species, damage to ocean or coastal habitat or essential fish habitat, effects on biodiversity and ecosystems, and marine mammals.** Details of the potential biological effects are in section 3.5. The preferred alternative would define and limit halibut subsistence fishing in Alaska. The principal beneficial aspect of the preferred alternative is to recognize a legitimate historical and cultural fishery for halibut taken by rural Alaska residents dependent on that resource to feed their families. There are no beneficial impacts associated with the status quo alternative, and the negative impact associated with it is the continued conflict between the halibut fishing regulations and customary and traditional fishing practices. Bycatch of rockfish and lingcod is not expected to increase with the action over current levels of bycatch, but additional information regarding halibut harvest and bycatch in the subsistence fisheries will be collected with the preferred alternative.

2. No **public health and safety** impacts were identified in any of the proposed alternatives.

3. This action takes place where there are **cultural resources and ecologically critical areas in geographic areas** of Convention waters. No effects on the unique characteristics of these waters are anticipated to occur with any alternative considered with this action.

4. The effects of this action on the human environment are not **controversial** in the sense that they do not adversely affect the biology of the halibut biomass; however, the preferred alternative is potentially socially and economically controversial. The Constitution of the State of Alaska does not permit the determination of subsistence privileges based on Tribal or rural residence, both of which are allowed under Federal law. In fact, the Federal government has a responsibility for managing for the subsistence needs of Tribes. State of Alaska legislators made numerous requests to defer this decision while it addressed the conflict between the State Constitution and Federal responsibilities for managing subsistence fish and game. The North Pacific Fishery Management Council (Council) deferred action in 1998 and 1999, while the State of Alaska Legislature considered amending the State Constitution to comply with Federal law related to management of fish and game on Federal lands. When the Legislature did not take such action by an October 1999 Congressional deadline, NMFS recommended that the Council reschedule final action.

5. There are no known **risks to the human environment, including social and economic effects** from implementing a halibut subsistence program. Because the preferred action recognizes existing practice, it is anticipated that there will be minimal or no risk to the human environment by taking this action.

6. The preferred action defined a halibut subsistence program that will be used to develop regulations. Since making the preferred action recommendation, the Council initiated an analysis of **future actions** including possible changes to gear limits, bag limits, fishing areas, and recordkeeping and reporting requirements. The proposed changes were recommended by the Alaska Board of Fisheries, at the request of the Council.

7. **Cumulatively significant impacts, including those on target and nontarget species** are not expected with this action. The preferred action legally defines eligibility and fishing practices for

harvesting halibut for subsistence uses. No Federal regulations are currently in place for subsistence purposes and subsistence is currently included within sport and personal use regulations in Federal regulations. No direct or indirect impacts on the human environment were identified, and therefore, no cumulatively significant impacts are anticipated, as detailed in section 3.6.2, or future actions which have been recommended to limit the socioeconomic interactions between the subsistence and other sectors (i.e., commercial and sport sectors).

8. There are no known effects on **districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places**, nor cause loss or destruction of significant scientific, cultural, or historical resources. This consideration is not applicable to this action.

9. NEPA required NMFS to determine the degree an action may affect **threatened or endangered species or affect their designated critical habitat** under the ESA. Details of potential effects are in section 3.5.3. There are no known interactions between implementation of a halibut subsistence program and Steller sea lions, or any other ESA listed marine mammal, fish, or seabird.

10. This action poses no known violation of **Federal, State, or local laws or requirements for the protection of the environment**. See section 4.0 for details.

11. None of the alternatives will result in the introduction or spread of a **non-indigenous species**.

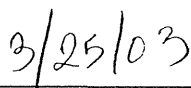
No known significant environmental impacts have been identified as a result of the preferred alternative to manage the halibut subsistence fishery since total subsistence halibut removals are both very small and limited. As a result, no adverse impacts to the halibut resource or the human environment are expected.

#### *Comparison of Alternatives and Selection of a Preferred Alternative*

The preferred alternative (Alternative 3) is the Council recommended alternative that provides specific recommendations for each aspect of defining the halibut subsistence program. Alternative 1 is the status quo and does not meet the objective of the action. Alternative 2 provided a framework of options and suboptions that the Council considered in making the final recommendations for Alternative 3. Alternative 3 is essentially a refinement of Alternative 2 with each aspect of defining the halibut subsistence program narrowed to one, preferred option. All alternatives were found to have no or unknown impacts on the human environment, as summarized in section 3.6.2. Alternative 3 was selected as the preferred alternative because it met the objective of the action, provided clear direction on the implementation of each aspect of the halibut subsistence program, and is not likely to have significant impacts on the human environment.

Based on the information contained in the EA/RIR for a Regulatory Amendment to Define a Halibut Subsistence Fishery Category in Convention Waters, January 2003, and summarized here, I have determined that the proposed action would not significantly affect the quality of the human environment, and therefore, preparation of an environmental impact statement is not required under the National Environmental Policy Act or its implementing regulations. Therefore, a FONSI is appropriate.





*for*

William T. Hogarth, Ph.D.  
NOAA Assistant Administrator for  
Fisheries

Date

Environmental Assessment and Regulatory Impact Review  
for a Regulatory Amendment to  
**Define a Halibut Subsistence Fishery Category in Convention Waters**

**Date:** January 2003

**Lead Agency:** North Pacific Fishery Management Council  
605 West Fourth Avenue, Suite 306  
Anchorage, Alaska 99501

**Responsible Official:** Jim Balsiger, Alaska Regional Administrator  
National Marine Fisheries Service,

**Abstract:** The Halibut Subsistence EA/RIR recommends that the Secretary of Commerce promulgate fishery regulations to define the legal harvest of halibut for subsistence use in the Convention waters in and off Alaska. Subsistence halibut are currently included under the personal use or sportfish regulations, largely because the pattern of subsistence use has not been adequately documented. Sportfish regulations do not reflect the customary and traditional use of halibut in rural communities. Federal fishery regulations for Alaska limit all non-commercial halibut harvests to two fish per person per day, caught on a single line with a maximum of two hooks or a spear, from February 1 through December 31.

The goal of the preferred alternative is to enable eligible rural Alaska residents, both Alaska Native and non-Native, who depend upon the taking of halibut for food and who have limited alternative food resources to continue to take halibut for that purpose. The preferred alternative defines halibut subsistence, eligibility, allowable gear, trade, bag limits, and cooperative agreements for data monitoring.

The action affects more than 88,000 Alaska residents in 117 rural communities with a finding of customary and traditional use of halibut or Alaska Native Tribal members whose 120 Tribal headquarters are located in rural communities with a finding of customary and traditional use of halibut. The Council specifically added Adak, Shishmaref, and Diomede to its list of eligible rural places and the Tribes associated with them (Native Village of Shishmaref and Native Village of Diomede (Inalik)) at final action. The total population in Alaska is approximately 627,000 people. The total harvest estimated in this fishery is more than 1,500,000 lb net weight, compared with a current estimate for personal use of halibut in Alaska of 460,000 lb net weight. Enhanced recordkeeping and reporting will provide more accurate subsistence removals to improve the annual halibut stock assessments. Total subsistence removals are estimated to be less than one percent of the total halibut biomass.

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## Executive Summary

The Halibut Subsistence EA/RIR addresses the development of fishery regulations to define the legal harvest of halibut for subsistence use in Convention waters in and off Alaska. First, subsistence halibut harvests are currently included within the personal use or sportfish regulations, largely because the pattern of subsistence use has not been adequately documented. Federal sportfish fishery regulations for Alaska limit all non-commercial halibut harvests to two fish per person per day, caught on a single line with a maximum of two hooks or a spear, from February 1 through December 31. They do not reflect the customary and traditional (C&T) use of halibut in rural communities. Also, increased enforcement of Individual Fishing Quota (IFQ) and Community Development Quota (CDQ) regulations has led to increased awareness of the conflict between Federal commercial halibut regulations and C&T subsistence practices of Alaska Natives in coastal communities. Therefore, one of the goals of the preferred alternative is to enable Alaska residents, both Alaska Native and non-Native, who depend upon the taking of halibut for food and who have limited alternative food resources to continue to take halibut for that purpose.

Second, subsistence harvest estimates provided to the International Pacific Halibut Commission (IPHC) may not adequately account for all subsistence removals due to lack of adequate monitoring, reporting, and estimation processes. The IPHC has consistently supported increased efforts for monitoring and accounting of all halibut removals to enhance stock assessments. Therefore, another of the goals of the preferred alternative is to formalize a heretofore unrecognized fishery and enhance accurate estimates of subsistence removals for stock assessment purposes. Cooperative agreements with Tribes and/or rural communities would enhance data collection of subsistence harvests. Despite the lack of complete data, all subsistence harvests are estimated to account for less than one percent of total halibut removals.

A management proposal to define halibut subsistence was first developed to address a conflict between the IFQ/CDQ regulations and customary and traditional practices of Alaska Natives in IPHC Regulatory Area 4E, whereby halibut CDQ fishermen were retaining undersized halibut to feed their families. In December 1996, the Council initiated preparation of an analysis for a regulatory amendment to allow the legal harvest of halibut for subsistence in rural communities to conform with Federal statutes that provide the opportunity for the continued existence of these traditional cultures and economies.

In June 1997, the Council took final action to recommend the allowable retention of undersized halibut in the Area 4E halibut CDQ fishery. That measure took effect June 4, 1998, was renewed by the IPHC in January 2000, with a sunset on December 31, 2001. The IPHC extended the program at its January 2002 Annual Meeting, without a sunset.

The Council deferred action in 1998 and 1999 on the larger issue of defining eligibility, legal gear, customary and traditional trade, bag limits, and cooperative management agreements for a halibut subsistence fishery, while the State of Alaska Legislature considered amending the State Constitution to comply with Federal law related to management of fish and game on Federal lands. While the dual management issue does not affect management of Pacific halibut, the Council chose to postpone its action to allow the State to address its management issue, unimpeded by public confusion of jurisdictional issues. When the Legislature did not take such action by an October 1999 Congressional deadline, NMFS recommended that the Council reschedule final action in 2000.

**The issues surrounding Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) and the Secretaries of the Interior and Agriculture to implement a joint program to grant a preference for subsistence uses of fish and wildlife resources on public lands has no application to the action to define a subsistence category for Pacific halibut in Convention waters.**

In February 2000, the Council revised the alternatives in the draft analysis and rescheduled initial review and final action for April and June 2000, respectively. At the April 2000 meeting, the Council again revised the

list of alternatives and rescheduled final action for October 2000. It also requested that its Halibut Subsistence Committee convene in September 2000 to review the public review draft of the analysis and provide recommendations.

The alternatives, as revised by the Council in April 2000, are listed below.

ALTERNATIVE 1. No Action.

ALTERNATIVE 2. Allow the harvest of halibut for subsistence.

OPTION 1. Define subsistence.

Halibut subsistence regulations are needed to allow the continued practice of long-term customary and traditional practices of fishing halibut for food for families, in a non-commercial manner for non-economic consumption. Subsistence is defined as 'long-term, customary and traditional use of halibut.'

OPTION 2. Define eligibility (\*residency is defined as one calendar year):

- Suboption A. 1. Members of Alaska Native Federally-recognized Tribes with customary and traditional use of halibut; and  
2. Other permanent rural residents\* of communities with customary and traditional use of halibut.

Suboption B. Alaska rural residents\* as defined in ANILCA and identified in the Table 2.4 entitled 'Alaska Rural Places in Areas with Subsistence Halibut Uses,' and will also include other communities for which customary and traditional findings are developed in the future.

- Suboption C. 1. Members of Alaska Native Federally-recognized Tribes with customary and traditional use of halibut.  
2. Other permanent rural residents\* who have legitimate subsistence needs in communities with customary and traditional use of halibut.  
Need will be determined on an individual basis by either:  
1. State of Alaska;  
2. Tribes; or  
3. Cooperative authority.

Suboption D. Members of Alaska Native Federally-recognized Tribes with customary and traditional use of halibut.

Suboption E. Members of Alaska Native Federally-recognized Tribes who reside in rural communities with customary and traditional use of halibut. *(This language also may be substituted under Suboptions A, C, or D.)*

OPTION 3. Define legal gear.

- Suboption A. Define hand held gear as:  
1. Rod and reel gear;  
2. Spear;  
3. Hand troll gear.

Suboption B. Define hook-and-line gear (including set and hand-held gear) with a range of:

1. 2 hooks;
2. 10 hooks;
3. 30 hooks;
4. 60 hooks.

Suboption C. Allow tribal governments to contract with NMFS to allow proxies to be used by designated fishermen to fish for the community using:

1. 1 - 3 skates of gear, up to 60 hooks each;
2. any gear type.

Suboption D. Allow retention of subsistence halibut using commercial gear while IFQ/CDQ fishing.

1. Statewide;
2. 4C, 4D, and 4E only;
3. Require subsistence fishermen to designate a particular trip as a subsistence trip outside of areas 4C, 4D, and 4E.

OPTION 4. Allow the customary and traditional trade of subsistence halibut.

Suboption A. Customary and traditional trade through monetary exchange shall be limited to an annual maximum of:

1. \$0;
2. \$200;
3. \$400;
4. \$600.

Suboption B. Customary and traditional trade through non-monetary exchange is allowed with:

1. other Alaska Tribes;
2. any Alaska rural resident;
3. any Alaska resident;
4. anyone.

OPTION 5. Define a daily bag limit of between 2-20 halibut.

Suboption. No bag limits for subsistence halibut.

OPTION 6. Develop cooperative agreements with tribal, State, and Federal governments and other entities to collect, monitor, and enforce subsistence harvests and develop local area halibut subsistence use plans in coastal communities.

Alternative 1 is the no action alternative. Current Federal regulations approved by the IPHC and the Council and implemented by NMFS do not provide for customary and traditional subsistence practices by residents of rural Alaska communities. The status quo alternative would continue the current application of halibut non-commercial regulations to subsistence harvests in Alaska. Continued conflict could occur between Federal and state enforcement agencies and rural Alaskans engaged in customary and traditional halibut subsistence practices as a result of adoption of the status quo alternative. Taking no action does not improve catch monitoring of halibut subsistence removals, one of the principal objectives of the proposed action.

Alternative 2 proposes to define halibut subsistence (Option 1), eligibility (Option 2), gear (Option 3), trade (Option 4), bag limits (Option 5), and cooperative agreements (Option 6). The eligibility criteria is the most critical element of the proposed action; it is also the most controversial. The number of eligible individuals or communities, combined with the definition of legal gear, will ultimately determine the amount of subsistence halibut that might be taken. The Council intends to legitimize established uses and not expand the subsistence fishery beyond established patterns of use. Therefore, the Council considered a definition of

halibut subsistence that would be applied either through tribal membership, rural residency, or both. Non-tribal members in urban areas are not included in the proposed action.

Option 2, Suboption A defines eligibility through two routes: membership in tribes with customary and traditional uses of halibut, or residency in rural communities with customary and traditional uses of halibut. It would qualify approximately 88,663 persons associated with 118 Alaska Native Tribes with an estimated halibut harvest of 1.5 million lb. In April 2000, the Council modified this suboption by separating it into parts 1 (tribal members) and 2 (other permanent rural residents of the same communities). This change was based on recommendations from public testimony that defined halibut subsistence for tribal members based on recognition of customary and traditional cultural practices, while halibut subsistence for other permanent rural residents would be based on social and economic concerns.

Suboption A (as well as C and D) includes tribal members regardless of where they reside. It includes 5,540 tribal residents of Juneau, Ketchikan, Saxman, Kenai-Soldotna, and Ninilchik, that would be excluded under Suboption B (rural eligibility).

Urban tribal members included and non-Natives excluded under Suboption A.			
Community	Native	non-Native	Total
Juneau	3,462	23,289	26,751
Ketchikan	1,296	6,967	8,263
Kenai-Soldotna	693	9,116	9,809
Ninilchik	89	367	456
<b>Total</b>	<b>5,540</b>	<b>39,739</b>	<b>45,279</b>

Suboption B is based on a determination of rural places with a finding of customary and traditional use of halibut. It would qualify approximately 82,171 Alaska rural residents from 114 coastal communities that had established customary and traditional halibut subsistence practices, with an associated halibut harvest of 1.4 million lb.

Suboption C is similar to Suboption A, but eligibility for halibut subsistence would be determined on an individual basis by either the State of Alaska (which may have constitutional difficulties making such determinations), the appropriate tribe, or cooperative authority. It would qualify between 42,003 and 88,663 Alaska Natives and other rural residents from 114 communities, with an associated halibut harvest between 636,813 lb and 1.5 million lb. A more complex administrative and appeals system would need to be instituted for individual eligibility determination than for any of the other suboptions. Under this suboption, the Council must designate the State, the tribes, or cooperative authorities to determine need if it does not intend to make these determinations itself.

Suboption D modified Suboption A to allow the Council to designate halibut subsistence for only Suboption A, Part 1 (tribal only). It would qualify approximately 42,003 persons associated with 118 Alaska Native tribes with an estimated halibut harvest of 636,813 lb. This suboption recognizes the cultural component of customary and traditional uses of halibut by Alaska Natives.

Suboption E, added to the analysis in April 2000, would limit halibut subsistence eligibility to tribal members who reside in communities for which halibut subsistence customary and traditional practices have been identified. This eligibility definition may be substituted for the language under Suboptions A, C, or D. It would limit halibut subsistence eligibility to those Alaska Native tribal members who reside in rural places with halibut customary and traditional use designations. This suboption would exclude tribal members who reside in non-rural places (e.g., Anchorage, Juneau, and Ketchikan) from halibut subsistence fishing off those communities. Another definition may, however, allow tribal members to halibut subsistence fish off the rural communities with which their tribes are associated.

In summary, there are 88,663 persons eligible under Suboption A (tribal plus), of which 42,003 are Alaska Native and 46,659 are non-Natives. Under Suboption B (rural standard), there are 82,171 persons eligible of

which 35,512 are Alaska Natives and 46,659 are non-Natives. Under Suboption C (tribal plus with individual determination), up to 88,663 persons may be eligible of which 42,003 are Alaska Native and 46,659 are non-Natives. The 5,540 fewer Alaska Natives eligible under Suboptions B and E compared with the other suboptions are Alaska Native tribal members residing in Juneau, Ketchikan, and the Kenai-Soldotna-Ninilchik areas, while Suboptions A, C, and D include them. However, Suboption B includes 550 tribal members and 5,735 non-Natives who are not included under any other suboption. Suboption D (tribal only) would qualify approximately 42,003 tribal members only. Suboption E (rural tribal only) would qualify tribal members who reside in communities with customary and traditional use of halibut, or 35,512 tribal members.

	Suboption				
	A	B	C	D	E
	Tribal plus	rural	Tribal plus/individual	Tribal only	rural Tribal
<b>eligible persons</b>	88,663	82,171	42,003 to 88,663	42,003	36,463
<b>Alaska Native Tribes</b>	118		118	118	118
<b>rural communities with halibut C&amp;T</b>		114			114

The Council chose the following **preferred alternative** during final action in October 2000. It clarified the intent of its action in June 2001. The preferred alternative affects 89,000 Alaska residents in 117 rural communities with a finding of customary and traditional use of halibut (82,000, 43% of whom are Alaska Native and 57% of whom are not Alaska Natives) and members of 120 Alaska Native Tribes whose headquarters are located in rural communities with a finding of customary and traditional use of halibut (6,500, all of whom are Alaska Native). The Council specifically added Adak, Shishmaref, and Diomed to its list of eligible rural places and the Tribes associated with them (Native Village of Shishmaref and Native Village of Diomed (Inalik)) at final action. The total population in Alaska is approximately 627,000 people. The total harvest estimated in this fishery is approximately 1,500,000 lb net weight, compared with current IPHC estimate for personal use in Alaska of 460,000 lb net weight. Enhanced recordkeeping and reporting will provide more accurate subsistence removals to improve the annual halibut stock assessments. Total subsistence removals are estimated to be less than 1% of the total halibut biomass.

ALTERNATIVE 3. Council recommendations for the harvest of halibut for subsistence. (**Preferred Alternative**)

*Define subsistence.*

Halibut subsistence regulations are needed to allow the continued practice of long-term customary and traditional practices of fishing halibut for food for families in a non-commercial manner for non-economic consumption. Subsistence is defined as the ‘non-commercial, long-term, customary and traditional use of halibut.’

*Define eligibility.*

Persons eligible to subsistence fish for halibut are: Alaska rural residents as defined in ANILCA\* and identified in Table 2.4 entitled “Alaska Rural Places in Areas with Subsistence Halibut Uses,” and will also include other communities for which customary and traditional findings are developed in the future. The list specifically includes the communities of Adak, Diomed, and Shishmaref. This list of eligible rural communities can only be changed upon recommendation by the Council. The Council urges communities seeking eligibility to subsistence fish for halibut to pursue a ‘customary and traditional’ finding from the appropriate bodies before petitioning the Council.

Other persons eligible to subsistence fish for halibut are:

1. All identified members of Alaska Federally recognized native tribes in rural areas with a finding of customary and traditional use of halibut who move to or have moved to an urban area are allowed to return to their area of tribal membership and exercise their subsistence rights for halibut fishing.

2. All members of Alaska Federally recognized native tribes with a finding of customary and traditional use of halibut that live in an area that has become or in the future becomes urban shall be allowed to exercise their halibut subsistence rights anywhere in a designated rural area within the state of Alaska.

Urban tribal members included under preferred alternative.

Community	Native
Juneau	3,462
Ketchikan	1,296
Kenai-Soldotna	693
Ninilchik	89
<b>Total</b>	<b>5,540</b>

\*Under federal law in ANILCA, subsistence uses are identified as customary and traditional uses of fish and game by rural Alaska residents.

The Council added three communities (Shishmaref, Diomed, and Adak) to the list of those included in the analysis based on public testimony that these communities met the criteria adopted by the Board of Fisheries that is the basis of the preferred alternative. Similarly, the Council added two Alaska Native Tribes (Native Village of Shishmaref and Native Village of Diomed (Inalik)) to the list included in the analysis based on public testimony.

<b>Alaska Native Tribes</b>	<b>120</b>
<b>rural communities with halibut C&amp;T</b>	<b>117</b>

*Define legal gear.*

The legal gear for subsistence halibut fishing is set and hand-held gear of not more than 30 hooks, including longline, handline, rod and reel, spear, jigging and hand-troll gear.

Retention of subsistence halibut less than 32" (shorts) while commercial fishing is allowed only in Regulatory Area 4D and 4E. Legal-sized halibut could be retained for subsistence purposes statewide, but not counted against a CDQ account only in IPHC Area 4D.

*Allow the customary and traditional trade of subsistence halibut.*

Customary and traditional trade through monetary exchange shall be limited to an annual maximum of \$400. No customary and traditional trade is allowed upon the premises of commercial buying operations. Persons licensed to engage in a fisheries business may not exchange, solicit to exchange, or receive for commercial purposes, subsistence-taken halibut. No exchange of subsistence-caught halibut from a monetary exchange, trade, or barter is allowed to enter commerce at any point. No restrictions were adopted on with whom monetary trades may be made. Customary and traditional trade through non-monetary exchange is allowed with anyone.

*Define a daily bag limit.*

The daily limit for subsistence halibut in rural areas is up to 20 halibut, except there is no limit in Areas 4C, 4D, and 4E.

*Cooperative agreements.*

Cooperative agreements with tribal, State, and Federal governments and other entities may be developed for harvest monitoring, local area planning, and other issues affecting subsistence uses of halibut.



The Council requests the Board of Fisheries to recommend potential regulatory options in subsistence halibut regulations relating to: 1) legal gear; 2) daily limits; 3) reporting requirements; 4) customary and traditional use areas of tribes and rural communities; and 5) non-rural area definitions for halibut fishing areas.

The Council requested that the Board meet on these issues during their normal 2000-2001 cycle and present its recommendations to the Council at the Council's June 2001 meeting. In June 2001, the Council initiated a separate analysis that will consider changes to the proposed regulations accompanying this regulatory amendment. Initial review and final action on the trailing amendment is scheduled for December 2001 and February 2002. Separate rulemaking will result.

None of the alternatives is expected to result in a "significant regulatory action" as defined in E.O. 12866.

None of the alternatives or their options under consideration would result in a significant adverse impact on a substantial number of small entities.

None of the alternatives are likely to significantly affect the quality of the human environment, and the preparation of an environmental impact statement for the proposed action is not required by Section 102(2)(C) of NEPA or its implementing regulations.

**Table 1. Alaska Rural Communities with Customary and Traditional Uses of Halibut within Specified Halibut Regulatory Areas**

<u>Rural Community*</u>	<u>Organized Entity</u>	<u>Halibut Regulatory Area in Which Residents May Fish</u>
<b>Regulatory Area 2C</b>		
Angoon	Municipality	2C
Coffman Cove	Municipality	2C
Craig	Municipality	2C
Edna Bay	Census Designated Place	2C
Elfin Cove	Census Designated Place	2C
Gustavus	Census Designated Place	2C
Haines	Municipality	2C
Hollis	Census Designated Place	2C
Hoonah	Municipality	2C
Hydaburg	Municipality	2C
Hyder	Census Designated Place	2C
Kake	Municipality	2C
Kasaan	Municipality	2C
Klawock	Municipality	2C
Klukwan	Census Designated Place	2C
Metlakatla	Census Designated Place	2C
Meyers Chuck	Census Designated Place	2C
Pelican	Municipality	2C
Petersburg	Municipality	2C
Point Baker	Census Designated Place	2C
Port Alexander	Municipality	2C
Port Protection	Census Designated Place	2C
Saxman	Municipality	2C
Sitka	Municipality	2C
Skagway	Municipality	2C
Tenakee Springs	Municipality	2C
Thorne Bay	Municipality	2C
Whale Pass	Census Designated Place	2C
Wrangell	Municipality	2C
<b>Regulatory Area 3A</b>		
Akhiok	Municipality	3A
Chenega Bay	Census Designated Place	3A
Cordova	Municipality	3A
Karluk	Census Designated Place	3A
Kodiak City	Municipality	3A
Larsen Bay	Municipality	3A
Nanwalek	Census Designated Place	3A
Old Harbor	Municipality	3A
Ouzinkie	Municipality	3A
Port Graham	Census Designated Place	3A
Port Lions	Municipality	3A
Seldovia	Municipality	3A
Tatitlek	Census Designated Place	3A
Yakutat	Municipality	3A
<b>Regulatory Area 3B</b>		
Chignik Bay	Municipality	3B
Chignik Lagoon	Census Designated Place	3B
Chignik Lake	Census Designated Place	3B
Cold Bay	Municipality	3B
False Pass	Municipality	3B
Ivanof Bay	Census Designated Place	3B
King Cove	Municipality	3B
Nelson Lagoon	Census Designated Place	3B
Perryville	Census Designated Place	3B
Sand Point	Municipality	3B



Table 1. (Continued)

<u>Rural Community*</u>	<u>Organized Entity</u>	<u>Halibut Regulatory Area in Which Residents May Fish</u>
<b>Regulatory Area 4A</b>		
Akutan	Municipality	4A
Nikolski	Census Designated Place	4A
Unalaska	Municipality	4A
<b>Regulatory Area 4B</b>		
Adak	Census Designated Place	4B
Atka	Municipality	4B
<b>Regulatory Area 4C</b>		
St. George	Municipality	4C
St. Paul	Municipality	4C
<b>Regulatory Area 4D</b>		
Gambell	Municipality	4D
Savoonga	Municipality	4D
Diomedé (Inalik)	Municipality	4E
<b>Regulatory Area 4E</b>		
Aalkanuk	Municipality	4E
Aleknagik	Municipality	4E
Bethel	Municipality	4E
Brevig Mission	Municipality	4E
Chefornak	Municipality	4E
Chevak	Municipality	4E
Clark's Point	Municipality	4E
Council	Census Designated Place	4E
Dillingham	Municipality	4E
EEK	Municipality	4E
Egegik	Municipality	4E
Elim	Municipality	4E
Emmonak	Municipality	4E
Golovin	Municipality	4E
Goodnews Bay	Municipality	4E
Hooper Bay	Municipality	4E
King Salmon	Census Designated Place	4E
Kipnuk	Census Designated Place	4E
Kongiganak	Census Designated Place	4E
Kotlik	Municipality	4E
Koyuk	Municipality	4E
Kwigillingok	Census Designated Place	4E
Levelock	Census Designated Place	4E
Manokotak	Municipality	4E
Mekoryuk	Municipality	4E
Naknek	Census Designated Place	4E
Napakiaik	Municipality	4E
Napaskiak	Municipality	4E
Newtok	Census Designated Place	4E
Nightmute	Municipality	4E
Nome	Municipality	4E
Oscarville	Census Designated Place	4E
Pilot Point	Municipality	4E
Platinum	Municipality	4E
Port Heiden	Municipality	4E
Quinhagak	Municipality	4E
Scammon Bay	Municipality	4E
Shaktolik	Municipality	4E
Sheldon Point (Nunam Iqua)	Municipality	4E
Shishmaref	Municipality	4E
Solomon	Census Designated Place	4E
South Naknek	Census Designated Place	4E
St. Michael	Municipality	4E
Stebbins	Municipality	4E
Teller	Municipality	4E
Togiak	Municipality	4E
Toksook Bay	Municipality	4E
Tuntutuliak	Census Designated Place	4E
Tununak	Census Designated Place	4E
Twin Hills	Census Designated Place	4E
Ugashik	Census Designated Place	4E
Unalakleet	Municipality	4E
Wales	Municipality	4E
White Mountain	Municipality	4E

\* Alaska communities or areas in which the non-commercial, customary and traditional use of fish or game for personal or

**Table 2. Alaska Native Tribes with Customary and Traditional Uses of Halibut within Specified Halibut Regulatory Areas**

<u>Place With Tribal Headquarters</u>	<u>Organized Tribal Entity*</u>	<u>Halibut Regulatory Area in Which Residents May Fish</u>
<b>Regulatory Area 2C</b>		
Angoon	Angoon Community Association	2C
Craig	Craig Community Association	2C
Haines	Chilkoot Indian Association	2C
Hoonah	Hoonah Indian Association	2C
Hydaburg	Hydaburg Cooperative Association	2C
Juneau***	Aukquan Traditional Council**	Any Rural Area
Juneau***	Central Council Tlingit & Haida Indian Tribes	Any Rural Area
Juneau***	Douglas Indian Association	Any Rural Area
Kake	Organized Village of Kake	2C
Kasaan	Organized Village of Kasaan	2C
Ketchikan***	Ketchikan Indian Corporation	Any Rural Area
Klawock	Klawock Cooperative Association	2C
Klukwan	Chilkat Indian Village	2C
Metlakatla	Metlakatla Indian Community, Annette Island Reserve	2C
Petersburg	Petersburg Indian Association	2C
Saxman	Organized Village of Saxman	2C
Sitka	Sitka Tribe of Alaska	2C
Skagway	Skagway Village	2C
Wrangell	Wrangell Cooperative Association	2C
<b>Regulatory Area 3A</b>		
Akhiok	Native Village of Akhiok	3A
Chenega Bay	Native Village of Chanega	3A
Cordova	Native Village of Eyak	3A
Karluk	Native Village of Karluk	3A
Kenai-Soldotna***	Kenaitze Indian Tribe	Any Rural Area
Kenai-Soldotna***	Village of Salamatoff	Any Rural Area
Kodiak City	Lesnoi Village (Woody Island)	3A
Kodiak City	Native Village of Afognak	3A
Kodiak City	Shoonaq' Tribe of Kodiak**	3A
Larsen Bay	Native Village of Larsen Bay	3A
Nanwalek	Native Village of Nanwalek	3A
Ninilchik***	Ninilchik Village	Any Rural Area
Old Harbor	Village of Old Harbor	3A
Ouzinkie	Native Village of Ouzinkie	3A
Port Graham	Native Village of Port Graham	3A
Port Lions	Native Village of Port Lions	3A
Seldovia	Seldovia Village Tribe	3A
Tatitlek	Native Village of Tatitlek	3A
Yakutat	Yakutat Tlingit Tribe	3A

**Table 2. (Continued)**

<u>Place With Tribal Headquarters</u>	<u>Organized Tribal Entity*</u>	<u>Halibut Regulatory Area in Which Residents May Fish</u>
<b>Regulatory Area 3B</b>		
Chignik Bay	Native Village of Chignik	3B
Chignik Lagoon	Native Village of Chignik Lagoon	3B
Chignik Lake	Chignik Lake Village	3B
False Pass	Native Village of False Pass	3B
Ivanof Bay	Ivanoff Bay Village	3B
King Cove	Agdaagux Tribe of King Cove	3B
King Cove	Native Village of Belkofski	3B
Nelson Lagoon	Native Village of Nelson Lagoon	3B
Perryville	Native Village of Perryville	3B
Sand Point	Pauloff Harbor Village	3B
Sand Point	Native Village of Unga	3B
Sand Point	Qagan Toyagungin Tribe of Sand Point Village	3B
<b>Regulatory Area 4A</b>		
Akutan	Native Village of Akutan	4A
Nikolski	Native Village of Nikolski	4A
Unalaska	Qawalingin Tribe of Unalaska	4A
<b>Regulatory Area 4B</b>		
Atka	Native Village of Atka	4B
<b>Regulatory Area 4C</b>		
St. George	Pribilof Islands Aleut Communities of St. Paul Island & St. George Islands	4C
St. Paul	Pribilof Islands Aleut Communities of St. Paul Island & St. George Islands	4C
<b>Regulatory Area 4D</b>		
Gambell	Native Village of Gambell	4D
Savoonga	Native Village of Savoonga	4D
Diomede (Inalik)	Native Village of Diomede (Inalik)	4E
<b>Regulatory Area 4E</b>		
Alakanuk	Village of Alakanuk	4E
Aleknagik	Native Village of Aleknagik	4E
Bethel	Orutsararmuit Native Village	4E
Brevig Mission	Native Village of Brevig Mission	4E
Chefornak	Village of Chefornak	4E
Chevak	Chevak Native Village	4E
Clark's Point	Village of Clark's Point	4E
Council	Native Village of Council	4E
Dillingham	Native Village of Dillingham	4E
Dillingham	Native Village of Ekuk	4E
Dillingham	Native Village of Kakanak**	4E
Eek	Native Village of Eek	4E
Egegik	Egegik Village	4E
Egegik	Village of Kanatak	4E
Elim	Native Village of Elim	4E
Emmonak	Chuloonawick Native Village	4E
Emmonak	Emmonak Village	4E

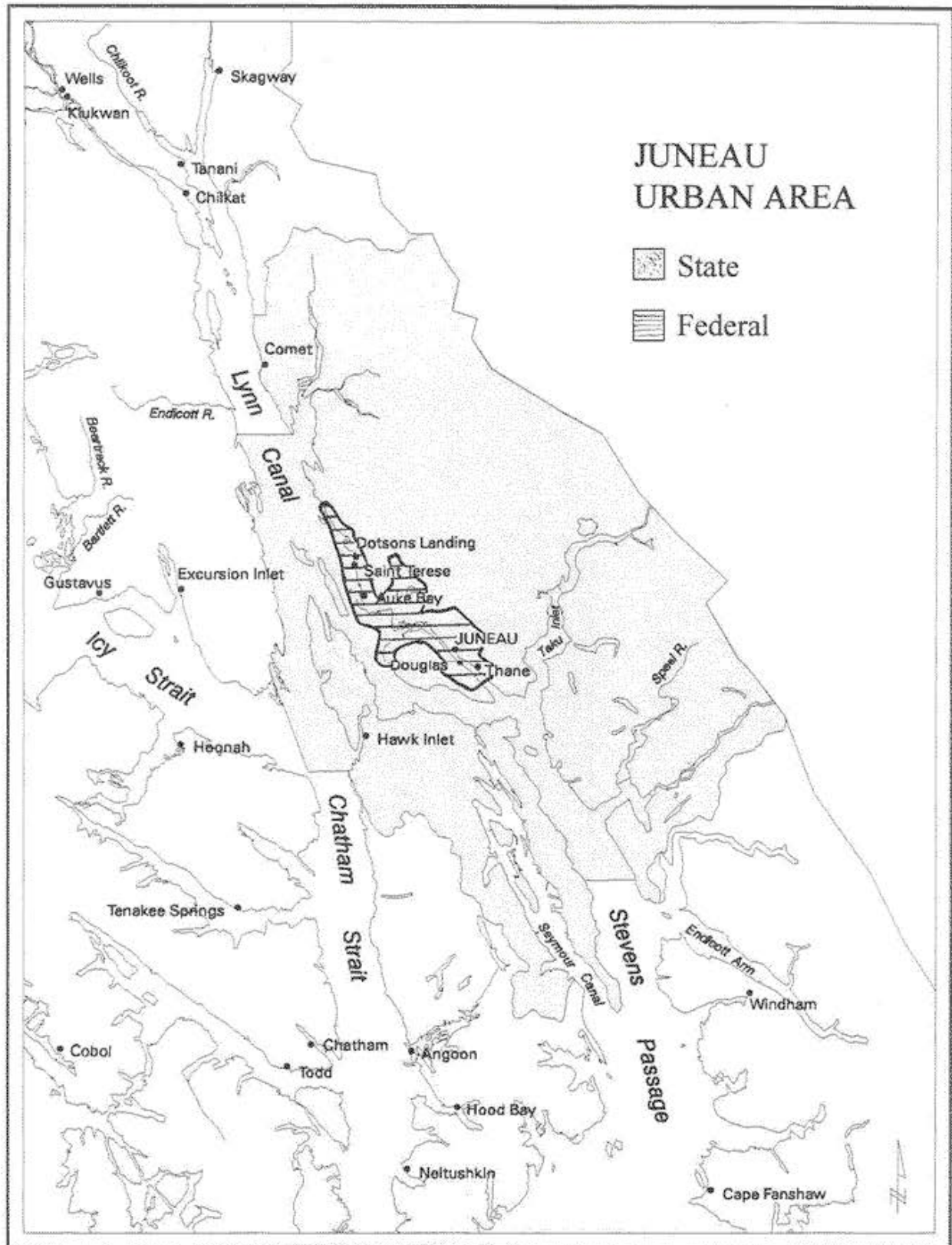
**Table 2. (Continued)**

Golovin	Chinik Eskimo Community	4E
Goodnews Bay	Native Village of Goodnews Bay	4E
Hooper Bay	Native Village of Hooper Bay	4E
Hooper Bay	Native Village of Paimiut	4E
King Salmon	King Salmon Tribal Council**	4E
Kipnuk	Native Village of Kipnuk	4E
Kongiganak	Native Village of Kongiganak	4E
Kotlik	Native Village of Hamilton	4E
Kotlik	Village of Bill Moore's Slough	4E
Kotlik	Village of Kotlik	4E
Koyuk	Native Village of Koyuk	4E
Kwigillingok	Native Village of Kwigillingok	4E
Levelock	Levelock Village	4E
Manokotak	Manokotak Village	4E
Mekoryuk	Native Village of Mekoryak	4E
Naknek	Naknek Native Village	4E
Napakiak	Native Village of Napakiak	4E
Napaskiak	Native Village of Napaskiak	4E
Newtok	Newtok Village	4E
Nightmute	Native Village of Nightmute	4E
Nightmute	Umkumiute Native Village	4E
Nome	King Island Native Community	4E
Nome	Nome Eskimo Community	4E
Oscarville	Oscarville Traditional Village	4E
Pilot Point	Native Village of Pilot Point	4E
Platinum	Platinum Traditional Village	4E
Port Heiden	Native Village of Port Heiden	4E
Quinhagak	Native Village of Kwinhagak	4E
Scammon Bay	Native Village of Scammon Bay	4E
Shaktoolik	Native Village of Shaktoolik	4E
Sheldon Point (Nunam Iqua)	Native Village of Sheldon's Point	4E
Shishmaref	Native Village of Shishmaref	4E
Solomon	Village of Solomon	4E
South Naknek	South Naknek Village	4E
St. Michael	Native Village of Saint Michael	4E
Stebbins	Stebbins Community Association	4E
Teller	Native Village of Mary's Igloo	4E
Teller	Native Village of Teller	4E
Togiak	Traditional Village of Togiak	4E
Toksook Bay	Native Village of Toksook Bay	4E
Tuntutuliak	Native Village of Tuntutuliak	4E
Tununak	Native Village of Tununak	4E
Twin Hills	Twin Hills Village	4E
Ugashik	Ugashik Village	4E
Unalakleet	Native Village of Unalakleet	4E
Wales	Native Village of Wales	4E
White Mountain	Native Village of White Mountain	4E

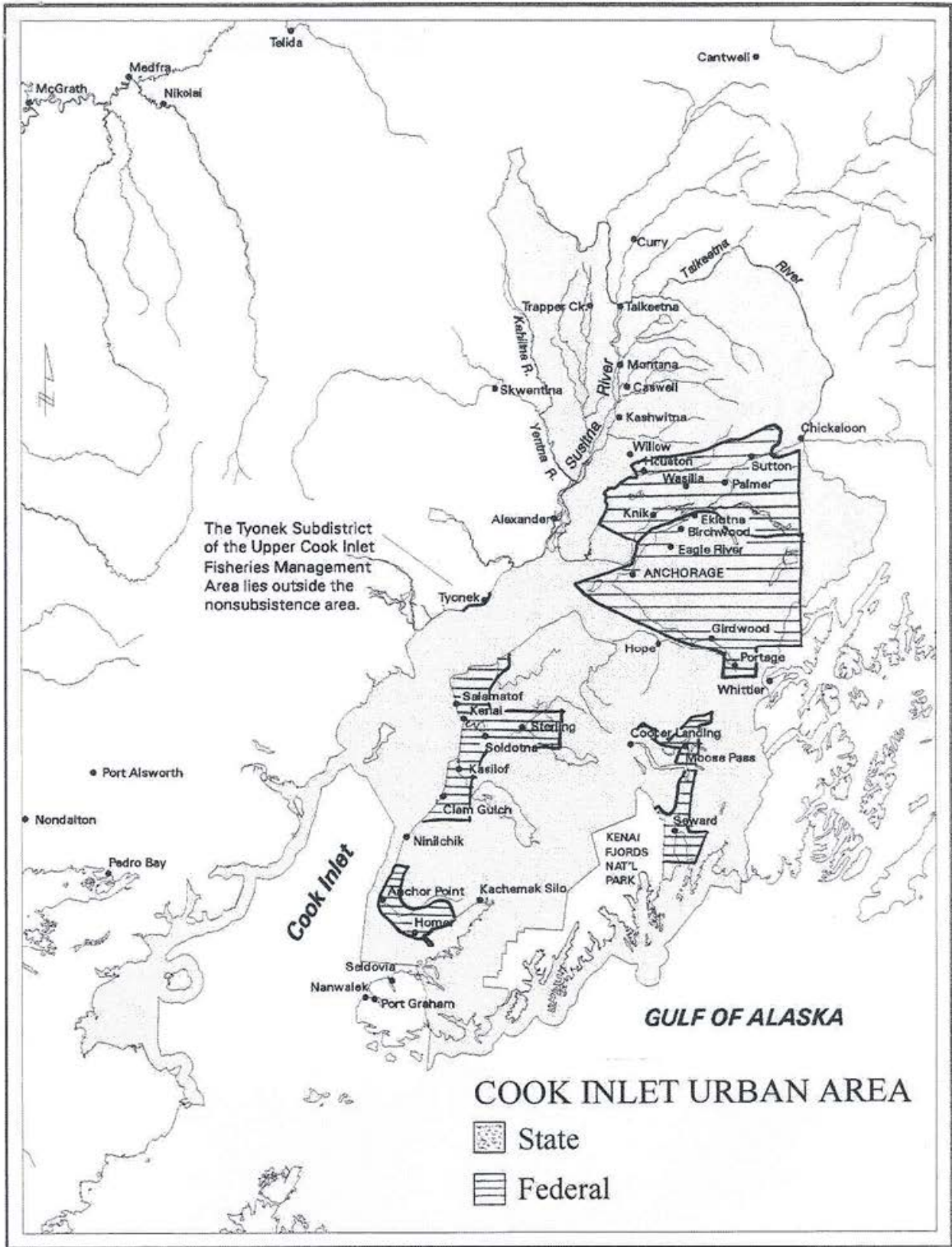
\* Native entities recognized and eligible to receive services from the United States Bureau of Indian Affairs, cf., Federal Register, February 16, 1995, v. 60, no. 32, p. 9249-9255.

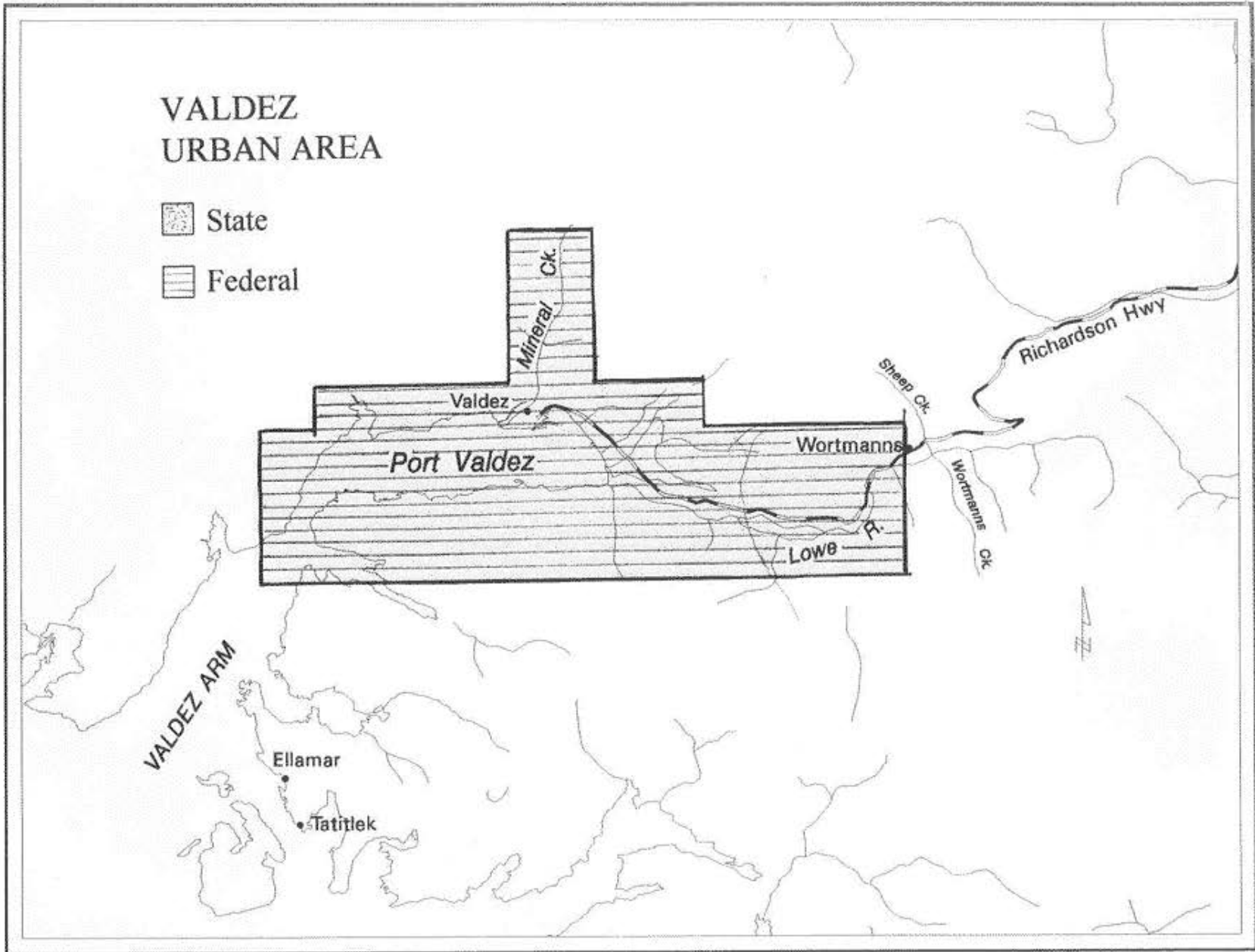
\*\* Applying for recognized status.

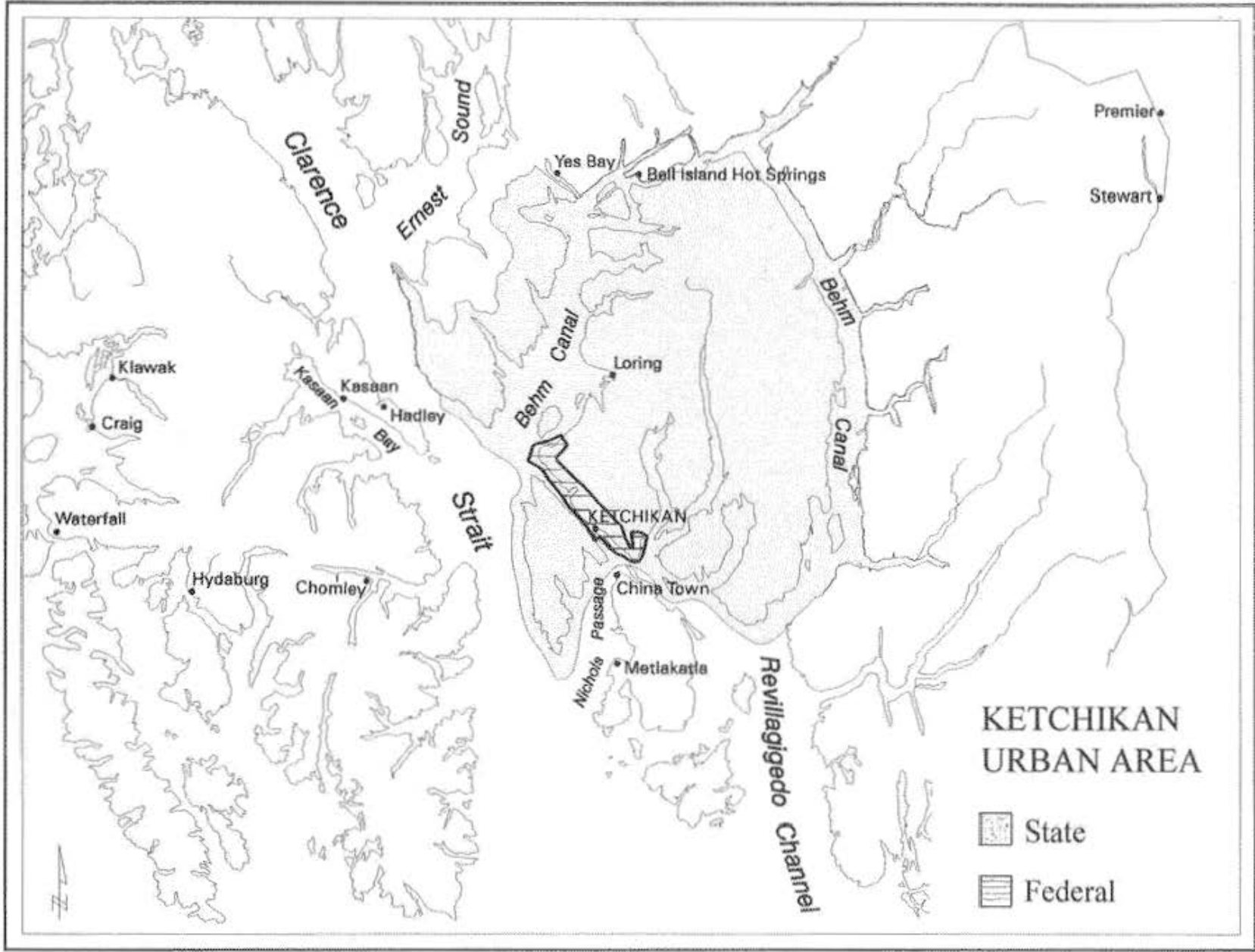
\*\*\*Urban tribes











## 1.0 PURPOSE AND NEED

This document assesses the potential biological, social and economic impacts of a regulatory action to develop Pacific halibut *Stenolepis hippoglossus* subsistence regulations for Alaska rural communities to legitimize current halibut subsistence uses. A number of Federal and state agencies and divisions have management responsibilities for halibut. The analysis has been prepared through the cooperative efforts of staff from the North Pacific Fishery Management Council (Council), International Pacific Halibut Commission (IPHC), National Marine Fisheries Service (NMFS), NOAA General Counsel (GC), State of Alaska Department of Fish and Game (ADF&G) Commercial Fisheries Management and Development, Sportfish, and Subsistence divisions, and U.S. Fish and Wildlife Service (USFWS).

The domestic fishery for halibut in Convention waters in and off Alaska is managed by three federal agencies. The IPHC management authority is provided by the *Convention Between the United States and Canada for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and the Bering Sea* (Convention) signed at Washington March 29, 1979, and the Northern Pacific Halibut Act of 1982, 16 U.S.C. §773 c (c) (Halibut Act). The Convention and the Halibut Act authorize the respective Councils established by the Magnuson-Stevens Act to:

develop regulations governing the United States portion of Convention waters, including limited access regulations, applicable to nationals or vessels of the United States, or both which are in addition to and not in conflict with regulations adopted by the Commission. Such regulation shall only be implemented with the approval of the Secretary, shall not discriminate between residents of different States, and shall be consistent with the limited entry criteria set forth in section 1853(b)(6) of this title. If it becomes necessary to allocate or assign halibut fishing privileges among various United States fishermen, such allocation shall be fair and equitable to all such fishermen, based upon the rights and obligations in existing Federal law, reasonably calculated to promote conservation, and carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of the halibut fishing privileges...[16 U.S.C §773c(c)]

In general, the language in the Magnuson-Stevens Fishery Conservation and Management Act of 1975, 16 U.S.C. §1801 (Magnuson-Stevens Act), the Halibut Act and the Convention have been interpreted to assign to the Council the duty to advise the Secretary of Commerce on halibut management issues concerning allocations between various users of the halibut resources in and off the waters of Alaska. It is under this authority that the Council is considering alternatives to recognize and manage the subsistence halibut fishery. These acts, coupled with Executive Orders 12866 and 12962 and the National Environmental Policy Act (NEPA), mandate that certain issues be examined before a final decision is made. These analytical requirements are addressed in this document, the Environmental Assessment/Regulatory Impact Review (EA/RIR).

The Halibut Act authorizes the regional fishery management councils having authority for the geographic area concerned to develop regulations governing the Pacific halibut catch in U.S. waters which are in addition to but not in conflict with regulations of the IPHC. While the IPHC has primary authority to manage the halibut resource for biological conservation purposes, the Council has authority to recommend policies affecting halibut resource allocation among U. S. fishermen in the maritime and coastal waters of Alaska and in the ocean waters over which the U.S. exercises fishery management jurisdiction. The Council does not have a fishery management plan (FMP) for halibut, however, the Council developed a limited access system involving individual fishing quotas (IFQs) and community development quotas (CDQs) for the halibut fishery. This system is implemented by Federal regulations under 50 CFR part 679 under the authority of the Magnuson-Stevens Act. USFWS also has jurisdiction over halibut for public lands. USFWS determinations for withdrawn waters under Alaska National Interest Lands Conservation Act (ANILCA) are listed in Appendix I.

Federal regulations for Pacific halibut implemented by the National Marine Fisheries Service (NMFS) are found in 50 CFR part 300 and 50 CFR part 679, which were issued under the authority of the Halibut Act and the Magnuson-Stevens Act, respectively. Magnuson-Stevens Act and Halibut Act regulations recommended by the Council and IPHC, respectively, and implemented by NMFS describe Pacific halibut commercial and sportfish regulations. These include regulatory areas, licensing vessels, fishing periods, closed periods, catch limits, size limits, bag limits, logs, and sport fishing restrictions. Federal regulations recommended by the Council describe the IFQ and CDQ commercial fisheries off Alaska. Currently, a subsistence category for Alaska waters has not been defined in Federal regulations.

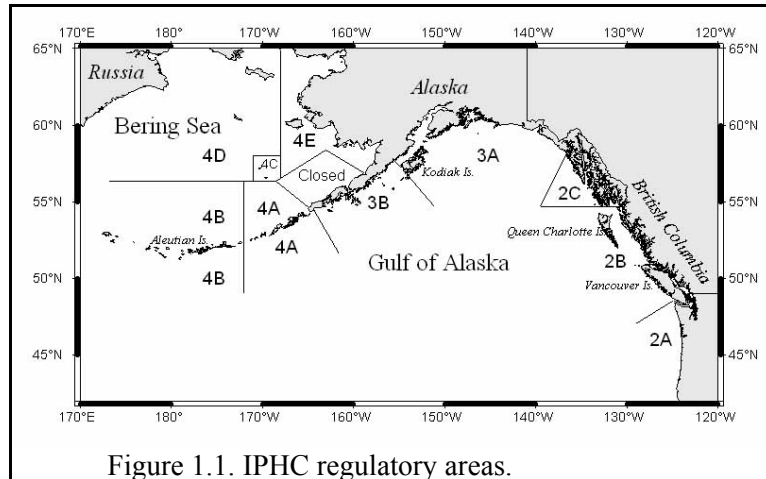


Figure 1.1. IPHC regulatory areas.

Sportfishing under 50 CFR Part 300, Subpart E describes all halibut fishing other than commercial and treaty Indian ceremonial and subsistence fishing. This would include recreational sport, guided sport (charter boat), personal use, and subsistence fishing. Sportfishing is limited to a single line with no more than two hooks attached, or a spear. The season is limited from February 1 through December 31. The daily bag limit is two halibut of any size per day per person. State regulations for sportfish, personal use and subsistence users are described in Section 2.

The lack of explicit regulations defining legal subsistence takes has led to inclusion of subsistence (in practice) under the sport fish regulations. Limitation of subsistence harvests to the sport fish gear and bag limits has resulted in conflicts with customary and traditional practices of halibut harvests by Alaska Native tribal members in coastal communities. These practices are described in detail in Appendix 6.

### 1.1 Problem Statement

The project area for the halibut fishery is Convention waters in and off Alaska. Convention waters are “maritime areas off the west coast of the United States and Canada as described in Article I of the Halibut Convention” (Figure 1.1). Current federal regulations do not reflect the customary and traditional use of halibut for subsistence by Alaska Natives in rural communities. The purpose of the proposed action is to develop regulations to allow for the legal harvest of halibut for subsistence use in Convention waters in and off Alaska. One of the goals of the preferred alternative is to enable Alaska residents, both Alaska Native and non-Native, who depend upon the taking of halibut for food and who have limited alternative food resources to continue to take halibut for that purpose. Another goal is to formalize a heretofore unrecognized fishery and enhance accurate estimates of removals for stock assessment purposes.

Subsistence halibut harvests are currently managed under Federal regulations that apply to sportfishing, largely because the subsistence fishery’s pattern of use has not been adequately documented. Federal regulations limit all non-commercial uses of halibut in Alaska, including sport, personal use and subsistence fisheries, to two fish per person per day, caught on a single line with a maximum of two hooks or a spear from February 1 through December 31. The State of Alaska also has implemented regulations addressing sport, personal use and subsistence halibut fisheries.

The Halibut Subsistence EA/RIR addresses the development of fishery regulations to define the legal harvest of halibut for subsistence use in Convention waters. First, subsistence halibut harvests are currently included within the personal use, or sportfish, regulations, largely because the pattern of subsistence use has not been adequately documented. Sportfish regulations do not reflect the customary and traditional use of halibut in rural communities. Increased enforcement of commercial halibut IFQ and CDQ regulations has led to increased awareness of the conflict between halibut regulations and customary and traditional subsistence practices of Alaska Natives in coastal communities.

Subsistence harvests may not be adequately accounted in the International Pacific Halibut Commission calculations of total halibut removals. Cooperative agreements would enhance data collection of subsistence harvests. Despite the lack of complete data on subsistence harvests, all such harvests are estimated to account for less than one percent of total halibut removals.

Subsistence harvest estimates provided to the IPHC may not adequately account for all subsistence removals due to lack of adequate monitoring, reporting, and estimation processes. Methods for estimating halibut subsistence removals were reevaluated in 1993. IPHC has used the estimate of 228,000 lb of halibut for 1995-97, derived from ADF&G Subsistence Division household surveys, to account for Alaska subsistence halibut removals. For 1998-1999, IPHC has estimated halibut subsistence at 430,000 lb. The 2000 estimate increased to 439,000 lb to reflect an increase in removals from the retention of undersized fish in Area 4E. There currently is no satisfactory system for assessing the size and trends in the subsistence fishery in rural Alaska, nor in the immediate future, funds to do so. Subsistence harvests may not be adequately accounted in the IPHC calculations of total halibut removals. Cooperative agreements would enhance data collection of subsistence harvests. Despite the lack of complete subsistence harvests, all such harvests are estimated to account for less than one percent of total halibut removals. The IPHC has consistently supported increased efforts for monitoring and accounting of all halibut removals to enhance stock assessments.

A number of federal orders direct actions that address responsibilities in relation to Native issues. The latest Presidential Executive Order on the subject of "Consultation and Coordination with Indian Tribal Governments" is dated November 6, 2000. The Presidential Executive Memorandum of April 29, 1994, on "Government-to-Government Relations with Native American Tribal Governments" is also still effective. The Secretarial Order which established the "American Indian and Alaska Native Policy" for the Department of Commerce is dated March 30, 1995.

During 1996, the Council received a number of requests from Alaska Native tribal organizations to legitimize established halibut subsistence practices. The Council received a letter from Senator Ted Stevens, dated May 15, 1996, referring to the Council a resolution by the Central Council of Tlingit and Haida Indian tribes of Alaska to 'recognize and acknowledge halibut as a customary and traditional subsistence resource, and to assure subsistence harvesting of halibut by Alaska Natives is protected.'

In July 1996, the Coastal Villages Fishing Cooperative (CVFC) (now Coastal Villages Region Fund (CVRF)) requested a meeting with Council, NMFS, and NOAA staff in Bethel, Alaska to discuss halibut IFQ and Community Development Quota (CDQ) enforcement. The meeting occurred in August, 1996 and information was exchanged regarding halibut commercial fishing regulations and traditional halibut subsistence practices. Some Western Alaska Native fishermen routinely retain sublegal halibut harvested along with commercial CDQ halibut for subsistence purposes. The parties agreed to refer the conflict between traditional subsistence practice and existing fishing regulations to the Council.

CVFC, the Southeast Native Commission, the Central Council of Tlingit and Haida Indian Tribes of Alaska, and the Aleutian Pribilof Islands Community Development Association submitted a request, dated September 13, 1996, to NMFS to resolve enforcement issues related to subsistence halibut fishing. The letter referred to a State enforcement case in Southeast Alaska where three Angoon fishermen were cited for using illegal

gear (longline) to harvest halibut for subsistence. That case was dismissed in Superior Court in January 1997. The State elected not to appeal the *Hunter* decision.

A management proposal to define halibut subsistence was first developed to address a conflict between the IFQ/CDQ regulations and customary and traditional practices of Alaska Natives in IPHC Regulatory Area 4E, whereby halibut CDQ fishermen were retaining undersized halibut for personal use. In September 1996, the Council received a NMFS report on enforcement issues related to halibut subsistence and designated a committee to advise the Council on management of subsistence halibut harvests. In October 1996, staff from the Council, NMFS Enforcement, NOAA GC, and ADF&G Subsistence Division met with Alaska Native tribal representatives to exchange information on the Council process for developing fishing regulations and tribal subsistence customs. Agency staff met in November 1996 and provided a report to the Council at its December 1996 meeting on numerous issues related to development of halibut subsistence regulations.

At its December 1996 meeting, the Council named seven representatives of Native Alaska Tribes to the Halibut Subsistence Committee and named Council member Robin Samuelsen as Chairman. The committee met in January 1997, and provided recommendations for the development of halibut subsistence regulations in its report to the Council in February 1997. Proposals identical to that submitted by CVFC were submitted by the Traditional Councils of Tooksook Bay, Kipnuk, Nightmute, and Newtok to the Council's Halibut Subsistence Committee. Resolutions by the Central Council of Tlingit and Haida Indian Tribes of Alaska and the Southeast Native Subsistence Commission were also submitted to the committee.

At its February 1997 meeting, the Council initiated preparation of an EA/RIR for a regulatory amendment to allow the legal harvest of halibut for subsistence in rural communities to conform with state and Federal statutes that provide the opportunity for the continued existence of these traditional cultures and economies.

In April 1997, the Council approved a draft EA/RIR/IRFA with some changes for public review. In June 1997, the Council took final action on one part of the proposed action. It recommended to allow the retention of undersized halibut in the Area 4E CDQ fishery. That measure took effect June 4, 1998, was renewed by the IPHC in January 2000, and was scheduled to sunset on December 31, 2001. Subsequently, the IPHC renewed this provision indefinitely. The Council did not recommend a sunset, but the IPHC wanted to ensure an adequate data collection program. Final action on the larger issues of defining eligibility, legal gear, customary and traditional trade, bag limits, and cooperative management agreements was scheduled for February 1998 and then rescheduled for February 1999.

The Council deferred action on defining halibut subsistence while the State of Alaska Legislature considered amending the State Constitution to comply with Federal law related to management of fish and game on Federal lands. The dual management issue does not affect management of Pacific halibut (except in a few small areas of the National Park lands), however, the Council chose to postpone its action to allow the State to address its management issue, unimpeded by public confusion of jurisdictional issues of state versus Federal management of fish and game. When the legislature did not take such action by an October 1999 Congressional deadline, NMFS recommended that the Council reschedule final action. In February 2000, the Council revised the alternatives in the draft analysis and rescheduled initial review and final action for April and June 2000, respectively. At the April 2000 meeting, the Council again revised the list of alternatives and rescheduled final action for October 2000. It also requested that its Halibut Subsistence Committee convene in September 2000 to review the public review draft of the analysis and provide recommendations. The committee met on September 7, 2000. The committee recommended that the alternatives considered in the analysis were complete.

## 1.2 Defining 'Subsistence'

Given the nature of public and government debate regarding subsistence in Alaska, it is important to differentiate the meanings of "subsistence" before analyzing alternatives. In general, "subsistence" refers to

fishing and hunting for wild foods by Alaska Natives and other residents of rural Alaska areas, as characterized in this ethnographic description in Wolfe 1993b:

In 1990 there were about 52,000 Alaska Natives living in somewhat more than 250 rural settlements (commonly called “villages”) in Alaska, including Tlingit, Haida, Tsimshian, Aleut, Alutiiq, Yup’ik, Inupiat, and several Athapaskan tribal groups. The economies, cultures, and spiritual well being of Alaska’s indigenous societies are heavily dependent upon customary and traditional fishing and hunting practices (called “subsistence” in Alaska) (Wolfe and Walker 1987). Fishing and hunting for subsistence uses are mainstays of the economy, culture, and way of life of most contemporary Alaska Native villages. The annual subsistence harvest in rural areas is about 35-45 million pounds of usable wild foods, which come to about a pound of food per person per day for the rural population (this includes about 38,000 non-Natives).

Subsistence activities of Alaska Natives are usually conducted by traditional, kinship-based groups using small-scale, efficient technologies (e.g., gill nets, seine nets, fish wheels, rifles, skiffs, outboard motors, and snowmachines). The food product is preserved by traditional, labor-intensive methods including air drying, smoking, freezing, salting, and fermenting. Traditional foods are distributed along non-commercial networks of sharing and exchange and consumed primarily by families in rural areas. Fishing and hunting occur in traditional areas following customary principles of the local society... (cf., Alaska Department of Fish and Game, Division of Subsistence (1992) for materials on contemporary subsistence systems of Alaska Native villages) (Wolfe 1993b:13).

Wild food harvests contribute to the food supply of most rural places in Alaska, as documented by surveys by the Division of Subsistence and analyzed by Wolfe and Walker (1987:68):

The statewide survey indicates that subsistence harvests are a prominent part of the economy and social welfare of most rural Alaska regions. Subsistence productivity is substantial in most areas except in the four large urban population centers of Anchorage, Fairbanks, Juneau, and the Matanuska-Susitna Borough. (Wolfe and Walker 1987:68)

Subsistence patterns conducted by Alaska Native groups can be differentiated from the subsistence patterns by non-Natives in Alaska, according to Smith and Kancewicz (1995):

For Alaska Native tribal members, subsistence is a Native cultural tradition, an integrated pattern of tribal community life and the substance of Native self-definition. It is a matter of inherent historical, cultural identity. Non-Native subsistence, for the most part, is the opposite; an individual activity governed by the rules affecting individual rights.

To participate in what Alaska Natives mean when they speak of subsistence, then, a non-Native would need to become a participating member of a Native community. Long-term non-Native residents, for example, spouses of members, are often admitted to membership. Transients, such as school teachers, or government agency personnel, most often are not.

This is not to say that non-Natives do not engage in what they perceive to be subsistence: the taking of fish and game for personal sustenance. This is also not to say that there are families who have chosen to live this way for several generations, or that there are not individual non-Natives who have come to identify themselves with this minimalist way of life, finding in it a Zen sort of richness. But it is to say that Native subsistence and non-Native subsistence are not the same thing, and that both are entitled to be regulated in a manner that accommodates them.

The implication for management is directly related to one’s interpretation of the meaning of subsistence. The Council’s final choice for determining eligibility under Alternative 2, Option 2 will directly affect the



outcome of the analysis of the remaining management options. Eligibility criteria will have repercussions on gear restrictions and barter.

The cultural context will also define the kinds of regulations that will be applicable to subsistence users. The Halibut Subsistence Committee identified some traditional subsistence practices unique to certain rural communities that are inconsistent with state and Federal regulations. Where these customs occur, regulations may be written to exempt those communities. Western Alaska Native communities traditionally use three hooks per line (state regulations permit three hooks per line which are in conflict with Federal regulations permitting only two hooks per line). Some Western Alaska Natives believe that returning hooked fish to the water spiritually damages the stock. Southeast Natives use a variety of gear, including an 1,800 ft skate with up to 100 hooks. Southeast Alaska Natives have a tradition of ‘sale’ of subsistence-caught fish as one means of distributing subsistence foods among tribal members, along with sharing and barter. Most Alaska Native communities have a tradition of trade and barter of halibut. Compensating subsistence fishermen with cash for gas money is considered barter, a traditional practice.

### 1.3 Subsistence Laws

The history of subsistence laws in Alaska is complicated. Village, regional, and multi-regional authorities have been formed by subsistence users to manage local resources (Wolfe 1993b). However, with few exceptions, the jurisdiction of these authorities are not recognized by the state or Federal government because aboriginal rights to hunt and fish were extinguished by the Alaska Native Claims Settlement Act (ANCSA) in 1971. State and Federal laws were passed in 1978 and 1980, respectively, that required these governments to pass subsistence fishing and hunting regulations to provide for subsistence users, and gave priority to subsistence uses over commercial or recreational uses.

Federal law contained higher standards of protection, requiring subsistence regulations to impose ‘the least adverse impacts’ on customary and traditional subsistence practices (cf., John v. State of Alaska; Kwethluk v. State of Alaska). It initially proposed a Native-only subsistence preference, but modified it to “rural residents” to appease state interests, but with the stated understanding that rural residents were mostly Alaska Natives (Kancewick and Smith 1991). Alaska’s rural population as defined by the Boards of Game and Fisheries is split almost evenly between Alaska Native and non-Natives. The rural compromise in state and Federal laws recognized that most subsistence practices by Alaska Natives would be covered under a ‘rural’ designation, while including fishing and hunting by non-Natives in rural places as well (R. Wolfe, pers. commun.).

The state subsistence statute had to provide a ‘reasonable opportunity’ for subsistence uses to occur. Some changes have been made in the development of subsistence laws; a variety of court cases have thrown the legality of subsistence statutes into question and substantially disrupted fish and game management in Alaska (Kancewick and Smith 1991). After 1989, when portions of state law were found to be unconstitutional, the Federal government stepped in to take control of subsistence management on Federal lands because state management did not comply with Federal requirements for protecting subsistence. These legal problems remain unresolved.

While legal challenges have led to confusion of rights and responsibilities for subsistence management (Kancewick and Smith 1991), in the case of subsistence regulations for Pacific halibut there is no debate that: (1) Federal law does allow for rural preference (and Native preference); (2) the State Constitution does not allow for a rural preference; (3) Title VIII of ANILCA is generally not applicable to marine navigable waters of the U.S. (John v. State of Alaska); and (4) state authority to regulate fishing for Pacific halibut in Convention waters is preempted by the Convention Between the United States and Canada for the Preservation of the Pacific Halibut Fishery of the Northern Pacific Ocean and the Bering Seas and the Northern Pacific Halibut Act, 16 U.S.C §§ 773-773k. Therefore, it is important for the reviewer to understand that the issues surrounding Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) and

the Secretaries of the Interior and Agriculture to implement a joint program to grant a preference for subsistence uses of fish and wildlife resources on public lands has no application to the decision facing the Council in its definition of subsistence for Pacific halibut in Convention waters. The Council may legally choose from among the management options presented below.

One of the goals of the proposed halibut subsistence program is to create a subsistence fishery under the Halibut Act which will cause the Federal Subsistence Board (FSB) to decline to exercise its separate Title VIII authority because the existing regulatory regime (under the Halibut Act) will adequately address the subsistence rights of rural residents under Title VIII of ANILCA. In choosing a preferred alternative, the Council recognized two legal issues related to its decision. First, it recognized the overlapping authorities of the Secretary of Commerce (SOC) for managing halibut in Convention waters, and of the Secretaries of Interior/Agriculture, acting through the FSB, for managing subsistence uses of rural residents on certain marine waters under Title VIII of ANILCA (public lands were defined by the Ninth Circuit in the Katie John case to include certain marine waters - listed in Appendix 1). Thus, in Convention waters where Title VIII applies, the potential exists for the FSB to create a separate subsistence halibut fishery if it determines that the existing regulatory regime (administered by the DOC under the Halibut Act) unduly restricts the subsistence rights of rural residents under Title VIII.

The Council did not adopt the FSB criteria, risking FSB intervention if any rural residents with halibut subsistence fishing rights in Title VIII marine waters are excluded from participation in the proposed halibut subsistence fishery. In its examination of the list of public lands listed in Appendix 1, the Council recognized that the FSB has authority for only a limited number of small areas in the lower Kenai Peninsula and in northern end of Cook Inlet where halibut distribution extends.

The second legal issue concerns litigation in Eyak (Native Village of Eyak v. Trawler Diane Marie, Inc.) regarding aboriginal fishing rights beyond the Territorial Sea (3-200 miles). ANCSA extinguished all aboriginal claims in Alaska (interpreted by the Supreme Court to mean uplands and territorial Sea). The 9th Circuit ruled that beyond the "State's" Territorial Sea (0 to 3 miles), aboriginal claims have not been extinguished. Five Native villages (Eyak, Tatitlek, Chenega, Port Graham, and Nanwalik) sued the Federal government claiming aboriginal title to areas within the EEZ in the GOA. The 9th Circuit Court ruled that claims of exclusive aboriginal title were not possible in the EEZ, however the 9th Circuit Court had previously ruled that non-exclusive aboriginal fishing and hunting rights were possible. The current case would determine if these Native villages have such rights and the nature of those rights. It is possible that some of these villages may be determined to have fishing rights, and this may be interpreted to include halibut. The legal test is whether those federal activities unduly burden the Tribal fishing rights. The Court will examine the current regulations to see if the fishing rights of Alaska Native residents are unduly burdened.

Lastly, the Alaska State Legislature, while supporting the objective of defining halibut subsistence in Alaska, has objected to the Council's inclusion of members of Federally recognized Tribes with a finding of halibut customary and traditional (C&T) use in Alaska who reside in urban areas as being in conflict with the State Constitution.

## 1.4 Alternatives Considered

### 1.4.1 Alternative 1: No Action

Current Federal regulations developed by the IPHC and implemented by NMFS do not provide for customary and traditional subsistence practices by residents of rural Alaska communities. The status quo alternative would continue the current application of halibut sportfishing regulations to subsistence harvests in Alaska. Continued conflict could occur between Federal and state enforcement agencies and rural Alaskans engaged

in customary and traditional halibut subsistence practices, although these conflicts were identified beginning in 1996 with increased enforcement of IFQs and CDQs in rural communities.

#### 1.4.2 Alternative 2: Allow the subsistence harvest of halibut.

Alternative 2 would result in Federal regulations to specifically allow the subsistence harvest of halibut. The six options described below allow the Council to determine the effects of different options for defining subsistence, eligibility, legal gear, bag limits, customary and traditional trade, and reporting requirements.

##### 1.4.2.1 Option 1. Define subsistence.

*Halibut subsistence regulations are needed to allow the continued practice of long-term customary and traditional practices of fishing halibut for food for families in a non-commercial manner for non-economic consumption. Subsistence is defined as 'non-commercial fishing for food.'*

Option 1 recognizes that halibut is taken primarily for food and not for recreational uses by tribal members regardless of where in the State they live, or by rural residents. The Council adopted the above definition in the analysis, which was recommended to them by its Halibut Subsistence Committee.

##### 1.4.2.2 Option 2. Define eligibility (\*residency defined as one calendar year):

Suboption A. 1. Members of Alaska Native Federally-recognized tribes with customary and traditional use of halibut.  
2. Other permanent rural residents\* of communities with customary and traditional use of halibut.

Suboption B. Alaska rural residents\* as defined in ANILCA and identified in Table 2.4 entitled 'Alaska Rural Places in Areas with Subsistence Halibut Uses,' and will also include other communities for which customary and traditional findings are developed in the future.

Suboption C. 1. Members of Alaska Native Federally-recognized tribes with customary and traditional use of halibut.  
2. Other permanent rural residents\* who have legitimate subsistence needs in communities with customary and traditional use of halibut.

Need will be determined by:

1. State of Alaska
2. Tribes
3. Cooperative authority

Suboption D. Members of Alaska Native Federally-recognized tribes with customary and traditional use of halibut.

Suboption E. Members of Alaska Native Federally-recognized tribes who reside in rural communities with customary and traditional use of halibut. *(This language also may be substituted under Suboptions A, C, or D.)*

Alternative 2 proposes to define halibut subsistence (Option 1), eligibility (Option 2), gear (Option 3), trade (Option 4), bag limits (Option 5), and cooperative agreements (Option 6). The eligibility criteria are the most critical element of the proposed action; it is also the most controversial. The number of eligible individuals or communities, combined with the definition of legal gear, will ultimately determine the amount of halibut that can be taken. It is the Council's intent to legitimize established uses and not expand the subsistence

fishery beyond established patterns of use. Therefore, the Council adopted a definition of halibut subsistence that would be applied either through tribal membership, rural residency, or both. Non-tribal members in urban areas are not included in this action.

Suboption A (and D and E) is based on a modified original recommendation from the Council's Halibut Subsistence Committee; it currently reflects the language recommended to the Council by the Halibut Subsistence Working Group in public testimony in April 2000. The original Suboption A language (tribal member only) was recommended to the Council by the Halibut Subsistence Committee to recognize that Alaska Native tribal members are most affected under the status quo. NMFS Enforcement contacts with Alaska Native tribal members in Western and Southeast Alaska raised the awareness of both Natives and Federal fishery management agencies regarding the conflict between customary Alaska Native subsistence practices and Federal commercial and sport fishing regulations. Continued enforcement of current commercial and sport fishing regulations conflicts with the practice of aboriginal customs of providing food for Alaska Native communities.

Suboption B uses a rural eligibility standard. This is similar to the rural eligibility standard found in ANILCA. The list of "Alaska Rural Places and Alaska Native Groups" was developed by the Alaska Board of Fisheries and Game. Rural places are defined as places outside the boundaries of non-subsistence areas, as determined by the Alaska Joint Board of Fisheries and Game (Alaska Statute 16.05.258(c)). In state statute, a rural area means "a community or area of the state in which the non-commercial, customary and traditional use of fish or game for personal or family consumption is a principal characteristic of the economy of the community or area" (Alaska Statute 16.05.940(27)). Suboption B, "Alaska rural residents as defined in ANILCA and identified in Table 2.4 entitled 'Alaska Rural Places in Areas with Subsistence Halibut Uses,' will also include other communities for which customary and traditional findings are developed in the future." Suboption B contains a "rural" standard for eligibility, rather than a distinction based on tribal membership.

The EA/RIR addresses the effects of proposed Federal regulations for halibut subsistence on Alaska rural residents. The Council approved five eligibility options for Alaska rural residents for analysis. In its original recommendations to the Council, the Halibut Subsistence Committee proposed the list of Alaska rural places and Alaska Native groups in areas with subsistence halibut uses that were developed by the Alaska Board of Fisheries. The committee further recommended that the Council develop an administrative process for those groups not already approved to petition the Council for eligibility. Suboption B includes similar recommendations. Suboption C would require a separate application/adjudication process for determining individual eligibility. Suboptions D and E were added by the Council in April 2000. A number of changes were made to these suboptions since the analysis was initiated in 1997. Previous versions of the initial and final review documents should be reviewed for a full record of Council consideration.

Subsistence uses may be defined for persons living in particular areas, since such uses only occur in a local area. This would require that subsistence users in one part of the state stay in those areas which customarily are their fishing areas. Because for many Alaskans, particularly Native tribal members, 'subsistence uses' have meaning only within the context of an identifiable, territorially defined group, subsistence regulations may be developed by reference to that group's customs and membership to be eligible for subsistence halibut. Where a group's culture is inextricably tied to subsistence use, any member of the group can be assumed to participate, as a harvester, processor, or recipient of sharing or barter. That is, membership is defined by those who participate.

While it is obvious Native villages and groups are most likely to benefit from this approach, the benefits are not tied to Native people. There may very well be non-Native groups, especially in isolated communities, who too can establish themselves as an identifiable group engaged in customary and traditional uses within a specific area, as currently defined by the Board of Fisheries. It is appropriate, then, to tailor subsistence regulations to meet the customs and traditions of identifiable groups practicing a subsistence way of life (adapted from Smith and Kancewick 1995).

Alaska Statute §16.05.258 lists the criteria used by the State of Alaska Subsistence Board to determine eligibility (see box below). The regulations governing the rural determination process adopted by the FSB are listed in the following box.

Sec. 16.05.258. Subsistence use and allocation of fish and game.

c) The boards may not permit subsistence hunting or fishing in a non-subsistence area. The boards, acting jointly, shall identify by regulation the boundaries of non-subsistence areas. A non-subsistence area is an area or community where dependence upon subsistence is not a principal characteristic of the economy, culture, and way of life of the area or community. In determining whether dependence upon subsistence is a principal characteristic of the economy, culture, and way of life of an area or community under this subsection, the boards shall jointly consider the relative importance of subsistence in the context of the totality of the following socio-economic characteristics of the area or community:

- (1) the social and economic structure;
- (2) the stability of the economy;
- (3) the extent and the kinds of employment for wages, including full-time, part-time, temporary, and seasonal employment;
- (4) the amount and distribution of cash income among those domiciled in the area or community;
- (5) the cost and availability of goods and services to those domiciled in the area or community;
- (6) the variety of fish and game species used by those domiciled in the area or community;
- (7) the seasonal cycle of economic activity;
- (8) the percentage of those domiciled in the area or community participating in hunting and fishing activities or using wild fish and game;
- (9) the harvest levels of fish and game by those domiciled in the area or community;
- (10) the cultural, social, and economic values associated with the taking and use of fish and game;
- (11) the geographic locations where those domiciled in the area or community hunt and fish;
- (12) the extent of sharing and exchange of fish and game by those domiciled in the area or community;
- (13) additional similar factors the boards establish by regulation to be relevant to their determinations under this subsection.

Suboption D modified Suboption A to allow the Council to designate halibut subsistence for only Suboption A, Part 1 (Alaska Natives only). This suboption recognizes the cultural component of customary and traditional uses of halibut by Alaska Natives.

Suboption E, added to the analysis in April 2000, would limit halibut subsistence eligibility to tribal members who reside in communities for which halibut subsistence customary and traditional practices have been identified. This eligibility definition may be substituted for the language under Suboptions A, C, or D. It would limit halibut subsistence eligibility to those Alaska Native tribal members who reside in rural places with halibut customary and traditional use designations. This suboption would exclude tribal members who reside in non-rural places (e.g., Anchorage, Juneau, and Ketchikan) from halibut subsistence fishing off those communities. Another definition may, however, allow tribal members to halibut subsistence fish off the rural communities with which their tribes are associated.

#### **REGULATIONS GOVERNING THE RURAL DETERMINATION PROCESS**

##### **50 CFR 100.15 and 36 CFR 242.23**

**§100.15 *Rural determination process.*** (a) The Board shall determine if an area or community in Alaska is rural. In determining whether a specific area of Alaska is rural, the Board shall use the following guidelines:

- 3) A community or area with a population of 2500 or less shall be deemed to be rural unless such a community or area possesses significant characteristics of a non-rural nature, or is considered to be socially and economically a part of an urbanized area.
- 4) Communities or areas with populations above 2500 but not more than 7000 will be determined to be rural or non-rural.
- 5) A community with a population of more than 7000 shall be presumed non-rural, unless such a community or area possesses significant characteristics of a rural nature.
- 6) Population data from the most recent census conducted by the United States Bureau of Census as updated by the Alaska Department of Labor shall be utilized in this process.
- 7) Community or area characteristics shall be considered in evaluating a community's rural or non-rural status. The characteristics may include, but are not limited to:
  - (i) Use of fish and wildlife;
  - (ii) Development and diversity of the economy;
  - (iii) Community infrastructure;
  - (iv) Transportation; and
  - (v) Educational institutions.
- 8) Communities or areas which are economically, socially and communally integrated shall be considered in the aggregate.
  - 1) The Board shall periodically review rural determinations. Rural determinations shall be reviewed on a ten year cycle, commencing with the publication of the year 2000 U.S. census. Rural determinations may be reviewed out-of-cycle in special circumstances. Once the Board makes a determination that a community has changed from rural to non-rural, a waiting period of five years shall be required before the non-rural determination becomes effective.
  - 2) Current determinations are listed at §100.23.

### 1.4.2.3 Option 3. Define legal gear.

#### Suboption A. Define hand held gear as:

1. Rod and reel gear
2. Spear
3. Hand troll gear

#### Suboption B. Define hook-and-line gear (including set and hand-held gear) with a range of:

1. 2 hooks;
2. 10 hooks;
3. 30 hooks;
4. 60 hooks.

#### Suboption C. Allow tribal governments to contract with NMFS to allow proxies to be used by designated fishermen to fish for the community using:

1. 1 - 3 skates of gear, up to 60 hooks each;
2. any gear type

#### Suboption D. Allow retention of subsistence halibut using commercial gear while IFQ/CDQ fishing.

1. Statewide
2. 4C, 4D, and 4E only
3. Require subsistence fishermen to designate a particular trip as a subsistence trip outside of areas 4C, 4D, and 4E

Current Federal regulations for non-commercial fishing limit legal halibut gear to rod-and-reel, with one line and a maximum of two hooks or a spear. An exemption for Area 4E community development quota (CDQ) commercial fishermen occurs in Federal regulation, which allows retention of undersized (<32 inch) halibut as take-home fish while commercial fishing.

State regulations exist separately for sport, personal use, and subsistence. State sportfishing regulations restrict legal gear to rod and reel only, one line per person. State personal use regulation in some non-subsistence areas (e.g., Juneau and Ketchikan, 5 Alaska Administrative Code 77.676) restrict legal gear to a single hand-held line with a maximum of two hooks. Areas with customary and traditional use findings for halibut have subsistence regulations that restrict gear to a single hand-held line (or line operated by hand) with a maximum of two hooks (3 hooks in the Yukon-Kuskokwim area).

The analysis allows the Council to define legal gear by management area. Suboption A would legalize gear that has been reported through public testimony to be used for subsistence halibut fishing. It would include rod-and-reel gear (with up to three hooks) that is widely used in rural coastal communities for taking halibut for family use. Halibut are taken more occasionally as an incidental harvest with hand troll gear operated for subsistence salmon fishing. The use of spears for taking flounders and halibut is relatively uncommon, though spears are sometimes used in shallow bays in places like Mekoryak on Nunivak Island.

Suboption B would allow an individual to use one skate of gear up to 1,800 ft long (not including the buoy line), with hooks set 18-20 ft apart, with a legibly marked buoy. Public testimony reported its use as traditional gear for halibut subsistence fishing in Southeast Alaska. The Council has proposed to limit hooks per skate to between 2 and 60 hooks.

Suboption C would allow ‘designated’ fishermen to fish halibut for the community using: (1) up to 3 skates, with up to 60 hooks per skate or (2) any gear type. The designated fisherman might hold in hand the designated “proxy” for others in that community.

Suboption D was added to the analysis in December 1999 in response to public testimony. It expands the current exemption for Area 4E CDQ halibut fishermen to all halibut fisherman in all IPHC areas for retention of any size halibut using legal commercial gear. In April 2000, the Council added three choices under Suboption D to allow retention of halibut of any size to be retained by a person deemed eligible for halibut subsistence under Option 2 who is also a valid halibut commercial (either IFQ or CDQ) fishermen in either: (1) all waters off Alaska; (2) IPHC Areas 4C, 4D, and 4E only; or (3) subsistence fisherman who also holds commercial halibut IFQs or CDQs in IPHC Areas 4C, 4D, and 4E would be required to notify NMFS that a particular trip is for subsistence and therefore any poundage should not be deducted from the corresponding IFQ or CDQ account. It would require rulemaking denoting the requirements for having subsistence and commercial halibut during the same trip. Under Item 3, commercial fishermen in Areas 2C, 3A, 3B, 4A, and 4B would not be allowed to retain subsistence halibut.

#### 1.4.2.4 Option 4. Allow the customary and traditional trade of subsistence halibut.

Suboption A. Customary and traditional trade through monetary exchange shall be limited to an annual maximum of:

- 1) \$0;
- 2) \$200;
- 3) \$400;
- 4) \$600.

Suboption B. Customary and traditional trade through non-monetary exchange is allowed with:

- 1) other Alaska tribes;
- 2) any Alaska rural resident;
- 3) any Alaska resident;
- 4) anyone.

This option would allow for the customary and traditional trade of subsistence halibut. Suboption A allows for the trade (“barter”) of subsistence caught halibut, limited to an annual amount set by the Council, such as \$200, \$400, or \$600. Public testimony has identified that cash is a traditional barter exchange for subsistence fish. The \$0 choice would prohibit monetary exchange for halibut. Suboption B identifies the classes of individuals with whom the customary and traditional trade of subsistence caught halibut for non-monetary exchange may occur.

#### 1.4.2.5 Option 5. Define a daily bag limit of between 2-20 halibut.

Suboption. No bag limits for subsistence halibut.

Option 5 would define daily bag limits between 0 and 20 for halibut subsistence purposes. Bag limits are a traditional management tool for limiting harvest in sport fisheries.

#### 1.4.2.6 Option 6. Develop cooperative agreements with tribal, State, and Federal governments and other entities to collect, monitor, and enforce subsistence harvests and develop local area halibut subsistence use plans in coastal communities.

Under Option 6, tribal, state, Federal governments, and other entities would develop cooperative agreements to collect necessary harvest records. In addition to data collection, these agreements could be used to identify eligible users and legal gear in rural communities. NOAA General Counsel has recommended that cooperative agreements not be used to manage this fishery at this time. However, a “co-operative agreement” reporting vehicle would be necessary. The latter language was included under Option 6 until the Council amended the language in June 2000.



1.4.3 Alternative 3. Council recommendations for the subsistence harvest of halibut. (**Preferred alternative**)

**Define subsistence.**

Halibut subsistence regulations are needed to allow the continued practice of long-term customary and traditional practices of fishing halibut for food for families in a non-commercial manner for non-economic consumption. Subsistence is defined as the *'non-commercial, long-term, customary and traditional use of halibut.'*

**Rationale:** At its October 2000 meeting, the Council selected its preferred alternative to recognize subsistence fishing for Pacific halibut. It adopted language to define halibut subsistence for Convention waters based on recommendations by its advisory panel, halibut subsistence committee, and public testimony after reviewing proposed definitions under Option 1. One of the goals of the preferred alternative is to enable Alaska residents, both Alaska Native and non-Native, who depend upon the taking of halibut for food and who have limited alternative food resources to continue to take halibut for that purpose. Additional goals were to formalize a heretofore unrecognized fishery and enhance accurate estimates of removals for stock assessment purposes. The Council's subsistence definition will be used in the proposed implementing rules.

**Define eligibility.**

Persons eligible to subsistence fish for halibut are: Alaska rural residents as defined in ANILCA\* and identified in Table 2.4 entitled "Alaska Rural Places in Areas with Subsistence Halibut Uses," and will also include other communities for which customary and traditional findings are developed in the future. The list specifically includes the communities of Adak, Diomedea, and Shismaref. This list of eligible rural communities can only be changed by Council action. The Council urges communities seeking eligibility to subsistence fish for halibut to pursue a 'customary and traditional' finding from the appropriate bodies before petitioning the Council.

Other persons eligible to subsistence fish for halibut are:

1. All identified members of Alaska Federally recognized native tribes in rural areas with a finding of customary and traditional use of halibut who move to or have moved to an urban area are allowed to return to their area of tribal membership and exercise their subsistence rights for halibut fishing.
2. All members of Alaska Federally recognized native tribes with a finding of customary and traditional use of halibut that live in an area that has become or in the future becomes urban shall be allowed to exercise their halibut subsistence rights anywhere in a designated rural area within the state of Alaska.

\*Under federal law in ANILCA, subsistence uses are identified as customary and traditional uses of fish and game by rural Alaska residents.

**Rationale:** The Council adopted two routes for eligibility for halibut subsistence fishing under Option 2: (1) residency in rural communities with C&T uses of halibut and (2) membership in Tribes with C&T uses of halibut: (a) who move to or have moved to an urban area shall be allowed to return to their area of tribal membership and exercise their subsistence rights for halibut fishing and (b) who live in an area that has become or in the future becomes urban shall be allowed to exercise their halibut subsistence rights anywhere in a designated rural area within the State of Alaska. The C&T findings based on a rural standard are distinct from that of Tribes. Some Tribal members may no longer reside in the approved rural areas.

The Council considered whether to adopt the criteria adopted by the Federal Subsistence Board, the Board of Fisheries, or create its own criteria. Its primary selection for defining eligibility was to adopt a list of

communities that was developed by staff using the rural standard and criteria established by the BOF for determining halibut C&T use. The State defined rural as “a community or area of the state in which the non-commercial, customary and traditional use of fish or game for personal or family consumption is a principal characteristic of the economy of the community or area.” The State defines a rural area as a community or area of the state in which the non-commercial, customary and traditional use of fish or game for personal or family consumption is a principal characteristic of the economy of the community or area (Alaska Statute §16.05.940(27)).

So in effect, the Council created its own criteria but based it on the BOF standard and list of rural places constructed from that standard (Table 1). The approved list includes an additional three rural places that were included during final action: Adak, Shishmaref, and Diomed (Inalik). The estimate of 220 people for Adak, 65% of whom are Alaska Natives, is for 2000 as that community has recently been repopulated since the 1995 population estimate by the Alaska Department of Labor.

The Council also referenced a definition of rural “under ANILCA” in its preferred alternative and clarified that definition to be that adopted by the FSB when informed that ANILCA did not define “rural.” Since final action, NOAA General Counsel has clarified that the footnoted language in the preferred alternative was repealed in 1997 and may no longer be appropriate to include.

The Council did not adopt the FSB criteria explicitly. The Council expressed biological concerns related to the halibut stock with the possibility of expanding subsistence privileges to an additional 45,000 residents and the potential leakage of subsistence-caught halibut into the commercial market principally as a result of the May 2000 rural determination for the entire Kenai Peninsula. The rural determination does not grant C&T use of any game animal or fish; therefore, adopting the FSB criteria may not have had as great an impact on halibut removals as anticipated during Council deliberations. Staff determined that little halibut was associated with areas outside the jurisdiction of the Council, but adopting a rural designation for this area could have significant allocative impacts in Convention waters. Since final action, the FSB has reversed its rural determination for the Kenai Peninsula.

Under either of the alternatives, any resident excluded from the proposed halibut subsistence program could petition the FSB to create a subsistence fishery, or any other type of fishery, in waters under its jurisdiction. It is the intent of the Council that the FSB consider adopting similar regulations to those adopted here in the reserved waters under its jurisdiction. The Council intended its regulations to be sufficiently inclusive as to apply also to reserved waters under ANILCA and outside Council jurisdiction. USFWS, USFS, and NPS staff have indicated an interest in mirroring these regulations for those waters under their jurisdiction.

Therefore, the Council adopted the State criteria for rural areas and non-subsistence areas that were originally developed by the Alaska Joint Board of Fisheries and Game, and placed into statute by the Alaska legislature (Alaska Statute §16.05.258(c)) as its own criteria. Also, the Council adopted what it considered to be a definition of rural under ANILCA, although no such formal definition exists. The FSB list of rural communities is identical to the designations of the Alaska Joint Board of Fisheries and Game, except for the community of Saxman, which the FSB designates “rural.” During Council deliberations, the roaded areas of the Kenai Peninsula were also designated by the FSB as rural. This determination was reversed in June 2001.

In effect, the State criteria defines the Federal halibut subsistence program in Alaska. The Council might have selected the FSB criteria, except for its concern of potential leakage of subsistence halibut into commerce and the impacts on the halibut stock from harvests from the potential eligibility of an additional 40,000 Kenai Peninsula residents. The preferred alternative also requires that communities who seek to be included in this program in the future first seek approval for any claim to rural status and halibut C&T use by either the BOF or FSB before petitioning the Council. The Council identified that it alone is authorized to recommend changes to the list of rural places to the Secretary of Commerce.

*In summary, the Council drew upon both the Federal and State definitions of rural and lists of rural places to develop its list of rural places with C&T uses of halibut, and the Council created its own eligibility standard based on residency in listed rural communities with C&T uses of halibut, or membership in listed tribal entities with C&T uses of halibut as determined by the BOF.*

The Council further recognized that the Federal government has a Trust responsibility with Tribes in Alaska. A secondary selection grants eligibility to members of rural tribes with C&T uses of halibut if they subsequently move to an urban area and to members of urban tribes with C&T uses of halibut. In this regard, the Council definition of subsistence and eligibility standards are somewhat broader than those under ANILCA. (The difference is not without precedence -- management of marine mammals and migratory birds also have distinct definitions and standards from those under ANILCA.) The Council purposefully selected a system that would provide halibut subsistence opportunities to tribal members with a cultural use of halibut.

There are members of Tribes that are headquartered in rural areas. All the Tribal entities listed in Table 2 are headquartered in rural areas, except for eight tribal entities headquartered in what are now urban areas and are listed at right. During final action, the Council added two Alaska Native Tribes (Native Village of Shishmaref and Native Village of Diomedes (Inalik)) to the list included in the analysis based on public testimony.

Aukquan Traditional Council Douglas Indian Association Central Council Tlingit and Haida Indian Tribes Organized Village of Saxman Ketchikan Indian Corporation Ninilchik Village Kenaitze Indian Tribe Village of Salamatoff
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In June 2001, the Council clarified that limiting subsistence fishermen to a specific IPHC area in which their rural community was located was too restrictive. Its intent is to allow eligible rural residents (listed in Table 1) to subsistence fish in any designated rural area. All eligible members of Federally recognized tribes (listed in Table 2) located in urban areas are allowed to fish in any rural area. All eligible members of Federally recognized tribes who reside in urban areas are allowed to fish in their customary and traditional subsistence (rural) fishing area. The following table clarifies the subsistence fishing area depending on how a resident is deemed eligible.

<b>If you are a,</b>	<b>then you may conduct subsistence halibut fishing in rural areas of</b>
1. Resident of a rural community listed in Table 1, regardless of Alaska Native tribal membership,	any IPHC regulatory area in and off Alaska or the closed area.
2. Alaska Native tribal member and (a) your tribe is located in a rural area and (b) you reside in the same rural area, or a different rural area,	any IPHC regulatory area in and off Alaska or the closed area.
3. Alaska Native tribal member and (a) your tribe is located in a rural area but (b) you reside in an urban area,	the IPHC regulatory area, as listed in Table 2, where the tribal entity of which you are a member is located.
4. Alaska Native tribal member and (a) your tribe is located in an urban area and (b) you reside in the same urban area, or a different urban area,	any IPHC regulatory area in and off Alaska or the closed area.
5. Alaska Native tribal member and (a) your tribe is located in an urban area but (b) you reside in a rural area,	any IPHC regulatory area in and off Alaska or the closed area.

The Council clarified its proposed subsistence policy in terms of the “rural rule” and the “tribal rule.” The “rural rule” would maintain that rural residents of the specified communities (Table 1) would be eligible to conduct subsistence fishing for halibut in any rural area regardless of their membership in a Federally recognized Native tribe of Alaska that has a customary and traditional use of halibut (i.e., Alaska Native tribal member). Eligible rural residents who are not Alaska Native tribal members would lose their eligibility to conduct subsistence fishing for halibut if they were to relocate their residence to any community not specified in Table 1. The “tribal rule” would maintain that Alaska Native tribal members would be eligible to conduct subsistence fishing for halibut in at least one rural area regardless of the location of their residence. The Council clarified that persons eligible to conduct subsistence halibut fishing under either “rule” could do so in rural areas of any IPHC area off Alaska except for an Alaska Native tribal member whose tribe is located in a rural area but who resides in an urban area. An Alaska Native tribal member whose tribe is located in a rural area but who resides outside of the State of Alaska would be treated the same as one who resides in an urban area.

The eligibility rule could be drafted to read as follows:

*No person shall engage in fishing for subsistence halibut unless that person (a) is a rural resident of a community with customary and traditional uses of halibut named in Table 1, or (b) is a member of an Alaska Native tribe with customary and traditional uses of halibut named in Table 2.*

The Council action will allow year-round subsistence halibut fishing. New definitions would be developed for “Alaska Native tribe,” “rural,” “rural resident,” “commercial fishing” and “IFQ halibut.” Certain phrases used in the original Council action for regulatory and administrative simplicity would be interpreted as follows:

- The phrase “area of tribal membership” would be interpreted to mean the IPHC regulatory area in which an Alaska Native tribe (as defined above) is located, i.e., the place of its tribal headquarters as listed in Table 2.
- The phrase “anywhere in a designated rural area” would be interpreted to mean “in any rural area” or in any IPHC area not specified as a non-subsistence area.

- The phrase “has become or in the future becomes urban” would be interpreted to mean all Alaska Native tribes with tribal headquarters (as listed in Table 2) located in a non-subsistence or non-rural area.

Rural residents (including members of eligible Tribes listed in Table 2) may fish in rural areas. Members of rural tribes with C&T uses of halibut who have moved to an urban area are allowed to return to the area of their tribal membership to subsistence fish for halibut. Members of tribes with C&T uses of halibut whose area has become urban are allowed to subsistence fish in any rural area. The preferred alternative is based on identification of “an area that has become or in the future becomes urban.” While all current urban places in Alaska were rural at one time, the regulations may specify that “in the future” implies after October 6, 2000, the date of Council final action. A result of the recommended language, however, is to exclude those tribal members who subsequently move to a rural area without a halibut C&T finding. This may have been an unintended consequence of the preferred alternative, and the Council may revisit this exclusion upon publication of the proposed rule.

The Council did not identify “rural areas” open to subsistence halibut fishing and “urban areas” closed to subsistence halibut fishing. The Council did not specify that certain waters would be defined as open or closed for halibut subsistence fishing. Its preferred alternative would allow eligible Tribal members who reside in urban areas to return to the area of tribal membership to engage in subsistence halibut fishing (see Part 1). The Council intended that eligible fishermen would fish from an eligible community, but not be limited in which waters he fished. Its preferred alternative also would allow eligible Tribal subsistence users who currently reside in rural areas with a halibut C&T finding, which in later years become urban because of an increase in population, for example, to continue to be eligible (see Part 2).

The Alaska Joint Board of Fisheries and Game definitions took a different approach. It defined “urban areas” in its regulations based on its non-subsistence area. These fishing areas are currently closed to subsistence fishing. The areas are consistent with the rural and non-rural findings contained in the Table 1 adopted by the Council. That is, they are waters surrounding the non-rural places listed in Table 1 and found to be non-subsistence areas by the Alaska Joint Board. These closed areas are also depicted in maps attached to the preferred alternative.

## **Urban Areas Closed to Marine Subsistence Fishing by the Alaska Joint Board of Fisheries and Game**

**The Cook Inlet Nonsubsistence area\*** is defined as all waters of Alaska enclosed by a line extending east from Cape Douglas and a line extending south from Cape Fairfield, except those waters north of Point Bede which are west of a line from the eastern most point of Jakolof Bay north to the western most point of Hesketh Island including Jakolof Bay and south of a line west from Hesketh Island, and waters south of Point Bede which are west of the eastern most point of Rocky Bay.

*\* Based on non-subsistence area findings of the Alaska Joint Board of Fisheries and Game at 5 AAC 21.100 and 5 AAC 99.015(a)(3).*

**The Juneau Nonsubsistence area\*** is defined as marine waters of Sections 11-A and 11-B as defined in 5 AAC 33.200(k)(1) and (k)(2), Section 12-B as defined in 5 AAC 33.200(l)(2), that portion of Section 12-A as defined in 5 AAC 33.200(l)(1) north of the latitude of Point Marsden, and that portion of District 15 as defined in 5 AAC 33.200(o) south of the latitude of the northern entrance to Berners Bay and including Berners Bay.

*\* Based on non-subsistence area findings of the Alaska Joint Board of Fisheries and Game at 5 AAC 99.015(a)(2).*

**The Ketchikan Nonsubsistence area\*** is defined as marine waters of Sections 1-C as defined by 5 AAC 33.200(a)(3), 1-D as defined by 5 AAC 33.200(a)(4), 1-E as defined by 5 AAC 33.200(a)(5), that portion of 1-F as defined by 5 AAC 33.200(a)(6) north of the latitude of the southernmost tip of Mary Island and within one mile of the mainland and the Gravina and Revillagigedo Island shorelines, and that portion of District 2 as defined by 5 AAC 33.200(b) within one mile of the Cleveland Peninsula shoreline and east of the longitude of Niblack Point.

*\* Based on non-subsistence area findings of the Alaska Joint Board of Fisheries and Game at 5 AAC 99.015(a)(1).*

**The Valdez Nonsubsistence area\*** is comprised of the following: within Unit 6(D), as defined by 5 AAC 92.450(6)(D), and all waters of Alaska in the Prince William Sound Area as defined by 5 AAC 24.100, within the March 1993 Valdez City limits.

*\* Based on non-subsistence area findings of the Alaska Joint Board of Fisheries and Game at 5 AAC 99.015(a)(5).*

### **Define legal gear.**

The legal gear for subsistence halibut fishing is set and hand-held gear of not more than 30 hooks, including longline, handline, rod and reel, spear, jigging and hand-troll gear.

Retention of subsistence halibut less than 32" while commercial fishing is allowed only in Regulatory Area 4D and 4E. Legal-sized halibut could be retained for subsistence purposes statewide, but not counted against a CDQ account only in IPHC Area 4D.

**Rationale:** The Council defined legal gear for subsistence halibut fishing as set and hand-held gear of not more than 30 hooks, including longline, handline, rod and reel, spear, jigging, and hand-troll gear. Retention of subsistence halibut less than 32 inches while commercial fishing currently is allowed only in Regulatory Area 4E. The preferred alternative expands this allowance to Area 4D. The Council identified these communities as eligible to retain undersized halibut due to the size of local vessels and safety issues related to these small boats. Further, retention of halibut greater than 32 inches while commercial fishing is allowed statewide, with retention reported and counted against an IFQ. Those halibut harvested for subsistence use while CDQ halibut fishing are allowed to be retained but do not need to be reported and counted against a CDQ in Area 4D. This area was exempted because of safety issues related to the timing of fishing and the small boat nature of the local fleet. Also, the Council noted ample opportunity for subsistence fishermen in other areas to meet their halibut subsistence needs outside of the CDQ fishery. The Council clarified that, "of

not more than 30 hooks,” would be interpreted to mean that legitimate subsistence halibut fishing gear could have less than 30 hooks in Areas 4D and E.

The basic “rule” would be that no subsistence halibut could be retained on a vessel at the same time as commercial halibut is being retained. Two exceptions to the basic “rule” against commingling commercial and subsistence halibut would appear in the proposed rule. First, sub-legal or short halibut could be retained for subsistence purposes while commercial fishing only in IPHC Areas 4D and 4E. Second, legal-sized halibut could be retained for subsistence purposes and not counted against a CDQ account only in IPHC Area 4D. A legal-sized halibut retained while commercial fishing would be counted against either an IFQ or CDQ in all areas, except Area 4D where it would be counted against an IFQ (if one were possessed by the fisherman). The Council clarified that commingling of subsistence halibut and sport halibut on the same vessel would be prohibited. The Council clarified that it did not intend for subsistence halibut fishing to be conducted from a charter boat even if no sport fishing for halibut was conducted at the same time.

The Council further recommended that a halibut subsistence fishery may be allowed with a 2-hook, 2-fish bag limit for the limited number of withdrawn submerged waters and lands under wherever Title VIII of ANILCA applies in the Kenai Peninsula area due to conservation (localized depletion) concerns. The Council specifically discussed northern Cook Inlet and high tide lines along the Kenai Moose reserve (Chisik Island and Duck Island - Alaska Maritime National Wildlife Refuge) where halibut are unlikely to be found. The Council further noted that other users (e.g., commercial, non-rural resident sport) might need to be limited before rural residents might be limited.

#### **Allow the customary and traditional trade of subsistence halibut.**

Customary and traditional trade through monetary exchange shall be limited to an annual maximum of \$400. No customary and traditional trade is allowed upon the premises of commercial buying operations. Persons licensed to engage in a fisheries business may not exchange, solicit to exchange, or receive for commercial purposes, subsistence-taken halibut. No exchange of subsistence-caught halibut from a monetary exchange, trade, or barter is allowed to enter commerce at any point.

Customary and traditional trade through non-monetary exchange is allowed with anyone.

***Rationale:*** Three types of customary and traditional exchange of subsistence fish may be described as sharing, bartering, and customary and traditional trade, the latter of which may involve non-commercial monetary exchange defined by the Council as annual sales of \$400 or less. The proposed implementing rules would be designed to allow for all three of these types of exchange.

The Council action is silent on whether the \$400 limit on monetary exchange is intended to apply to each subsistence fisher or to some other unit, e.g., household. The proposed rule will assume that the annual monetary limit on exchange of subsistence halibut is to be applied on a per-person basis due to its relatively nominal level (i.e., it not be conducive to fishing for profit). To clarify, however, the Council action pertains only to the actual exchange of money and not the monetary value of goods and services that may be bartered. The Council action places no limit on the customary and traditional trade through non-monetary exchange. A subsistence fisher could receive substantially more than \$400 worth in non-monetary trade for subsistence halibut he delivers to members of his family and community. The Council clarified that it did not intend for subsistence halibut to be involved in the non-monetary trade of items of significant value such as a new motor vehicle, however, the proposed rule will be silent on the types of non-monetary trade for subsistence halibut.

The Council action suggests that subsistence halibut should be prohibited from the premises of commercial fish buying operations and that licensed fish buyers may not trade for subsistence halibut. If this interpretation is correct, it would prevent two possible scenarios which may occur now legally. The first is the handling and weighing of “short halibut” which may be retained for subsistence purposes in Area 4C at the same place as

the commercial CDQ halibut with which it is legally landed. The second is the prevention, for example, of an IFQ buyer in Kodiak from bartering or trading for subsistence halibut for non-commercial use. Unless otherwise clarified, the proposed rule would assume that the Council did not intend for its non-commercial trade provision to prevent these existing practices.

### **Define a daily bag limit.**

The daily limit for subsistence halibut in rural areas is up to 20 halibut, except there is no limit in 4C, 4D, and 4E.

**Rationale:** The Council defined the daily limit for subsistence halibut in rural areas as 20 halibut, except there is no limit in Regulatory Area 4C (Pribilof Islands area), 4D (Gambell and Savoonga) and Area 4E (Western Alaska). These exemptions were made due to safety concerns for small boat fishermen fishing in exposed weather in rough seas in these remote waters. The recommended daily bag limit is presumed to apply to each subsistence halibut fisher individually.

### **Cooperative agreements.**

Cooperative agreements with tribal, State, and Federal governments and other entities may be developed for harvest monitoring, local area planning, and other issues affecting subsistence uses of halibut.

The Council requests the Alaska Board of Fisheries to recommend potential regulatory options in subsistence halibut regulations relating to:

1. Legal gear;
2. Daily limits;
3. Reporting requirements;
4. Customary and traditional use areas of tribes and rural communities; and
5. Non-rural area definitions for halibut fishing areas.

The Council requested that the Board meet on this issue during their normal 2000-2001 cycle and present its recommendations to the Council at the Council's June 2001 meeting.

### **Rationale:**

Cooperative agreements with tribal, State, and Federal governments and other entities may be developed for harvest monitoring, local area planning, and other issues affecting subsistence uses of halibut. Harvest monitoring procedures would need to be in place prior to implementation of subsistence halibut regulations. NMFS staff has initiated contact with all Tribal entities affected by the proposed action, and the RuralCap Native Halibut Subsistence Working Group. The intent is for the final rule to be effective in early 2002.

The Council further requested that the BOF take up halibut subsistence management during its current regulatory cycle and make recommendations for additional analysis of changes to legal gear, daily limits, reporting requirements, customary and traditional use areas of tribes and rural communities, and non-rural area definitions for halibut fishing areas, as is recommended in this action. Any changes to the proposed halibut subsistence program recommended by the Council at that time would require a separate regulatory amendment. The Council clarified in June 2001, that such potential changes should not impede the Secretarial review timeline for the current action.

In June, the Council received a report from the BOF on gear, bag limits, subsistence fishing areas, and recordkeeping and reporting requirements. The Council initiated an analysis of the BOF recommendations to be developed as a trailing amendment. Final action is scheduled for December 2001. The final rule for those changes to the halibut subsistence regulations, which have not been approved by the Secretary, would



be effective later in 2002, if the proposed changes are adopted by the Secretary. The planned analysis will examine impacts of the following proposed changes to the program adopted by the Council in October 2000:

- gear limits      2 hooks in Sitka Sound only;  
                      5 hooks in Kodiak, Prince William Sound, Cook Inlet only;  
                      no gear restrictions in Areas 4C, 4D, 4E;
- harvest limits    no daily bag limits in Areas 4C, 4D, 4E;  
                      20 fish annual limits in Sitka Sound and Kodiak;  
                      2 fish bag limit in Sitka (added by the Council)
- proxy fishing    allow in Sitka Sound and Kodiak;  
                      examine State proxy system as a model;  
                      examine impacts of allowing multiple harvest limits per vessel (i.e., stacking)
- fishing areas     redefine the geographic boundaries of the Cook Inlet non-subsistence fishing area.

**Table 1. Alaska Rural Communities with Customary and Traditional Uses of Halibut within Specified Halibut Regulatory Areas**

<u>Rural Community*</u>	<u>Organized Entity</u>	<u>Halibut Regulatory Area in Which Residents May Fish</u>
<b>Regulatory Area 2C</b>		
Angoon	Municipality	2C
Coffman Cove	Municipality	2C
Craig	Municipality	2C
Edna Bay	Census Designated Place	2C
Elfin Cove	Census Designated Place	2C
Gustavus	Census Designated Place	2C
Haines	Municipality	2C
Hollis	Census Designated Place	2C
Hoonah	Municipality	2C
Hydaburg	Municipality	2C
Hyder	Census Designated Place	2C
Kake	Municipality	2C
Kasaan	Municipality	2C
Klawock	Municipality	2C
Klukwan	Census Designated Place	2C
Metlakatla	Census Designated Place	2C
Meyers Chuck	Census Designated Place	2C
Pelican	Municipality	2C
Petersburg	Municipality	2C
Point Baker	Census Designated Place	2C
Port Alexander	Municipality	2C
Port Protection	Census Designated Place	2C
Saxman	Municipality	2C
Sitka	Municipality	2C
Skagway	Municipality	2C
Tenakee Springs	Municipality	2C
Thorne Bay	Municipality	2C
Whale Pass	Census Designated Place	2C
Wrangell	Municipality	2C
<b>Regulatory Area 3A</b>		
Akhiok	Municipality	3A
Chenega Bay	Census Designated Place	3A
Cordova	Municipality	3A
Karluk	Census Designated Place	3A
Kodiak City	Municipality	3A
Larsen Bay	Municipality	3A
Nanwalek	Census Designated Place	3A
Old Harbor	Municipality	3A
Ouzinkie	Municipality	3A
Port Graham	Census Designated Place	3A
Port Lions	Municipality	3A
Seldovia	Municipality	3A
Tatitlek	Census Designated Place	3A
Yakutat	Municipality	3A
<b>Regulatory Area 3B</b>		
Chignik Bay	Municipality	3B
Chignik Lagoon	Census Designated Place	3B
Chignik Lake	Census Designated Place	3B
Cold Bay	Municipality	3B
False Pass	Municipality	3B
Ivanof Bay	Census Designated Place	3B
King Cove	Municipality	3B
Nelson Lagoon	Census Designated Place	3B
Perryville	Census Designated Place	3B
Sand Point	Municipality	3B

Table 1. (Continued)

<u>Rural Community*</u>	<u>Organized Entity</u>	<u>Halibut Regulatory Area in Which Residents May Fish</u>
<b>Regulatory Area 4A</b>		
Akutan	Municipality	4A
Nikolski	Census Designated Place	4A
Unalaska	Municipality	4A
<b>Regulatory Area 4B</b>		
Adak	Census Designated Place	4B
Atka	Municipality	4B
<b>Regulatory Area 4C</b>		
St. George	Municipality	4C
St. Paul	Municipality	4C
<b>Regulatory Area 4D</b>		
Gambell	Municipality	4D
Savoonga	Municipality	4D
Diomedes (Inalik)	Municipality	4E
<b>Regulatory Area 4E</b>		
Aalkanuk	Municipality	4E
Aleknagik	Municipality	4E
Bethel	Municipality	4E
Brevig Mission	Municipality	4E
Chefornak	Municipality	4E
Chevak	Municipality	4E
Clark's Point	Municipality	4E
Council	Census Designated Place	4E
Dillingham	Municipality	4E
EEK	Municipality	4E
Egegik	Municipality	4E
Elim	Municipality	4E
Emmonak	Municipality	4E
Golovin	Municipality	4E
Goodnews Bay	Municipality	4E
Hooper Bay	Municipality	4E
King Salmon	Census Designated Place	4E
Kipnuk	Census Designated Place	4E
Kongiganak	Census Designated Place	4E
Kotlik	Municipality	4E
Koyuk	Municipality	4E
Kwigillingok	Census Designated Place	4E
Levelock	Census Designated Place	4E
Manokotak	Municipality	4E
Mekoryuk	Municipality	4E
Naknek	Census Designated Place	4E
Napakiaak	Municipality	4E
Napaskiak	Municipality	4E
Newtok	Census Designated Place	4E
Nightmute	Municipality	4E
Nome	Municipality	4E
Oscarville	Census Designated Place	4E
Pilot Point	Municipality	4E
Platinum	Municipality	4E
Port Heiden	Municipality	4E
Quinhagak	Municipality	4E
Scammon Bay	Municipality	4E
Shaktolik	Municipality	4E
Sheldon Point (Nunam Iqua)	Municipality	4E
Shishmaref	Municipality	4E
Solomon	Census Designated Place	4E
South Naknek	Census Designated Place	4E
St. Michael	Municipality	4E
Stebbins	Municipality	4E
Teller	Municipality	4E
Togiak	Municipality	4E
Toksook Bay	Municipality	4E
Tuntutuliak	Census Designated Place	4E
Tununak	Census Designated Place	4E
Twin Hills	Census Designated Place	4E
Ugashik	Census Designated Place	4E
Unalakleet	Municipality	4E
Wales	Municipality	4E
White Mountain	Municipality	4E

\* Alaska communities or areas in which the non-commercial, customary and traditional use of fish or game for personal or

**Table 2. Alaska Native Tribes with Customary and Traditional Uses of Halibut within Specified Halibut Regulatory Areas**

<u>Place With Tribal Headquarters</u>	<u>Organized Tribal Entity*</u>	<u>Halibut Regulatory Area in Which Residents May Fish</u>
<b>Regulatory Area 2C</b>		
Angoon	Angoon Community Association	2C
Craig	Craig Community Association	2C
Haines	Chilkoot Indian Association	2C
Hoonah	Hoonah Indian Association	2C
Hydaburg	Hydaburg Cooperative Association	2C
Juneau***	Aukquan Traditional Council**	Any Rural Area
Juneau***	Central Council Tlingit & Haida Indian Tribes	Any Rural Area
Juneau***	Douglas Indian Association	Any Rural Area
Kake	Organized Village of Kake	2C
Kasaan	Organized Village of Kasaan	2C
Ketchikan***	Ketchikan Indian Corporation	Any Rural Area
Klawock	Klawock Cooperative Association	2C
Klukwan	Chilkat Indian Village	2C
Metlakatla	Metlakatla Indian Community, Annette Island Reserve	2C
Petersburg	Petersburg Indian Association	2C
Saxman	Organized Village of Saxman	2C
Sitka	Sitka Tribe of Alaska	2C
Skagway	Skagway Village	2C
Wrangell	Wrangell Cooperative Association	2C
<b>Regulatory Area 3A</b>		
Akhiok	Native Village of Akhiok	3A
Chenega Bay	Native Village of Chanega	3A
Cordova	Native Village of Eyak	3A
Karluk	Native Village of Karluk	3A
Kenai-Soldotna***	Kenaitze Indian Tribe	Any Rural Area
Kenai-Soldotna***	Village of Salamatoff	Any Rural Area
Kodiak City	Lesnoi Village (Woody Island)	3A
Kodiak City	Native Village of Afognak	3A
Kodiak City	Shoonaq' Tribe of Kodiak**	3A
Larsen Bay	Native Village of Larsen Bay	3A
Nanwalek	Native Village of Nanwalek	3A
Ninilchik***	Ninilchik Village	Any Rural Area
Old Harbor	Village of Old Harbor	3A
Ouzinkie	Native Village of Ouzinkie	3A
Port Graham	Native Village of Port Graham	3A
Port Lions	Native Village of Port Lions	3A
Seldovia	Seldovia Village Tribe	3A
Tatitlek	Native Village of Tatitlek	3A
Yakutat	Yakutat Tlingit Tribe	3A

**Table 2. (Continued)**

<u>Place With Tribal Headquarters</u>	<u>Organized Tribal Entity*</u>	<u>Halibut Regulatory Area in Which Residents May Fish</u>
<b>Regulatory Area 3B</b>		
Chignik Bay	Native Village of Chignik	3B
Chignik Lagoon	Native Village of Chignik Lagoon	3B
Chignik Lake	Chignik Lake Village	3B
False Pass	Native Village of False Pass	3B
Ivanof Bay	Ivanoff Bay Village	3B
King Cove	Agdaagux Tribe of King Cove	3B
King Cove	Native Village of Belkofski	3B
Nelson Lagoon	Native Village of Nelson Lagoon	3B
Perryville	Native Village of Perryville	3B
Sand Point	Pauloff Harbor Village	3B
Sand Point	Native Village of Unga	3B
Sand Point	Qagan Toyagungin Tribe of Sand Point Village	3B
<b>Regulatory Area 4A</b>		
Akutan	Native Village of Akutan	4A
Nikolski	Native Village of Nikolski	4A
Unalaska	Qawalingin Tribe of Unalaska	4A
<b>Regulatory Area 4B</b>		
Atka	Native Village of Atka	4B
<b>Regulatory Area 4C</b>		
St. George	Pribilof Islands Aleut Communities of St. Paul Island & St. George Islands	4C
St. Paul	Pribilof Islands Aleut Communities of St. Paul Island & St. George Islands	4C
<b>Regulatory Area 4D</b>		
Gambell	Native Village of Gambell	4D
Savoonga	Native Village of Savoonga	4D
Diomedede (Inalik)	Native Village of Diomedede (Inalik)	4E
<b>Regulatory Area 4E</b>		
Alakanuk	Village of Alakanuk	4E
Aleknagik	Native Village of Aleknagik	4E
Bethel	Orutsararmuit Native Village	4E
Brevig Mission	Native Village of Brevig Mission	4E
Chefornak	Village of Chefornak	4E
Chevak	Chevak Native Village	4E
Clark's Point	Village of Clark's Point	4E
Council	Native Village of Council	4E
Dillingham	Native Village of Dillingham	4E
Dillingham	Native Village of Ekuk	4E
Dillingham	Native Village of Kanakanak**	4E
Eek	Native Village of Eek	4E
Egegik	Egegik Village	4E
Egegik	Village of Kanatak	4E
Elim	Native Village of Elim	4E
Emmonak	Chuloonawick Native Village	4E
Emmonak	Emmonak Village	4E

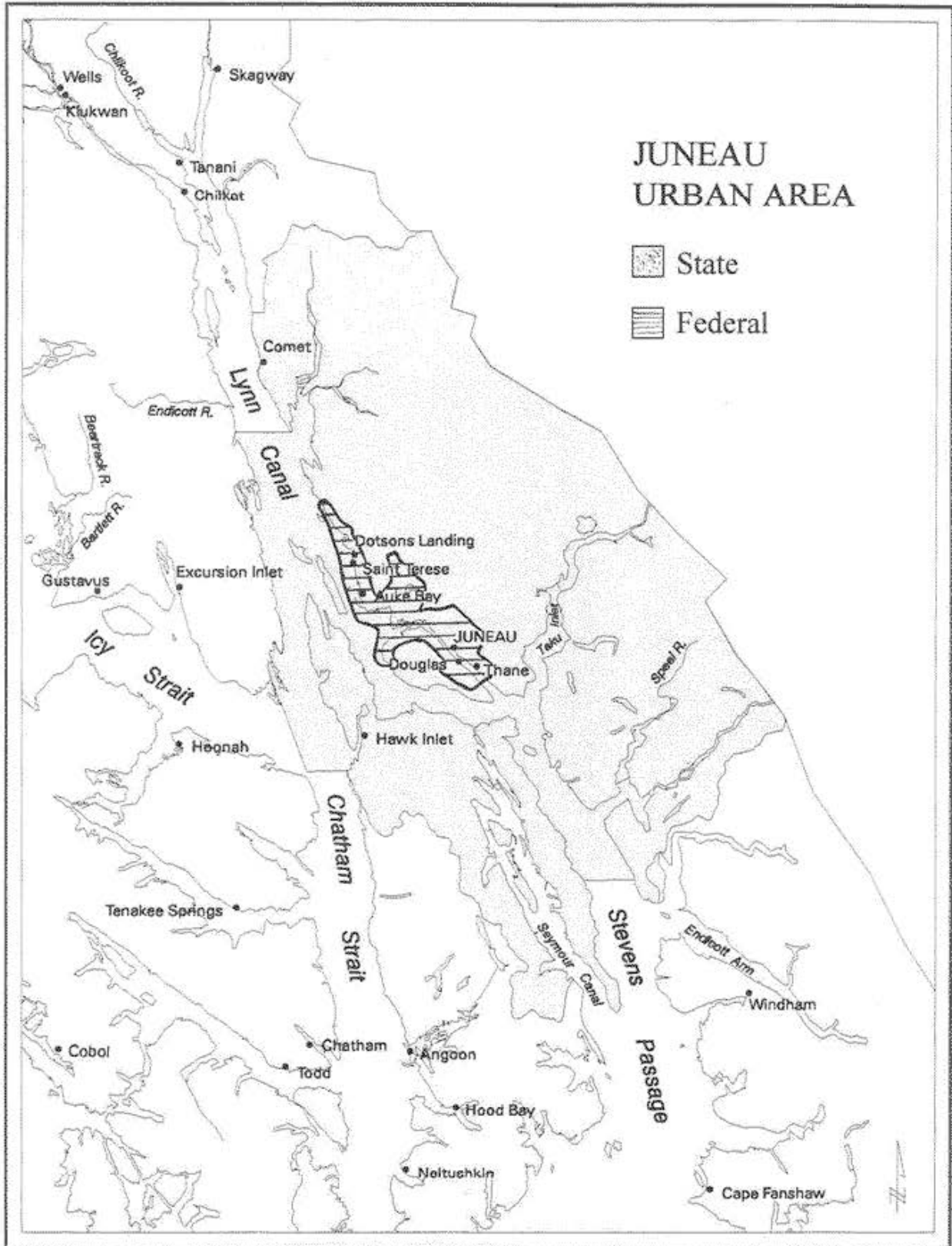
**Table 2. (Continued)**

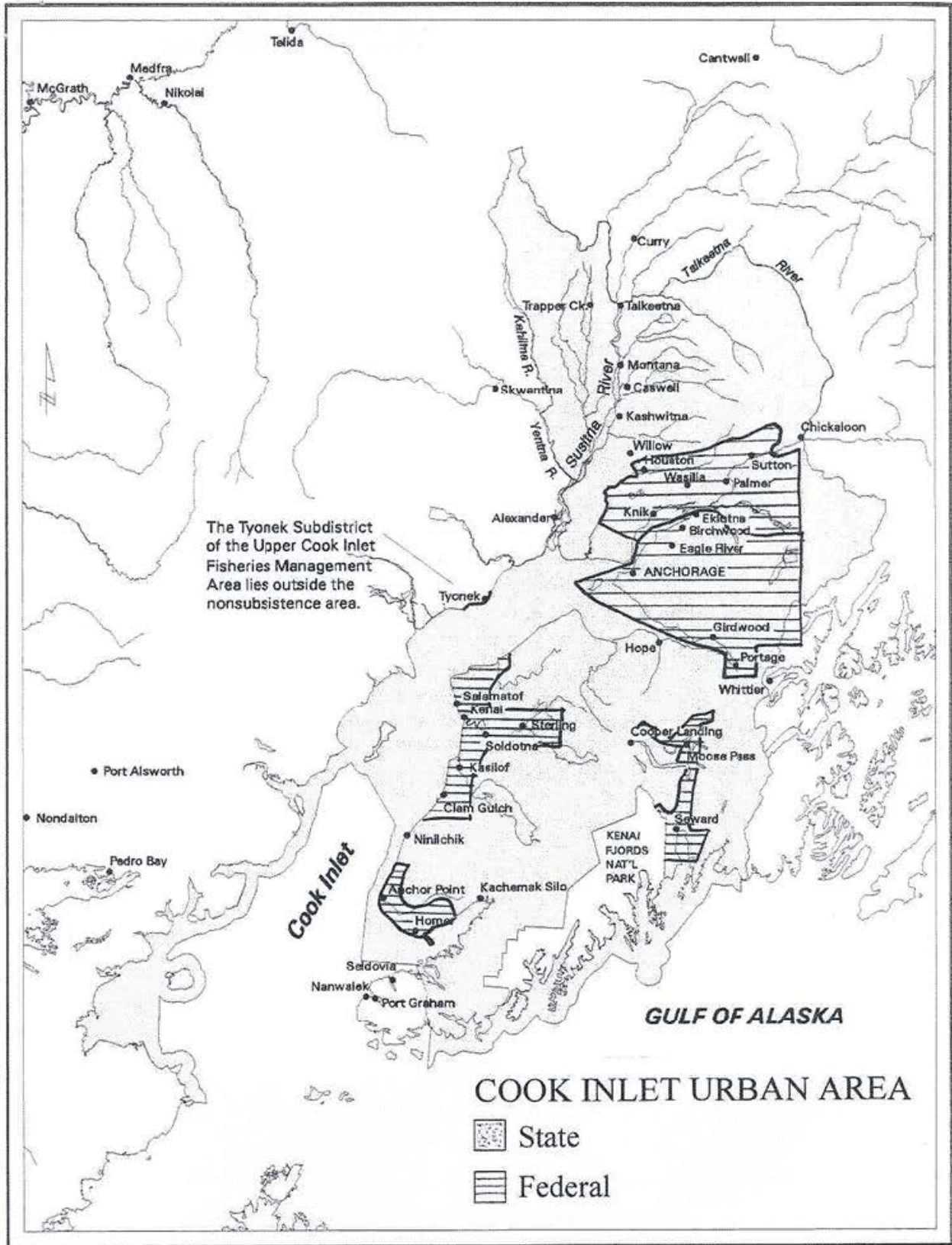
Golovin	Chinik Eskimo Community	4E
Goodnews Bay	Native Village of Goodnews Bay	4E
Hooper Bay	Native Village of Hooper Bay	4E
Hooper Bay	Native Village of Paimiut	4E
King Salmon	King Salmon Tribal Council**	4E
Kipnuk	Native Village of Kipnuk	4E
Kongiganak	Native Village of Kongiganak	4E
Kotlik	Native Village of Hamilton	4E
Kotlik	Village of Bill Moore's Slough	4E
Kotlik	Village of Kotlik	4E
Koyuk	Native Village of Koyuk	4E
Kwigillingok	Native Village of Kwigillingok	4E
Levelock	Levelock Village	4E
Manokotak	Manokotak Village	4E
Mekoryuk	Native Village of Mekoryak	4E
Naknek	Naknek Native Village	4E
Napakiak	Native Village of Napakiak	4E
Napaskiak	Native Village of Napaskiak	4E
Newtok	Newtok Village	4E
Nightmute	Native Village of Nightmute	4E
Nightmute	Umkumiute Native Village	4E
Nome	King Island Native Community	4E
Nome	Nome Eskimo Community	4E
Oscarville	Oscarville Traditional Village	4E
Pilot Point	Native Village of Pilot Point	4E
Platinum	Platinum Traditional Village	4E
Port Heiden	Native Village of Port Heiden	4E
Quinhagak	Native Village of Kwinhagak	4E
Scammon Bay	Native Village of Scammon Bay	4E
Shaktoolik	Native Village of Shaktoolik	4E
Sheldon Point (Nunam Iqua)	Native Village of Sheldon's Point	4E
Shishmaref	Native Village of Shishmaref	4E
Solomon	Village of Solomon	4E
South Naknek	South Naknek Village	4E
St. Michael	Native Village of Saint Michael	4E
Stebbins	Stebbins Community Association	4E
Teller	Native Village of Mary's Igloo	4E
Teller	Native Village of Teller	4E
Togiak	Traditional Village of Togiak	4E
Toksook Bay	Native Village of Toksook Bay	4E
Tuntutuliak	Native Village of Tuntutuliak	4E
Tununak	Native Village of Tununak	4E
Twin Hills	Twin Hills Village	4E
Ugashik	Ugashik Village	4E
Unalakleet	Native Village of Unalakleet	4E
Wales	Native Village of Wales	4E
White Mountain	Native Village of White Mountain	4E

\* Native entities recognized and eligible to receive services from the United States Bureau of Indian Affairs, cf., Federal Register, February 16, 1995, v. 60, no. 32, p. 9249-9255.

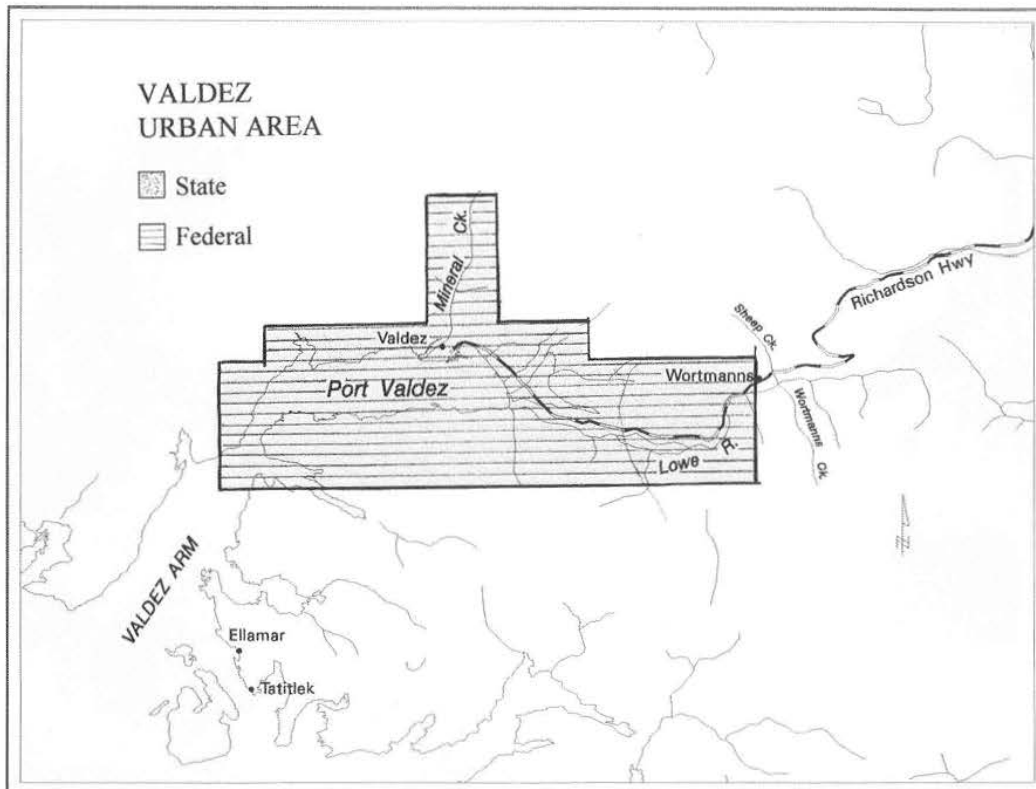
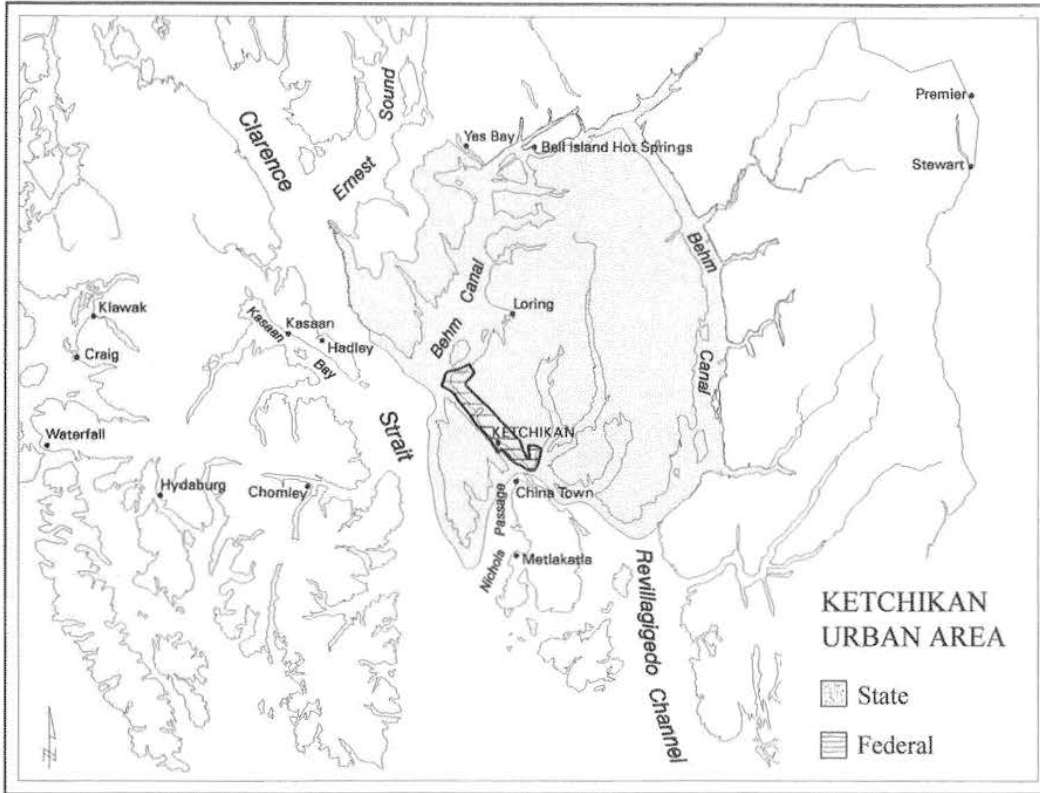
\*\* Applying for recognized status.

\*\*\*Urban tribes









## 1.5 Other Alternatives Considered and Rejected

The Council approved an initial set of alternatives and options when it tasked development of the analysis in February 1997 (Appendix 2-a). Those alternatives and options were revised during initial review in April 1997 (Appendix 2-b). The changes principally modified options for eligibility criteria (added “other permanent resident” to a “Native only” option and modified language from “non-Native permanent residents” to “other permanent residents”), added 2 hooks to options for hook-and-line gear, added options with whom customary and traditional trade of subsistence halibut is allowed, deleted an option that would have allowed customary and traditional sale of subsistence halibut because it did not address either the problem statement or the goal of the program, and added a third alternative to create a personal use category (instead of a “subsistence” category). At final action in June 1997, the Council adopted a motion to revise the commercial halibut minimum size regulations to allow the retention of halibut under 32 inches caught with authorized commercial halibut gear in Area 4E for subsistence use. This recommendation was approved by the IPHC and NMFS and was implemented for June 1998 through December 31, 2000. It has been renewed through 2002. The remainder of the action was tabled.

Action was rescheduled for December 1999 and the Council revised the alternatives and options again in preparation for a rescheduled initial review of the revised analysis. It added an option to allow retention of subsistence halibut using commercial gear while IFQ or CDQ fishing (Appendix 2-c). The Council further refined the alternatives and options during initial review in April 2000. It modified the eligibility criteria options to break out the Native and other permanent resident components in two options, defined residency as one year, added spear and hand troll gear to allowable gear, specifically added an allowance for proxies, and added suboptions to limit retention of subsistence halibut while commercial halibut fishing to IPHC Area 4 subareas. The Council also deleted the alternative that would have created a personal use fishery for all Alaska residents (Appendix 2-d). It was determined to not meet the problem statement or the Council’s goal of legitimizing the current traditional practice of rural residents reliant on the halibut resource for feeding their families and extended local community.

During initial review in April 2000, the Council added two other eligibility suboptions: Native only with customary and traditional use of halibut who reside in rural communities as a fourth option and as a substitute for language in the first, third and fourth options.

## 2.0 REGULATORY IMPACT REVIEW: ECONOMIC AND SOCIOECONOMIC IMPACTS OF THE ALTERNATIVES

This section provides the information regarding the economic and socioeconomic impacts of the alternatives considered by the Council, including identification of the individuals or groups that may be affected by the proposed action, the nature of these impacts, and quantification of the economic impacts where possible. This information, along with information provided in Section 3 and Appendix 6, was the basis for the Council's choice of a preferred alternative.

The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following statement from the order:

In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider. Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environment, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.

This section addresses the requirements of E.O. 12866 to provide adequate information to determine whether an action is "significant" under E.O. 12866. The findings of significance are provided in Section 4.

E. O. 12866 requires that the Office of Management and Budget review proposed regulatory programs that are considered to be "significant." A "significant regulatory action" is one that is likely to:

- (1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
- (2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- (3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- (4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

A history of legal actions related to subsistence in Alaska is lengthy, complicated and unresolved. The Federal and state governments have different and legitimate interpretations of subsistence and authorities for management. A summary is provided in Section 1.3. However, it is important for the reader to understand that regardless of the Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) authority to implement a preference for subsistence uses of fish and wildlife resources on public lands, *ANILCA has no application to the decision facing the Council* in its definition of subsistence for Pacific halibut in Convention waters. The Council may legally choose from the proposed management alternatives and options presented below to address its stated goal of legitimizing the customary and traditional halibut subsistence fishery.

The formal problem statement, need for the action, objectives, as well as, alternatives and options are presented and discussed in detail in Section 1 of this combined EA/RIR. The following information provides a discussion of available data on the individual alternatives and options.

## 2.1 Definition of halibut subsistence

One choice for a definition of halibut subsistence was before the Council at final action. The definition evolved from recommendations by staff, its advisory panel, halibut subsistence committee, and members of the public over the course of the numerous public meetings to review the alternatives. Rejected definitions are included in Appendix 2.

## 2.2 Eligibility

The Council weighed the proposed criteria for eligibility against its stated goal of legitimizing the existing halibut subsistence fishery, while increasing neither the number of subsistence fishers nor halibut removals. Defining who is eligible to participate in the fishery is an important aspect of designing a workable program. First, eligibility criteria must be fair and equitable. That is, the stated Council intent is to match the eligibility definition with the current subsistence users.

Alternative 2, Option 2, Suboption A, “members of Alaska Native Federally-recognized tribes with customary and traditional use of halibut,” is also referred to as the “tribal plus” option. Under it, about 88,663 Alaskans are eligible, of which about 42,003 are Alaska Natives and 46,659 are not Alaska Natives (Table 2.1). Eligibility is determined in two ways. You must be: (1) a permanent resident in a listed rural community; or (2) a card-carrying member of a listed tribe. The listed communities and tribes in Table 2.2 are rural places or tribal groups with a demonstrated customary and traditional use of halibut (the current list is based on Division of Subsistence studies and findings by the Alaska Board of Fisheries of which areas have customary and traditional uses of halibut). This option includes Alaska Natives who have established subsistence halibut uses. It also includes permanent residents of rural communities in areas with subsistence halibut uses. The suboption is administratively simple – eligibility is based on residency in a listed rural community or on tribal membership, which are factors easy to verify. The suboption does not split rural communities into two groups -- those who can fish and those who cannot. The suboption allows for Alaska Natives in Juneau, Ketchikan, and the Kenai area to fish in customary areas, which is a common practice. This suboption contains a “tribal” standard for eligibility.

Alternative 2, Option 2, Suboption A (and C and D) includes tribal members regardless of where they reside. It includes 5,540 tribal residents of Juneau, Ketchikan, Saxman, Kenai-Soldotna, and Ninilchik, that would be excluded under Suboption B (Table 2.3). Nearly 40,000 non-Native residents would be excluded under all options.

Table 2.3. Urban tribal members included and non-Natives excluded under Suboption A.

<b>Community</b>	<b>Native</b>	<b>non-Native</b>	<b>Total</b>
<b>Juneau</b>	3,462	23,289	26,751
<b>Ketchikan</b>	1,296	6,967	8,263
<b>Kenai-Soldotna</b>	693	9,116	9,809
<b>Ninilchik</b>	89	367	456
<b>Total</b>	5,540	39,739	45,279

**Table 2.1. Option 2, Suboption A. Members of Alaska Native Federally-Recognized Tribes with Customary and Traditional Use of Halibut and Other Permanent Rural Residents in Such Native Villages**

Sources: Alaska Department of Fish and Game; Alaska Department of Labor

<u>Rural Place*</u>	<u>Organized tribal Entity**</u>	<u>Municipality or Census Designated Place</u>	<u>Population (1995)</u>	<u>Percent Alaska Native</u>	<u>Number Alaska Natives</u>	<u>Number Non-Natives</u>	<u>Halibut Coastal District</u>	<u>Use Pattern</u> 1 = regular 2 = periodic 3 = undocumented
<b>District 2C</b>								
Angoon	Angoon Community Association	Municipality	601	82.3%	495	106	2C	1
Coffman Cove	****	Municipality	254	6.9%	18	236	2C	1
Craig	Craig Community Association	Municipality	1,946	22.9%	446	1,500	2C	1
Edna Bay	****	Census Designated Place	79	0.0%	0	79	2C	1
Elfin Cove	****	Census Designated Place	48	1.8%	1	47	2C	1
Gustavus	****	Census Designated Place	328	3.9%	13	315	2C	1
Haines	Chilkoot Indian Association	Municipality	1,363	18.1%	247	1,116	2C	1
Hollis	****	Census Designated Place	106	2.7%	3	103	2C	1
Hoonah	Hoonah Indian Association	Municipality	903	67.2%	607	296	2C	1
Hydaburg	Hydaburg Cooperative Association	Municipality	406	89.1%	362	44	2C	1
Hyder	****	Census Designated Place	138	1.0%	1	137	2C	1
Nonrural	Aukquan Traditional Council***	*****	3,770	100.0%	3,770	0	2C	1
Nonrural	Central Council Tlingit & Haida Indian Tribes	*****					2C	1
Nonrural	Douglas Indian Association	*****					2C	1
Kake	Organized Village of Kake	Municipality	696	73.4%	511	185	2C	1
Kasaan	Organized Village of Kasaan	Municipality	41	53.7%	22	19	2C	1
Nonrural	Ketchikan Indian Corporation	*****	1,717	100.0%	1,717	0	2C	1
Klawock	Klawock Cooperative Association	Municipality	759	54.3%	412	347	2C	1
Klukwan	Chilkat Indian Village	Census Designated Place	165	86.8%	143	22	2C	1
Metlakatla	Metlakatla Indian Community, Annette Island Reserve	Census Designated Place	1,540	82.9%	1,277	263	2C	1
Meyers Chuck	****	Census Designated Place	35	10.8%	4	31	2C	1
	Pelican ****	Municipality	209	29.3%	61	148	2C	1
	Petersburg Petersburg Indian Association	Municipality	3,374	10.1%	341	3,033	2C	1
	Point Baker ****	Census Designated Place	62	0.0%	0	62	2C	1
	Port Alexander ****	Municipality	98	2.5%	2	96	2C	1
	Port Protection ****	Census Designated Place	64	1.6%	1	63	2C	1

Rural Place* Organized tribal Entity**	Municipality or Census Designated Place	Population (1995)	Percent Alaska Native	Number Alaska Natives	Number Non-Natives	Halibut Coastal District	Use Pattern 1 = regular 2 = periodic 3 = undocumented
Saxman Organized Village of Saxman	Municipality	394	76.9%	303	91	2C	1
Sitka Sitka Tribe of Alaska	Municipality	9,194	20.9%	1,922	7,272	2C	1
Skagway Skagway Village	Municipality	811	5.5%	45	766	2C	1
Tenakee Springs ****	Municipality	107	9.6%	10	97	2C	1
Thorne Bay ****	Municipality	650	1.2%	8	642	2C	1
Whale Pass ****	Census Designated Place	92	2.7%	2	90	2C	1
Wrangell Wrangell Cooperative Association	Municipality	2,758	20.0%	552	2,206	2C	1
	<i>District 2C Communities</i>	<i>32,708</i>	<i>40.6%</i>	<i>13,293</i>	<i>19,415</i>		

### District 3A

Akhiok Native Village of Akhiok	Municipality	80	93.5%	75	5	3A	1
Chenega Bay Native Village of Chanega	Census Designated Place	96	69.2%	66	30	3A	1
Cordova Native Village of Eyak	Municipality	2,568	11.2%	288	2,280	3A	1
Karluk Native Village of Karluk	Census Designated Place	58	91.5%	53	5	3A	1
Nonrural Kenaitze Indian Tribe	*****	775	100.0%	775	0	3A	1
Nonrural Village of Salamatoff	*****	113	100.0%	113	0	3A	1
Kodiak City Lesnoi Village (Woody Island)	Municipality	13,498	10.7%	1,443	12,055	3A	1
Kodiak City Native Village of Afognak	Municipality					3A	1
Kodiak City Shoonaq' Tribe of Kodiak***	Municipality					3A	1
Larsen Bay Native Village of Larsen Bay	Municipality	130	84.4%	110	20	3A	1
Nanwalek Native Village of Nanwalek	Census Designated Place	162	91.1%	148	14	3A	1
Nonrural Ninilchik Village	*****	116	100.0%	116	0	3A	1
Old Harbor Village of Old Harbor	Municipality	310	88.7%	275	35	3A	1
Ouzinkie Native Village of Ouzinkie	Municipality	259	85.2%	221	38	3A	1
Port Graham Native Village of Port Graham	Census Designated Place	170	90.4%	154	16	3A	1
Port Lions Native Village of Port Lions	Municipality	233	67.6%	158	75	3A	1
Seldovia Seldovia Village Tribe	Municipality	289	15.2%	44	245	3A	1
Tatitlek Native Village of Tatitlek	Census Designated Place	124	86.6%	107	17	3A	1
Yakutat Yakutat Tlingit Tribe	Municipality	801	55.1%	441	360	3A	1
	<i>District 3A Communities</i>	<i>19,782</i>	<i>23.2%</i>	<i>4,586</i>	<i>15,196</i>		

Rural Place* Organized tribal Entity**	Municipality or Census Designated Place	Population (1995)	Percent Alaska Native	Number Alaska Natives	Number Non-Natives	Halibut Coastal District	Use Pattern 1 = regular 2 = periodic 3 = undocumented
<b>District 3B</b>							
Chignik Bay Native Village of Chignik	Municipality	141	45.2%	64	77	3B	1
Chignik Lagoon Native Village of Chignik Lagoon	Census Designated Place	65	56.6%	37	28	3B	1
Chignik Lake Chignik Lake Village	Census Designated Place	154	91.8%	141	13	3B	1
Cold Bay ****	Municipality	107	5.4%	6	101	3B	1
False Pass Native Village of False Pass	Municipality	73	76.5%	56	17	3B	1
Ivanof Bay Ivanoff Bay Village	Census Designated Place	28	94.3%	26	2	3B	1
King Cove Agdaagux Tribe of King Cove	Municipality	716	39.3%	281	435	3B	1
King Cove Native Village of Belkofski	Municipality					3B	1
Nelson Lagoon Native Village of Nelson Lagoon	Census Designated Place	88	80.7%	71	17	3B	1
Perryville Native Village of Perryville	Census Designated Place	104	94.4%	98	6	3B	1
Sand Point Pauloff Harbor Village	Municipality	844	49.3%	416	428	3B	1
Sand Point Native Village of Unga	Municipality					3B	1
Sand Point Qagan Toyagungin Tribe of Sand Point Village	Municipality					3B	1
<i>District 3B Communities</i>		<i>2,320</i>	<i>51.6%</i>	<i>1,196</i>	<i>1,124</i>		
<b>Districts 4A-D</b>							
Akutan Native Village of Akutan	Municipality	436	13.6%	59	377	4A-D	1
Atka Native Village of Atka	Municipality	77	92.9%	71	6	4A-D	1
Nikolski Native Village of Nikolski	Census Designated Place	27	82.9%	22	5	4A-D	1
St. George Pribilof Islands Aleut Communities of St. Paul Island & St. George Islands	Municipality	151	94.9%	143	8	4A-D	1
St. Paul Pribilof Islands Aleut Communities of St. Paul Island & St. George Islands	Municipality	767	66.1%	507	260	4A-D	1
Unalaska Qawalingin Tribe of Unalaska	Municipality	4,083	8.4%	342	3,741	4A-D	1
<i>District 4A-D Communities</i>		<i>5,541</i>	<i>20.7%</i>	<i>1,145</i>	<i>4,396</i>		
<b>District 4E</b>							
Chefornak Village of Chefornak	Municipality	371	97.5%	362	9	4E	1
Gambell Native Village of Gambell	Municipality	628	96.2%	604	24	4E	1
Mekoryak Native Village of Mekoryak	Municipality	212	99.4%	211	1	4E	1
Newtok Newtok Village	Census Designated Place	275	93.2%	256	19	4E	1
Nightmute Native Village of Nightmute	Municipality	189	95.4%	180	9	4E	1
Nightmute Umkumiute Native Village	Municipality					4E	1

Rural Place* Organized tribal Entity**	Municipality or Census Designated Place	Population (1995)	Percent Alaska Native	Number Alaska Natives	Number Non-Natives	Halibut Coastal District	Use Pattern 1 = regular 2 = periodic 3 = undocumented
Savoonga Native Village of Savoonga	Municipality	604	95.2%	575	29	4E	1
Toksook Bay Native Village of Toksook Bay	Municipality	485	95.5%	463	22	4E	1
Tununak Native Village of Tununak	Census Designated Place	354	96.2%	341	13	4E	1
Wales Native Village of Wales	Municipality	173	88.9%	154	19	4E	1
Aleknagik Native Village of Aleknagik	Municipality	182	83.2%	151	31	4E	2
Clark's Point Village of Clark's Point	Municipality	63	88.3%	56	7	4E	2
Dillingham Native Village of Dillingham	Municipality	2,243	55.8%	1,252	991	4E	2
Dillingham Native Village of Ekuk	Municipality					4E	2
Egegik Egegik Village	Municipality	143	70.5%	101	42	4E	2
Egegik Village of Kanatak	Municipality					4E	2
King Salmon ****	Census Designated Place	539	15.5%	84	455	4E	2
Kipnuk Native Village of Kipnuk	Census Designated Place	544	97.5%	530	14	4E	2
Kongiganak Native Village of Kongiganak	Census Designated Place	336	97.3%	327	9	4E	2
Levelock Levelock Village	Census Designated Place	116	82.9%	96	20	4E	2
Manokotak Manokotak Village	Municipality	402	95.6%	384	18	4E	2
Naknek Naknek Native Village	Census Designated Place	617	41.0%	253	364	4E	2
Nome King Island Native Community	Municipality	3,576	52.1%	1,863	1,713	4E	2
Nome Nome Eskimo Community	Municipality					4E	2
Pilot Point Native Village of Pilot Point	Municipality	74	84.9%	63	11	4E	2
Port Heiden Native Village of Port Heiden	Municipality	126	72.3%	91	35	4E	2
South Naknek South Naknek Village	Census Designated Place	146	79.4%	116	30	4E	2
Alakanuk Village of Alakanuk	Municipality	604	95.8%	579	25	4E	3
Bethel Orutsararmuit Native Village	Municipality	5,195	63.9%	3,319	1,876	4E	3
Brevig Mission Native Village of Brevig Mission	Municipality	265	92.4%	245	20	4E	3
Chevak Chevak Native Village	Municipality	682	92.9%	634	48	4E	3
Council Native Village of Council	Census Designated Place	8	62.5%	5	3	4E	3
Eek Native Village of Eek	Municipality	283	95.7%	271	12	4E	3
Elim Native Village of Elim	Municipality	281	91.7%	258	23	4E	3
Emmonak Chuloonawick Native Village	Municipality	762	92.1%	702	60	4E	3
Emmonak Emmonak Village	Municipality					4E	3
Golovin Chinik Eskimo Community	Municipality	148	92.9%	137	11	4E	3
Goodnews Bay Native Village of Goodnews Bay	Municipality	253	95.9%	243	10	4E	3
Hooper Bay Native Village of Hooper Bay	Municipality	996	95.9%	955	41	4E	3
Hooper Bay Native Village of Paimiut	Municipality					4E	3



Rural Place* Organized tribal Entity**	Municipality Designated Place†	Census Population (1995)	Percent Alaska Native	Number Alaska Natives	Number Non-Natives	Halibut Coastal District	Use Pattern 1 = regular 2 = periodic 3 = undocumented
Kotlik Native Village of Hamilton	Municipality	543	96.9%	526	17	4E	3
Kotlik Village of Bill Moore's Slough	Municipality					4E	3
Kotlik Village of Kotlik	Municipality					4E	3
Koyuk Native Village of Koyuk	Municipality	258	94.8%	245	13	4E	3
Kwigillingok Native Village of Kwigillingok	Census Designated Place	326	95.0%	310	16	4E	3
Napakiak Native Village of Napakiak	Municipality	326	94.3%	308	18	4E	3
Napaskiak Native Village of Napaskiak	Municipality	404	94.8%	383	21	4E	3
Oscarville Oscarville Traditional Village	Census Designated Place	42	91.2%	38	4	4E	3
Platinum Platinum Traditional Village	Municipality	44	92.2%	41	3	4E	3
Quinhagak Native Village of Kwinhagak	Municipality	549	93.8%	515	34	4E	3
Scammon Bay Native Village of Scammon Bay	Municipality	434	96.5%	419	15	4E	3
Shaktoolik Native Village of Shaktoolik	Municipality	199	94.4%	188	11	4E	3
Sheldon Point Native Village of Sheldon's Point	Municipality	131	92.7%	121	10	4E	3
Solomon Village of Solomon	Census Designated Place	6	100.0%	6	0	4E	3
St. Michael Native Village of Saint Michael	Municipality	332	91.2%	303	29	4E	3
Stebbins Stebbins Community Association	Municipality	475	94.8%	450	25	4E	3
Teller Native Village of Mary's Igloo	Municipality	274	91.3%	250	24	4E	3
Teller Native Village of Teller	Municipality					4E	3
Togiak Traditional Village of Togiak	Municipality	700	87.3%	611	89	4E	3
Tuntutuliak Native Village of Tuntutuliak	Census Designated Place	340	96.7%	329	11	4E	3
Twin Hills Twin Hills Village	Census Designated Place	75	92.4%	69	6	4E	3
Ugashik Ugashik Village	Census Designated Place	5	85.7%	4	1	4E	3
Unalakleet Native Village of Unalakleet	Municipality	764	81.8%	625	139	4E	3
White Mountain Native Village of White Mountain	Municipality	209	87.8%	184	25	4E	3
<i>District 4E Communities</i>	<i>District 4E Communities</i>	<i>28,311</i>	<i>76.9%</i>	<i>21,783</i>	<i>6,528</i>		
<b>Total Districts</b>		<b>88,662</b>	<b>47.4%</b>	<b>42,003</b>	<b>46,659</b>		

\* Places where subsistence (wild food harvest and use) is a principal characteristic of the community's economy and way of life, as determined by the Alaska Joint Board of Fisheries and Game

\*\* Indian entities recognized and eligible to receive services from the United States Bureau of Indian Affairs, cf., Federal Register, February 16, 1995, v. 60, no. 32, p. 9249-9255.

\*\*\* Indian entities that have applied for recognized status.

\*\*\*\* No Alaska Native tribe is headquartered in community.

**Table 2.2. Alaska Native Groups in Areas with Subsistence Halibut Uses**

Sources: Alaska Department of Fish and Game; Alaska Department of Labor

Place With tribal Headquarters	Organized tribal Entity*	Number Alaska Natives in Community	Halibut Coastal District	Use Pattern 1 = regular 2 = periodic 3 = undocumented
<b>District 2C</b>				
Angoon	Angoon Community Association	495	2C	1
Craig	Craig Community Association	446	2C	1
Haines	Chilkoot Indian Association	247	2C	1
Hoonah	Hoonah Indian Association	607	2C	1
Hydaburg	Hydaburg Cooperative Association	362	2C	1
Juneau	Aukquan Traditional Council** Central Council Tlingit & Haida Indian Tribes Douglas Indian Association	3,770	2C	1
Kake	Organized Village of Kake	511	2C	1
Kasaan	Organized Village of Kasaan	22	2C	1
Ketchikan	Ketchikan Indian Corporation	1,717	2C	1
Klawock	Klawock Cooperative Association	412	2C	1
Klukwan	Chilkat Indian Village	143	2C	1
Metlakatla	Metlakatla Indian Community, Annette Island Reserve	1,277	2C	1
Petersburg	Petersburg Indian Association	341	2C	1
Saxman	Organized Village of Saxman	303	2C	1
Sitka	Sitka Tribe of Alaska	1,922	2C	1
Skagway	Skagway Village	45	2C	1
Wrangell	Wrangell Cooperative Association	552	2C	1
Other 2C Places without tribal Offices***		124	2C	1
<i>District 2C Communities</i>		<i>13,293</i>		
<b>District 3A</b>				
Akhiok	Native Village of Akhiok	75	3A	1
Chenega Bay	Native Village of Chanega	66	3A	1
Cordova	Native Village of Eyak	288	3A	1
Karluk	Native Village of Karluk	53	3A	1
Kenai-Soldotna	Kenaitze Indian Tribe Village of Salamatoff	775 113	3A	1
Kodiak City	Lesnoi Village (Woody Island) Native Village of Afognak Shoonaq'' Tribe of Kodiak**	1,443	3A	1
Larsen Bay	Native Village of Larsen Bay	110	3A	1
Nanwalek	Native Village of Nanwalek	148	3A	1
Ninilchik	Ninilchik Village	116	3A	1
Old Harbor	Village of Old Harbor	275	3A	1
Ouzinkie	Native Village of Ouzinkie	221	3A	1
Port Graham	Native Village of Port Graham	154	3A	1
Port Lions	Native Village of Port Lions	158	3A	1
Seldovia	Seldovia Village Tribe	44	3A	1
Tatitlek	Native Village of Tatitlek	107	3A	1
Yakutat	Yakutat Tlingit Tribe	441	3A	1
<i>District 3A Communities</i>		<i>4,586</i>		

Place With tribal Headquarters	Organized tribal Entity*	Number Alaska Natives in Community	Halibut Coastal District	Use Pattern 1 = regular 2 = periodic 3 = undocumented
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**District 3B**

Chignik Bay	Native Village of Chignik	64	3B	1
Chignik Lagoon	Native Village of Chignik Lagoon	37	3B	1
Chignik Lake	Chignik Lake Village	141	3B	1
False Pass	Native Village of False Pass	56	3B	1
Ivanof Bay	Ivanoff Bay Village	26	3B	1
King Cove	Agdaagux Tribe of King Cove Native Village of Belkofski	281	3B	1
Nelson Lagoon	Native Village of Nelson Lagoon	71	3B	1
Perryville	Native Village of Perryville	98	3B	1
Sand Point	Pauloff Harbor Village Native Village of Unga Qagan Toyagungin Tribe of Sand Point Village	416	3B	1
Other 3B Places without tribal Offices****		6	3B	1
<i>District 3B Communities</i>		<i>1,197</i>		

**Districts 4A-D**

Akutan	Native Village of Akutan	59	4A-D	1
Atka	Native Village of Atka	71	4A-D	1
Nikolski	Native Village of Nikolski	22	4A-D	1
St. George	Pribilof Islands Aleut Communities of St. Paul Island & St. George Islands	143	4A-D	1
St. Paul	Pribilof Islands Aleut Communities of St. Paul Island & St. George Islands	507	4A-D	1
Unalaska	Qawalingin Tribe of Unalaska	342	4A-D	1
<i>District 4A-D Communities</i>		<i>1,145</i>		

**District 4E**

Chefornak	Village of Chefornak	362	4E	1
Gambell	Native Village of Gambell	604	4E	1
Mekoryak	Native Village of Mekoryak	211	4E	1
Newtok	Newtok Village	256	4E	1
Nightmute	Native Village of Nightmute Umkumiute Native Village	180	4E	1
Savoonga	Native Village of Savoonga	575	4E	1
Toksook Bay	Native Village of Toksook Bay	463	4E	1
Tununak	Native Village of Tununak	341	4E	1
Wales	Native Village of Wales	154	4E	1
Aleknagik	Native Village of Aleknagik	151	4E	2
Clark's Point	Village of Clark's Point	56	4E	2
Dillingham	Native Village of Dillingham Native Village of Ekuak	1,252	4E	2
Egegik	Egegik Village Village of Kanatak	101	4E	2
Kipnuk	Native Village of Kipnuk	530	4E	2
Levelock	Levelock Village	96	4E	2
Manokotak	Manokotak Village	384	4E	2
Naknek Area	Naknek Native Village	337	4E	2

Place With tribal Headquarters	Organized tribal Entity*	Number Alaska Natives in Community	Halibut Coastal District	Use Pattern 1 = regular 2 = periodic 3 = undocumented
Nome King Island Native Community		1,863	4E	2
Nome Eskimo Community				
Pilot Point Native Village of Pilot Point		63	4E	2
Port Heiden Native Village of Port Heiden		91	4E	2
South Naknek South Naknek Village		116	4E	2
Alakanuk Village of Alakanuk		579	4E	3
Bethel Orutsararmuit Native Village		3,319	4E	3
Brevig Mission Native Village of Brevig Mission		245	4E	3
Chevak Chevak Native Village		634	4E	3
Council Native Village of Council		5	4E	3
Eek Native Village of Eek		271	4E	3
Elim Native Village of Elim		258	4E	3
Emmonak Chuloonawick Native Village		702	4E	3
Emmonak Village				
Golovin Chinik Eskimo Community		137	4E	3
Goodnews Bay Native Village of Goodnews Bay		243	4E	3
Hooper Bay Native Village of Hooper Bay		955	4E	3
Native Village of Paimiut				
Kongiganak Native Village of Kongiganak		327	4E	3
Kotlik Native Village of Hamilton		526	4E	3
Village of Bill Moore's Slough				
Village of Kotlik				
Koyuk Native Village of Koyuk		245	4E	3
Kwigillingok Native Village of Kwigillingok		310	4E	3
Napakiak Native Village of Napakiak		308	4E	3
Napaskiak Native Village of Napaskiak		383	4E	3
Oscarville Oscarville Traditional Village		38	4E	3
Platinum Platinum Traditional Village		41	4E	3
Quinhagak Native Village of Kwinhagak		515	4E	3
Scammon Bay Native Village of Scammon Bay		419	4E	3
Shaktoolik Native Village of Shaktoolik		188	4E	3
Sheldon Point Native Village of Sheldon's Point		121	4E	3
Solomon Village of Solomon		6	4E	3
St. Michael Native Village of Saint Michael		303	4E	3
Stebbins Stebbins Community Association		450	4E	3
Teller Native Village of Mary's Igloo		250	4E	3
Native Village of Teller				
Togiak Traditional Village of Togiak		611	4E	3
Tuntutuliak Native Village of Tuntutuliak		329	4E	3
Twin Hills Twin Hills Village		69	4E	3
Ugashik Ugashik Village		4	4E	3
Unalakleet Native Village of Unalakleet		625	4E	3
White Mountain Native Village of White Mountain		184	4E	3
<i>District 4E Communities</i>		<i>21,783</i>		
<b>Total Districts</b>				<b>42,004</b>

\* Indian entities recognized and eligible to receive services from the United States Bureau of Indian Affairs, cf., Federal Register, February 16, 1995, v. 60, no. 32, p. 9249-9255.

\*\* Applying for recognized status.

\*\*\* Coffman Cove, Edna Bay, Elfin Cove, Gustavus, Hollis, Hyder, Meyers Chuck, Pelican, Point Baker, Port Alexander, Port Protection, Tenakee Springs, Thorne Bay, Whale Pass

\*\*\*\* Cold Bay

Alternative 2, Option 2, Suboption B uses a rural eligibility standard. This is similar to the rural eligibility standard found in ANILCA. The list of “Alaska Rural Places and Alaska Native Groups” was developed by the Alaska Board of Fisheries and Game. Rural places are defined as places outside the boundaries of non-subsistence areas, as determined by the Alaska Joint Board of Fisheries and Game (AS §16.05.258(c)). In state statute, a rural area means “a community or area of the state in which the non-commercial, customary and traditional use of fish or game for personal or family consumption is a principal characteristic of the economy of the community or area” (AS §16.05.940(27)). Alternative 2, Option 2, Suboption B, “Alaska rural residents as defined in ANILCA and identified in Table 2.4 entitled ‘Alaska Rural Places in Areas with Subsistence Halibut Uses,’ will also include other communities for which customary and traditional findings are developed in the future.” Alternative 2, Option 2, Suboption B contains a “rural” standard for eligibility, rather than a distinction based on tribal membership.

The ANILCA definition, and the process for determining eligibility under that definition, is clear, objective, and well-established. However, Alternative 2, Option 2, Suboption B is a choice, rather than a requirement because Title VIII of ANILCA does not apply to Convention waters, which include the maritime areas off the west coast of the United States and Canada where halibut are found. The lack of application of Title VIII eliminates some of the more confusing aspects of the subsistence issue currently being resolved by the Federal government and the State of Alaska. There are certain provisions of the ANILCA definition that must be considered if Alternative 2, Option 2, Suboption B was adopted without revision, especially those provisions concerning “customary trade” and “barter.” These are considered under Option 5.

While Alternative 2, Option 2, Suboption B does utilize ANILCA’s “rural” resident eligibility criteria, it does not necessarily endorse other provisions of ANILCA, the regulations adopted thereunder, or the Federal Subsistence Board’s (FSB) implementation of the program. Instead, the option as currently stated represents something of a hybrid. In Table 2.4, the 114 “Alaska Rural Places in Areas with Subsistence Halibut Uses” incorporated in Option B reflects the state Boards’ determinations of rural or non rural status (or, as it is now called, identification of “non-subsistence areas”). (See discussion under Section 2.1.2.2.1.)

With the exception of the native only preference (provided in Alternative 2, Option 2, Suboption A.1 or C.1), all of the suboptions incorporate a rural residency requirement. (That rural residency requirement is further modified by the requirement that the community have customary and traditional use of halibut.) The analysis of suboptions A-C thus far has relied upon the list of 114 rural places identified by the state. The Council may adopt- if only as a starting point- the State’s list, the FSB’s list or create a different list of rural places based on some other reasonable criteria.

Alternative 2, Option 2, Suboption C, “tribal members and other permanent residents of Native villages who have legitimate subsistence needs,” is similar to Alternative 2, Option 2, Suboption A, except this suboption includes an individual eligibility standard based on “need” applied to non-Natives (see Table 2.1 for the approximate maximum number of persons that could be deemed eligible).

Alternative 2, Option 2, Suboption C (also a “tribal plus” option) is similar to the definition used in the Migratory Bird Treaty Act, which has not yet been implemented. The Native Halibut Subsistence Working Group requested that the tribes be authorized to determine eligibility of non-Natives, as a type of cooperative agreement. Under this approach, the tribes would determine who else may participate in what is primarily a tribal fishery. Individual standards that might be used by tribes to qualify non-Natives might include: (1) some history of use of longline skates for halibut fishing, (2) some level of food need that cannot be met with the two-hook, two-bag sport limit, and (3) some degree of participation in the tribal fishery pattern, such as a person married to a tribal member, or a helper in the tribal fishery. There may be other acceptable standards. The State’s criteria for subsistence eligibility (AS §16.05.258(c)) are listed in Section 1.2.2.

Two other examples of subsistence user criteria in Federal law are those found in the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). The ESA provides a specific exemption for “any

Indian, Aleut, or Eskimo who is an Alaska Native who resides in Alaska . . . or any non-native permanent resident of an Alaska Native village . . . if such taking [by the non-Native] is primarily for subsistence purposes.” There is an additional requirement that “any taking under [the exemption] may not be accomplished in a wasteful manner.” The exemption under the ESA can be revoked if the “taking materially and negatively affects the endangered or threatened species.” The MMPA also exempts “the taking of any marine mammals by any Indian, Aleut, or Eskimo who resides in Alaska *and who dwells on the coast of the North Pacific Ocean or the Arctic Ocean* if such taking . . . is for subsistence purposes; or ...for purposes of creating and selling authentic Alaska Native articles of handicrafts and clothing.” (emphasis added)

Although these definitions are not suboptions in this analysis, a brief discussion about them may prove informative. Both the ESA and the MMPA provisions are exemptions, more similar to Alternative 2, Option 2, Suboption C than Suboptions A and B, which are definitions designed primarily for subsistence. Specifically, the taking of endangered species and marine mammals are prohibited unless an exemption is granted. Under the ESA, the exemption is granted to (1) any Indian, Aleut, or Eskimo who is an Alaska Native who resides in Alaska, or (2) any non-Native permanent resident of an Alaska Native village; if the take of an endangered species is primarily for subsistence purposes. Notice that to qualify for the exemption an Indian, Aleut, or Eskimo need only reside in Alaska; however, a non-Native must be a permanent resident of an “Alaska Native village.” The MMPA exemption extends to Indians, Aleuts, and Eskimos who: (1) reside in Alaska; (2) dwell on the coast of the North Pacific Ocean or the Arctic Ocean; and (3) take for subsistence or handicraft purposes. The MMPA subsistence exemption does not extend to non-Native subsistence users.

The exemptions in the ESA and MMPA both have residency requirements. The MMPA also requires that a person be an “Indian, Aleut, or Eskimo.” The difficulty with both of these definitions is the individual determination of whether the take was for “subsistence purposes.” This difficulty, which is also a difficulty with Alternative 2, Option 2, Suboption C, can be avoided by defining the group of individuals that is authorized as subsistence users, rather than defining the behavior authorized, i.e., takes for “subsistence purposes.” Alternative 2, Option 2, Suboptions A and B can be used to define the group of individuals that is authorized as subsistence users; however, knowing the person is a qualified user does not mean every activity should be considered subsistence.

Determining who should be members of the group is another factor to consider. As explained earlier, this determination will potentially affect the resulting volume of harvest. Alternative 2, Option 2, Suboption A limits the group to “members of Alaska Native Federally-recognized tribes with customary and traditional use of halibut.” Alternative 2, Option 2, Suboption B limits the group to “Alaska rural residents” as defined in ANILCA *and* as identified in Table 2.4 entitled “Alaska Rural Places in Areas with Subsistence Halibut Uses.” Both of these suboptions can be used to define a group of individuals authorized to harvest subsistence halibut. The preferred suboption should be one that best describes the group to which the Council intends to grant subsistence use of halibut.

Alternative 2, Option 2, Suboptions A and C are consistent with the intent of ANILCA. ANILCA was intended to provide for Native subsistence uses, which is not the same as intending a *Native only* preference. While statutory Native only preferences are permissible under current U.S. Supreme Court precedent, ANILCA does not provide an example. Instead, the 9<sup>th</sup> Circuit has pointed to ANILCA as a good example of Congress selecting a “race neutral” solution. Therefore, the subsistence uses of both Native and non-Native rural residents were given protection and priority under ANILCA. Either option would be consistent with other Federal law (ESA, MMPA, migratory bird treaty, Fur Seal treaty, and the International Whaling Convention). Congress has repeatedly granted exclusive or in-common harvest rights to Indian tribes in the Lower 48. The U. S. Supreme Court has upheld these laws and treaties based upon the special Federal trust responsibility and Federal constitutional powers of Congress over Indian affairs. Thus Congress can constitutionally grant a subsistence priority limited solely to Alaska Natives or Alaska Natives and other legitimate non-Native subsistence users on Federal lands (Daniel and Starkey 1997). Alternative 2, Option

2, Suboption B is also consistent with ANILCA, but as previously discussed ANILCA is not required to be applied for halibut in Convention waters.

Alternative 2, Option 2, Suboption C would lead to rules that are administratively complex because it requires some entity to do individual qualification determinations. While it is administratively feasible, it is also contentious and expensive in time and money. The determination of eligibility of other permanent rural residents with legitimate subsistence needs might be delegated by the Council to the State of Alaska, tribes, or a co-management authority. There are an estimated 46,659 “other permanent residents” of rural communities, of which some portion would apply for permits and need to have eligibility determined (Table 2.1). The Council would still oversee such a program and retain final authority over any delegation, that is, an individualized determination process will still place a management burden on the Council. Lastly, the State cannot make the individual determinations called for under Alternative 2, Option 2, Suboption C.2.1 because the residency requirement conflicts with the State constitution and the Alaska Supreme Court decisions in *McDowell v. State*, 785 P.2d 1 (Alaska 1989) and *State v. Kenaitze*, 894 P.2d 632 (Alaska 1995).

Individuals applying for a permit would submit an application to the delegated authority. The application would provide information used by the delegated authority to determine if the applicant met the eligibility standard. A definition and measures of “legitimate subsistence needs” would need to be developed by the Council, so that a consistent standard is applied to all applicants. Applicants meeting the standard would receive permits, while applicants not meeting the standard would be denied a permit. Some appeal process would need to be established for review of applicants who were denied. Permit awards would occur annually to this class of applicants.

An individual eligibility system is relatively costly to administer. The State has experience with individual needs-based eligibility systems through administering Tier II subsistence hunts. The cost of such a system may be estimated by comparing it to the State of Alaska’s Tier II subsistence permit system administered annually by ADFG. The costs for scoring and awarding Tier II subsistence permits to approximately 20,000 applicants were about \$40,000 annually during the 1990s. In their administration of Tier II subsistence hunts, the Boards only undertake this added burden in times of shortage, when the resource is not sufficient to support all subsistence uses. *See* AS §16.05.258(b)(4); 5 AAC §99.010(c). By contrast, the halibut stocks are ample to support all subsistence uses as well as other consumptive uses.

Alternative 2, Option 2, Suboption D, “members of Alaska Native Federally-recognized tribes with customary and traditional use of halibut” was added to the analysis in April 2000. This suboption allows the Council to select only part 1 of Alternative 2, Option 2, Suboption A. It would qualify approximately 42,003 persons associated with 118 Alaska Native tribes with an estimated halibut harvest of 636,813 lb. This suboption recognizes the cultural component of customary and traditional uses of halibut by Alaska Natives.

Alternative 2, Option 2, Suboption E, “members of Alaska Native Federally-recognized tribes who reside in rural communities with customary and traditional use of halibut” is intended to limit halibut subsistence fishing by tribal members to those rural places that have C&T designation for halibut. Alternative 2, Option 2, Suboption E would qualify tribal members who reside in communities with customary and traditional use of halibut, or 35,512 tribal members (Table 2.4). It would exclude 5,540 urban tribal members.

Eligibility and areas open for halibut fishing by eligible subsistence users are separate issues. Persons eligible to subsistence fish for halibut under the Council's standards would be able to subsistence fish in any waters open to subsistence halibut fishing, unless otherwise restricted by the Council. In practice, most fishing by subsistence users occurs in waters close to the community of residence of the fisher, as shown by subsistence use area mapping by the Division of Subsistence, Alaska Department of Fish and Game. It would be expected that most subsistence halibut fishing by qualified subsistence users would occur in waters near the community of residence of the fisher.

It is also a common pattern for tribal subsistence users to fish and hunt in subsistence areas near their natal community. Some tribal members who reside in another community will return seasonally to their home village to engage in subsistence activities with an extended family group. In part, this is done because extended families have established customary patterns of use of particular areas within a traditional area used by members of the tribal community. Fishers returning home continue this use pattern in these customary areas. This also is done to contribute labor to the extended family in fishing and processing fish. While each federally-recognized tribe listed in Table 2.1 is headquartered in a single community, registered members of the tribe will be residents of a number of communities because of marriage patterns. Marriage partners are commonly found outside the local tribe or tribe segment (such as a clan). At marriage, it is common for one partner to move to the community of the spouse and away from the community where the person's tribe is headquartered. Dispersion of tribal members across several communities also occurs because of schooling and employment opportunities in other communities. As stated above, dispersed tribal members typically hunt and fish for subsistence near their current community of residence, which will be outside the community of their tribal headquarter. In addition, some tribal members will return home to seasonally fish and hunt, depending upon a number of personal and family factors.

Regulations pertaining to subsistence fishing and hunting should preserve the option for mobility of subsistence users if they are to be congruent with customary use patterns. For instance, regulations that might restrict a tribal member to fishing only within the area surrounding the community where the tribe is headquartered would probably place considerable constraints on subsistence harvests for the portion of the tribe who reside in other communities due to marriage, employment, and schooling. Either it would prohibit a person from subsistence fishing altogether, because the waters near their residence would be closed to them because they are a member of a different tribal group. Or it would force the dispersed tribal members to return home to subsistence fish, at an increased economic and social cost. The customary pattern for most would be to fish in the open areas near their current place of residence. A regulation that allowed an eligible subsistence user to fish in any waters open to subsistence fishing would not place restrictions on customary patterns of movement of tribal members.

In the rural designations by the Federal Subsistence Board, eligibility and the areas open for subsistence harvesting by eligible subsistence users are linked. Eligibility is based on residency in particular rural communities. A resident of a rural community may participate in subsistence hunts and fisheries only within certain Game Management Units and fishing areas open for subsistence harvests to that community, as identified by the Federal Subsistence Board. For instance, residents of Kotzebue in Game Management Unit 23 may hunt moose for subsistence in Game Management Unit 23, but not in neighboring Units 21, 22, 24, or 26. The Federal Subsistence Board identifies areas which have been customarily and traditionally used by residents of each rural community and limits residents to these areas. By contrast, the rural designations by the Alaska Joint Board of Fisheries and Game do not link eligibility and areas open for subsistence harvesting by subsistence users. Under state regulations, a subsistence user is free to harvest in any area open for subsistence fishing or hunting. As stated above, in practice most subsistence users harvest fish and game in areas close to their place of residence, while some users are mobile, returning to customary and traditional areas to harvest.



**Table 2.4. Option 2, Suboption B. Alaska Rural Places in Areas with Subsistence Halibut Uses**

Sources: Alaska Department of Fish and Game; Alaska Department of Labor

Rural Place* Organized Entity	Population (1995)	Percent Alaska Native	Number Alaska Natives	Number Non- Natives	Halibut Coastal District	Use Pattern 1 = regular 2 = periodic 3 = undocumented
<b>District 2C</b>						
Angoon Municipality	601	82.3%	495	106	2C	1
Coffman Cove Municipality	254	6.9%	18	236	2C	1
Craig Municipality	1,946	22.9%	446	1,500	2C	1
Edna Bay Census Designated Place	79	0.0%	0	79	2C	1
Elfin Cove Census Designated Place	48	1.8%	1	47	2C	1
Gustavus Census Designated Place	328	3.9%	13	315	2C	1
Haines Municipality	1,363	18.1%	247	1,116	2C	1
Hollis Census Designated Place	106	2.7%	3	103	2C	1
Hoonah Municipality	903	67.2%	607	296	2C	1
Hydaburg Municipality	406	89.1%	362	44	2C	1
Hyder Census Designated Place	138	1.0%	1	137	2C	1
Kake Municipality	696	73.4%	511	185	2C	1
Kasaan Municipality	41	53.7%	22	19	2C	1
Klawock Municipality	759	54.3%	412	347	2C	1
Klukwan Census Designated Place	165	86.8%	143	22	2C	1
Metlakatla Census Designated Place	1,540	82.9%	1,277	263	2C	1
Meyers Chuck Census Designated Place	35	10.8%	4	31	2C	1
Pelican Municipality	209	29.3%	61	148	2C	1
Petersburg Municipality	3,374	10.1%	341	3,033	2C	1
Point Baker Census Designated Place	62	0.0%	0	62	2C	1
Port Alexander Municipality	98	2.5%	2	96	2C	1
Port Protection Census Designated Place	64	1.6%	1	63	2C	1
Saxman Municipality	394	76.9%	303	91	2C	1
Sitka Municipality	9,194	20.9%	1,922	7,272	2C	1
Skagway Municipality	811	5.5%	45	766	2C	1
Tenakee Springs Municipality	107	9.6%	10	97	2C	1
Thorne Bay Municipality	650	1.2%	8	642	2C	1
Whale Pass Census Designated Place	92	2.7%	2	90	2C	1
Wrangell Municipality	2,758	20.0%	552	2,206	2C	1
<i>District 2C Communities</i>	<i>27,221</i>	<i>28.7%</i>	<i>7,806</i>	<i>19,415</i>		
<b>District 3A</b>						
Akhiok Municipality	80	93.5%	75	5	3A	1
Chenega Bay Census Designated Place	96	69.2%	66	30	3A	1
Cordova Municipality	2,568	11.2%	288	2,280	3A	1
Karluk Census Designated Place	58	91.5%	53	5	3A	1
Kodiak City Municipality	13,498	10.7%	1,443	12,055	3A	1
Larsen Bay Municipality	130	84.4%	110	20	3A	1
Nanwalek Census Designated Place	162	91.1%	148	14	3A	1
Old Harbor Municipality	310	88.7%	275	35	3A	1
Ouzinkie Municipality	259	85.2%	221	38	3A	1
Port Graham Census Designated Place	170	90.4%	154	16	3A	1
Port Lions Municipality	233	67.6%	158	75	3A	1
Seldovia Municipality	289	15.2%	44	245	3A	1
Tatitlek Census Designated Place	124	86.6%	107	17	3A	1
Yakutat Municipality	801	55.1%	441	360	3A	1
<i>sDistrict 3A Communities</i>	<i>18,778</i>	<i>19.1%</i>	<i>3,582</i>	<i>15,196</i>		

Rural Place* Organized Entity	Population (1995)	Percent Alaska Native	Number Alaska Natives	Number Non- Natives	Halibut Coastal District	Use Pattern 1 = regular 2 = periodic 3 = undocumented
<b>District 3B</b>						
Chignik Bay Municipality	141	45.2%	64	77	3B	1
Chignik Lagoon Census Designated Place	65	56.6%	37	28	3B	1
Chignik Lake Census Designated Place	154	91.8%	141	13	3B	1
Cold Bay Municipality	107	5.4%	6	101	3B	1
False Pass Municipality	73	76.5%	56	17	3B	1
Ivanof Bay Census Designated Place	28	94.3%	26	2	3B	1
King Cove Municipality	716	39.3%	281	435	3B	1
Nelson Lagoon Census Designated Place	88	80.7%	71	17	3B	1
Perryville Census Designated Place	104	94.4%	98	6	3B	1
Sand Point Municipality	844	49.3%	416	428	3B	1
<i>District 3B Communities</i>	<i>2,320</i>	<i>51.6%</i>	<i>1,196</i>	<i>1,124</i>		
<b>Districts 4A-D</b>						
Akutan Municipality	436	13.6%	59	377	4A-D	1
Atka Municipality	77	92.9%	71	6	4A-D	1
Nikolski Census Designated Place	27	82.9%	22	5	4A-D	1
St. George Municipality	151	94.9%	143	8	4A-D	1
St. Paul Municipality	767	66.1%	507	260	4A-D	1
Unalaska Municipality	4,083	8.4%	342	3,741	4A-D	1
<i>Districts 4A-D Communities</i>	<i>5,541</i>	<i>20.7%</i>	<i>1,145</i>	<i>4,396</i>		
<b>District 4E</b>						
Chefornak Municipality	371	97.5%	362	9	4E	1
Gambell Municipality	628	96.2%	604	24	4E	1
Mekoryak Municipality	212	99.4%	211	1	4E	1
Newtok Census Designated Place	275	93.2%	256	19	4E	1
Nightmute Municipality	189	95.4%	180	9	4E	1
Savoonga Municipality	604	95.2%	575	29	4E	1
Toksook Bay Municipality	485	95.5%	463	22	4E	1
Tununak Census Designated Place	354	96.2%	341	13	4E	1
Wales Municipality	173	88.9%	154	19	4E	1
Aleknagik Municipality	182	83.2%	151	31	4E	2
Clark's Point Municipality	63	88.3%	56	7	4E	2
Dillingham Municipality	2,243	55.8%	1,252	991	4E	2
Egegik Municipality	143	70.5%	101	42	4E	2
King Salmon Census Designated Place	539	15.5%	84	455	4E	2
Kipnuk Census Designated Place	544	97.5%	530	14	4E	2
Kongiganak Census Designated Place	336	97.3%	327	9	4E	2
Levelock Census Designated Place	116	82.9%	96	20	4E	2
Manokotak Municipality	402	95.6%	384	18	4E	2
Naknek Census Designated Place	617	41.0%	253	364	4E	2
Nome Municipality	3,576	52.1%	1,863	1,713	4E	2
Pilot Point Municipality	74	84.9%	63	11	4E	2
Port Heiden Municipality	126	72.3%	91	35	4E	2
South Naknek Census Designated Place	146	79.4%	116	30	4E	2
Alakanuk Municipality	604	95.8%	579	25	4E	3
Bethel Municipality	5,195	63.9%	3,319	1,876	4E	3
Brevig Mission Municipality	265	92.4%	245	20	4E	3
Chevak Municipality	682	92.9%	634	48	4E	3

Rural Place* Organized Entity	Population (1995)	Percent Alaska Native	Number Alaska Natives	Number Non- Natives	Halibut Coastal District	Use Pattern 1 = regular 2 = periodic 3 = undocumented
Council Census Designated Place	8	62.5%	5	3	4E	3
Eek Municipality	283	95.7%	271	12	4E	3
Elim Municipality	281	91.7%	258	23	4E	3
Emmonak Municipality	762	92.1%	702	60	4E	3
Golovin Municipality	148	92.9%	137	11	4E	3
Goodnews Bay Municipality	253	95.9%	243	10	4E	3
Hooper Bay Municipality	996	95.9%	955	41	4E	3
Kotlik Municipality	543	96.9%	526	17	4E	3
Koyuk Municipality	258	94.8%	245	13	4E	3
Kwigillingok Census Designated Place	326	95.0%	310	16	4E	3
Napakiak Municipality	326	94.3%	308	18	4E	3
Napaskiak Municipality	404	94.8%	383	21	4E	3
Oscarville Census Designated Place	42	91.2%	38	4	4E	3
Platinum Municipality	44	92.2%	41	3	4E	3
Quinhagak Municipality	549	93.8%	515	34	4E	3
Scammon Bay Municipality	434	96.5%	419	15	4E	3
Shaktolik Municipality	199	94.4%	188	11	4E	3
Sheldon Point Municipality	131	92.7%	121	10	4E	3
Solomon Census Designated Place	6	100.0%	6	0	4E	3
St. Michael Municipality	332	91.2%	303	29	4E	3
Stebbins Municipality	475	94.8%	450	25	4E	3
Teller Municipality	274	91.3%	250	24	4E	3
Togiak Municipality	700	87.3%	611	89	4E	3
Tuntutuliak Census Designated Place	340	96.7%	329	11	4E	3
Twin Hills Census Designated Place	75	92.4%	69	6	4E	3
Ugashik Census Designated Place	5	85.7%	4	1	4E	3
Unalakleet Municipality	764	81.8%	625	139	4E	3
White Mountain Municipality	209	87.8%	184	25	4E	3
<i>District 4E Communities</i>	<i>28,311</i>	<i>76.9%</i>	<i>21,783</i>	<i>6,528</i>		
<b>Total Districts</b>	<b>82,171</b>	<b>43.2%</b>	<b>35,512</b>	<b>46,659</b>		

\* Places where subsistence (wild food harvest and use) is a principal characteristic of the community's economy and way of life, as determined by the Alaska Joint Board of Fisheries and Game

In summary, the most important consideration for the Council in its choice of a suboption for eligibility is to legitimize the fishing activities of those individuals currently participating in the halibut subsistence fishery. Secondly, the process of identifying legitimate subsistence users should be simple. The Council and NMFS would likely not want to have to develop a process whereby eligibility would be determined for *individuals*. Alternative 2, Option 2, Suboptions A and B would legitimize entire Alaska Native tribes or both Alaska Native and non-Native rural residents from eligible communities. Alternative 2, Option 2, Suboption C would require a determination of “who has legitimate subsistence needs.” Such eligibility determinations can be costly and time-consuming, especially if they are required for individuals. A method to avoid such determinations would use an objective standard for eligibility. An objective standard may already be established, as in the case of Alternative 2, Option 2, Suboption B, or can be established during program development, as in the case of Alternative 2, Option 2, Suboption A. In either case, the most important consideration is that objective criteria be established to avoid individual determinations. Alternative 2, Option 2, Suboption D would define halibut subsistence for Alaska Native tribal members only.

Under Alternative 2, Option 2, Suboption A (based on tribal plus), there are 88,662 persons eligible, of which 42,003 are Alaska Native and 46,659 are non-Natives (Table 2.1). Under Alternative 2, Option 2, Suboption B (based on rural standard), there are 82,171 persons eligible of which 35,512 are Alaska Natives and 46,659 are non-Natives (Table 2.4). Under Alternative 2, Option 2, Suboption C (tribal plus with individual determination), up to 88,662 persons may be eligible of which 42,003 are Alaska Native and 46,659 are non-Natives (Table 2.1). The 5,540 fewer Alaska Natives eligible under Alternative 2, Option 2, Suboptions B and E compared with the other suboptions are Alaska Native tribal members residing in Juneau, Ketchikan, and the Kenai-Soldotna-Ninilchik areas, while Alternative 2, Option 2, Suboptions A and C include them. However, Alternative 2, Option 2, Suboption B includes 550 tribal members and 5,735 non-Natives who are not included under any other suboption. Alternative 2, Option 2, Suboption D (tribal only) would qualify approximately 42,003 tribal members only (Table 2.1). Alternative 2, Option 2, Suboption E (rural tribal members) would qualify tribal members who reside in communities with customary and traditional use of halibut, or 35,512 tribal members (Table 2.4).

### 2.2.1 Rural/Nonrural Determinations for the Kenai Peninsula

The Federal Subsistence Board determined the following populations on the Kenai Peninsula to be rural for the purposes of the Federal subsistence statute. In June 2001, the Board reversed this decision. However, the Kenai Peninsula was determined rural during the time of Council final action. The Council reviewed summary information which indicated that local economies would experience a redistribution in angler related expenditures to the extent that the adoption of halibut subsistence rules would cause some anglers to substitute subsistence fishing for their present participation under sportfish regulations. Sportfishing provides monetary benefits to tourism related businesses and non-monetary benefits to anglers, and both the guided and non-guided sectors are central components of a number of coastal communities (NPFMC 2000). If participation under the subsistence rules affords sportfishers in a particular area similar benefits at a lesser cost than traditional angling, then substitution would be likely.

2,399 people	Rural Roaded Kenai Peninsula (Cooper Landing CDP, Fox River CDP, Happy Valley CDP, Hope CDP, Nikolaevsk CDP, Ninilchik CDP)
903 people	Rural Non-Roaded Kenai Peninsula (Halibut Cove CDP, Jakolof Bay CDP, Nanwalek CDP, Port Graham CDP, Seldovia).
45,361 people	Rural Roaded Kenai Peninsula (includes the Kenai-Soldotna area, Homer Area, and Seward Area). These communities were deemed “rural” in the March 2000 determination.

It is typically assumed that spending by local residents does not have an overall impact on regional economies because the spending does not represent ‘new money’ coming into the area. In other words, decreased spending by locals in any particular economic sector would be offset by expenditures on different goods and services within the region. This assumption is more likely to hold true with greater diversification of the regional economy. However, if economic activity is heavily dependent upon a number of concentrated industries, as is common in coastal Alaska, and if local residents could continue to participate in a halibut fishery without incurring typical sportfishing costs, there is an increased probability that local expenditures will leak out of the regional economy.

Regardless of whether there is an overall regional impact, expenditures will be redistributed away from some sectors and directed towards others, and this redistribution could have a substantial effect on industries such as the charter sector. If charter operations are bound by sportfishing rules and fishers choose to harvest their halibut under subsistence guidelines, they would redirect their spending to alternative means of reaching fishing grounds. If the perceived benefits from subsistence fishing warranted the purchase of private vessels, then local consumption of charter services would diminish. The potential effects would vary according to area, depending on the demand for charter services by local residents. For example, few Alaska residents and even fewer local residents purchase charter services in IPHC area 2C (southeast), where the charter industry serves a tourist-based, visiting market. In Southcentral Alaska, where 36% of charter clients are Alaska residents, the impact to the charter sector is not quantifiable, but may be sizable.

A more detailed description of the charter sector in Areas 2C and 3A can be found in another Council analysis (NPFMC 2001). It provides the most current (1998 and 1999) harvest and participation (businesses and vessels) data and baseline economic information describing the fleet. A summary of that information follows. A total of 589 and 669 businesses registered for saltwater guiding in 1998 and 1999 in Area 2C. A total of 92 and 34 businesses registered in 1998 and 1999 for both Areas 2C and 3A. A total of 662 and 1,081 vessels registered to provide saltwater guide services in Area 2C in 1998 and 1999. The number of unique active businesses in that area was 397 and 386 vessels in 1998 and 1999. The number of unique active vessels was 581 and 588 vessels in 1998 and 1999. Area 2C saltwater charter clients in 1998 totaled 2,424 Alaska residents and 37,976 non-residents. A total of 697 and 692 businesses registered for saltwater guiding in 1998 and 1999 in Area 3A. A total of 92 and 34 businesses registered in 1998 and 1999 for both Areas 2C and 3A. A total of 596 and 968 vessels registered to provide Area 3A saltwater guide services in 1998 and 1999. The number of unique active businesses was 422 in 1998 and 434 in 1999 in Area 3A. The number of unique active vessels was 504 in 1998 and 520 in 1999 in Area 3A. A total of 30,255 Alaska residents and 53,519 non-residents were Area 3A saltwater charter clients in 1998.

An unknown number of the 2,424 and 30,255 Alaska resident clients may be deemed eligible under the preferred alternative, and an unknown number of those may reduce demand for charter fishing and substitute subsistence fishing to meet their food needs. If a person had used charter vessels to obtain halibut in the past, that person may now be able to harvest halibut using other means (proposed legal subsistence gear). Under the preferred alternative, they may forego taking charters, which would decrease demand for halibut charter trips (though the effect on the market clearing quantity demanded would be expected to be very small overall) and possibly reduce sales of sport fishing licenses. The reduction in sport fish license sales is expected to be small because a license sale would be foregone only by those who purchase a license *only* to harvest halibut for food.

## 2.2.2 Current Halibut Subsistence Harvests

Tables 2.5 - 2.7 report non-commercial halibut harvests from Alaska rural places from ADFG Division of Subsistence, Community Profile Database. Population numbers in the Community Profile Database are derived from 1995 population estimates as reported by the Alaska Department of Labor, Alaska Population Overview, 1995 Estimates, July 1996. The number of Alaska Natives in a community are estimated by

**Table 2.5 Percent of Households Using, Trying to Harvest, Harvesting, Receiving, or Giving Non-Commercial Halibut, by Community and Year**

Source: ADF&G Division of Subsistence Household Surveys

Community	Survey Year	Using	Trying	Harvesting	Receiving	Giving
Akhiok	82	81.00		81.00		
Akhiok	86	33.30	25.00	25.00	8.30	25.00
Akhiok	89	100.00	70.00	70.00	60.00	70.00
Akhiok	92	75.00	50.00	45.80	41.70	33.30
Akutan	90	100.00	80.00	80.00	76.00	64.00
Aleknagik	89	5.30	2.60	0.00	5.30	2.60
Angoon	84	84.20	81.60	81.60	26.30	39.50
Angoon	87	85.40		53.70	61.70	42.30
Atka	94	85.70	57.10	53.60	71.40	42.90
Chenega Bay	84	87.50	75.00	43.80	81.30	62.50
Chenega Bay	85	93.80	81.30	68.80	75.00	62.50
Chenega Bay	89	55.60	38.90	33.30	38.90	33.30
Chenega Bay	90	77.80	33.30	33.30	66.70	11.10
Chenega Bay	91	94.40	61.10	61.10	61.10	50.00
Chenega Bay	92	91.30	47.80	47.80	78.30	56.50
Chenega Bay	93	91.30	56.50	52.20	78.30	60.90
Chignik Bay	84	84.20	68.40	68.40	63.20	57.90
Chignik Bay	89	88.60	71.40	68.60	45.70	45.70
Chignik Bay	91	90.00	66.70	56.70	43.30	43.30
Chignik Lagoon	84	76.50	52.90	52.90	35.30	23.50
Chignik Lagoon	89	100.00	66.70	66.70	53.30	40.00
Chignik Lake	84	95.70	65.20	60.90	52.20	47.80
Chignik Lake	89	66.70	57.10	57.10	42.90	19.00
Chignik Lake	91	91.70	62.50	62.50	66.70	50.00
Clark's Point	89	0.00	0.00	0.00	0.00	0.00
Coffman Cove	87	55.00		42.60	27.80	35.10
Cordova	85	15.50	46.60	36.40	51.00	31.60
Cordova	88	87.20	63.90	54.80	47.20	49.30
Cordova	91	87.10	58.40	52.50	52.50	46.50
Cordova	92	90.20	65.90	63.40	51.20	56.10
Cordova	93	94.20	57.70	49.00	68.30	41.30
Craig	87	68.10		35.30	48.80	22.40
Dillingham	84		0.00	0.00		
Edna Bay	87	100.00		95.00	80.00	80.00
Egegik	84	12.00	4.00	4.00	8.00	8.00
Elfin Cove	87	92.30		76.90	69.20	53.80
False Pass	88	80.00	65.00	65.00	60.00	60.00
Gustavus	87	90.00		76.00	41.80	66.40
Haines	83	52.40	38.80	31.30	23.10	11.60
Haines	87	74.20		40.80	52.10	21.90
Hoonah	85	85.90	38.00	39.40	66.20	21.10
Hoonah	87	87.40		62.10	57.10	44.40
Hydaburg	87	88.10		31.30	80.60	25.30
Hyder	87	57.60		21.20	48.50	15.20
Igiugig	83		0.00	0.00	0.00	
Igiugig	92	50.00	0.00	0.00	50.00	0.00

Community	Survey Year	Using	Trying	Harvesting	Receiving	Giving
Iliamna	83		0.00	0.00	5.00	
Iliamna	91	39.10	8.70	8.70	30.40	4.30
Ivanof Bay	84	66.70	33.30	33.30	33.30	33.30
Ivanof Bay	89	100.00	85.70	85.70	71.40	71.40
Kake	85	75.70	34.30	44.30	35.70	25.70
Kake	87	88.40		54.10	63.00	23.10
Karluk	82	90.00		50.00		
Karluk	86	78.90	31.60	31.60	47.40	21.10
Karluk	89	64.30	50.00	50.00	35.70	35.70
Karluk	90	82.40	52.90	52.90	64.70	47.10
Karluk	91	92.30	69.20	61.50	76.90	46.20
Kasaan	87	71.40		42.90	50.00	35.70
King Cove	92	73.30	38.70	36.00	46.70	22.70
Klawock	84	69.40	38.90	33.30	47.20	19.40
Klawock	87	77.40		52.20	47.00	28.50
Klukwan	83	30.30	21.20	15.20	15.20	3.00
Klukwan	87	50.30		7.10	50.30	0.00
Kodiak City	91	89.00	54.00	48.00	61.00	43.00
Kodiak City	92	86.00	55.00	52.00	63.00	47.00
Kodiak City	93	85.70	58.10	50.50	61.00	54.30
Kokhanok	83		0.00	0.00	0.00	
Kokhanok	92	11.10	5.60	5.60	11.10	5.60
Larsen Bay	82	84.40		46.90		
Larsen Bay	86	81.10	35.10	32.40	67.60	18.90
Larsen Bay	89	94.10	52.90	52.90	52.90	41.20
Larsen Bay	90	85.70	54.30	54.30	65.70	51.40
Larsen Bay	91	89.50	55.30	55.30	60.50	47.40
Larsen Bay	92	83.80	62.20	56.80	56.80	54.10
Larsen Bay	93	82.50	50.00	50.00	62.50	47.50
Levelock	88	7.40	3.70	3.70	7.40	3.70
Levelock	92	0.00	0.00	0.00	0.00	0.00
Metlakatla	87	80.40		21.90	68.20	10.20
Meyers Chuck	87	80.00		70.00	50.00	50.00
Nanwalek	87	87.90	60.60	57.60	63.60	45.50
Nanwalek	89	30.30	27.30	18.20	18.20	15.20
Nanwalek	90	77.10	57.10	51.40	60.00	37.10
Nanwalek	91	93.10	65.50	55.20	69.00	48.30
Nanwalek	92	100.00	78.10	78.10	71.90	65.60
Nanwalek	93	100.00	72.70	72.70	84.80	78.80
Nelson Lagoon	87		0.00	0.00		0.00
Newhalen	91	11.50	0.00	0.00	11.50	3.80
Nikolski	90	100.00	71.40	71.40	71.40	64.30
Old Harbor	82	88.30		80.50		
Old Harbor	86	84.10	56.80	54.50	56.80	38.60
Old Harbor	89	81.30	54.20	54.20	58.30	39.60
Old Harbor	91	95.20	71.40	69.00	69.00	66.70
Ouzinkie	82	90.60		59.40		
Ouzinkie	86	85.30	61.80	55.90	52.90	32.40
Ouzinkie	89	48.60	31.40	28.60	34.30	17.10
Ouzinkie	90	77.40	39.60	39.60	52.80	32.10
Ouzinkie	91	93.80	62.50	53.10	65.60	40.60

Community	Survey Year	Using	Trying	Harvesting	Receiving	Giving
Ouzinkie	92	84.60	57.70	53.80	59.60	59.60
Ouzinkie	93	83.60	54.10	50.80	60.70	47.50
Pedro Bay	82		5.90	5.90	0.00	
Pelican	87	97.20		75.40	69.80	59.60
Perryville	84	80.00	40.00	40.00	65.00	45.00
Perryville	89	96.30	48.10	40.70	77.80	29.60
Petersburg	87	81.40		63.50	35.80	47.30
Pilot Point	87	29.40	23.50	23.50	5.90	5.90
Point Baker	87	84.20		63.20	63.20	42.10
Port Alexander	87	91.30		64.80	73.50	43.70
Port Alsworth	83		0.00	0.00	0.00	
Port Graham	87	90.70	74.10	66.70	59.30	40.70
Port Graham	89	62.50	52.10	47.90	35.40	18.80
Port Graham	90	89.10	67.40	58.70	47.80	50.00
Port Graham	91	95.90	65.30	61.20	73.50	57.10
Port Graham	92	91.70	72.90	70.80	64.60	60.40
Port Graham	93	96.10	68.60	60.80	64.70	60.80
Port Heiden	87	21.60	8.10	8.10	13.50	2.70
Port Lions	82	96.40		67.30		
Port Lions	86	95.40	63.10	60.00	63.10	44.60
Port Lions	89	83.30	52.80	50.00	44.40	25.00
Port Lions	93	93.30	66.70	66.70	64.40	42.20
Port Protection	87	96.00		68.00	72.00	52.00
Saint George	94	100.00	55.60	47.20	69.40	25.00
Saint Paul	94	90.50	56.00	54.80	60.70	48.80
Sand Point	92	89.40	60.60	59.60	47.10	32.70
Saxman	87	67.90		34.00	47.20	12.70
Seldovia	82	97.10		34.30	62.90	
Seldovia	91	89.40	63.60	62.10	48.50	40.90
Seldovia	92	86.20	58.50	53.80	52.30	43.10
Seldovia	93	84.60	58.50	56.90	50.80	44.60
Sitka	87	46.60		46.60	0.00	0.00
Skagway	87	69.70		21.20	58.40	6.20
South Naknek	92	54.30	11.40	11.40	45.70	14.30
Tatitlek	87	94.70	57.90	52.60	78.90	52.60
Tatitlek	88	85.70	57.10	42.90	66.70	42.90
Tatitlek	89	68.20	36.40	31.80	40.90	27.30
Tatitlek	90	64.70	29.40	29.40	41.20	41.20
Tatitlek	91	100.00	47.40	47.40	84.20	52.60
Tatitlek	93	90.00	50.00	35.00	65.00	55.00
Tenakee Springs	84	91.70	54.20	54.20	70.80	33.30
Tenakee Springs	87	90.30		58.00	54.90	41.90
Thorne Bay	87	74.30		58.30	39.50	25.30
Tununak	86	100.00	97.00	93.90	15.20	57.60
Ugashik	87	0.00	0.00	0.00	0.00	0.00
Unalaska	94	90.80	56.80	55.80	62.50	51.20
Whale Pass	87	77.80		55.60	33.30	27.80
Wrangell	87	76.60		47.30	54.10	30.20
Yakutat	84	92.00	58.00	58.00	58.00	40.00
Yakutat	87	87.60		53.60	61.90	37.60



Table 2.6. Persons Making IFQ Sablefish/Halibut; or CDQ Halibut Landings in 1999 who live anywhere in the State<sup>2,3,4</sup>.

Residence	Count	Residence	Count
UNIDENTIFIED <sup>1</sup>	21	MEKORYUK	28
AKUTAN	3	METLAKATLA	8
ANCHOR POINT	28	MEYERS CHUCK	3
ANCHORAGE	58	NAKNEK	4
ANGOON	22	NEWTOK	8
ATKA	6	NIGHTMUTE	13
AUKE BAY	18	NIKISKI	7
CENTRAL	1	NIKOLAEVSK	8
CHEFORNAK	9	NINILCHIK	9
CHIGNIK	2	NOME	7
CHIGNIK BAY	1	NORTH POLE	2
CHIGNIK LAGOON	4	OLD HARBOR	5
CHUGIAK	2	OUZINKIE	13
CLAM GULCH	6	PALMER	8
COPPER CENTER	2	PAXSON	1
CORDOVA	50	PELICAN	17
CRAIG	45	PERRYVILLE	1
DILLINGHAM	7	PETERSBURG	212
DOUGLAS	27	PILOT POINT	1
DUTCH HARBOR	6	PITKUS POINT	1
EAGLE RIVER	12	POINT BAKER	10
EDNA BAY	4	PORT ALEXANDER	16
EGEGIK	2	PORT GRAHAM	1
ELFIN COVE	6	PORT LIONS	6
FAIRBANKS	7	PORT PROTECTION	1
FALSE PASS	2	SAND POINT	46
FRITZ CREEK	2	SAVOONGA	2
GIRDWOOD	7	SELDOVIA	16
GUSTAVUS	8	SEWARD	33
HAINES	47	SITKA	222
HALIBUT COVE	2	SKAGWAY	1
HOMER	174	SOLDOTNA	31
HOONAH	25	ST GEORGE ISLAND	12
HYDABURG	6	ST PAUL ISLAND	30
HYDER	1	STERLING	5
IVANOF BAY	1	TENAKEE	3
JUNEAU	103	THORNE BAY	4
KAKE	18	TOKSOOK BAY	36
KASILOF	11	TUNUNAK	23
KENAI	36	UNALASKA	11
KETCHIKAN	65	VALDEZ	10
KING COVE	15	WARD COVE	8
KIPNUK	12	WASILLA	14
KLAWOCK	3	WHITTIER	2
KODIAK	238	WILLOW	3
KWIGILLINGOK	1	WRANGELL	90
MANOKOTAK	1	YAKUTAT	29
		<b>Total</b>	<b>2,148</b>

<sup>1</sup>includes all U.S.

<sup>2</sup>includes QS, permitholders and hired skippers making landings on IFQ/CDQ cards

<sup>3</sup>addresses were self-reported, as used in 1999 <sup>4</sup>RAM database does not record race, so data likely overestimate affected parties

Source: Jesse Gharrett, NMFS RAM Division, 4/5/00

Table 2.7. Persons Making IFQ Sablefish/Halibut; or CDQ Halibut Landings in 1999  
 who live in rural places associated with Alaska Native Tribes with halibut C&T.

<b>Residence</b>	<b>Count</b>	<b>Residence</b>	<b>Count</b>
AKUTAN	3	NAKNEK	4
ANGOON	22	NEWTOK	8
ATKA	6	NIGHTMUTE	13
CHEFORNAK	9	NOME	7
CHIGNIK	2	OLD HARBOR	5
CHIGNIK BAY	1	OUZINKIE	13
CHIGNIK LAGOON	4	PELICAN	17
CORDOVA	50	PERRYVILLE	1
CRAIG	45	PETERSBURG	212
DILLINGHAM	7	PILOT POINT	1
EDNA BAY	4	POINT BAKER	10
EGEGIK	2	PORT ALEXANDER	16
ELFIN COVE	6	PORT GRAHAM	1
FALSE PASS	2	PORT LIONS	6
GUSTAVUS	8	PORT PROTECTION	1
HAINES	47	SAND POINT	46
HOONAH	25	SAVOONGA	2
HYDABURG	6	SELDOVIA	16
HYDER	1	SITKA	222
IVANOF BAY	1	SKAGWAY	1
KAKE	18	ST GEORGE ISLAND	12
KING COVE	15	ST PAUL ISLAND	30
KIPNUK	12	TENAKEE	3
KLAWOCK	3	THORNE BAY	4
KODIAK	238	TOKSOOK BAY	36
KWIGILLINGOK	1	TUNUNAK	23
MANOKOTAK	1	UNALASKA	11
MEKORYUK	28	WRANGELL	90
METLAKATLA	8	YAKUTAT	29
MEYERS CHUCK	3		
		<b>Total</b>	<b>1,418</b>

\*includes QS, permitholders and hired skippers making landings on IFQ/CDQ cards

\*\*addresses were self-reported, as used in 1999

Source: Jesse Gharrett, NMFS RAM Division, 4/5/00

multiplying the 1995 ADOL population by the percent of Alaska Natives in a place as reported in the 1990 U.S. Census.

Rural places are areas outside the boundaries of non-subsistence areas as identified by the Alaska Joint Board of Fisheries and Game. Prior to 1989, the Board identified rural places as places where subsistence (wild food harvest and use) is a principal characteristic of a community's economy and way of life. After 1992, the Board identified "non-subsistence areas" as areas where wild food harvest and use is not a principal characteristic of the area's economy and way of life. The non-subsistence areas identified by the Board are similar to the non-rural areas identified pre-1989. Therefore, you will see that the places called "rural places" in the tables are places which lie outside the boundaries of non-subsistence areas designated by the Alaska Joint Board of Fisheries and Game. The Alaska Board of Fisheries has identified areas with halibut fishing for subsistence or personal use. By and large, coastal areas with halibut stocks which lie outside of the non-subsistence areas are open for subsistence (or personal use) fishing for halibut under state regulation. "Areas with Subsistence Halibut Uses" refer to areas with subsistence or personal halibut uses as identified by the Alaska Board of Fisheries. A rural place (or Alaska Native group) appears in the tables if the Division of Subsistence household surveys indicated that their residents (or members) have an established fishing pattern in coastal districts with halibut stocks. If the ADF&G Division of Subsistence has no quantitative survey information for a community (mostly communities in Area 4E), a community was included if qualitative information indicated that residents used halibut stocks in areas that the Alaska Board of Fisheries has identified as having subsistence(or personal) use of halibut. In the tables, the use pattern of these areas are called "undocumented." Some inland communities (or Alaska Native groups) may have been inadvertently left off the list by this procedure. The Council considered and adopted a process for communities or groups inadvertently left off the list to request consideration for future eligibility.

A rural place (or native group) appears in the table if the Division of Subsistence research indicated that their residents (or members) have an established halibut fishing pattern in coastal districts within areas that the Alaska Board of Fisheries has identified as having subsistence (or personal) use of halibut. Table 2.1 includes two groups applying for status -- the Aukquan Traditional Council in Juneau and the Shoonaq' Tribe of Kodiak. There may be other tribal groups also applying for status. Also, there may be other tribal groups using halibut for which no information is available. As for rural places, the Council should consider developing a process for tribal groups inadvertently left off the list to request consideration for future eligibility.

The number of Alaska Natives per tribal group is estimated by the number of Alaska Natives residing in the place where the tribal government is headquartered (see method above). This is a very rough estimate and over-estimates to some degree the number of Alaska Natives on tribal roles in areas with established halibut uses (because it includes Alaska Natives on membership roles of non-coastal tribes who are residing in coastal areas at the time of the U.S. Census). Also, the place of residency of tribal members is not portrayed precisely by the estimate. A tribe's members are commonly spread across several communities, and do not reside only in the place where the tribe is headquartered. Alaska Natives living in a rural place like Angoon may trace membership to several tribal groups, because of marriages with neighboring tribal members, mobility of tribal members for work and school, and so forth. The best estimate for the number of Alaska Natives per tribal group would derive from the membership role of each tribe.

### 2.2.3 Projected Halibut Subsistence Harvests under Alternative 2, Option 2 Suboptions

Alternative 2, Option 2, Suboptions A, B, and C will result in significant differences in the number of persons eligible for subsistence halibut fishing and their corresponding resource removals attributed to subsistence. Under Alternative 2, Option 2, Suboption A, 88,863 Alaska residents (42,004 Alaska Natives and 46,659 Alaska non-Native residents) in 118 coastal communities would be eligible. Table 2.8 lists the estimated halibut removals for all non-commercial uses from all gear under the three proposed subsistence definitions,

**Table 2.8. Estimates of Population and Non-commercial Halibut Use under Alternative 2, Option 2  
(halibut in pounds, net weight)**

Source: Alaska Department of Fish and Game, Alaska Department of Labor

	<u>District 2C</u>	<u>District 3A</u>	<u>District 3B</u>	<u>Districts 4A-D</u>	<u>District 4E</u>	<u>Total</u>
<b>Suboption A. Members of Alaska Native Tribes with Customary and Traditional Uses and Other Rural Residents of Such Native Villages in Areas with Subsistence Halibut Uses</b>						
Number of Rural Places	29	14	10	6	55	114
Number of tribal Entities	19	18	12	6	63	118
Total Population	32,708	19,782	2,321	5,541	28,311	88,663
Number of Alaska Native	13,293	4,586	1,197	1,145	21,783	42,004
Percent Alaska Native	40.6%	23.2%	51.6%	20.7%	76.9%	47.4%
Average Native Per Capita Halibut	19.6	25.6	36.7	106.8	4.3	15.2
<u>Estimated Native Halibut Consumption</u>	<u>260,024</u>	<u>117,256</u>	<u>43,941</u>	<u>122,304</u>	<u>93,288</u>	<u>636,813</u>
Number of Alaska Non-Natives	19,415	15,196	1,124	4,396	6,528	46,659
Percent Alaska Non-Natives	59.4%	76.8%	48.4%	79.3%	23.1%	52.6%
Average Non-Native Per Capita Halibut	30.4	11.2	7.4	28.3	0.0	19.1
<u>Estimated Non-Native Halibut Consumption</u>	<u>591,021</u>	<u>169,592</u>	<u>8,337</u>	<u>124,536</u>	<u>0</u>	<u>893,486</u>
<b>Total Estimated Halibut Consumption</b>	<b>851,045</b>	<b>286,848</b>	<b>52,278</b>	<b>246,840</b>	<b>93,288</b>	<b>1,530,299</b>
<b>Suboption B. Alaska Rural Residents in Areas with Subsistence Halibut Uses</b>						
Number of Rural Places	29	14	10	6	55	114
Total Population	27,221	18,778	2,320	5,541	28,311	82,171
Number of Alaska Native	7,806	3,582	1,196	1,145	21,783	35,512
Percent Alaska Native	28.7%	19.1%	51.6%	20.7%	76.9%	43.2%
Average Native Per Capita Halibut	23.8	27.6	36.7	106.8	4.3	15.3
<u>Estimated Native Halibut Consumption</u>	<u>185,949</u>	<u>99,013</u>	<u>43,941</u>	<u>122,304</u>	<u>93,288</u>	<u>544,495</u>
Number of Alaska Non-Natives	19,415	15,196	1,124	4,396	6,528	46,659
Percent Alaska Non-Natives	71.3%	80.9%	48.4%	79.3%	23.1%	56.8%
Average Non-Native Per Capita Halibut	30.4	11.2	7.4	28.3	0.0	19.1
<u>Estimated Non-Native Halibut Consumption</u>	<u>591,021</u>	<u>169,592</u>	<u>8,337</u>	<u>124,536</u>	<u>0</u>	<u>893,486</u>
<b>Total Estimated Halibut Consumption</b>	<b>776,970</b>	<b>268,605</b>	<b>52,278</b>	<b>246,840</b>	<b>93,288</b>	<b>1,437,981</b>
<b>Suboption C. Members of Alaska Native Tribes with Customary and Traditional Uses and Other Rural Residents of Native Villages Who Have Legitimate Subsistence Needs</b>						
Number of Rural Places	29	14	10	6	55	114
Number of tribal Entities	19	18	12	6	63	118
Total Population	32,708	19,782	2,321	5,541	28,311	88,663
Number of Alaska Native	13,293	4,586	1,197	1,145	21,783	42,004
Percent Alaska Native	40.6%	23.2%	51.6%	20.7%	76.9%	47.4%
Average Native Per Capita Halibut	19.6	25.6	36.7	106.8	4.3	15.2
<u>Estimated Native Halibut Consumption</u>	<u>260,024</u>	<u>117,256</u>	<u>43,941</u>	<u>122,304</u>	<u>93,288</u>	<u>636,813</u>
Number of Alaska Non-Natives	19,415	15,196	1,124	4,396	6,528	46,659
Percent Alaska Non-Natives	59.4%	76.8%	48.4%	79.3%	23.1%	52.6%
Average Non-Native Per Capita Halibut	30.4	11.2	7.4	28.3	0.0	19.1
<u>Estimated Non-Native Halibut Consumption</u>	<u>591,021</u>	<u>169,592</u>	<u>8,337</u>	<u>124,536</u>	<u>0</u>	<u>893,486</u>
<b>Total Estimated Halibut Consumption</b>	<b>851,045</b>	<b>286,848</b>	<b>52,278</b>	<b>246,840</b>	<b>93,288</b>	<b>1,530,299</b>

using per capita halibut harvest rates provided in Table 2.7. Residents are projected to harvest over 1.5 million lb of halibut under Alternative 2, Option 2, Suboption A; however, this estimate includes subsistence, personal use, and recreational harvests. It is not possible to differentiate subsistence harvests from among these sources because a “subsistence” category to account for such harvests does not exist.

Table 2.9 reports the same information by gear. It may be possible to apply a qualitative assessment from type of use to these harvests. It is expected that under proposed subsistence regulations, reports of “subsistence” halibut harvests would increase in accuracy while total “personal use” and “sport fish” harvests would decline; however, the same amount of fish would actually be harvested.

Under Alternative 2, Option 2, Suboption B, all rural residents of Alaska coastal communities identified with halibut subsistence uses would qualify for subsistence halibut fishing. Under Alternative 2, Option 2, Suboption B, 82,171 persons in 114 rural places are eligible (35,512 Alaska Natives and 46,659 Alaska non-Native residents). Those residents are projected to harvest over 3.3 million lb of halibut for non-commercial purposes. As it is currently proposed, a total of 6,367 fewer Alaska Natives and four rural communities would be excluded from proposed subsistence regulations. In Area 2C, Alternative 2, Option 2, Suboption B excludes 5,487 and 14,052 Tlingit-Haida-Tsimshian tribal members Juneau and Ketchikan. In Area 3A it excludes 1,004 Kenaitze tribal members residing in the Kenai-Soldotna-Ninilchik area. In Area 3B, 5 members and two communities are excluded.

The most inclusive standard occurs under Alternative 2, Option 2, Suboption C, which includes Alaska Natives and other rural residents in areas with established halibut uses (the Migratory Bird Treaty protocol language allows for reducing the number of non-Natives in rural areas through some additional individually-based eligibility criteria -- dependency on subsistence; these additional potential individual criterion have not been applied here). Under Alternative 2, Option 2, Suboption C, between 42,003 and 88,633 persons in 114 rural places and 118 Alaska Native groups are eligible (including 42,003 Alaska Natives and 46,630 non-Natives). Those residents are projected to harvest over 1.5 million lb of halibut.

For all gear types, Alaska Native and non-Native non-commercial per capita halibut harvests are very similar (43.3 and 37.3 lb, respectively). The Council must decide whether non-Native needs for halibut for consumption are met by the 2-fish per person per day sport bag limit. Then, the Council and NMFS would need to develop a protocol for non-Native eligibility, application criteria, appeals board, etc.

#### 2.2.4 Non-guided and guided sport fisheries

The halibut non-guided and guided sport fisheries were extensively described in the Council’s February 2000 EA/RIR to establish a guideline harvest level and implementing management measures for the guided halibut fishery (NPFMC 2000). This analysis will not be repeated here.

**Table 2.9. Estimates of Population and Non-commercial Halibut Use under Alternative 2, Option 2**

Source: Alaska Department of Fish and Game, Alaska Department of Labor

District 2C    District 3A    District 3B    Districts 4A-D    District 4E    Total

**Suboption A. Members of Alaska Native Tribes with Customary and Traditional Uses and Other Rural Residents of Such Native Villages in Areas with Subsistence Halibut Uses**

Number of Alaska Native	13,293	4,586	1,197	1,145	21,783	42,004
Native Harvest-Commercial Gear	43,457	20,685	19,761	24,553	345	108,801
Native Harvest - Other Non-commercial Gear *		34,349	20,209	85,935	92,587	233,080
Native Harvest - Rod and Reel Gear	216,566	62,221	3,971	11,816	356	294,930
<b>Estimated Native Halibut Consumption</b>	<b>260,024</b>	<b>117,256</b>	<b>43,941</b>	<b>122,304</b>	<b>93,288</b>	<b>636,813</b>
Number of Alaska Non-Natives	19,415	15,196	1,124	4,396	6,528	46,659
Non-Native Harvest-Commercial Gear	69,708	13,942	2,916	12,781	0	99,347
Non-Native Harvest - Other Non-commercial Gear *		4,795	4,023	5,122	0	13,940
Non-Native Harvest - Rod and Reel Gear	521,312	150,854	1,398	106,633	0	780,197
<b>Estimated Non-Native Halibut Consumption</b>	<b>591,021</b>	<b>169,592</b>	<b>8,337</b>	<b>124,536</b>	<b>0</b>	<b>893,486</b>
Total Population	32,708	19,782	2,321	5,541	28,311	88,663
Total Harvest-Commercial Gear	113,165	34,627	22,677	37,334	345	208,148
Total Harvest - Other Non-commercial Gear *		39,144	24,232	91,057	92,587	247,020
Total Harvest - Rod and Reel Gear	737,878	213,075	5,369	118,449	356	1,075,127
<b>Total Estimated Halibut Consumption</b>	<b>851,045</b>	<b>286,848</b>	<b>52,278</b>	<b>246,840</b>	<b>93,288</b>	<b>1,530,299</b>

**Suboption B. Alaska Rural Residents in Areas with Subsistence Halibut Uses**

Number of Alaska Native	7,806	3,582	1,196	1,145	21,783	35,512
Native Harvest-Commercial Gear	40,468	20,423	19,761	24,553	345	105,550
Native Harvest - Other Non-commercial Gear *		34,349	20,209	85,935	92,587	233,080
Native Harvest - Rod and Reel Gear	145,481	44,240	3,971	11,816	356	205,864
<b>Estimated Native Halibut Consumption</b>	<b>185,949</b>	<b>99,013</b>	<b>43,941</b>	<b>122,304</b>	<b>93,288</b>	<b>544,495</b>
Number of Alaska Non-Natives	19,415	15,196	1,124	4,396	6,528	46,659
Non-Native Harvest-Commercial Gear	69,708	13,942	2,916	12,781	0	99,347
Non-Native Harvest - Other Non-commercial Gear *		4,795	4,023	5,122	0	13,940
Non-Native Harvest - Rod and Reel Gear	521,312	150,854	1,398	106,633	0	780,197
<b>Estimated Non-Native Halibut Consumption</b>	<b>591,021</b>	<b>169,592</b>	<b>8,337</b>	<b>124,536</b>	<b>0</b>	<b>893,486</b>
Total Population	27,221	18,778	2,320	5,541	28,311	82,171
Total Harvest-Commercial Gear	110,176	34,365	22,677	37,334	345	204,897
Total Harvest - Other Non-commercial Gear *		39,144	24,232	91,057	92,587	247,020
Total Harvest - Rod and Reel Gear	666,793	195,094	5,369	118,449	356	986,061
<b>Total Estimated Halibut Consumption</b>	<b>776,970</b>	<b>268,605</b>	<b>52,278</b>	<b>246,840</b>	<b>93,288</b>	<b>1,437,981</b>

**Suboption C. Members of Alaska Native Tribes with Customary and Traditional Uses and Other Rural Residents of Native Villages Who Have Legitimate Subsistence Needs**

Number of Alaska Native	13,293	4,586	1,197	1,145	21,783	42,004
Native Harvest-Commercial Gear	43,457	20,685	19,761	24,553	345	108,801
Native Harvest - Other Non-commercial Gear *		34,349	20,209	85,935	92,587	233,080
Native Harvest - Rod and Reel Gear	216,566	62,221	3,971	11,816	356	294,930
<b>Estimated Native Halibut Consumption</b>	<b>260,024</b>	<b>117,256</b>	<b>43,941</b>	<b>122,304</b>	<b>93,288</b>	<b>636,813</b>
Number of Alaska Non-Natives	19,415	15,196	1,124	4,396	6,528	46,659
Non-Native Harvest-Commercial Gear	69,708	13,942	2,916	12,781	0	99,347
Non-Native Harvest - Other Non-commercial Gear *		4,795	4,023	5,122	0	13,940
Non-Native Harvest - Rod and Reel Gear	521,312	150,854	1,398	106,633	0	780,197
<b>Estimated Non-Native Halibut Consumption</b>	<b>591,021</b>	<b>169,592</b>	<b>8,337</b>	<b>124,536</b>	<b>0</b>	<b>893,486</b>
Total Population	32,708	19,782	2,321	5,541	28,311	88,663
Total Harvest-Commercial Gear	113,165	34,627	22,677	37,334	345	208,148
Total Harvest - Other Non-commercial Gear *		39,144	24,232	91,057	92,587	247,020
Total Harvest - Rod and Reel Gear	737,878	213,075	5,369	118,449	356	1,075,127
<b>Total Estimated Halibut Consumption</b>	<b>851,045</b>	<b>286,848</b>	<b>52,278</b>	<b>246,840</b>	<b>93,288</b>	<b>1,530,299</b>

\* In 2C, household surveys did not ask about "other non-commercial gear"

## 2.2.5 Description of Affected Communities

### 2.2.5.1 Relevant Community Profiles

Previous community profiles developed by the Council are to be found in Langdon and Miller (1983), Langdon et al. (1984), and NPFMC (1994b). The communities profiled are those of Akutan, Kodiak, Petersburg, Saint Paul, Sand Point, and Unalaska, Alaska; Bellingham and Seattle, Washington; and Newport, Oregon. The Langdon and Miller study was of the halibut fishery; that by IAI was of the North Pacific groundfish fishery. Both data sets have been fully utilized in this literature review and are the basis for the descriptions in Sections 1.1 and 1.2 above. Extensive additional material has been drawn from the community profiles developed by the Subsistence Division, Alaska Department of Fish and Game of rural Alaskan coastal communities. This material has been incorporated into Sections 1.1 and 1.3 above. Information from social impact studies undertaken for or by the Minerals Management Service and the National Park Service, U.S. Department of the Interior, and for the Forest Service, U.S. Department of Agriculture has been incorporated where appropriate.

### 2.2.5.2 Size, Composition, and Stability of Affected Work Force

No comprehensive survey of halibut fishermen and processing workers has been undertaken for this regulatory amendment. Estimates based on the studies reviewed in Section 1.1 are that, in 1990, there were 14,889 fishermen and 4,500 point-of-landing processing workers involved in the halibut fishery. (The estimates of the number of fishermen employed in the fishery developed as part of the economic analysis in Section 1.13 above is 14,721; since these estimates were developed separately from different source materials, their similarity indicates that they are realistic.) Langdon et al. (1984), using IPHC survey data of the fishery, showed that there were 2,050 halibut fishermen in 1978 and 2,809 fishermen in 1982. The increase was attributed to the shift to the open access “derby” fishery in 1977.

Between 1984 and 1990, 8,212 vessel owners have participated in the fishery, and, in 1990, there were 3,823 permit holders.

In Tables A-1 and A-3 the movement in and out of the fishery since 1984 is shown. Only 6% of vessels fished in all seven years between 1984 and 1990. This movement in and out of the fishery has three explanations. First, the short seasons made it possible for fishermen to fish for halibut without affecting their participation in other fisheries. Second, the development of the longline fishery for Pacific cod and sablefish increased the number of larger vessels able to fish for halibut. Finally, a number of fishermen sought to develop a record of participation in the fishery prior to any consideration of access controls by the Council. For these reasons, the number of fishermen and vessels in the fishery has grown rapidly. Langdon et al. (1984) showed that the fishery in 1982 had offered relatively stable and continuous employment for fishermen. The mean age of fishermen in their sample was 40.66 years, and the mean number of years of experience in the halibut fishery was 13.05 years.

The fishery has three principal components; the vessels from “Outside” which tend to be larger and exploit the western halibut fisheries; the vessels from urban Alaskan communities; and the vessels associated with rural Alaskan communities. The rural communities have, in the main, higher proportions of Alaska Natives as residents and fishermen and greater numbers of smaller vessels, particularly skiffs. The Alaskan urban communities, with their better support facilities, have fleets of vessels which include larger longliners similar to those from “Outside” as well as vessels fishing in the local fisheries.

As noted above, this analysis is based upon a study of the literature related to the halibut fishery. The most recent survey of halibut fishermen, carried out in 1982 by Langdon and Miller, showed that 7% of the fishermen were residents of Washington State; 37.5% lived in Southeast Alaska (including Yakutat); 3.2% lived in Prince William Sound communities; 35.6% resided in Cook Inlet communities; 11 lived on Kodiak

Island, and 3% in the Lower Alaska Peninsula and Aleutian Islands. Of the Alaskan fishermen, 72% lived in urban communities.

The crews are typically paid on a crew-share/boat-share basis. This pattern of payment extends back to the early days of the halibut fishery. The Deep Sea Fishermen's Union (DSFU) founded in 1912, has represented the Puget Sound fishermen in negotiations about pay and conditions with the Fishing Vessel Owner's Association (FVOA) since 1914. This is the only example of organized labor-owner agreements in the fishery.

### 2.2.5.3 Relative Economic Importance of the Halibut Fishery

The literature survey did not provide sufficient specific information to assess the economic importance of the halibut fishery to communities. In general, there are few employment opportunities other than commercial fishing available to residents of rural Alaskan communities described in Section 1.

ADF&G studies indicate that in many rural areas, subsistence is part of a traditional regional economy, termed a "mixed, subsistence-market economy" (Wolfe and Bosworth 1990). Fishing and hunting are central activities conducted by extended family groups. The family invests in small-scale, efficient technologies, such as fishwheels, gill nets, motorized skiffs and snow machines, for producing food. Subsistence production is not oriented toward market sale or accumulated profit, as is commercial market production. It is directed toward meeting the self-limiting needs of families and small communities (Wolfe and Bosworth 1990).

According to Wolfe and Bosworth (1990), a family's subsistence production is augmented and supported by cash employment by family members. Depending upon the region, employment commonly is in commercial fishing, commercial trapping, and public sector wage employment. Typically, but not always, mean annual monetary incomes in the region are modest and intermittent. Families follow an economic strategy of using a portion of the annual monetary earnings to capitalize in subsistence technologies for producing food. This combination of subsistence and commercial-wage activities by extended family groups characterizes the mixed, subsistence-market economy.

While subsistence halibut fishing is important to the local economies of some rural Alaska communities, quantifying the economic value of those harvests is difficult since these harvests generally are not sold. However, one method of estimating the economic value of halibut subsistence would be to estimate the replacement costs if rural residents were to purchase and import substitutes. If one assumes \$3-5 per pound as replacement expenses, the simple "replacement costs" of halibut harvests in rural Alaska is \$852,000 - \$1,140,000 (Wolfe and Bosworth 1994).

## 2.3 Allowable gear

Alternative 2, Option 3 would define legal halibut subsistence gear. The Council may choose any or all of the sub-options as legal subsistence gear. There is some uncertainty as to how changes in the allowable subsistence gear regulations (among other elements of this proposal) may effect total halibut removals. One argument suggests that 'true' subsistence fishing is undertaken to feed families. Because the size of the population exploiting the halibut resource for subsistence is not expected to change dramatically, per capita use should remain at roughly current levels. That is, if halibut are, indeed, harvested purely for subsistence purposes, rates of consumption should not increase measurably due to improvements in harvesting efficiency (i.e., whether the physical costs of harvesting halibut arise from rod and reel gear with two hooks or a longline skate with 60 hooks, an individual can consume only a certain amount of halibut). Even under this line of argument, however, it is recognized that removals are likely to increase if the Council allows trade of these fish. This (as any) increase in subsistence removals would come at the expense of reduced commercial and sport harvests. Trade (including exchange of "cash" for subsistence caught halibut) is considered under



Option 5. An option to allow the outright sale of subsistence halibut was eliminated from the analysis in 1997.

An alternative perspective on the issue of potential changes in per capita use of halibut in the subsistence economy, in response to changes in governing regulations (e.g., allowable gear), can also be offered. Under this argument, it is possible that total halibut consumption (and by implication aggregate subsistence removals) could actually increase, in response to regulatory changes which effect the cost, timing, duration, and character of the halibut subsistence harvest. This may occur for two reasons, either or both of which may occur following adoption of the proposed action, effecting subsistence behavior. First, unless subsistence households are currently “satiated” at present harvest levels of halibut consumption, it is likely they will choose to substitute consumption of halibut for other, less desirable food stuffs in their family’s diet, if given the opportunity. Logic would suggest that, on the whole, subsistence users of halibut are not currently “satiated”, otherwise there would be no demand to change the status quo, especially as it pertains to aspects of the harvest which bear on rates of catch, daily possession and total take limits and disposition of the catch (e.g., permitted gear, bag/possession limits, sharing and bartering). Therefore, according to this line of argument, it is reasonable to assume that the proposed action likely will lead to some substitution in consumption, between halibut and alternative subsistence food stuffs, and total subsistence removals of halibut will increase.

Second, as in any system of production, subsistence households must allocate scarce productive resources (e.g., time, consumable inputs, labor) in order to optimize output, subject to prevailing constraints. If one or more of these constraints is eased, the producer (here the subsistence household) may be able to realize an improvement in its relative welfare by redistributing its available productive resources. That is, the subsistence household may either produce the same output at a lower cost, or increase total production at the same cost.

In the present example, unless the subsistence fisherman is currently unconstrained in his ability to take all the halibut he may desire (in which case, as above, there would be no demand for the proposed action), reducing the constraint(s) on halibut subsistence fishing activity will permit the user to take advantage of these efficiency gains and catch more fish. Given the tradition of sharing of catch among extended family and community members, as well as the opportunity to barter (including, perhaps, for “cash”) it seems reasonable to assume that total demand for subsistence halibut is potentially much greater than the amount currently harvested under the status quo. Faced with this demand, and advantaged by increases in efficiency, relaxation of bag and possession limits, cooperative harvesting agreements, liberalized barter arrangements, etc., it is probable that total subsistence removals will increase, following adoption of the proposed rule. It is not possible, given available information, to provide a meaningful estimate of by how much subsistence removals may increase, however.

Alternative 2, Option 3, Suboption A would legalize gear that has been reported through public testimony to be used for subsistence halibut fishing. It would include rod-and-reel gear (with up to three hooks) that is widely used in rural coastal communities for taking halibut for family use. Halibut are taken more occasionally as an incidental harvest with hand troll gear operated for subsistence salmon fishing. The use of spears for taking flounders and halibut is relatively uncommon, though it is used in shallow bays in places like Mekoryak on Nunivak Island. State regulations allow up to three hooks per line. The Council may wish to define the number of legally allowed hooks with rod-and-reel gear and troll gear.

The halibut harvest with rod and reel by Alaska Native households and by rural communities is listed in Table 2.9. Under current regulations, it is legal for anyone in rural areas to fish with rod and reel, using two hooks, and taking two fish per day. So, given these current regulations, what should the theoretical maximum harvest be, and how does it compare with actual harvests? The model assumes that there is one fisher per household of four people. Each fisher fishes for 30 days (although the theoretical maximum is much more than that), taking 2 fish per day, weighing 30 lb each.

The reason for the smaller actual subsistence harvests, even given relatively unrestricted fishing days and gear, is as follows. In small villages, regulations allowing for more efficient gear for taking halibut (such as 30-hook skates) is not likely to measurably increase the total use of halibut in those places. As a prediction, subsistence halibut harvesting may become more efficient for some households, the types of gear used may shift somewhat between rod-and-reel, set hooks, and retention from commercial catches, but the total number of halibut harvested and used in a community are likely to be similar to the range of harvests under previous management regimes. This is because total use levels of halibut are constrained by the consumption needs of families in small communities. Families quit subsistence fishing when their food requirements for a species are met (and collectively, when the food requirements of a rural community are met). Subsistence food use levels are self-limiting, and for species like halibut, use levels are magnitudes below a household's harvest potential, as shown by the rod and reel exercise. This is the central point in analyzing potential effects of regulation changes regarding gear -- because subsistence harvests are for use values in a limited community of consuming families, changes in halibut gear are not by themselves likely to measurably increase the use of halibut in small communities.

The pattern of subsistence food production in a village shows how this occurs in practice at the household level. First, a large percentage of households in a village do not harvest their own wild foods, but receive it from others. Any model is incorrect if it assumes that most households will use a new gear type. Table 2.5 shows the percent of households using, trying to harvest, harvesting, receiving, or giving non-commercial halibut, by community and year. In a village like Kake, where halibut is an important subsistence food source, only about half the households report harvesting halibut during a yearly survey period under the current management regime. This is likely to stay the same even though gear regulations are changed. Elderly households, households with single mothers and children, households of young couples without boats, and other non-fishing households prior to the regulation change will continue to be non-fishing households.

Second, most households who do fish for halibut will not be using a skate with 30 hooks -- they will be using gear with fewer hooks. It stands to reason that a theoretical household of four members fishing only for their own consumption will not be putting in a 30-hook skate for 30 days a year -- what would they possibly do with all the halibut? It would be impossible for that household to consume. The majority of households who currently subsistence fish for halibut will continue to fish for a few days a year with smaller amounts of gear, and quit once their household needs for halibut are met.

Third, household surveys by the Division of Subsistence demonstrate that there is specialization in subsistence harvests. A relatively small subset of households in a village commonly assume the responsibility for harvesting extra fish which are distributed to other households in the village or tribal group through sharing, barter, or trade. This extra fish goes to households who want to eat halibut but are not able to produce it themselves (cf, Wolfe 1987). It is this relatively small subset of households that likely will use skates with multiple hooks to efficiently take this extra harvest to feed people outside their own household. Even this set of households using skates will set only a few days a year, and will stop harvesting once the needs of the households they are supplying are met. The regulation allowing for multiple hooks is designed to provide for this established pattern of wild food production in a community.

There is an important exception to this prediction about relatively stable harvest levels -- potential harvests in mid-sized towns with a mix of cultural traditions, such as Kodiak City, Unalaska, Sitka, Petersburg, and Cordova. In these places, there currently is a great mix of fishing traditions, with substantial proportions of halibut being taken for sport values and some portion of halibut being taken for subsistence values. These places experience significant seasonal increases of non-residents for commercial fish catching-processing and guided- and unguided-recreational fishing. There are also fewer constraints on capital formation (gear upgrading) in mid-sized towns, where the wage sectors are more developed in comparison with small villages. In these few mid-sized towns, regulations allowing for multiple hooks likely would result in measurable increases in total halibut harvests, as some households who previously fished for recreational values try a hand at newly-authorized subsistence fishing with newly-purchased gear, and where some

significant portion of the halibut taken locally is exported from the community with seasonal migrants. Keeping a two-hook, two fish per day regulation may be warranted around mid-sized towns like Kodiak City, Unalaska, Sitka, Petersburg, and Cordova, if the intent of the Council is to provide for established subsistence patterns while not stimulating the creation of unusual new patterns of fishing for halibut. A process for the creation of fishery area management plans around mid-sized towns may be a preferred method under Option 3. Appropriate gear types to accommodate established subsistence patterns can be identified in the local area management plans specific to areas around those places.

Alternative 2, Option 3, Suboption B would allow the use of hook-and-line gear (including set and hand-held gear) with a range of 10 hooks, 30 hooks, and 60 hooks. An individual would be limited to one skate of gear up to 1,800 ft long (not including the buoy line), with hooks set 18-20 ft apart, with a legibly marked buoy.

Alternative 2, Option 3, Suboption C would allow designated fishermen to use either 1-3 skates of longline gear, with up to 60 hooks, or any gear type. This suboption would require individual or community agreements with NMFS. Alternative 2, Option 3, Suboption C would apply to cooperative agreements between NMFS and tribal governments under either Alternative 2, Option 2, Suboptions A, C, D, or E. Since longline skate gear is more clearly identified as a customary and traditional gear of some Southeast tribes, the Council may wish to confine such a gear allowance to Alaska Natives in those communities (e.g., Gulf of Alaska only, Area 2C only, Alaska Native only).

ADF&G Subsistence Division studies indicate that not all rural residents actually harvest subsistence food, but it is in fact harvested by a minority of the rural population (Wolfe and Bosworth 1990). Alternative 2, Option 3, Suboption C would allow ‘designated’ fishermen to fish halibut for his community using any gear type or up to 3 skates, with up to 60 hooks per skate. This would be modeled after the designated hunter allowance. This option would require NMFS to develop a process to approve, monitor, and enforce individual agreements with either tribes, communities, or individual rural residents for harvesting halibut for others. The State has a ‘proxy’ system of subsistence fishing for others that may serve as a model. Requirements for marking gear would also be specified.

Alternative 2, Option 3, Suboption D was added to the analysis in December 1999 in response to public testimony. It was further modified in April 2000. It expands the current exemption for Area 4E CDQ halibut fishermen to all halibut fisherman in all IPHC areas (Item 1) or just to Areas 4C-E (Item 2). This suboption addresses wastage issues, i.e., the legal requirement to discard halibut less than 32 inches while commercial fishing. This practice, though required by law, is contrary with the cultural beliefs of some Alaska Native tribes in Western Alaska. Item 3 would require subsistence fishermen to designate a particular trip as a subsistence trip outside of areas 4C, 4D, and 4E. If a trip is designated “subsistence,” it would be the Council’s intent that undersize fish could be retained only on such a trip. A call-in procedure would need to be designed with NMFS Enforcement and the Coast Guard.

An examination of NMFS RAM data for halibut IFQ and CDQ holders indicate that a maximum of 2,148 persons who hold halibut commercial QS may also be deemed eligible for halibut subsistence under Alternative 2, Option 2, Suboption A (Table 2.6). Since the database does not identify the QS holder by race, the exact number of potential QS holders who may also be deemed eligible is unknown. Further, the number of eligible persons who hold QS who would take home halibut for subsistence while commercial fishing is also unknown.

Under Alternative 2, Option 2, Suboption B, 1,418 persons were identified who both hold commercial QS and live in rural places that have halibut C&T findings (Table 2.7). Again, the number of eligible persons who hold QS who would take home halibut for subsistence while commercial fishing is also unknown. Table 2.10 lists the number of QS holders by area should the Council choose a different preferred alternative for each IPHC area.

The Council requested a review of IPHC findings on the continued requirement of the 32-inch minimum size for halibut in the commercial fishery to evaluate whether one way to conform subsistence and commercial fishing would be to not have a minimum size in either halibut fishery. Approximately 1.2 M lb in 1998 and 1.0 M lb in 1999 of undersized halibut were discarded in the Alaska commercial fishery. IPHC staff reevaluated the minimum size requirement in 1995 (Clark and Parma 1995) and 1997 (Parma 1998b). In 1999, Parma also evaluated a maximum size for the commercial fishery. Summaries from those studies follow.

The 32'' size limit was adopted in 1973 in order to increase yields when halibut growth rates were highest. Now that the growth rates have declined again, average yield per recruit could actually increase somewhat if the minimum size limit were lowered. As we discussed last year, however, potential increases in yield appear small compared to reproductive losses that would occur if the commercial selectivity shifted toward smaller fish in response to a drop in the size limit (Parma 1998b[sic]). In other words, the current minimum size limit discourages the fleet from targeting smaller fish, reducing the possibility that too many fish are caught before they have a chance to reproduce (from Parma 1999).

The effects of the commercial size limit on expected yield per recruit and female spawning biomass per recruit were evaluated. Intrinsic growth parameters for female and male halibut, and size-specific selectivity of the commercial fishery were estimated independently for Areas 2B and 3A by fitting a sex-specific, age-structured population model to data from the setline surveys and the commercial fishery for the period 1974-1996. Area-specific schedules of female maturity at age were estimated using information collected in the summer research surveys of 1995 and 1996. Yield per recruit and spawning biomass per recruit for Area 3A were little affected when the commercial legal size was dropped from 81 cm (approximately the current value) to 60 cm, and commercial selectivity at length was fixed at the values estimated for 1996. In Area 2B, a decrease in the legal size would result in a small increase in yield per recruit and a small decrease in spawning biomass per recruit. Lowering the size limit would bring about a substantial reduction in spawning biomass per recruit in both areas if such a drop were followed by a shift in commercial selectivity towards smaller fish sizes. The current size limit of 32 inches is thus considered to be appropriate as the potential gains derived from lowering it are small compared to the associated potential reproductive losses (from Parma 1998b).

In its letter to the Council dated June 16, 2000, the IPHC staff commented on the application of the 32 inch minimum size for subsistence halibut while commercial fishing:

We conclude that any retention of subsistence fish during IFQ or CDQ fishing without the use of a uniform 32-inch minimum size limit would create situations that make enforcement of normal IFQ or CDQ regulations difficult, if not impossible. Enforcement staff will have

**Table 2.10. Persons Making IFQ Sablefish/Halibut; or CDQ Halibut Landings in 1999 by cardholder state and city**

Area	Residence	Count	Area	Residence	Count	Area	Residence	Count
2C	ANCHORAGE	5	3A	unidentified	2	3A	PORT LIONS	6
2C	ANGOON	22	3A	ANCHOR POINT	26	3A	SELDOVIA	16
2C	AUKE BAY	15	3A	ANCHORAGE	49	3A	SEWARD	31
2C	CRAIG	45	3A	ATKA	1	3A	SITKA	78
2C	DOUGLAS	26	3A	AUKE BAY	7	3A	SOLDOTNA	31
2C	EDNA BAY	4	3A	CENTRAL	1	3A	STERLING	5
2C	ELFIN COVE	6	3A	CHUGIAK	2	3A	TENAKEE	1
2C	FAIRBANKS	3	3A	CLAM GULCH	6	3A	VALDEZ	10
2C	GUSTAVUS	7	3A	COPPER CENTER	2	3A	WASILLA	13
2C	HAINES	46	3A	CORDOVA	50	3A	WHITTIER	2
2C	HOMER	2	3A	CRAIG	1	3A	WILLOW	3
2C	HOONAH	23	3A	DOUGLAS	13	3A	WRANGELL	5
2C	HYDABURG	6	3A	DUTCH HARBOR	2	3A	YAKUTAT	29
2C	HYDER	1	3A	EAGLE RIVER	11	<hr/> <hr/>		Total 3A 794
2C	JUNEAU	92	3A	ELFIN COVE	2			
2C	KAKE	18	3A	FAIRBANKS	2			
2C	KETCHIKAN	62	3A	FRITZ CREEK	2			
2C	KLAWOCK	3	3A	GIRDWOOD	7			
2C	METLAKATLA	8	3A	GUSTAVUS	3			
2C	MEYERS CHUCK	3	3A	HAINES	11			
2C	NORTH POLE	1	3A	HALIBUT COVE	2			
2C	PALMER	2	3A	HOMER	156			
2C	PELICAN	16	3A	HOONAH	11			
2C	PETERSBURG	190	3A	JUNEAU	41			
2C	POINT BAKER	10	3A	KAKE	1			
2C	PORT ALEXANDER	16	3A	KASILOF	11			
2C	PORT PROTECTION	1	3A	KENAI	36			
2C	SEWARD	2	3A	KETCHIKAN	8			
2C	SITKA	201	3A	KODIAK	212			
2C	SKAGWAY	1	3A	MEKORYUK	1			
2C	TENAKEE	2	3A	NIKISKI	7			
2C	THORNE BAY	4	3A	NIKOLAEVSK	8			
2C	UNALASKA	1	3A	NINILCHIK	9			
2C	WARD COVE	8	3A	NORTH POLE	1			
2C	WASILLA	1	3A	OLD HARBOR	5			
2C	WRANGELL	88	3A	OUZINKIE	13			
		<hr/> <hr/>	3A	PALMER	5			
		Total 2C 941	3A	PAXSON	1			
			3A	PELICAN	9			
			3A	PETERSBURG	53			
			3A	PITKUS POINT	1			
			3A	PORT ALEXANDER	2			
			3A	PORT GRAHAM	1			

(cont.)

Area	Residence	Count	Area	Residence	Count	Area	Residence	Count
3B	unidentified	2	4A	AKUTAN	3	4C	unidentified	3
3B	ANCHOR POINT	7	4A	ANCHOR POINT	1	4C	ANCHORAGE	1
3B	ANCHORAGE	11	4A	ANCHORAGE	3	4C	HOMER	2
3B	CENTRAL	1	4A	CENTRAL	1	4C	KODIAK	5
3B	CHIGNIK	2	4A	DUTCH HARBOR	5	4C	S T G E O R G E 12 ISLAND	
3B	CHIGNIK BAY	1	4A	FAIRBANKS	1	4C	ST PAUL ISLAND	30
3B	CHIGNIK LAGOON	4	4A	FALSE PASS	1	4C	UNALASKA	1
3B	CHUGIAK	1	4A	HOMER	30	4C	WESTHAVEN	1
3B	COPPER CENTER	1	4A	KODIAK	41	4C	SEASIDE	1
3B	DOUGLAS	1	4A	NIKOLAEVSK	1	4C	ANACORTES	2
3B	DUTCH HARBOR	2	4A	PETERSBURG	3	4C	BOTHELL	1
3B	EAGLE RIVER	1	4A	SAND POINT	1	4C	CAMANO ISLAND	1
3B	FAIRBANKS	2	4A	SEWARD	3	4C	EDWARDS	1
3B	FALSE PASS	2	4A	SITKA	9	4C	GIG HARBOR	2
3B	HOMER	62	4A	UNALASKA	10	4C	POULSBO	1
3B	IVANOF BAY	1	4A	WASILLA	1	4C	SEATTLE	3
3B	JUNEAU	2	<hr/> <hr/> Total 4B 114			<hr/> <hr/> Total 4C 67		
3B	KENAI	1						
3B	KING COVE	15	4B	unidentified	2	4D	unidentified	1
3B	KODIAK	113	4B	ATKA	6	4D	ANCHORAGE	2
3B	NIKOLAEVSK	3	4B	GUSTAVUS	1	4D	HOMER	1
3B	NINILCHIK	1	4B	HOMER	6	4D	KODIAK	9
3B	OUZINKIE	1	4B	JUNEAU	1	4D	NOME	2
3B	PALMER	3	4B	KODIAK	15	4D	PETERSBURG	1
3B	PELICAN	1	4B	PELICAN	1	4D	SAVOONGA	2
3B	PERRYVILLE	1	4B	PETERSBURG	4	4D	SEWARD	2
3B	PETERSBURG	7	4B	SEWARD	2	<hr/> <hr/> Total 4D 20		
3B	PORT LIONS	1	4B	SITKA	2			
3B	SAND POINT	45	<hr/> <hr/> Total 4B 40					
3B	SELDOVIA	5				4E	unidentified	13
3B	SEWARD	8				4E	CHEFORNAK	9
3B	SITKA	14				4E	DILLINGHAM	7
3B	SOLDOTNA	1				4E	EGEGIK	2
3B	WASILLA	2				4E	JUNEAU	1
<hr/> <hr/> Total 4A 325						4E	KIPNUK	12
						4E	KWIGILLINGOK	1
						4E	MANOKOTAK	1
						4E	MEKORYUK	27
						4E	NAKNEK	4
						4E	NEWTOK	8
						4E	NIGHTMUTE	13
						4E	NOME	6
						4E	PILOT POINT	1
						4E	TOKSOOK BAY	36
						4E	TUNUNAK	23
						<hr/> <hr/> Total 4E 164		

Source: Jesse Gharrett, NMFS RAM Division, 4/5/00

no means of enforcing the 32-inch commercial limit at sea if subsistence-legal but less than 32-inch fish are also aboard a vessel. We also believe that having more than one legal gear definition on an IFQ-subistence trip will cause enforcement problems. This would be the case for fish caught by legal IFQ gear (as defined by IPHC regulations) and retained for subsistence with the suboptions being considered by the Council for halibut subsistence.

For example, the legal limit of 60 hooks defined for subsistence gear (Alternative 2, Option 3, Suboption B, Item 4) is probably exceeded by most commercial halibut longline gear. We therefore suggest that the Council avoid implementing subsistence regulations, such as number of hooks, that are unenforceable on a commercial IFQ trip.

We recognize the inconsistency with our statement above and what the Commission and the Council have approved for Area 4E. We view Area 4E as a unique situation, in that the exemption allowed by the Commission permits a traditional and local use of halibut less than 32 inches to continue, albeit with strict reporting requirements. The Commission's concern about sublegal halibut entering the marketplace is minimal for Area 4E, as most villages in the area do not have easy access to commercial markets.

In summary, we believe it is necessary to institute a uniform 32-inch size limit and a requirement for the use of IPHC-legal fishing gear only, if subsistence halibut are to be retained during IFQ/CDQ fisheries.

In conclusion, selectivity can and will change even if vessels do not change grounds, simply because a lower size limit allows them to retain fish that are presently discarded. Fishing the same grounds with a reduced (or removed) size limit will result in a shift of size selectivity. Shifting grounds may act to further shift the selectivity.

#### 2.4 Customary and traditional trade

Alternative 2, Option 4 would allow for the customary and traditional trade of subsistence halibut. Alternative 2, Option 4, Suboption A allows for the customary and traditional trade of subsistence caught halibut, limited to an annual amount of \$600. Public testimony reported that cash is sometimes given to subsistence fishermen to defray the cost of the trip, such as for gas. Other trade also occurs, such as the exchange of caribou or moose for halibut, with Interior tribes.

The cash exchange limitation on the amount of subsistence-caught halibut traded -- \$200, \$400, or \$600 under Alternative 2, Option 4, Suboption A is similar to the current State regulation limiting the customary trade of herring roe on kelp. It is not known if the three levels (\$200, \$400, or \$600) provide for, or restrict, established patterns of customary trade of halibut, as there is no information on patterns of exchange as described above. On their face, these limits appear to be consistent with a receiver compensating a person's expenses for harvesting a wild food, such as fuel costs (Wolfe and Magdanz 1993). However, as this type of compensation is a relatively informal arrangement between persons (and so may not technically constitute a "sale"), regulations providing for them may not be formally required.

Indeed, formally including in regulations, a provision for any "exchange of cash" for subsistence harvested food stuffs may establish an undesirable precedent, and/or induce "sales" which might otherwise not occur, in the absence of such "authority." That is, there is a potential that establishing in regulation any trade limit (\$200, \$400, or \$600) has the potential for creating a new incentive for some subsistence fishers to produce halibut for trade. In small rural villages, or among Alaska Native tribal groups, the volume of additional halibut harvested is likely to be small due to this added incentive, as the pool of consumers is demographically limited. In mid-sized towns (Sitka, Kodiak City, Unalaska) and urban places (Juneau, Ketchikan, Anchorage) with larger populations and seasonal visitors, the potential for the incentive creating

new harvests are greater. Regulations defining the area or group might deal with this potential. A regulation restricting customary trade to rural villages might prevent incentives for new subsistence harvests for trade in mid-sized towns and urban places. A regulation restricting customary trade to Alaska Native tribal members might prevent the development of new subsistence harvest patterns for customary trade; this option would be linked to definitions of eligibility for subsistence halibut fishing. Each, however, would carry with it concerns and complexities associated with equity, as well as monitoring and enforcement considerations and costs.

Three examples of customary and traditional trade of wild foods in rural Alaska are presented in Wolfe and Magdanz (1993) -- eulachon oil in southeast Alaska (Chapter 1), seal oil in western Alaska (Chapter 2), and herring roe on hemlock branches in southeast Alaska (Chapter 3). According to Wolfe and Magdanz, customary and traditional trade is most commonly small-scale in terms of the volume of resources traded between rural families, although there are some exceptions to this when the harvest is a specialized activity (such as the trade of herring roe on hemlock branches in southeast Alaska, which may involve thousands of pounds). Customary and traditional trade appears to occur most commonly between Alaska Native families; however, some trade also occurs between non-native families in rural areas. Consumption of the food occurs within the state, and almost always within the region where the resource was harvested. In some instances, the money given to a producer is described as compensation for the person's expenses for taking the food item, such as the fuel and ammunition costs for taking a caribou or a seal. In some instances, there are long-standing trade relationships between families or between rural communities, such as the trade of seal oil between coastal and inland areas, or the trade of roe on hemlock between southeast Alaska communities. In some instances, subsistence food items (like eulachon oil) are sold in small amounts over-the-table as part of trade fairs or ceremonial gatherings. This small-volume trade is usually not monitored by state or Federal agencies, and the trade usually does not present any biological problems for the wild resource taken for subsistence uses.

The regulatory management regimes differ for the three examples of customary and traditional trade provided in Wolfe and Magdanz (1993). (1) For seal oil, Federal regulations allow for the non-wasteful harvest of marine mammals by Alaska Natives only, and regulations allow for the sale of marine mammal food products in Native villages and towns in Alaska. To date, there have been no regulations limiting the customary trade of marine mammal food items in Native villages and towns in Alaska, and the essentially self-regulating trade has not resulted in significant biological impacts on seal populations. (2) The annual possession limit for herring roe on kelp is 32 lb per person or 158 lb per household of more than two persons, unless a harvestable surplus exists and the department issues additional permits. *See* 5 AAC 01.730(g). The limit on customary trade follows the annual possession limit under the permit issued under .730(g). *See* 5 AAC 01.717(a). There is no permit limit for herring roe on hemlock. The permit limit was established by the BOF to prevent a significant flow of roe on kelp into commercial export markets for roe on kelp. As the trade of roe on hemlock occurs primarily within the region's Alaska Native tribes which comprise a limited consumption group, State regulations allow for that distribution pattern to be self-limiting. (3) For eulachon oil, there are no state regulations that allow for the trade of subsistence-caught eulachon or eulachon oil; consequently, the long-established trade of eulachon oil exists outside the legal regulations. Under the State subsistence law, the customary trade of subsistence foods is recognized and defined as "the limited noncommercial exchange, for minimal amounts of cash, as restricted by the appropriate board, of fish or game resources," so presumably the eulachon trade could be eventually recognized in regulation under this statutory definition by the Board of Fisheries. Consequently, the three examples of customary trade present three different management approaches – customary trade with no regulated limits (seal oil, roe on hemlock), customary trade with a regulated limit (herring roe on kelp), and customary trade with no regulatory recognition (eulachon oil). Note that the trade of eulachon oil is not entirely without recognition under State regulation. The general State regulations apply to the customary trade of any subsistence resource, regardless of whether it is specifically mentioned, limited, or restricted in any way by the appropriate Board.



There are no specific studies of the customary and traditional patterns of sharing, barter, or trade of halibut in rural areas. Without systematic information, it is difficult to assess if there are special distribution patterns for halibut which are distinct from wild resources like seal oil, eulachon oil, or herring roe on hemlock. It is known that halibut is commonly distributed between households, as shown by the number of surveyed households who reported receiving and giving halibut in Table 2.5. It is known from qualitative observation that the majority of halibut is distributed between households in rural Alaska through sharing, and these exchanges do not involve cash. However, there are no statistics on the extent to which small-scale exchanges for cash are involved in the non-commercial distribution of halibut in rural areas.

The leakage of subsistence-caught halibut into commercial markets is a potential problem. There are relatively large-volume commercial markets for halibut in Alaska's large towns (such as Sitka and Kodiak City) and cities (such as Juneau and Anchorage), and there are larger-volume commercial export markets for halibut. Currently, state regulations prohibit the commercial sale and purchase of halibut caught in state-authorized subsistence fisheries.

Alternative 2, Option 4, Suboption B addresses with whom non-monetary exchanges for subsistence halibut would be allowed. Customary and traditional trade is one way that wild foods are distributed through non-commercial channels between households in rural Alaska, along with sharing and barter (Wolfe and Magdanz 1993; Burch 1988; Langdon and Worl 1981). The distribution of subsistence-caught wild foods between households is extremely common in rural Alaska communities (Wolfe and Magdanz 1993). It is typically the case in a rural village that about one-third of households are the main producers of wild foods consumed in the community, and about two-thirds of the households receive wild foods produced by others (Wolfe 1987). Households who receive wild foods include elderly households who no longer fish and hunt, households of single mothers with young dependent children who cannot fish and hunt themselves, households of young couples just getting started who are beginning to acquire the equipment for harvesting and processing wild foods, and households who do not fish because of health-related or other disabilities. Studies by the Division of Subsistence indicate that subsistence foods commonly flow to these receiving households from producing households through long-established non-commercial distribution systems. Wild foods are distributed through several non-commercial means, including the following – sharing, barter, and small-scale cash exchanges. The types of non-commercial distribution found in rural areas are listed in Table 3 of Wolfe and Magdanz (1993), and include the following:

sharing- generalized reciprocity. This is the sharing of harvested resources from one person to others without an expectation on the part of the giver or obligation on the part of the receiver of something returned in compensation. Sharing like this commonly occurs between relatives and between close friends.

sharing- delayed reciprocity. This is giving of harvested resources from one person to another without reciprocal compensation, but where the receiver gives back at later dates (sometimes over years) other goods, services, or money. Delayed reciprocity can be “balanced,” where the goods or services exchanged over time are of approximate equal value. It can be “unbalanced,” where the largest volume of resources flows in one direction.

sharing- redistribution. This occurs where wild resources are given by the harvester to a centralized person or location (like a food cache), from which the resources are then redistributed at some later date, typically by a person other than the harvester.

sharing- division among cooperative workgroup. This is the division of a harvest between members of a cooperative production workgroup (such as a hunting party or hunting crew), commonly in the field and following conventional rules (such as a shares system).

sharing - ceremonial giving. This is the giving or sharing of wild resources in a ceremonial context, such as potlatches, song fests, first fruit observances, Slavi, religious rituals, and so forth.

barter. This is the immediate exchange of one wild food product for another product, not involving money.

customary and traditional trade - non-commercial exchanges involving money. This is the immediate exchange of wild resources for money outside the context of a store, commercially-licensed buyer, or other mercantile facility. The exchanges are typically of relatively limited volume and between individuals with personal relations.

The Council must resolve several policy issues related to customary trade Option 4 that other Federal agencies with responsibilities for managing subsistence also face. Allocational issues may arise if sufficient numbers of eligible subsistence participants either enter the subsistence fishery and/or initiate barter to take advantage of an allowance for cash sales of halibut (Federal Subsistence Board 1994). Resulting competition with local users would be controversial and could require increased management at the local level. At the same February 1997 meeting that the Council initiated this regulatory amendment, the Council also requested preparation of an analysis for developing a local use plan for halibut in Sitka Sound. Ultimately, any increase in the amount of subsistence halibut harvested will result in direct reductions in commercial catches, thus redistributing fishing income from commercial fishermen to subsistence fishermen. Similarly, creation of a subsistence category for halibut, will adjust the accounting of halibut from sportfishing to subsistence categories.

Lastly, the Council may not assume that it may rely on the State to administer a program for subsistence in which eligibility is based on rural residency. All Alaskans are eligible to participate in the State's subsistence programs as the Alaska Supreme Court struck down the rural residency requirement as unconstitutional in the *McDowell* decision. Consequently, the State's subsistence program dovetails no better with Alternative 2, Option 2 Suboption B than any of the other suboptions under consideration. The State will continue to collect subsistence harvest information from subsistence users. But the State cannot – consistent with its constitution – actively administer a State licensing program for subsistence in which eligibility is not open to all Alaskans who wish to participate. Even so, it may be permissible for the State to offer general subsistence fishery permits to all interested Alaskans, and for such permits to carry the notation that the user must meet the eligibility requirements set by the Council in order to take halibut. Possession of the permit itself would not facilitate enforcement of the eligibility requirements for halibut. But the use of such permits could provide a vehicle for the collection and monitoring of harvest data by the State. Additional consultations between NOAA General Counsel and the State of Alaska Department of Law will be necessary to work out additional legal issues.

Definitions of terminology used in this analysis are included under Appendix 5.

## 2.5 Daily bag limit

Alternative 2, Option 5 would define daily bag limits between 0 and 20 for halibut subsistence purposes. The bag limit range was chosen by the Council based on personal knowledge and public testimony. Currently, non-commercial fishermen are subject to a bag limit of two fish per day under Federal and State sport, personal use, and subsistence regulations. The preferred alternative proposes to raise the bag limits for subsistence users from two fish to twenty.

No data exists to analyze the range, since no data on “subsistence” harvests have been collected. Per capita harvest rates and percent of households relying on halibut for food are provided in Tables 3.8 and 2.5, but these data do not address per capita, or household, or community consumption (or use) of halibut. However, the welfare impacts for subsistence users are “real,” even though we cannot measure them. The preferred alternative of 20 fish per person per day multiplied by an average weight of halibut of roughly 22 pounds results in a per capita harvest level of more than 400 pounds (net weight) of halibut. The Council determined 20 fish to be adequate to meet the needs of an individual, his family, and sharing community. The preferred alternative may reduce costs because of less time spent fishing (e.g., fewer trips, a reduction in vessel/bait

expenses) and in opportunity costs associated with pursuing other food gathering practices. It will increase safety at sea by allowing fishermen to take advantage of better weather windows, a particular issue in some remote Western Alaska waters. Replacement cost estimates for alternative food stuffs is discussed in Section 1.5.3. Since halibut is a “valuable” commodity, in terms of trade, for other goods (say, moose or caribou from inland tribal sources) then more efficient access to halibut “improves” the trader’s ability to “benefit” from these exchanges (e.g., family and/or tribal welfare is increased).

Bag limits, however, are more typically applied to sport regulations and may not be an appropriate management tool for limiting subsistence harvests. It is not part of customary and traditional practice of any Alaska tribe and may be of limited use for defining subsistence. Not applying bag limits to subsistence users (allowing them to take an unlimited amount per day) also would result in the same or greater reduction in costs and increase in welfare benefits.

## 2.6 Cooperative agreements

The preferred alternative included a “co-operative agreement” reporting vehicle to collect harvest and size data as required by the IPHC for stock assessment. Improved data collection would be a significant element of proposed management of the halibut subsistence fishery. Basic characteristics of the non-commercial halibut fishery in rural Alaska, including locations, gear types, seasonality, size, and trends, are needed to monitor the effectiveness and appropriateness of whatever halibut subsistence regulations are developed. The data are also needed to appropriately and accurately account for the removals to assure proper management of the halibut resource.

IPHC staff have testified to the Council that monitoring and reporting is very important for halibut management. Monitoring of harvest amounts and size composition of halibut could be accomplished by IPHC, NMFS, ADF&G, USFWS, and/or tribal entities, among others. For the halibut stock assessment, IPHC staff would treat subsistence removals just as they do bycatch, in that staff would estimate the fraction of >81 cm halibut (“legals”) and sublegals, regardless of a size limit. Reporting of halibut size composition is required by Area 4E halibut subsistence users under the allowance to retain sublegal halibut in that area. Almost all of the Tribal villages that may be approved for halibut subsistence under Alternative 2, Option 2, Suboption A are parties to various organizations. While the cultural traditions of individuals may not facilitate reporting, the organizations to which the villages belong are sufficiently versed in contemporary regulations to accommodate a reporting framework (e.g., Area 4E). Rural government entities may also be appropriate reporting entities under Alternative 2, Option 2, Suboption B.

Subsistence fishing permits would provide a means of obtaining harvest information and identifying eligible individuals or entities. ADF&G administers an extensive State subsistence fishing permit system. The State cannot restrict its state subsistence permits based on residency. However, ADF&G could issue general halibut permits which state that federal regulations restrict eligibility to certain classes of people (such as tribal member or rural residents). This administrative approach would allow the state to issue permits under each of the eligibility options above. An alternative administrative arrangement would be for NMFS to issue subsistence halibut permits, or for NMFS to designate other federal agencies to issue halibut fishing permits.

Any expansion of subsistence rights can be expected to be controversial. Proposed restrictions on the halibut charter boat fleet is evidence of competition for the halibut resource (NPFMC 1997). General discussions before the Council have included reports of relatively low levels of subsistence removals. Alaska halibut subsistence harvests amount to less than one percent of the 1997 Alaska halibut commercial quota, and is roughly the same percentage as subsistence to total salmon removals. However, expansion of those removals due to expansion of eligibility and/or gear requirements than what is currently allowed and (hopefully) accounted for under Alternative 2 may result in dramatically increased harvests, although at still relatively small levels compared with commercial and recreational removals.

In many regions, commercial fisheries have been incorporated into the traditional mixed subsistence-cash economies (Wolfe 1984). The NMFS Enforcement Division has expressed concern that some of the proposed management options may allow leakage of commercial IFQ and CDQ, as well as subsistence landings (barter, retention of undersized fish) onto the market and that commercial removals will be underestimated.

One mechanism to resolve halibut subsistence issues for certain coastal communities with other halibut allocational issues would be to separate those actions into a separate regulatory amendment. This has been done and an action is currently under staff development for local area halibut management plans. In February 1997, the Council requested this analysis to facilitate development and implementation of local area halibut management plans for those areas where local conflicts have been identified. Under this framework, groups would be formed to develop initiatives for Council review to address localized depletion and decreased opportunity for non-guided sport and subsistence halibut fishing. On the same track, the Council initiated development of a local halibut plan for Sitka. The Council may prefer to address subsistence for certain communities such as Juneau, Sitka, Petersburg, and Ketchikan under this separate process.

To address these problems in the short term, some basic information about the noncommercial halibut fishery in rural areas needs to be collected and analyzed. The data collected should be directed toward assessing the validity of the assumptions underlying the current harvest assessment methods: (1) that rural rod and reel harvests are measured by the mailed survey of sport fish license holders; (2) that the proportion of catch by the three noncommercial gear types are correctly estimated for the fishery as it was occurring in the 1990s; and (3) that communities are correctly grouped into strata for data expansion. Longer term data needs can be assessed depending upon the extent to which the research data supports the assumptions underlying the current monitoring system (Wolfe 1994).

## 2.7 Administrative, Enforcement and Information Costs

Administrative and information costs may increase under Alternative 2. Expenses may increase for permitting, monitoring subsistence harvests, determining eligibility under Alternative 2, Option 2, Suboption C, and monitoring barter under Alternative, Option 5.

An unknown, but believed to be small, number of ADF&G sportfish licenses will not be obtained as a result of Alternative 2. Since an ADF&G sportfish license is required for all fresh and marine water sport fishing, it is believed that few persons obtain a license for the sole purpose of subsistence halibut fishing.

Enforcement costs may increase under Alternative 2 relative to Alternative 1, as it creates a new category of regulations that require enforcement.

## 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES

The National Environmental Policy Act (NEPA) of 1969 requires a description of the purpose and need for the proposed actions as well as a description of alternative actions which may address the identified problem(s). National Oceanic and Atmospheric Administration Administrative Order (NAO) 216-6 provides the policies and procedures to be followed by NMFS when assessing environmental issues. These criteria are based on, and expand upon, the criteria developed by the Council on Environmental Quality (CEQ) guidelines. A FONSI is being considered for the original subsistence analysis (NPFMC 2002a) because no adverse impacts on the human environment were identified in that analysis.

The human environment is defined by CEQ (40 CFR 1508.14) as including the natural and physical environment and the relationships of people with that environment. This means that economic or social effects are not intended by themselves to require preparation of an EIS. However, when an EIS is prepared and economic or social and natural or physical environmental impacts are interrelated, the EIS must discuss all of these impacts on the quality of the human environment. If the EA indicates that the preferred alternative

has the potential to significantly impact the human environment, then an Environmental Impact Statement (EIS) is required. If the EA finds that the preferred alternative will not significantly impact the human environment, then a Finding of No Significant Impact (FONSI) will be provided by the Secretary.

“Effects,” as defined under NEPA, include:

- Direct effects, which are caused by the action and occur at the same time and place.
- Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

The purpose of this EA is to analyze the environmental impacts of the proposed Federal action to define a subsistence fishery for Pacific halibut on the human environment and provide sufficient evidence to determine the level of significance. This action is considered to be subject to the requirements of NEPA to prepare an Environmental Assessment since it proposes to amend proposed regulations which may impact the human environment.

### 3.1 Pacific Halibut Stock

Pacific halibut fisheries are managed by a Treaty between the United States and Canada through recommendations by NMFS, IPHC, and Council. Pacific halibut is considered to be one large interrelated stock, but is regulated by subareas through catch quotas. The commercial and recreational fishery has a long tradition dating back to the late 1800s.

The most recent halibut stock assessment was conducted by the IPHC in December 2000. The halibut resource is considered to be healthy, with total catch near record levels. The current estimate of exploitable halibut biomass for 2001 is estimated to be 249,007 mt, round weight. The exploitable biomass of the Pacific halibut stock apparently peaked at 326,520 mt in 1988 (Sullivan and Parma 1998). The long-term average reproductive biomass for the Pacific halibut resource was estimated at 118,000 mt (Parma 1998a). Long-term average yield was estimated at 26,980 mt (Parma 1998a).

The species is fully utilized. Recent average catches (1994-96) were 33,580 mt for the U.S. and 6,410 mt for Canada, for a combined total of 39,990 mt for the entire Pacific halibut resource. This catch was 48 percent higher than long-term potential yield, which reflects the good condition of the Pacific halibut resource. The outlook for the stock biomass over the near future is for a decline from the record high levels of recent years until increased recruitment to the stock occurs. The IPHC commercial quota for 2001 in Alaska is 38,400 mt an increase of 3,300 mt from the 2000 quota.

Three major cultural use traditions occur in Alaska for halibut: commercial, sport, and subsistence. The distinctions between them are clouded by differing legal and cultural interpretations of subsistence by both resource managers and users, although current gear restrictions may be used to post facto assign a user category to a landing. The IPHC does not have a formal regulatory definition of subsistence or retained catch, however, it does attempt to track subsistence taken under a personal use category, leaving only sport harvests under the sportfishing category. It deducts separate estimates for “personal use” (439,000 lb in 2000) and sport fishing (6,693,000 lb in 2000) in Alaska (Table 3.1) (IPHC 2001). Further details on the management, production history, and life history of Pacific halibut are described in section 3.7.2 of the SEIS (NMFS 1998) and in this analysis. A current description of the biology of the Pacific halibut is in IPHC (1998a). A current description of the stock assessment and research activities is in IPHC (2001).

Table 3.1. The 2000 removals of Pacific halibut by regulatory area in net weight (thousands of pounds).

Area	2A	2B	2C	3A	3B	4	Total
Commercial <sup>1</sup>	459	10,781	8,458	19,331	15,443	13,800	68,272
Sport	340	1,582	1,978	4,596	16	103	8,615
Bycatch Mortality:							
Legal-sized fish	340	140	230	1,210	580	3,270	5,770
Sublegal-sized fish	711	102	120	1,513	778	4,276	7,500
Personal Use	10 <sup>2</sup>	300	170	74	20	175 <sup>3</sup>	749
Wastage:							
Legal-sized fish	8	26	42	30	49	74	229
Sublegal-sized fish	1	181	134	421	315	132	1,184
Total	1,869	13,112	11,132	27,175	17,201	21,830	92,319

<sup>1</sup> Commercial catch includes IPHC research catch.

<sup>2</sup> Treaty Indian ceremonial fish authorized in the catch sharing plan.

<sup>3</sup> Includes 14,000 pounds of sublegal halibut retained in the Area 4E Community Development Quota.

### 3.2 Commercial Fishery

A summary of the Individual Fishing Quota (IFQ) program for the halibut longline fisheries off Alaska can be found in Pautzke and Oliver (1997). The status of the program at the end of 1998 is summarized in Smith (1999) and Alaska Commercial Fisheries Entry Commission (Dinneford, et al., 1999). A series of reports also by CFEC assess the holdings of limited entry permits, QS holdings, and gross earnings of Gulf of Alaska communities with the purpose of evaluating how coastal communities had fared under the IFQ program (Shirley, et al. 1999). The following summary provides some detail from the end of year - 1998 CFEC report (Dinneford, et al., 1999).

The halibut target commercial fishery has been in existence for over 100 years. The 1990s have seen a dramatic change in the management regime in the U.S. In 1995, the U.S. implemented an IFQ program, in which each licensed fisherman was given a share of the annual catch limit based on the individual's past production. It has resulted in much longer seasons, currently March 15<sup>th</sup> through November 15<sup>th</sup>, replacing the 24-hour "derby" fisheries. It has also kept catches within the prescribed commercial limits. The Alaska commercial quota is 53 million lb in 2000. An additional 3 million lb are allocated to the Community Development Quota (CDQ) Program implemented to provide access to this fishery for Western Alaska communities. The Metlakatla Indian Community also harvested 35,000 lb in 1999 under an agreement with the Department of Interior Bureau of Indian Affairs (Appendix 3).

Table 3.2 lists the halibut CDQ groups and 2000 allocations in pounds for each CDQ organization. Table 3.3 lists the communities for each CDQ group.

Table 3.2 CDP Area Allocations in Percents for Halibut\*

Area	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA	Total
4B	100%						100%
4C	10%		90%				100%
4D		23%		24%	26%	27%	100%
4E		30%		70%			100%

CDP Area Allocations in Pounds for Halibut\*

Area	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA	Total
4B	982,000	0	0	0	0	0	982,000
4C	101,500	0	913,500	0	0	0	1,015,000
4D	0	140,070	0	146,160	158,340	164,430	609,000
4E	0	117,000	0	273,000	0	0	390,000
Total	1,083,500	257,070	913,500	419,160	158,340	164,430	2,996,000

\* Halibut pounds are net weight (head off, gutted) and are amounts available to CDQ groups at the start of the 2000 fishing year.

APICDA = Aleutian Pribilof Island Community Development Association  
 BBEDC = Bristol Bay Economic Development Corporation  
 CBSFA = Central Bering Sea Fishermen's Association  
 CVRF = Coastal Villages Region Fund  
 NSEDC = Norton Sound Economic Development Corporation  
 YDFDA = Yukon-Delta Fisheries Development Association

The Metlakatla Indian Community was authorized by the United States government (Bureau of Indian Affairs) to conduct a commercial halibut fishery within the 3000 foot Annette Island Reserve. IPHC is provided with logbook information, ADF&G fish tickets, and the tribal biologist samples halibut landings (halibut lengths and otoliths). In 1999, 26 different vessels fished as part of the Metlakatla fishery landing approximately 35,000 pounds of halibut (Table 3.4) (H. Gilroy, pers. commun. 2000). The 1999 fishery occurred between May 22 and Oct 31 with thirteen 48-hr fishing periods. The catch was 12,000 and 88,000 pounds in 1998 and 1997, respectively. A higher ex-vessel price may have brought fishers back to the fishery, however, the total catch was still lower than it was in 1997.

The IPHC has also set aside 300,000 lb for use in the Indian food fishery by Native residents of British Columbia, Canada beginning in 1994. This amounts to 10 lb per person for the roughly 30,000 Native inhabitants.

Table 3.3 Lists the communities for each CDQ group.

<p><b>Bristol Bay Economic Development Foundation</b></p>	<p>Aleknagik Clark's Point Dillingham Egegik Ekuk Ekwok Levelock Manokotak Naknek King Salmon/Sayonoski South Naknek Togiak Twin Hills Pilot Point/Ugashik Port Heiden Portage Creek</p>	<p><b>Norton Sound Economic Development Foundation</b></p>	<p>Brevig Mission Diomede/Ignaluk Elim Gambell Golovin Koyuk Nome Savoonga Shaktoolik St. Michael Stebbins Teller Unalakleet Wales White Mountain</p>
<p><b>Coastal Villages Region Fund</b></p>	<p>Chefornak Chevak Eek Goodnews Bay Hooper Bay Kipnuk Konigranak Kwigillingok Mekoryuk Napakiak Napaskiak Newtok Nightmute Oscarville Platinum Quinhagak Scammon Bay Tooksook Bay Tuntutuliak Tununak</p>	<p><b>Yukon Delta Fisheries Development Association</b></p>	<p>Alakanuk Emmonak Grayling Kotlik Mountain Village Sheldon Point</p>
		<p><b>Aleutian Pribilof Island Community Development Association</b></p>	<p>Akutan Atka False Pass Nelson Lagoon Nikolski St. George Unalaska</p>
		<p><b>Central Bering Sea Fishermen's Association</b></p>	<p>Saint Paul</p>



Table 3.4. Metlakatla community fishing periods, number of vessels, and halibut catch (net weight), 2000.

Fishing Period Dates	Number Of Vessels	Catch (Pounds)
April 29 – May 1	0	0
May 13 – 15	3	1,436
May 27 – 29	6	1,242
June 9 –12	7	3,593
June 23 – 25	15	8,599
July 7 – 9	7	5,205
July 21 – 23	5	2,614
August 4 – 6	10	5,057
August 18 – 20	9	6,603
August 25 – 27	13	7,925
September 1 – 3	16	6,850
September 15 –17	5	557
September 22 – 24	5	2,887
September 29 – October 1	3	1,458
October 11 – 13	0	0
15 Fishing Periods		54,026

### 3.3 Sport Fishery

Recreational fishing for halibut was nonexistent in the 1920s but has grown into a major industry in Canada and Alaska, with total harvests of 8.1 million pounds in 1999 (Table 3.5). The first IPHC regulations on sport fishing were instituted in 1973 and included an 8-month season with limitations on the individual’s daily catch and the gear. Since that time, sport regulations have grown in complexity and have seen increased involvement by state, provincial and Federal agencies.

In many instances sportfishing is done primarily for recreational values (that is, “sport,” “fun,” “enjoyment,” “fair competition,” etc.) - participation in a recreational-quality activity is the primary cultural value. Sport regulations in general are consistent with these recreational values, in that they provide for relatively inefficient gear (2-hooks, a “fair chase ethic”), limited daily bags (2-fish per day; food is not the primary purpose of the activity), and sport license requirements (user’s pay for management, etc.). The sport cultural tradition in Alaska derives from Euroamerican historic traditions, and the people who currently participate in it are primarily from Euroamerican cultural groups living in urbanized areas (but also some rural places) in Alaska and the continental U.S.

In addition to recreational motives, Alaska residents and many nonresidents that fish for halibut under sport regulations may be motivated in large part to put some halibut in the freezer, and a significant portion consider what they are doing to be providing subsistence food with rod and reel. Anecdotal information suggests that many charter anglers evaluate the success of their trip by the poundage caught and whether it was cheaper to fish or buy the halibut. Halibut are not terribly exciting or difficult to catch. The bag limit of two fish may be perceived as adequate to satisfy food needs given the mean size of halibut. Whether or not there is a one to one correspondence in the cost consideration of choosing to sportfish versus purchasing commercially caught halibut remains to be tested; however, it is likely that some anglers derive additional value from stocking their freezers with fish they themselves caught than they would have realized from purchasing commercially caught halibut.

Table 3.5 Harvest by sport fishers (millions of pounds, net weight) by Regulatory Area, 1977-2000.

Year	Area 2A	Area 2B	Area 2C	Area 3A	Area 3B	Area 4	Total
1977	0.013	0.017	0.072	0.196			0.298
1978	0.010	0.009	0.082	0.282			0.383
1979	0.015	0.018	0.174	0.365			0.572
1980	0.019	0.011	0.332	0.488			0.850
1981	0.019	0.023	0.318	0.751		0.012	1.123
1982	0.050	0.066	0.489	0.716		0.011	1.332
1983	0.063	0.103	0.553	0.945		0.003	1.667
1984	0.118	0.124	0.621	1.026		0.013	1.902
1985	0.193	0.525	0.682	1.210		0.008	2.618
1986	0.333	0.372	0.730	1.908		0.020	3.363
1987	0.446	0.527	0.780	1.989		0.030	3.772
1988	0.249	0.504	1.076	3.264		0.036	5.129
1989	0.327	0.635	1.559	3.005		0.024	5.550
1990	0.197	0.762	1.330	3.638		0.040	5.967
1991	0.158	0.584	1.654	4.264	0.014	0.127	6.801
1992	0.250	0.580	1.668	3.899	0.029	0.043	6.469
1993	0.246	0.657	1.811	5.265	0.018	0.057	8.054
1994	0.186	0.657	2.001	4.487	0.021	0.042	7.394
1995	0.236	1.582	1.759	4.511	0.022	0.055	8.165
1996	0.229	1.582	2.129	4.740	0.021	0.077	8.779
1997	0.355	1.582	2.172	5.514	0.028	0.069	9.720
1998	0.383	1.582	2.501	4.702	0.017	0.096	9.280
1999	0.338	1.582	1.843	4.228	0.017	0.094	8.102
2000 <sup>1</sup>	0.340	1.582	1.978	4.596	0.016	0.103	8.615

<sup>1</sup>Only Area 2A harvest is current data; all other areas are projected harvests. These projections will be updated when data becomes available. Alaska (Areas 2C, 3A, 3B and 4) harvests for 1996-2000 are still considered preliminary.

### 3.4 Other non-commercial uses

Subsistence fishing is a traditional use in Alaska, primarily for food use by domestic family groups, including noncommercial sharing and distribution systems. Potential halibut subsistence regulations should be consistent with these values, in that they should provide for established patterns of use, including customary efficient gear from the point of view of domestic family groups, relatively unrestricted seasons and bag limits except for conservation reasons (subsistence fisheries are for food and are generally self-limiting because the limited size of the subsistence sharing-consumption networks), and relatively simple reporting-permitting systems. The subsistence cultural traditions in Alaska have evolved over time, and the people who are most heavily involved in subsistence patterns are Alaska Native groups with local cultural traditions of use; in addition, non-Natives living in “rural” places (places with a mixed, subsistence-market economic system) participate in some subsistence activities. Subsistence production-distribution is commonly a major economic sector in rural communities. Mixed, subsistence-market economies are characteristic of rural villages and a few large towns in Alaska -- these are local systems of production-consumption where wild food production contributes a substantial portion of the food supply of the community (that is, about 50% or more the community's protein needs). Subsistence halibut fishing typically occurs in rural places with subsistence-market economies.

“Subsistence” can not be distinguished from “sport” halibut landings until subsistence is defined by the Council, (i.e., are “subsistence” harvests from Natives only or all rural residents; from which gear types?). Under Option 1, the Council will identify subsistence landings through the process of selecting eligibility criteria for communities, users in those communities, and legal gear (Options 2 - 4). All non-commercial landings are presented by community, user, and gear. The Secretarial review draft of this analysis reflects the

Council's preferred option on reporting. The cooperative agreements will result in improved estimates of "sport," "subsistence," and "personal use" halibut removals. Those estimates will be forwarded to the IPHC for its review in determining halibut removals.

Table 3.6 lists non-commercial halibut harvests for Alaska Native and non-Native households for rural communities from ADF&G surveys. A summary of these data by IPHC regulatory area is provided in Table 3.7. It shows that 105,550 lb (19.4%) of halibut were removed from commercial gear, 233,080 lb (42.8%) were removed from other non-commercial gear, and 205,864 lb (37.8%) were removed by rod-and-reel gear by Natives in rural communities for all IPHC areas. Non-Natives removed 99,348 lb (11.1%) from commercial gear, 13,941 lb (1.6%) from non-commercial gear and 780,198 lb (87.3%) were removed by rod-and-reel gear for all areas. Note that these data do not include halibut harvests by Alaska Native tribal members residing in Juneau, Ketchikan, and the Kenai Peninsula.

A wide range of per capita harvests are reported by rural community for individual survey years between 1984 and 1994 in Table 3.8. The highest rates are reported for Alaska Native households in Tenakee Springs (nearly 300 lb) and Gustavus and Port protection (above 100 lb) in Area 2C; Port Graham and Old Harbor (about 80 lb) in Area 3A; Chignik bay (74 lb) in Area 3B; and Nikolski (nearly 300 lb), St. Paul (167 lb), Tununak (124 lb) and Akutan (115 lb) in Area 4. The highest non-Native harvests occurred in Meyers Chuck (above 100 lb) in Area 2C; Port Lions (139 lb) and Nanwalek (112 lb) in Area 3A; Perryville (91 lb) in Area 3B; and Unalaska (80 lb) and Akutan (68 lb) in Area 4. An average of 50 lb per capita is a reasonable overall estimate of personal consumption.

The following discussion of halibut harvests by gear type is taken from Wolfe (1994). Federal regulations recognize only commercial and sport halibut fishing (sportfishing is broadly defined as all non-commercial fishing). One exception is for a single treaty Indian fishery at the Metlakatla Reserve in Southeast Alaska.

**Table 3.6. Halibut Harvests (Lb Rd Wt) for Non-Commercial Use by Residents of Alaska Rural Places**

Source: Alaska Department of Fish and Game, Division of Subsistence Household Surveys

	Survey Year	Harvests by Alaska Native Households				Harvests by Non-Native Households				Total Harvests by All Households			
		Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined
<b>District 2C</b>													
Angoon	1987	2,876	*	8,088	10,964	54	*	5,226	5,281	2,930	*	13,315	16,245
Coffman Cove	1987	0	*	0	0	172	*	6,822	6,994	172	*	6,822	6,994
Craig	1987	1,117	*	7,842	8,959	2,775	*	9,283	12,058	3,892	*	17,125	21,017
Edna Bay	1987	0	*	0	0	1,760	*	4,061	5,820	1,760	*	4,061	5,820
Elfin Cove	1987	0	*	0	0	955	*	1,511	2,467	955	*	1,511	2,467
Gustavus	1987	0	*	1,318	1,318	553	*	10,816	11,369	553	*	12,134	12,687
Haines	1987	1,620	*	262	1,882	4,190	*	25,928	30,118	5,810	*	26,190	32,000
Hollis	1987	0	*	0	0	41	*	941	983	41	*	941	983
Hoonah	1987	10,649	*	5,101	15,750	1,027	*	18,075	19,102	11,675	*	23,177	34,852
Hydaburg	1987	4,128	*	6,007	10,134	0	*	1,924	1,924	4,128	*	7,930	12,058
Hyder	1987	0	*	0	0	1,350	*	3,578	4,928	1,350	*	3,578	4,928
Kake	1987	3,044	*	7,112	10,156	1,343	*	6,411	7,754	4,387	*	13,523	17,910
Kasaan	1987	0	*	287	287	21	*	223	245	21	*	511	532
Klawock	1987	467	*	12,713	13,180	798	*	19,243	20,041	1,265	*	31,956	33,221
Klukwan	1987	0	*	80	80	0	*	114	114	0	*	194	194
Metlakatla	1987	4,096	*	8,901	12,997	0	*	3,541	3,541	4,096	*	12,442	16,538
Meyers Chuck	1987	0	*	0	0	0	*	3,075	3,075	0	*	3,075	3,075
Pelican	1987	2,108	*	5,149	7,257	2,930	*	7,900	10,830	5,038	*	13,049	18,088
Petersburg	1987	2,108	*	10,493	12,601	13,490	*	132,409	145,899	15,597	*	142,902	158,499
Point Baker	1987	0	*	0	0	862	*	766	1,628	862	*	766	1,628
Port Alexander	1987	0	*	118	118	708	*	3,577	4,285	708	*	3,695	4,403
Port Protection	1987	115	*	115	230	391	*	2,137	2,528	506	*	2,252	2,758
Saxman	1987	141	*	1,118	1,259	0	*	2,235	2,235	141	*	3,353	3,494
Sitka	1987	1,651	*	36,524	38,176	14,779	*	204,192	218,971	16,430	*	240,716	257,146
Skagway	1987	0	*	1,870	1,870	0	*	3,071	3,071	0	*	4,941	4,941
Tenakee Springs	1987	183	*	1,521	1,704	426	*	3,737	4,163	609	*	5,258	5,867
Thorne Bay	1987	0	*	0	0	13,179	*	11,451	24,629	13,179	*	11,451	24,629
Whale Pass	1987	0	*	74	74	106	*	1,250	1,357	106	*	1,325	1,431
Wrangell	1987	6,166	*	30,786	36,952	7,798	*	27,814	35,613	13,964	*	58,601	72,565
<b>TOTAL 2C</b>	<b>**</b>	<b>40,468</b>	<b>*</b>	<b>145,481</b>	<b>185,949</b>	<b>69,708</b>	<b>*</b>	<b>521,312</b>	<b>591,021</b>	<b>110,176</b>	<b>*</b>	<b>666,793</b>	<b>776,969</b>
	<i>Percent Gear</i>	<i>21.8%</i>	<i>*</i>	<i>78.2%</i>	<i>100.0%</i>	<i>11.8%</i>	<i>*</i>	<i>88.2%</i>	<i>100.0%</i>	<i>14.2%</i>	<i>*</i>	<i>85.8%</i>	<i>100.0%</i>

\* In 2C, household surveys did not ask about "other non-commercial gear".

Survey Year	Harvests by Alaska Native Households				Harvests by Non-Native Households				Total Harvests by All Households				
	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	
<b>District 3A</b>													
Akhiok	1992	41	1,845	0	1,886	0	0	32	32	41	1,845	32	1,918
Chenega Bay	1992	564	2,624	2,263	5,451	60	0	601	662	624	2,624	2,865	6,112
Cordova	1991	11,660	0	4,924	16,584	21,731	155	28,980	50,866	33,391	155	33,904	67,450
Karluk	1990	0	3,273	1,073	4,346	0	0	0	0	0	3,273	1,073	4,346
Kodiak City	1991	4,718	5,092	13,525	23,336	12,086	4,556	108,998	125,640	16,805	9,648	122,523	148,976
Larsen Bay	1993	1,873	2,495	1,888	6,255	0	114	0	114	1,873	2,609	1,888	6,370
Nanwalek	1991	0	1,953	4,903	6,856	0	0	953	953	0	1,953	5,856	7,809
Old Harbor	1991	2,240	10,575	2,798	15,612	0	0	2,171	2,171	2,240	10,575	4,968	17,783
Ouzinkie	1993	2,116	3,417	1,003	6,535	314	0	446	760	2,430	3,417	1,448	7,295
Port Graham	1991	2,212	6,445	3,102	11,759	0	0	0	0	2,212	6,445	3,102	11,759
Port Lions	1993	996	3,130	3,713	7,839	135	0	7,014	7,148	1,131	3,130	10,726	14,987
Seldovia	1991	3,115	110	3,038	6,262	1,407	125	9,555	11,087	4,522	235	12,593	17,349
Tatitlek	1991	122	1,134	2,145	3,401	0	0	0	0	122	1,134	2,145	3,401
Yakutat	1987	3,032	*	8,126	11,158	0	*	21,719	21,719	3,032	*	29,845	32,877
<b>TOTAL 3A</b>	<b>**</b>	<b>20,423</b>	<b>34,349</b>	<b>44,240</b>	<b>99,013</b>	<b>13,942</b>	<b>4,795</b>	<b>150,854</b>	<b>169,592</b>	<b>34,366</b>	<b>39,145</b>	<b>195,094</b>	<b>268,605</b>
<i>Percent Gear</i>		<i>20.6%</i>	<i>34.7%</i>	<i>44.7%</i>	<i>100.0%</i>	<i>8.2%</i>	<i>2.8%</i>	<i>89.0%</i>	<i>100.0%</i>	<i>12.8%</i>	<i>14.6%</i>	<i>72.6%</i>	<i>100.0%</i>
<i>* In Yakutat, household surveys did not ask about "other non-commercial gear".</i>													
<b>District 3B</b>													
Chignik Bay	1991	1,438	3,227	560	5,225	374	0	0	374	1,812	3,227	560	5,599
Chignik Lagoon	1989	918	499	0	1,416	319	239	0	559	1,237	738	0	1,975
Chignik Lake	1991	2,889	1,932	0	4,821	0	527	0	527	2,889	2,459	0	5,348
Cold Bay	**	*	*	*	*	*	*	*	*	*	*	*	*
False Pass	1988	336	332	901	1,568	0	71	237	308	336	403	1,138	1,876
Ivanof Bay	1989	0	1,091	638	1,729	0	0	0	0	0	1,091	638	1,729
King Cove	1992	7,396	1,135	0	8,531	289	560	454	1,303	7,685	1,695	454	9,834
Nelson Lagoon	1987	0	0	0	0	0	0	0	0	0	0	0	0
Perryville	1989	420	4,772	1,506	6,698	0	626	0	626	420	5,399	1,506	7,324
Sand Point	1992	6,364	7,222	367	13,953	1,934	2,000	707	4,641	8,299	9,222	1,074	18,594
<b>TOTAL 3B</b>	<b>**</b>	<b>19,761</b>	<b>20,209</b>	<b>3,971</b>	<b>43,941</b>	<b>2,916</b>	<b>4,023</b>	<b>1,398</b>	<b>8,337</b>	<b>22,677</b>	<b>24,232</b>	<b>5,369</b>	<b>52,279</b>
<i>Percent Gear</i>		<i>45.0%</i>	<i>46.0%</i>	<i>9.0%</i>	<i>100.0%</i>	<i>35.0%</i>	<i>48.3%</i>	<i>16.8%</i>	<i>100.0%</i>	<i>43.4%</i>	<i>46.4%</i>	<i>10.3%</i>	<i>100.0%</i>
<i>* Halibut harvests undocumented.</i>													

Survey Year	Harvests by Alaska Native Households				Harvests by Non-Native Households				Total Harvests by All Households				
	Removed from Commer Gear	Other Non-Comm Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commerc Gear	Other Non-Commerc Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commerc Gear	Other Non-Commerc Gear	Rod and Reel Gear	All Gear Types Combined	
<b>District 4A-D</b>													
Akutan	1990	2,504	8,082	548	11,133	422	0	0	422	2,926	8,082	548	11,556
Atka	1994	427	3,874	551	4,852	0	74	0	74	427	3,948	551	4,926
Nikolski	1990	0	11,836	0	11,836	0	0	0	0	0	11,836	0	11,836
St. George	1994	1,204	4,928	0	6,133	0	0	0	0	1,204	4,928	0	6,133
St. Paul	1994	18,672	48,411	0	67,083	0	1,271	125	1,396	18,672	49,682	125	68,479
Unalaska	1994	1,746	8,804	10,717	21,267	12,359	3,777	106,508	122,644	14,105	12,580	117,225	143,911
<b>TOTAL 4A-D</b>	**	<b>24,553</b>	<b>85,935</b>	<b>11,816</b>	<b>122,304</b>	<b>12,781</b>	<b>5,122</b>	<b>106,633</b>	<b>124,536</b>	<b>37,335</b>	<b>91,057</b>	<b>118,449</b>	<b>246,841</b>
	<i>Percent Gear</i>	<i>20.1%</i>	<i>70.3%</i>	<i>9.7%</i>	<i>100.0%</i>	<i>10.3%</i>	<i>4.1%</i>	<i>85.6%</i>	<i>100.0%</i>	<i>15.1%</i>	<i>36.9%</i>	<i>48.0%</i>	<i>100.0%</i>
<b>District 4E</b>													
Chefornak	Est		12,800		12,800				*		12,800		12,800
Gambell	**				*				*				**
Mekoryak	Est		7,080		7,080				*		7,080		7,080
Newtok	Est		8,280		8,280				*		8,280		8,280
Nightmute	Est		6,120		6,120				*		6,120		6,120
Savoonga	**				*				*				**
Toksook Bay	Est		16,800		16,800				*		16,800		16,800
Tununak	1986		40,754		40,754				*		40,754		40,754
Wales	**				*				*				**
Aleknagik	**				*				*				**
Clark's Point	**				*				*				**
Dillingham	1984				0				*				0
Egegik	1984	0	0	286	286				*	0	0	286	286
King Salmon	**				*				*				**
Kipnuk	**				*				*				**
Kongiganak	**				*				*				**
Levelock	1989		528		528				*		528		528
Manokotak	**				*				*				**
Naknek	**				*				*				**
Nome	**				*				*				**
Pilot Point	1987	229	0	70	299				*	229	0	70	299
Port Heiden	1987	0	197	0	197				*	0	197	0	197
South Naknek	1992	116	28	0	144				*	116	28	0	144
Alakanuk	**				*				*				**
Bethel	**				*				*				**

Survey Year	Harvests by Alaska Native Households				Harvests by Non-Native Households				Total Harvests by All Households				
	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	
Brevig Mission	**			*				*				**	
Chevak	**			*				*				**	
Eek	**			*				*				**	
Elim	**			*				*				**	
Emmonak	**			*				*				**	
Golovin	**			*				*				**	
Goodnews Bay	**			*				*				**	
Hooper Bay	**			*				*				**	
Kotlik	**			*				*				**	
Koyuk	**			*				*				**	
Kwigillingok	**			*				*				**	
Napakiak	**			*				*				**	
Napaskiak	**			*				*				**	
Oscarville	**			*				*				**	
Platinum	**			*				*				**	
Quinhagak	**			*				*				**	
Scammon Bay	**			*				*				**	
Shaktoolik	**			*				*				**	
Sheldon Point	**			*				*				**	
St. Michael	**			*				*				**	
Stebbins	**			*				*				**	
Teller	**			*				*				**	
Togiak	**			*				*				**	
Tuntutuliak	**			*				*				**	
Twin Hills	**			*				*				**	
Ugashik	1987			0				0				0	
Unalakleet	**			*				*				**	
White Mountain	**			*				*				**	
<b>TOTAL 4E</b>	**	<b>345</b>	<b>92,587</b>	<b>356</b>	<b>93,288</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>345</b>	<b>92,587</b>	<b>356</b>	<b>93,288</b>
<i>Percent Gear</i>		<i>0.4%</i>	<i>99.2%</i>	<i>0.4%</i>	<i>100.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.4%</i>	<i>99.2%</i>	<i>0.4%</i>	<i>100.0%</i>

\*\* Halibut harvests undocumented.

Note: Round Weight (Not Eviscerated, Head On) = Usable Wt (Eviscerated, Head Off)/.7519

**Table 3.7 Halibut Harvests (Lbs Rd Wt) for Non-Commercial Use by Rural Residents and Halibut District**

Source: Alaska Department of Fish and Game, Division of Subsistence Household Surveys

Harvests by Alaska Native Households														Harvests by Non-Native Households				Total Harvests by All Households			
Survey Year	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined									
	District 2C	**	40,468	*	145,481	185,949	69,708	*	521,312	591,021	110,176	*	666,793	776,969							
District 3A	**	20,423	34,349	44,240	99,013	13,942	4,795	150,854	169,592	34,366	39,145	195,094	268,605								
District 3B	**	19,761	20,209	3,971	43,941	2,916	4,023	1,398	8,337	22,677	24,232	5,369	52,279								
District 4A-D	**	24,553	85,935	11,816	122,304	12,781	5,122	106,633	124,536	37,335	91,057	118,449	246,841								
District 4E	**	345	92,587	356	93,288	0	0	0	0	345	92,587	356	93,288								
Total Rural Places		105,550	233,080	205,864	544,495	99,348	13,941	780,198	893,486	204,899	247,021	986,062	1,437,982								
Percent Gear		19.4%	42.8%	37.8%	100.0%	11.1%	1.6%	87.3%	100.0%	14.2%	17.2%	68.6%	100.0%								



**Table 3.8. Per Capita Halibut Harvests (Lb Rd Wt) for Non-Commercial Use by Residents of Alaska Rural Places**

Source: Alaska Department of Fish and Game, Division of Subsistence Household Surveys

Survey Year	Harvests by Alaska Native Households				Harvests by Non-Native Households				Total Harvests by All Households				
	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	
<b>District 2C</b>													
Angoon	1987	6.7	*	18.7	25.4	0.6	*	54.1	54.6	5.6	*	25.6	31.2
Coffman Cove	1987	0.0	*	0.0	0.0	0.9	*	36.7	37.6	0.9	*	36.7	37.6
Craig	1987	3.0	*	20.7	23.7	3.4	*	11.5	15.0	3.3	*	14.5	17.8
Edna Bay	1987	0.0	*	0.0	0.0	25.4	*	58.6	84.0	25.4	*	58.6	84.0
Elfin Cove	1987	0.0	*	0.0	0.0	16.0	*	25.2	41.2	16.0	*	25.2	41.2
Gustavus	1987	0.0	*	101.6	101.6	3.8	*	74.8	78.6	3.6	*	79.7	83.3
Haines	1987	9.9	*	1.6	11.5	2.8	*	17.6	20.4	3.6	*	16.1	19.7
Hollis	1987	0.0	*	0.0	0.0	0.7	*	14.7	15.4	0.5	*	11.9	12.4
Hoonah	1987	23.0	*	11.0	34.0	3.8	*	66.2	70.0	16.7	*	33.1	49.8
Hydaburg	1987	11.8	*	17.1	28.9	0.0	*	68.9	68.9	10.9	*	20.9	31.8
Hyder	1987	0.0	*	0.0	0.0	17.3	*	45.9	63.3	17.3	*	45.9	63.3
Kake	1987	6.4	*	14.8	21.2	8.1	*	38.6	46.7	6.8	*	21.1	27.9
Kasaan	1987	0.0	*	13.7	13.7	1.1	*	11.8	12.9	0.5	*	12.8	13.3
Klawock	1987	1.1	*	28.8	29.8	2.2	*	53.4	55.6	1.6	*	40.4	42.0
Klukwan	1987	0.0	*	0.7	0.7	0.0	*	7.1	7.1	0.0	*	1.5	1.5
Metlakatla	1987	2.9	*	6.4	9.3	0.0	*	22.6	22.6	2.6	*	8.0	10.6
Meyers Chuck	1987	0.0	*	0.0	0.0	0.0	*	102.5	102.5	0.0	*	102.5	102.5
Pelican	1987	26.4	*	64.4	90.8	18.0	*	48.5	66.6	21.0	*	54.5	75.6
Petersburg	1987	3.2	*	15.7	18.9	4.2	*	41.7	45.9	4.2	*	38.2	42.4
Point Baker	1987	0.0	*	0.0	0.0	24.6	*	21.9	46.5	24.6	*	21.9	46.5
Port Alexander	1987	0.0	*	36.7	36.7	6.8	*	34.2	41.0	6.6	*	34.7	41.3
Port Protection	1987	53.2	*	53.2	106.4	7.0	*	38.1	45.0	8.7	*	38.6	47.3
Saxman	1987	0.6	*	4.9	5.5	0.0	*	58.1	58.1	0.5	*	13.0	13.5
Sitka	1987	0.8	*	17.4	18.1	2.4	*	33.5	35.9	2.0	*	29.9	31.9
Skagway	1987	0.0	*	32.3	32.3	0.0	*	5.8	5.8	0.0	*	8.5	8.5
Tenakee Springs	1987	31.9	*	266.0	297.9	4.8	*	42.0	46.8	6.4	*	55.5	62.0
Thorne Bay	1987	0.0	*	0.0	0.0	27.2	*	23.6	50.8	27.5	*	23.9	51.5
Whale Pass	1987	0.0	*	14.9	14.9	2.3	*	27.2	29.5	2.1	*	26.0	28.1
Wrangell	1987	4.6	*	23.1	27.7	4.9	*	17.6	22.6	4.9	*	20.6	25.6
<i>* In 2C, household surveys did not ask about "other non-commercial gear".</i>													
<b>District 3A</b>													
Akhiok	1992	0.6		24.6	0.0	25.2		0.0	0.0	6.3		6.3	
Chenega Bay	1992	7.0		32.7	28.2	67.9		5.9	0.0	59.1		65.0	
Cordova	1991	20.9		0.0	8.8	29.7		12.6	0.1	16.7		29.4	
Karluk	1990	0.0		40.1	13.2	53.3		0.0	0.0	0.0		0.0	
Kodiak City	1991	4.0		4.3	11.4	19.7		2.8	1.0	24.9		28.7	

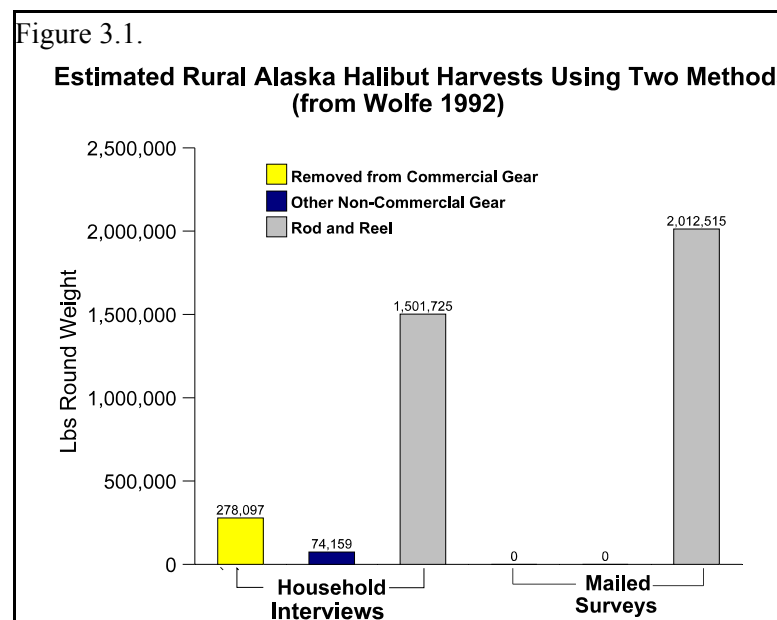
Harvests by Alaska Native Households						Harvests by Non-Native Households				Total Harvests by All Households				
Survey Year	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined		Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	
Larsen Bay	1993	15.8	21.0	15.9	52.6									
Nanwalek	1991	0.0	12.8	32.1	44.9	0.0	10.4	0.0	112.3	112.3	0.0	12.1	36.3	48.5
Old Harbor	1991	11.7	55.2	14.6	81.4	0.0	0.0	86.3	86.3	10.3	48.8	22.9	82.0	82.0
Ouzinkie	1993	9.9	16.0	4.7	30.5	15.9	0.0	22.5	38.4	10.4	14.6	6.2	31.2	31.2
Port Graham	1991	15.1	43.9	21.1	80.1	0.0	0.0	0.0	0.0	13.7	40.0	19.3	73.0	73.0
Port Lions	1993	5.4	16.9	20.1	42.4	2.6	0.0	136.0	138.7	4.8	13.2	45.4	63.4	63.4
Seldovia	1991	17.0	0.6	16.5	34.1	5.7	0.5	38.7	44.9	15.9	0.3	50.4	66.6	66.6
Tatitlek	1991	1.2	10.9	20.7	32.8	0.0	0.0	0.0	0.0	1.1	10.5	19.9	31.5	31.5
Yakutat	1987	8.4	*	22.4	30.8	0.0	*	94.3	94.3	5.1	*	50.7	55.8	55.8
<i>* In Yakutat, household surveys did not ask about "other non-commercial gear".</i>														
<b>District 3B</b>														
Chignik Bay	1991	20.3	45.5	7.9	73.7	38.2	0.0	0.0	38.2	22.5	40.0	6.9	69.4	69.4
Chignik Lagoon	1989	31.6	17.2	0.0	48.8	26.6	19.9	0.0	46.5	30.2	18.0	0.0	48.2	48.2
Chignik Lake	1991	23.9	16.0	0.0	39.8	0.0	54.7	0.0	54.7	22.1	18.8	0.0	40.9	40.9
Cold Bay	**	*	*	*	*	*	*	*	*	*	*	*	*	*
False Pass	1988	5.5	5.4	14.6	25.5	0.0	9.2	30.8	40.0	4.8	5.8	16.4	27.1	27.1
Ivanof Bay	1989	0.0	34.1	19.9	54.0	0.0	0.0	0.0	0.0	0.0	34.1	19.9	54.0	54.0
King Cove	1992	17.0	2.6	0.0	19.6	2.3	4.5	3.7	10.5	13.7	3.0	0.8	17.6	17.6
Nelson Lagoon	1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perryville	1989	3.8	43.8	13.8	61.4	0.0	90.9	0.0	90.9	3.6	46.6	13.0	63.2	63.2
Sand Point	1992	14.2	16.2	0.8	31.2	12.2	12.6	4.5	29.2	13.7	15.2	1.8	30.7	30.7
<b>District 4A-D</b>														
Akutan	1990	25.9	83.6	5.7	115.1	68.1	0.0	0.0	68.1	28.8	79.5	5.4	113.7	113.7
Atka	1994	49.9	5.5	7.1	62.5	0.0	10.3	0.0	10.3	5.0	46.5	6.5	58.0	58.0
Nikolski	1990	0.0	295.9	0.0	295.9	0.0	0.0	0.0	0.0	0.0	243.7	0.0	243.7	243.7
St. George	1994	31.4	7.7	0.0	39.1	0.0	0.0	0.0	0.0	6.7	27.5	0.0	34.2	34.2
St. Paul	1994	120.8	46.6	0.0	167.4	0.0	13.8	1.4	15.2	37.9	100.8	0.3	139.0	139.0
Unalaska	1994	31.1	6.2	37.9	75.2	8.0	2.5	69.1	79.5	7.7	6.9	64.2	78.8	78.8
<b>District 4E</b>														
Chefornek	Est		40.0		40.0						40.0		40.0	40.0
Gambell	**													
Mekoryak	Est		40.0		40.0						40.0		40.0	40.0
Newtok	Est		40.0		40.0						40.0		40.0	40.0
Nightmute	Est		40.0		40.0						40.0		40.0	40.0
Savoonga	**													
Toksook Bay	Est		40.0		40.0						40.0		40.0	40.0
Tununak	1986		124.3		124.3						124.3		124.3	124.3
Wales	**													

Survey	Harvests by Alaska Native Households				Harvests by Non-Native Households				Total Harvests by All Households				
	Year	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined	Removed from Commercial Gear	Other Non-Commercial Gear	Rod and Reel Gear	All Gear Types Combined
Aleknagik	**												
Clark's Point	**												
Dillingham	1984				0.0								
Egegik	1984			2.9	2.9							2.9	2.9
King Salmon	**												
Kipnuk	**												
Kongiganak	**												
Levelock	1989		4.9		4.9							4.9	4.9
Manokotak	**												
Naknek	**												
Nome	**												
Pilot Point	1987	3.5		0.1	4.6					3.5		0.1	4.6
Port Heiden	1987	1.9			1.9					1.9			1.9
South Naknek	1992	1.1	0.3		1.4					1.1	0.3		1.4
Alakanuk	**												
Bethel	**												
Brevig Mission	**												
Chevak	**												
Eek	**												
Elim	**												
Emmonak	**												
Golovin	**												
Goodnews Bay	**												
Hooper Bay	**												
Kotlik	**												
Koyuk	**												
Kwigillingok	**												
Napakiak	**												
Napaskiak	**												
Oscarville	**												
Platinum	**												
Quinhagak	**												
Scammon Bay	**												
Shaktoolik	**												
Sheldon Point	**												
St. Michael	**												
Stebbins	**												
Teller	**												
Togiak	**												
Tuntutuliak	**												
Twin Hills	**												
Ugashik	1987				0.0								0.0
Unalakleet	**												
White Mountain	**												

\*\* Halibut harvests undocumented. Note: Round Weight (Not Eviscerated, Head On) = Usable Wt (Eviscerated, Head Off)/.7519

State regulations recognize subsistence, personal use, commercial, and sport uses of halibut. They classify all halibut harvested with a rod-and-reel as a sport harvest. Persons harvesting halibut with a rod-and-reel are required to obtain an Alaska sport fishing license. However, most halibut fishers in rural Alaska communities do not recognize their activities to be recreational in nature, but as subsistence or personal use, regardless of the gear type used to obtain it. The extent to which, 1) rural fishers actually obtain sport fishing licenses to harvest halibut with rod and reels, or 2) subsistence patterns are constrained by two fish per day sport bag limit, have not been assessed. The rural halibut harvest with rod and reel is supposed to be counted through a statewide annual mailed survey to holders of sport fishing licenses by the ADF&G Division of Sport Fish. Whether this survey adequately counts the rural take has been subject to debate in recent years, as discussed further below.

Halibut harvested with hand-held lines with no more than two hooks attached is classified as a subsistence or personal use harvest in State regulations, if the halibut is taken by state residents in waters open for subsistence fishing. A resident is not required to obtain a fishing license or permit to subsistence halibut fish.



As stated above, longlines are also set for noncommercial halibut in many rural communities, but are not legal gear under State regulations. There is currently no system for counting this harvest on an annual basis or to identify the numbers and locations of subsistence halibut fishers in Alaska. The harvest of halibut with these gear types has been estimated only for certain communities and years by the Division of Subsistence household surveys (Figure 3.1). State regulations also recognize a “personal use” harvest of halibut by residents. The personal use designation has shifted over the past decade, from halibut fishing with hand-held lines by residents of non-rural areas (circa 1982), to halibut fishing by state residents in non-

subsistence areas (circa 1990), to halibut fishing in areas without customary and traditional use determinations for halibut (currently). Personal use fishers are required to obtain a sport fishing license.

Halibut retained from a commercial catch for home use is allowed under State subsistence regulations. Halibut appear to be taken in a number of commercial fishing contexts, such as commercial salmon, black cod, rockfish, king and Tanner crab, and halibut fishing. The amount of halibut retained for home use during the commercial halibut fishing is likely to have changed with the new IFQ system. The harvest of halibut retained from commercial gear for home use has been estimated only for certain rural communities and years by the Division of Subsistence household surveys (Table 3.6). Current IFQ and CDQ regulations require ‘take home’ fish to be counted against IFQs and CDQs; however Federal regulations exempt Area 4E CDQ fishermen who are allowed to retain undersized halibut while CDQ fishing. In June 1997, the Council approved an action which allowed Area 4E CDQ fishermen to retain undersized halibut while commercial fishing. In 1998 and again in 2000, the IPHC approved the retention of halibut less than legal size for the CDQ fisheries in Area 4E, for a two-year period and requires the manager of any CDQ organization that authorizes halibut harvest in Area 4E to provide accounting of the number and weight of undersized halibut taken and retained in these fisheries. The report must also include details of the methodology used for collection of such data. In 1998 and 1999, the reported undersized halibut catch was 3,590 lb and 7,900 lb (net weight) (Appendix 4).

In 1993, the IPHC was unsuccessful in obtaining estimates of retained takes during the commercial halibut fishery through log books (Trumble et al. 1993). For 1992, 1993, and 1994, the method for estimating the size of the noncommercial halibut harvest has been debated by staff of the IPHC and ADF&G (cf. Hoag 1993, Trumble et al. 1993, Wolfe 1992). In 1992, extrapolating from ADF&G information sources, IPHC staff estimated the “subsistence” halibut catch in Alaska at 2.95 million lb, of which 1.95 million lb were fish not counted by the sport fish harvest surveys. After discussions with ADF&G staff at the 1992 annual meeting, IPHC staff agreed the estimate of the uncounted catch was too high, and subsequently used an estimate of 1.0 million lb, a figure that ADF&G argued was still three times too high (IPHC 1995:25-26). ADF&G estimated the annual rural halibut harvest by gear type to be as follows: 278,000 lb retained from commercial gear; 74,000 lb from other noncommercial gear; and between 1.5-2.0 million lb from rod and reel. In 1993, using a different extrapolation method, IPHC staff estimated an uncounted annual noncommercial halibut harvest of 800,000 lb for fishers in Alaska waters, of which 600,000 lb were taken by rural residents, while ADF&G staff offered an estimate of 350,000 lb (Trumble et al. 1993). The disagreements in estimates result from confusion over the basic characteristic of the rural fishery and ambiguity in what available data sets portray. The estimate of the rural take must be made by compositing information from the mailed survey of sport anglers and intermittent rural household interviews and extrapolating the data to unsurveyed years and communities. An analysis of the expansion methodology pointed out a number of untested assumptions (Wolfe 1992).

One untested assumption is that halibut harvests of rural fishers using hook and line are covered by the mailed survey of sport anglers conducted by the Division of Sport Fish, ADF&G (cf. Mills 1992, Wolfe 1992). This annual questionnaire and reminders are mailed to a random sample of persons who purchased Alaska sport fishing licenses the previous year. The mailed questionnaire asks information on the number of anglers, trips, days fished, and catch by location for all sport species. Information is expanded to the total estimated number of sport fishing license holders to arrive at total Alaska harvest estimates. The mailed harvest survey provides a reliable estimate for rural communities if two conditions are met: halibut anglers in rural areas obtain fishing licenses, and halibut anglers in rural areas respond to mailed surveys at the same rates as halibut anglers in urban areas. Each of these conditions are untested. It is possible that many halibut anglers in rural Alaska areas do not obtain sport fishing licenses, because they do not consider their harvest activities to be sport fishing. Fishers who do not obtain licenses will be missed as part of the sampling universe, will not be surveyed, and will not be expanded to in statistical analysis. It is also probable that fishers from small rural communities do not respond to mailed surveys at the same rates as urban anglers. This may be particularly true of Alaska Native fishers who have less cultural experience with complex mailed surveys. The poorer response rate is likely to introduce a bias in the extrapolated harvest, as fishing patterns by urban anglers differ considerably from those of small rural communities.

A second set of assumptions pertain to extrapolating from the harvest data set collected from household interviews conducted by the ADF&G Division of Subsistence. One problem with this data set is the age of the data for particular areas. In particular, the last household interviews in rural southeast Alaska communities, a major area for halibut fishing, were conducted in 1987. Extrapolating old harvests to current fishing conditions is only valid if there have been no major changes in the fisheries. This assumption has not been examined by repeat interviews. A second problem is that some of the older interviews did not consistently ask about harvests from all gear types. For instance, in the 1987 southeast Alaska interviews, fishers were asked about retaining halibut from commercial harvests and about fishing with rod and reel, but were not asked about harvests with long line hooks set outside the commercial fishing season. Because of this missing information, the percentage of take by gear type used to extrapolate the harvest is suspect (that is a report of 0 lb reported as subsistence halibut removals is obviously not valid). Some rural communities have never been surveyed, such as the Yup'ik communities of the Nelson and Nunivak islands area in western Alaska. A third problem is how to expand from surveyed to unsurveyed communities. The IPHC expansion of rural harvests to certain unsurveyed areas (such as the road-connected Southcentral area) resulted in overestimates of the noncommercial takes. Communities should be grouped into strata by catch characteristics

and expansion should be done for each stratum separately to reduce this expansion bias. However, the basis for these groupings has not been established.

The removals of Pacific halibut from the population that are accounted for in the stock assessment include commercial and sport catch, bycatch, wastage and personal use. With the implementation of the IFQ fishery, the take-home fish or the amount recorded as “retained weight” is now accounted for as part of a person’s IFQ. Personal use fish will only include the non-commercial and non-sport halibut, from a variety of sources for which little documented data are available. Sources include sanctioned Indian food fish in Canada, sublegal halibut retained in Area 4E under IPHC regulations, rod and reel catch not documented in the sport catch, illegally-set commercial gear, and illegally-retained bycatch in other fisheries. Since 1995, all take-home fish from the commercial halibut fisheries have been included in the commercial catch and not under personal use.

A methodology for estimating subsistence catches in Alaska was developed in 1998 by Trumble (1999), based on information gathered by household interviews and postal surveys conducted by ADF&G and reported in the Council’s 1997 EA/RIR/IRFA for defining halibut subsistence (Table 3.6). The interview and surveys results were adjusted to account for some amount of overlap in the reporting of sport fishery catches and for areas where no data were collected.

As noted earlier, current data do not allow separation of subsistence, personal use, and sport landings, as these categories are not defined. Of the categories in Table 3.6, “removed from commercial gear” is already counted under IFQ/CDQ landings. “Other non-commercial landings” clearly belong in the personal use category. As a place holder value for Area 2C where no estimate exists, IPHC used the lowest other values, from Area 3B, of 20,209 pounds for Native households and 4,023 pounds for non-native households. Rod and reel landings are only legal gear for halibut sportfishing. NPFMC (1997) presented two estimates of rod and reel catch by urban Alaskans. An estimate from household interviews totaled 1.5 million, while one from the sport fish postal survey totaled 2.0 million pounds. The postal survey is considered the best available information for the estimate of total sport harvest, but the results likely become less precise as the sample size decreases. For this report, the household survey interview was used as the best estimate of urban rod and reel halibut catch.

### 3.5 Biological Concerns

The IPHC is tasked with the management of Pacific halibut related to biological or conservation issues. In this regard, the IPHC has found personal use halibut harvests troublesome since these harvests are not monitored. It is apparent from the lack of reported subsistence landings from Area 2C, that current reporting does not accurately reflect current levels of halibut subsistence removals. Some harvests taken on sportfishing gear by Alaska Natives in rural communities have been traditionally sold and some harvests to feed families in rural, coastal Alaska Native villages by tribal members are counted as sport harvests. All halibut takes are reported as either commercial or sport harvests. Since “take home” harvests from commercial gear are required to be counted against IFQs and all other non-commercial harvests are limited to the sportfish bag limit and gear restrictions, the confounding of subsistence statistics is not surprising. IPHC and ADF&G are currently consulting on an improved determination of “personal use” removals. However, since all harvests are accounted for, although misreported, it has not been considered a threat to the biological resource. This conclusion is only valid at the present high level of abundance. When the resource declines, the subsistence proportion will rise accordingly and the impact of the underreporting increases significantly. Current estimates of halibut subsistence removals are estimated at less than a few percent of total removals and are discussed further in Section 3. Improved estimates of halibut removals for personal use/sportfish/subsistence should result from the proposed Council action. However, note that the best estimate of halibut subsistence removals is approximately 1% of the halibut biomass (1 -2 million lb).

#### 3.5.1 Marine Habitat

This EA/RIR includes the analysis in Section 4.3.4.1 of the SEIS (NMFS 1998) regarding the effects of commercial groundfish fishing on substrate and benthic habitat by reference, since no information is available on impacts of the halibut subsistence fishery. *Of note, however, subsistence harvests are only about 1 percent of total removals and may be assumed to have trivial effect on marine habitat relative to other removals.* A discussion of commercial fishery impacts on the marine habitat would apply to the extent that the commercial groundfish fisheries and halibut subsistence fisheries use the same gear types (longlines, hand lines, jigs).

All the marine waters and benthic substrates in the management areas comprise the habitat of groundfish and halibut species. Convention waters constitute all waters in which halibut occur, therefore the adjacent marine waters outside the groundfish EEZ, adjacent State waters, shoreline, freshwater inflows, and atmosphere above the waters, constitutes habitat for prey species, other life stages, and species that move in and out of, or interact with, the groundfish species are included therein. Distinctive aspects of the habitat include water depth, substrate composition, substrate infauna, light penetration, water chemistry (salinity, temperature, nutrients, sediment load, color, etc.), currents, tidal action, phytoplankton and zooplankton production, associated species, natural disturbance regimes, and the seasonal variability of each aspect. Substrate types include bedrock, cobbles, sand, shale, mud, silt, and various combinations of organic material and invertebrates which may be termed biological substrate. Biological substrates present in these management areas include corals, tunicates, mussel beds, tube worms. Biological substrate has the aspect of ecological state (from pioneer to climax) in addition to the organic and inorganic components. Ecological state is heavily dependant on natural and anthropogenic disturbance regimes. The BSAI and GOA groundfish FMPs (NPFMC 1995, 1994a) contain some descriptions of habitat preferences of the target groundfish species and projects are underway to systematically present biological requirements for each life history stage that are known (NMFS-Council in progress). Much remains to be learned about habitat requirements for most of the target groundfish species.

The marine habitat may be further altered by changes in the amount and flow of energy with the removal of fish and the return of discard in fisheries. The recipients, locations and forms of discards may differ from those in an unfished system. For the eastern Bering Sea total catch biomass including non groundfish removals) as a percentage of total system biomass (excluding dead organic material known as detritus) was estimated to be 1% of the total system biomass (Hilborn and Walters 1992). From an ecosystem perspective, total commercial fishing removals are a small proportion of the total system energy budget and are small relative to internal sources of interannual variability in production (NMFS 2000). Energy flow paths do not seem to be redirected by discards and offal. Before improved retention requirements for P. cod and pollock were in place it was estimated that the total offal and discard production was 1% of the estimated unused detritus going to the ocean bottom (Queirolo et al. 1995). Combined evidence regarding the level of discards relative to natural sources of detritus and no evidence of changes in scavenger populations that are related to discard trends suggest that the present groundfish fishery management regime has insignificant ecosystem impacts through energy removal and redirection. (NMFS 2000).

Auster and Langton (1999) reviewed the indirect effects of commercial fishing on EFH. Studies that they reviewed showed immediate effects of commercial fishing on species composition and diversity and a reduction of habitat complexity. Short-term effects were a good indicator of long term effects, and recovery was variable depending on habitat type, life histories of component species, and the natural disturbance regime. They also wrote that data are lacking on the spatial extent of commercial fishing-induced disturbance, the effects of specific gear types along a gradient of commercial fishing effort, and the linkages between habitat characteristics and the population dynamics of fishes. Trawling on sea floor habitat and benthic communities in the GOA generally disturb sea floor habitats by displacing boulders, removing epifauna, decreasing the density of sponges and anthozoans, and damaging echinoderms. However, the effect of this disturbance on fish and other living marine resources is not known.

There are no known significant interactions between the halibut subsistence fishery and marine habitat since there will be no significant changes in fishing practices as a result of any of the alternatives.

### 3.5.2 Marine Mammals

Marine mammals not listed under the ESA that may be present in Convention waters include cetaceans, [minke whale (*Balaenoptera acutorostrata*), killer whale (*Orcinus orca*), Dall's porpoise (*Phocoenoides dalli*), harbor porpoise (*Phocoena phocoena*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), and the beaked whales (e.g., *Berardius bairdii* and *Mesoplodon spp.*)] as well as pinnipeds [northern fur seals (*Callorhinus ursinus*), and Pacific harbor seals (*Phoca vitulina*)] and the sea otter (*Enhydra lutris*). None of the alternatives is expected to have an impact on direct incidental takings of marine mammal species since there will be no significant changes in fishing practices. For further information see Section 3.4 and 4.3.2 of the SEIS (NMFS, 1998), and the following discussion.

### 3.5.3 Endangered or Threatened Species

The Endangered Species Act of 1973 as amended (16 U.S.C. § 1531 *et seq*), provides for the conservation of endangered and threatened species of fish, wildlife, and plants. The program is administered jointly by the NMFS for most marine mammal species, marine and anadromous fish species, and marine plants species, and by the USFWS for bird species, and terrestrial and freshwater wildlife and plant species.

The designation of an ESA listed species is based on the biological health of that species. The status determination is either threatened or endangered. Threatened species are those likely to become endangered in the foreseeable future [16 U.S.C. § 1532(20)]. Endangered species are those in danger of becoming extinct throughout all or a significant portion of their range [16 U.S.C. § 1532(20)]. Species can be listed as endangered without first being listed as threatened. The Secretary of Commerce, acting through NMFS, is authorized to list marine fish, plants, and mammals (except for walrus and sea otter) and anadromous fish species. The Secretary of the Interior, acting through the USFWS, is authorized to list walrus and sea otter, seabirds, terrestrial plants and wildlife, and freshwater fish and plant species.

In addition to listing species under the ESA, the critical habitat of a newly listed species is designated concurrent with its listing to the “maximum extent prudent and determinable” [16 U.S.C. § 1533(b)(1)(A)]. The ESA defines critical habitat as those specific areas that are essential to the conservation of a listed species and that may be in need of special consideration. Federal agencies are prohibited from undertaking actions that destroy or adversely modify designated critical habitat. Some species, primarily the cetaceans, which were listed in 1969 under the Endangered Species Conservation Act and carried forward as endangered under the ESA, have not received critical habitat designations.

Federal agencies have an affirmative mandate to conserve listed species. Federal actions, activities or authorizations (hereafter referred to as Federal action) must be in compliance with the provisions of the ESA. Section 7 of the ESA provides a mechanism for consultation by the Federal action agency with the appropriate expert agency (NMFS or USFWS). Informal consultations, resulting in letters of concurrence, are conducted for Federal actions that may affect, but are not expected to adversely affect, listed species or critical habitat. Formal consultations, resulting in biological opinions, are conducted for Federal actions that may have an adverse affect on the listed species. Through the biological opinion, a determination is made as to whether the proposed action is likely to jeopardize the continued existence of a listed species (jeopardy) or destroy or adversely modify critical habitat (adverse modification). If the determination is that the action proposed (or ongoing) will cause jeopardy, reasonable and prudent alternatives may be suggested which, if implemented, would modify the action to avoid the likelihood of jeopardy to the species or destruction or adverse modification of designated critical habitat. A biological opinion with the conclusion of no jeopardy may contain conservation recommendations intended to further reduce the negative impacts to the listed species. These conservation recommendations are advisory to the action agency [50 CFR. 402.25(j)]. If a



likelihood exists of any taking<sup>1</sup> occurring during promulgation of the action, an incidental take statement may be appended to a biological opinion to provide for the amount of take that is expected to occur from normal promulgation of the action.

Twenty-three species which occur in the action area are currently listed as endangered or threatened under the ESA. The group includes great whales, pinnipeds, Pacific salmon and steelhead, and seabirds. Of the species listed under the ESA and present in the action area, some may be negatively affected by groundfish commercial fishing. NMFS is the expert agency for ESA listed marine mammals and anadromous fish species. The USFWS is the expert agency for ESA listed seabirds. The fisheries as a whole must be in compliance with the ESA.

Section 7 consultations with respect to actions of the federal groundfish fisheries have been done for all the species listed below, either individually or in groups. See Section 3.8 of the SEIS (NMFS 1998), for summaries of Section 7 consultations done prior to December 1998. An FMP-level biological opinion was prepared pursuant to Section 7 of the ESA on all NMFS listed species present in the fishery management areas for the entire groundfish fisheries program. The opinion was issued November 30, 2000 (NMFS 2000). The Steller sea lion was the only species to be determined to be in jeopardy or risk of adverse modification of its habitat based upon the FMPs. Consultations prepared subsequent to the SEIS (NMFS 1998) are summarized below.

#### Steller sea lions and other ESA listed marine mammals.

There are no known interactions between halibut subsistence fishing and Steller sea lions.

#### ESA Listed Pacific Salmon

There are no known interactions between halibut subsistence fishing and Pacific salmon.

#### Short-tailed Albatross

Interactions could occur between halibut subsistence longline fishing and seabirds. The USFWS listed the short-tailed albatross as an endangered species under the ESA throughout its United States range (65 FR 46644, July 31, 2000). The only new information on seabirds since publication of the groundfish SEIS (NMFS 1998) concerns the taking of short-tailed albatross and subsequent Section 7 consultations on that species. It is summarized below:

On October 22, 1998, NMFS reported the incidental take of two endangered short-tailed albatrosses in the hook-and-line groundfish fishery of the BSAI. Under terms of the 1999 biological opinion, incidental take statement, a take of up to 4 birds is allowed during the 2-year period of 1999 and 2000 for the BSAI and GOA hook-and-line groundfish fisheries (USFWS 1999b). If the anticipated level of incidental take is exceeded, NMFS must reinitiate formal consultation with the USFWS to review the need for possible modification of the reasonable and prudent measures established to minimize the impacts of the incidental take.

NMFS Regional Office, NMFS Groundfish Observer Program, and the USFWS Offices of Ecological Services and Migratory Bird Management are actively coordinating efforts in response to the 1998 take incidents and are complying to the fullest extent with ESA requirements to protect this species. Regulations at 50 CFR § 679.24(e) and 679.42(b)(2) contain specifics regarding seabird avoidance measures. In February 1999, NMFS presented an analysis on seabird mitigation measures to the Council that investigated possible revisions to the currently required seabird avoidance methods that could be employed by the long-line fleet to further reduce the take of seabirds.

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<sup>1</sup> The term "take" under the ESA means "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct" [16 U.S.C. § 1538(a)(1)(B)].

The Council took final action at its April 1999 meeting to revise the existing requirements for seabird avoidance measures. The Council's preferred alternative would: 1) explicitly specify that weights must be added to the groundline (Currently, the requirement is that baited hooks must sink as soon as they enter the water. It is assumed that fishermen are weighting the groundlines to achieve this performance standard.); 2) the offal discharge regulation would be amended by requiring that prior to any offal discharge, embedded hooks must be removed; 3) streamer lines, towed buoy bags and float devices could both qualify as bird scaring lines (Specific instructions are provided for proper placement and deployment of bird scaring lines.); 4) towed boards and sticks would no longer qualify as seabird avoidance measures; 5) the use of bird scaring lines would be required in conjunction to using a lining tube; and 6) night-setting would continue to be an option and would not require the concurrent use of a bird scaring line.

These revised seabird avoidance measures are expected to be effective in 2003. The avoidance measures affect the method of harvest in the hook-and-line fisheries, but are not intended to affect the amount of harvest.

A Biological Opinion on the BSAI hook-and-line groundfish fishery and the BSAI trawl groundfish fishery for the ESA listed short-tailed albatross was issued March 19, 1999, by the USFWS for the years 1999 through 2000 (USFWS 1999b). The conclusion continued a no jeopardy determination and the incidental take statement expressing the requirement to immediately reinstate consultations if incidental takes exceed four short-tailed albatross over two years' time. Consultations on short-tailed albatross was not re-initiated for the year 2000 TAC specifications because the March 19, 1999, biological opinion extended through the end of calendar year 2000. In September 2000, NMFS requested re-initiation of consultation for all listed species under the jurisdiction of the USFWS, including the short-tailed albatross, spectacled eider and Steller's eider for the GOA FMP and 2001-2004 TAC specifications. Based upon NMFS' review of the fishery action and the consultation material provided to USFWS, NMFS concluded that the GOA groundfish fisheries are not likely to adversely affect either the spectacled eider or the Steller's eider or destroy or adversely modify the critical habitat that has been proposed for each of these species.

There are no known significant interactions between the halibut subsistence fisheries and endangered species since there will be no significant changes in fishing practices as a result of any of the alternatives.

### ESA Listed Species

Common Name	Scientific Name	ESA Status
Northern Right Whale	<i>Balaena glacialis</i>	Endangered
Bowhead Whale <sup>1</sup>	<i>Balaena mysticetus</i>	Endangered
Sei Whale	<i>Balaenoptera borealis</i>	Endangered
Blue Whale	<i>Balaenoptera musculus</i>	Endangered
Fin Whale	<i>Balaenoptera physalus</i>	Endangered
Humpback Whale	<i>Megaptera novaeangliae</i>	Endangered
Sperm Whale	<i>Physeter macrocephalus</i>	Endangered
Snake River Sockeye Salmon	<i>Onchorynchus nerka</i>	Endangered
Short-tailed Albatross	<i>Phoebastria albatrus</i>	Endangered
Steller Sea Lion	<i>Eumetopias jubatus</i>	Endangered and Threatened <sup>2</sup>
Snake River Fall Chinook Salmon	<i>Onchorynchus tshawytscha</i>	Threatened
Snake River Spring/Summer Chinook Salmon	<i>Onchorynchus tshawytscha</i>	Threatened
Puget Sound Chinook Salmon	<i>Onchorynchus tshawytscha</i>	Threatened
Lower Columbia River Chinook Salmon	<i>Onchorynchus tshawytscha</i>	Threatened
Upper Willamette River Chinook Salmon	<i>Onchorynchus tshawytscha</i>	Threatened
Upper Columbia River Spring Chinook Salmon	<i>Onchorynchus tshawytscha</i>	Endangered
Upper Columbia River Steelhead	<i>Onchorynchus mykiss</i>	Endangered
Snake River Basin Steelhead	<i>Onchorynchus mykiss</i>	Threatened
Lower Columbia River Steelhead	<i>Onchorynchus mykiss</i>	Threatened
Upper Willamette River Steelhead	<i>Onchorynchus mykiss</i>	Threatened
Middle Columbia River Steelhead	<i>Onchorynchus mykiss</i>	Threatened
Spectacled Eider	<i>Somateria fishcheri</i>	Threatened
Steller Eider	<i>Polysticta stelleri</i>	Threatened

<sup>1</sup> The bowhead whale is present in the Bering Sea area only.

<sup>2</sup> Steller sea lion are listed as endangered west of Cape Suckling and threatened east of Cape Suckling.

#### 3.5.4 Ecosystem Considerations

Ecosystem considerations for the BSAI and GOA groundfish fisheries are explained in detail in *Ecosystem Considerations for 2003* (NPFMC, 2002b). This document provides updated information on ecosystem status indicators and ecosystem-based management indices and information. These include topics such as biodiversity, essential fish habitats, consumptive and non-consumptive sustainable yields, and human considerations. This information is intended to be used in making ecosystem-based management decisions, such as establishing ABC and TAC levels.

Since the actual subsistence halibut harvests are unrecorded, estimates of groundfish bycatch are similarly unknown. The commercial and sport fisheries for halibut are used as proxies until data reporting protocols are developed for subsistence harvests. The following rates depict the background bycatch rates of these species using commercial longline gear. Groundfish bycatch associated with halibut longline gear could result in bycatch as much as 10-18% for rockfish in Area 2C, 27% for sablefish and 12% for Pacific cod bycatch in the GOA, and 15% for rockfish, 29% for sablefish, 14% for P. cod and 11% for Greenland turbot in the BSAI.

Among halibut fish tickets documenting harvest from state waters of Central Region, only 58% have reported having any bycatch. Except for sablefish, those tickets reporting bycatch provide a minimum estimate of actual bycatch. These indicate incidental catch rates of 3.3% for Pacific cod, 2.5% for rockfish (4.8% in PWS), 7.9% for sablefish, 3.6% for sharks, and <1% each for other species. Rockfish are the primary concern for bycatch to subsistence halibut longlining in Central Region. Although rockfish bycatch reporting improved in PWS with adoption of the full retention requirement (the harvest almost doubled), reporting remains incomplete and the above estimate is low. Lingcod bycatch is not reflected here because lingcod is closed to retention during most of the year. ADF&G-Commercial Fisheries Division staff have been observing anywhere from 10-20% bycatch in Area 3A, but likely this is underreported because so many boats are reporting thousands of pounds of halibut with no rockfish bycatch for the Central Gulf (Mo Lambdin,

ADF&G, pers. commun.). Prince William Sound is now under mandatory retention, but compliance is questionable.

No subsistence fishery for rockfish currently exists. The State manages recreational rockfish fisheries in state and federal waters. The BOF has established conservative regulations given the shortage of stock status information and lack of abundance-based fishery objectives. Special restrictions have been established in most waters to protect demersal shelf and slope species. The sport bag limit in Alaska Peninsula and Kodiak area waters is 10 rockfish per day, 20 in possession, regardless of species. In Cook Inlet and Gulf of Alaska waters west of Cape Puget, the bag limit is 5 rockfish per day, 10 in possession, no more than one of which per day or two in possession may be non-pelagic species (demersal shelf or slope assemblages). The bag limit in Prince William Sound during summer months (May 1 – September 15) is five rockfish per day, 10 in possession, no more than two of which per day and two in possession may be non-pelagic species. During the winter season the daily bag limit is ten rockfish, but the possession limit remains at ten and the non-pelagic allowance remains at two fish per day. Throughout Southeast Alaska, the bag limit for pelagic shelf rockfish (black, dusky, blue, widow, and yellowtail) is five fish per day, ten in possession. The general bag limit for non-pelagic species is five per day or ten in possession, except that no more than two per day or four in possession may be yelloweye rockfish. There are exceptions to the general non-pelagic limits: in Ketchikan and Sitka Sound area waters, the non-pelagic bag and possession limit is three fish, no more than one of which may be a yelloweye. There are no size limits for rockfish anywhere in the State.

Alaska Natives expressed a desire to retain all fish harvested while subsistence halibut fishing, including rockfish and sablefish. An upward bound for impacts on demersal shelf rockfish can be estimated using an assumption that all of the 1.3 million pounds of halibut for all non-commercial gear in Area 2C would be harvested using skate gear. Under this worst case scenario, a maximum of 234,000 lb of yelloweye rockfish could be harvested as bycatch (assuming a maximum of 18% bycatch; ranging between 10-18% for Area 2C).

The 27% sablefish bycatch rate used in the GOA commercial longline fishery may result in a maximum 350,000 lb of sablefish landed by subsistence skate gear, assuming that these rates are also applicable to the subsistence fishery which is likely to occur close to villages in nearshore waters. Pacific cod is also likely to be taken with subsistence skates, at a (commercial) rate of about 12%, resulting in maximum landings of about 156,000 lb.

There are no known significant interactions between the halibut subsistence fisheries and the ecosystem since there will be no significant changes in fishing practices as a result of any of the alternatives.

### 3.5.5 The Human Environment

The human environment is defined by CEQ (40 CFR 1508.14) as including the natural and physical environment and the relationship of people with that environment. This means that economic or social effects are not intended by themselves to require preparation of an EIS. However, when an EIS is prepared and economic or social and natural or physical environmental impacts are interrelated, the EIS must discuss all of these impacts on the quality of the human environment. The environmental effects of Alternative 1 were analyzed in the original analysis (NPFMC 2002a). They are summarized below. “Effects,” as defined under NEPA, include:

- Direct effects, which are caused by the action and occur at the same time and place.
- Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

The Council's choice for a preferred alternative for defining halibut subsistence in Alaska will result in a variety of effects on those who participate in halibut fisheries and to the communities that are involved in them. Of particular concern are the expected effects on the participation in the fisheries by residents of rural areas adjacent to subsistence fishing grounds.

Aspects of the fishery are depicted in Figures 3.2 - 3.9. A description of the social environment is provided in Appendix 6. It describes the dependence of fishermen and communities on the halibut fishery, with special attention given to the differing economies found in rural and urban communities. Participation and historical fishing practices by IPHC Regulatory Area are described. The people in Area 2C include approximately 13,300 members of the Haida, Tlingit, and Tshimshian Alaska Native Tribes and approximately 19,400 other rural residents. Approximately 4,600 members of the Chugach Eskimo and Koniag Eskimo Alaska Natives Tribes and 15,200 other rural residents live in Area 3A. The villages active in the fishery in Area 3B have predominantly Alaska Native populations; however the population is a blend of Scandinavian, Scots, Aleut and Eskimo groups. Approximately 2,300 people live in Area 3B, 50% are Native and 50% are non-Native. Area 4 primarily is comprised of (23,000) members of the Aleut, Yu'pik, Kuskokwim, and Tununak Alaska Native Tribes; 11,000 other rural residents also live in Area 4.

Figure 3.2

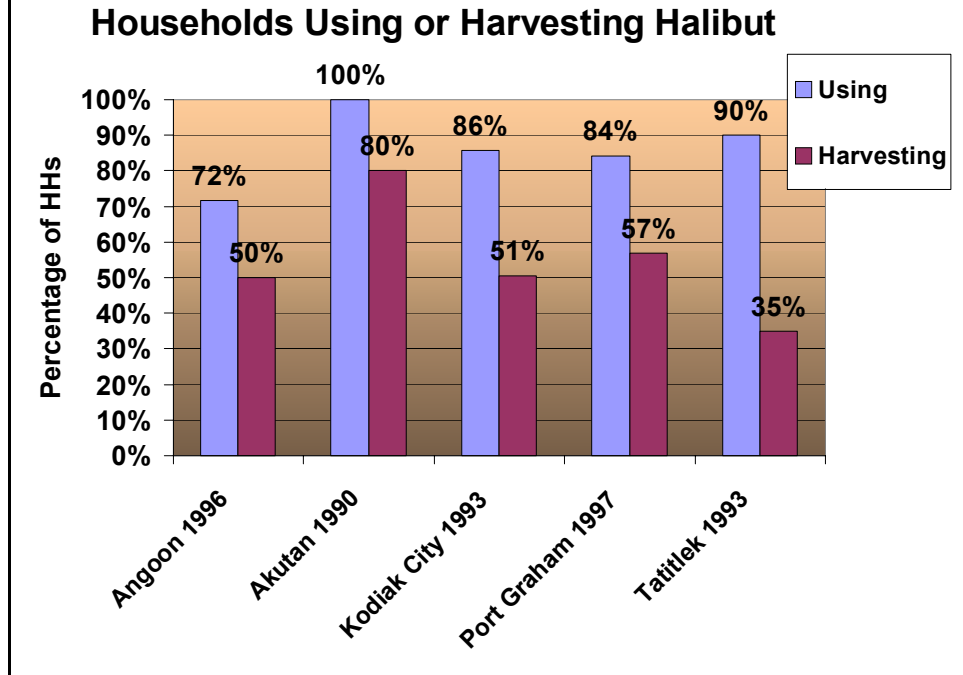
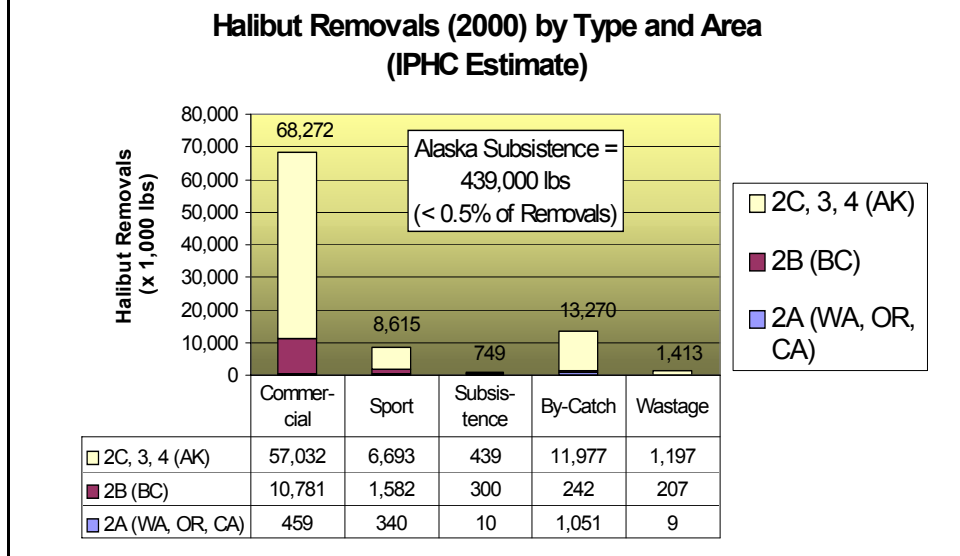


Figure 3.3



Halibut is one of the top subsistence food species in Alaska. It ranks among the top ten wild food species in most coastal communities harvesting halibut. Halibut is distributed among households through sharing, barter, and non-commercial customary trade. Alaska subsistence harvest was 439,000 lb in 2000 according to IPHC estimates. Subsistence was 0.47% of total halibut removals in 2000. The subsistence harvest probably ranges

between 400,000 - 1,000,000 lb annually. How one counts fish by gear type affects the estimate: long line subsistence harvests; rod-and-reel subsistence harvests; or retention from commercial catches. The largest noncommercial halibut harvest is in Southeast (775,000 lb), followed by PWS-LCI-Kodiak and Aleutians (250,000 lb each). Bering Sea and Alaska Peninsula are under 100,000 lb each.

About half the noncommercial halibut harvest is caught in four communities (Sitka, Kodiak City, Unalaska, and Petersburg). The other half is caught in the 110 other communities.

More than 70% of a community's harvest is harvested by about 30% of households. The high harvesters commonly distribute halibut to other households. Total volume is self-limited by the size of the local

Figure 3.4

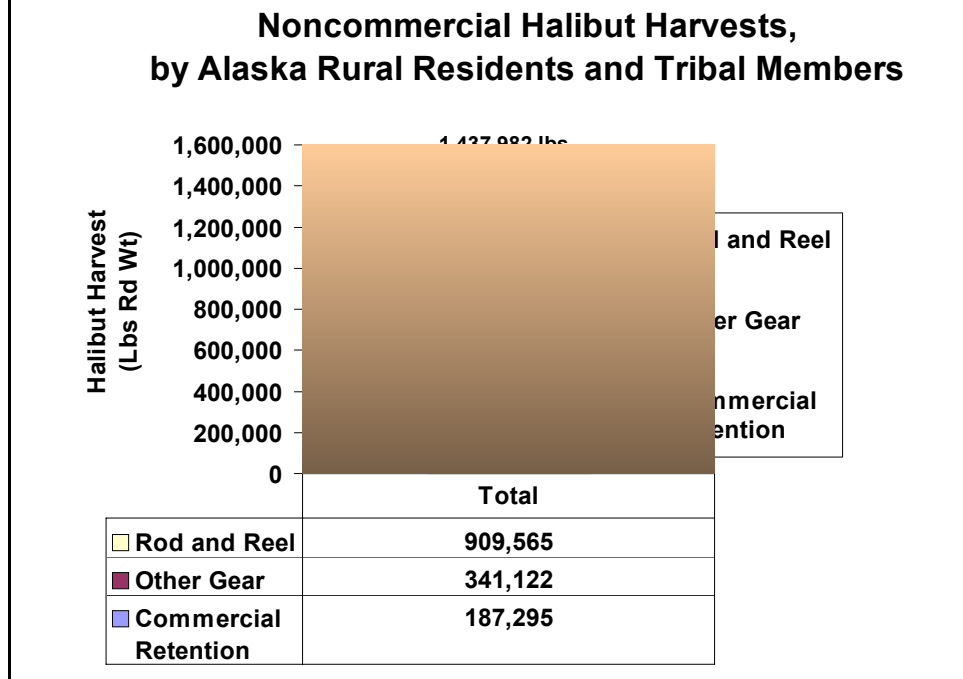
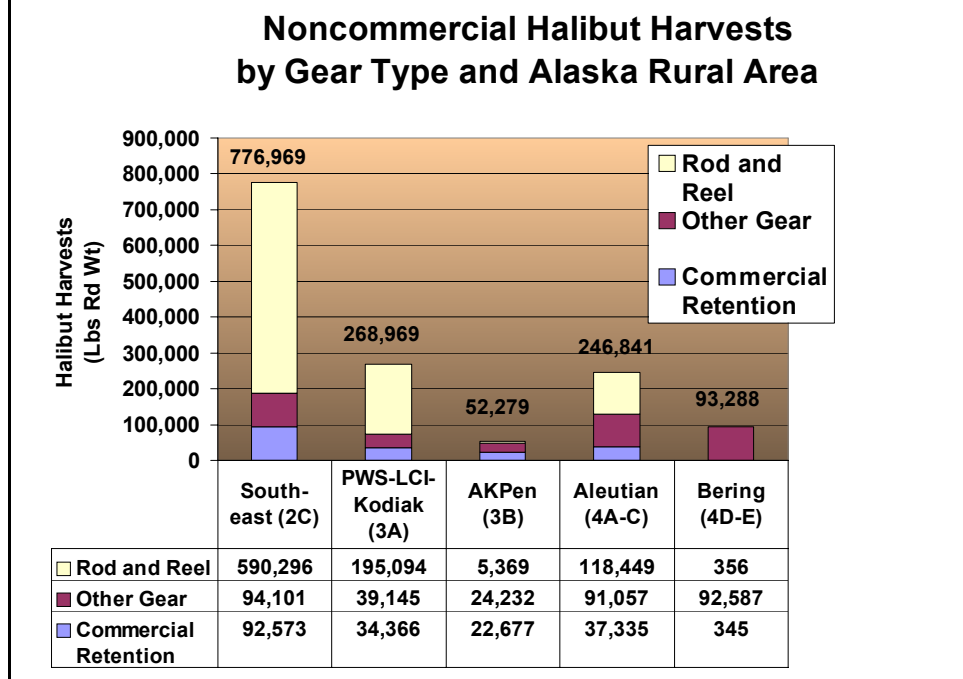


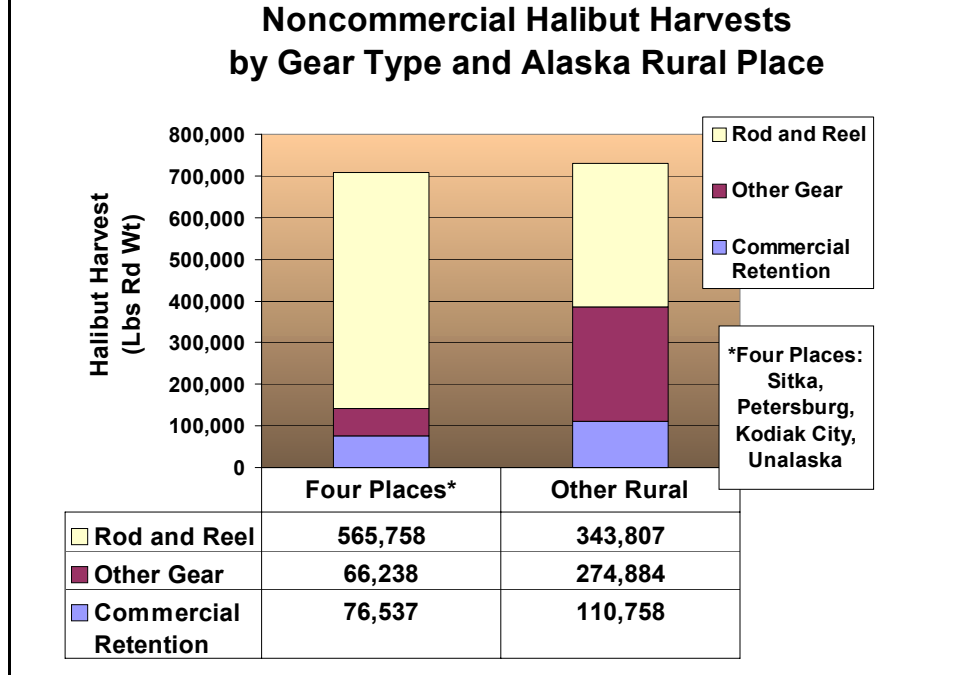
Figure 3.5



consumption group (the local community).

A general background on the commercial halibut fisheries for 1995-2000 in IPHC Area 2C and 3A is provided in Section 3, respectively, of this EA/RIR. In summary, charter halibut harvests averaged 7 percent of total halibut removals and declined from 1998 in Area 2C and about 9 percent in Area 3A in 1999. The predominant removals were from the commercial fishery, with 81 percent and 77 percent in Areas 2C and 3A, respectively. Non-guided harvests were 7 percent and 5 percent in those areas.

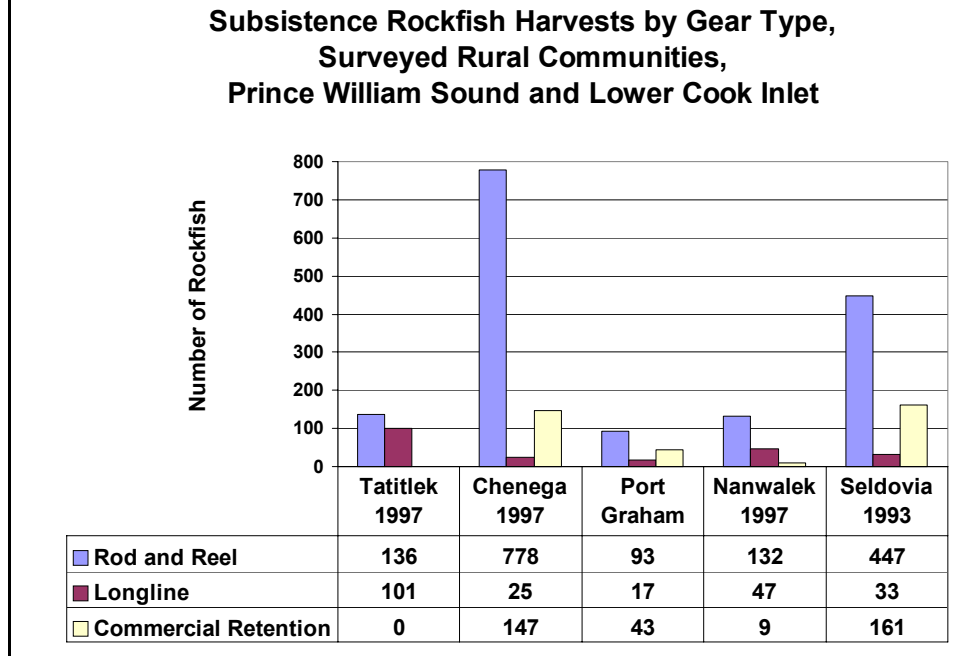
Figure 3.6



Rockfish are another fish variety harvested for food in rural communities. Most rockfish are harvested with rod and reel, with additional harvests by longline. The amount of rockfish harvested during halibut fishing might be tracked through harvest assessment surveys.

“Use areas” for halibut fishing have been mapped for many coastal communities. Subsistence fishing areas tend to be near and accessible to the home community. Tribes have traditional use areas, to which tribal members may return to fish. Use areas fall within the current halibut regulatory areas, which are large and general.

Figure 3.7



### 3.6 Environmental Impacts of the Alternatives

The environmental impacts generally associated with fishery management actions are effects resulting from (1) harvest of fish stocks which may result in changes in food availability to predators and scavengers, changes in the population structure of target fish stocks, and changes in the marine ecosystem community structure; (2) changes in the physical and biological structure of the marine environment as a result of commercial fishing practices, e.g., effects of gear use and fish processing discards; and (3) entanglement/entrapment of non-target organisms in active or inactive commercial fishing gear.

The IPHC considers the halibut resource to be a single population. Egg and larval drift and subsequent counter migration by young halibut cause significant mixing within the halibut population. The IPHC sets halibut harvest in regulatory areas in proportion to abundance. This harvest philosophy protects against over harvest of what may be separate, but unknown, genetic populations, and spreads commercial fishing effort over the entire range to prevent regional depletion. Small scale local depletion does not have a significant biological effect for the resource as a whole. Ultimately, counter migration and local movement tend to fill in areas with low halibut density, although continued high exploitation will maintain local depletion. However, estimates of biomass and rates of local movement are not available to manage small areas.

The 2001 Pacific Halibut Fishery Regulations regulate the halibut fishery (66 FR 15801). The IPHC is responsible for managing halibut bycatch and accounts for halibut bycatch in determining the halibut GHs. This proposed action does not affect halibut bycatch. The halibut population assessment is prepared annually by the International Pacific Halibut Commission (IPHC 2001) and is incorporated here by reference. Total setline CEY (constant exploitation yield at a harvest rate of 20%) is still estimated to be very high, at just under 100 million pounds, which indicates the halibut resource is very robust.



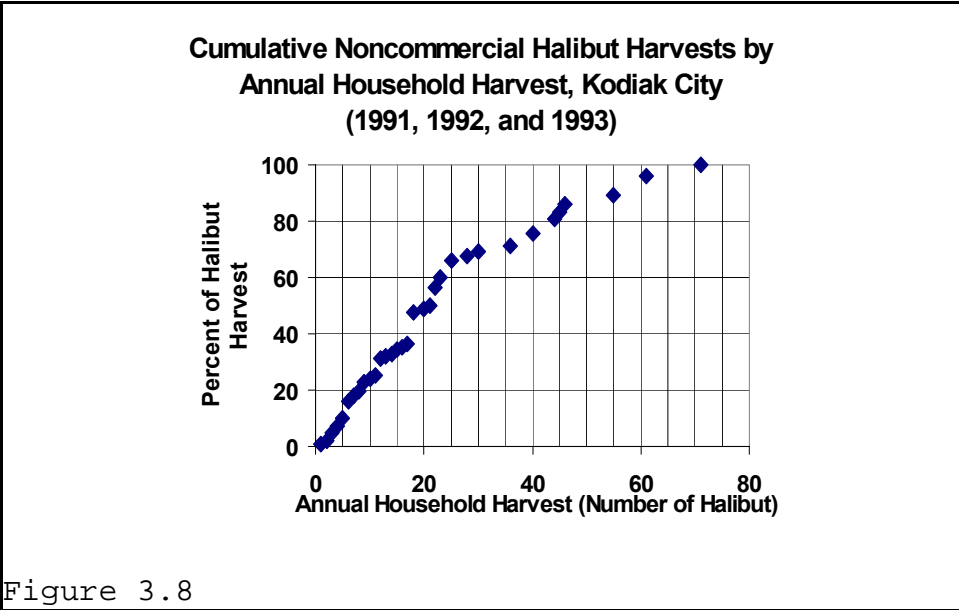
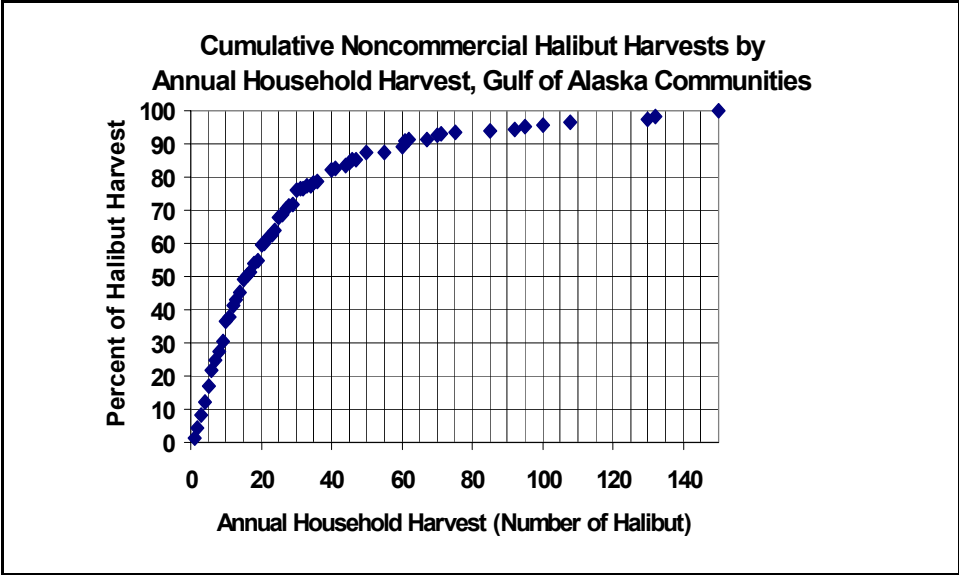
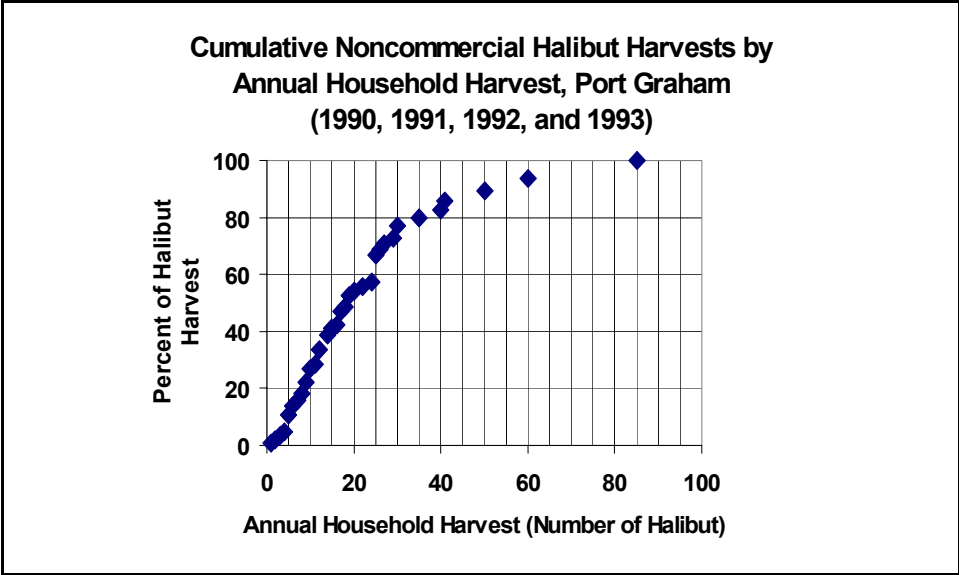


Figure 3.8

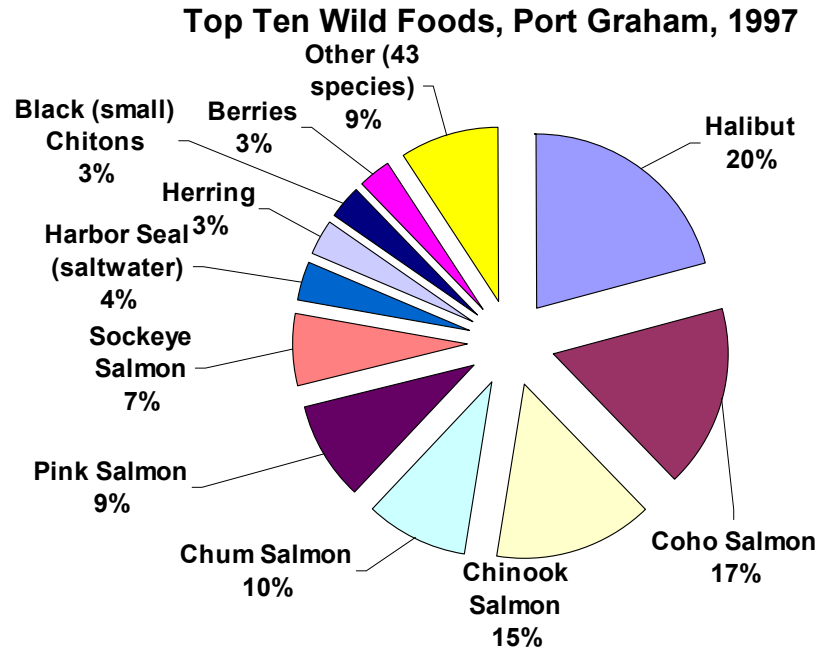
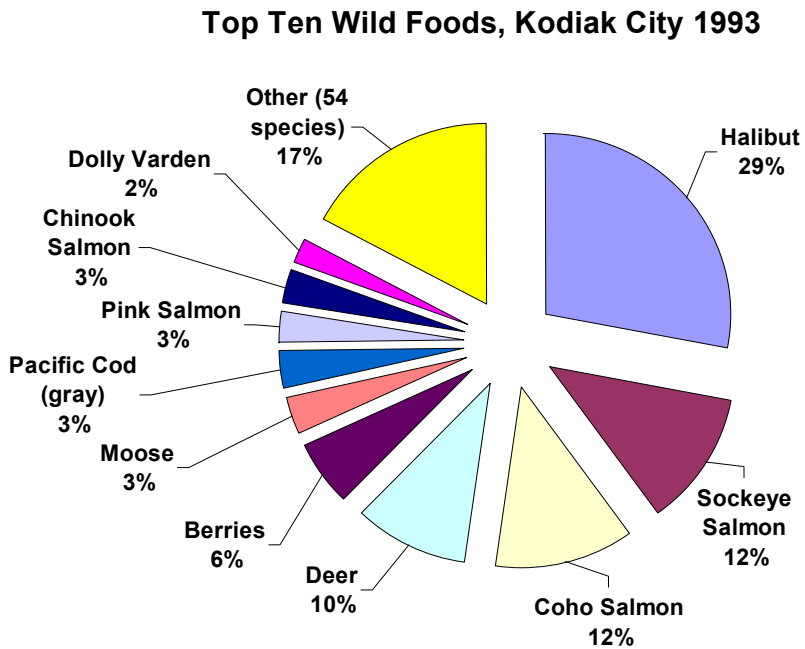
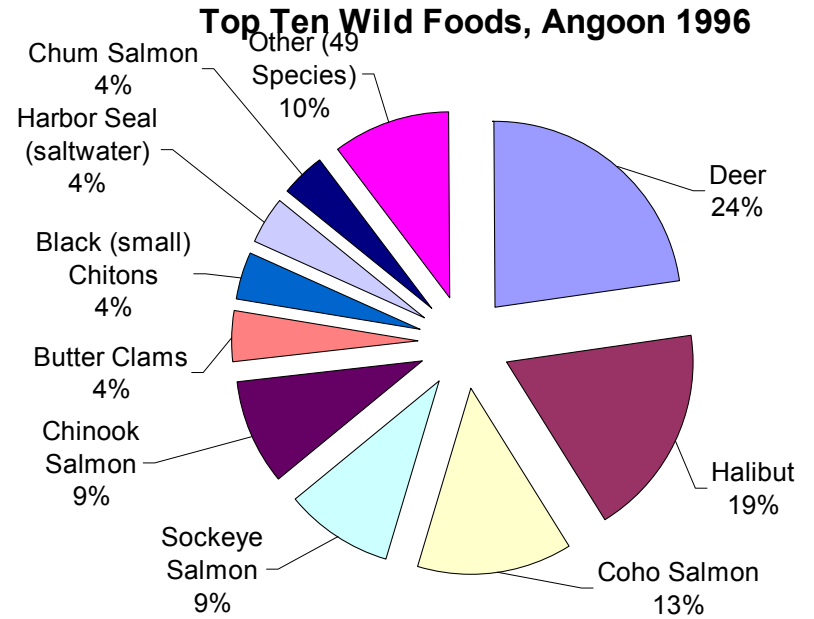
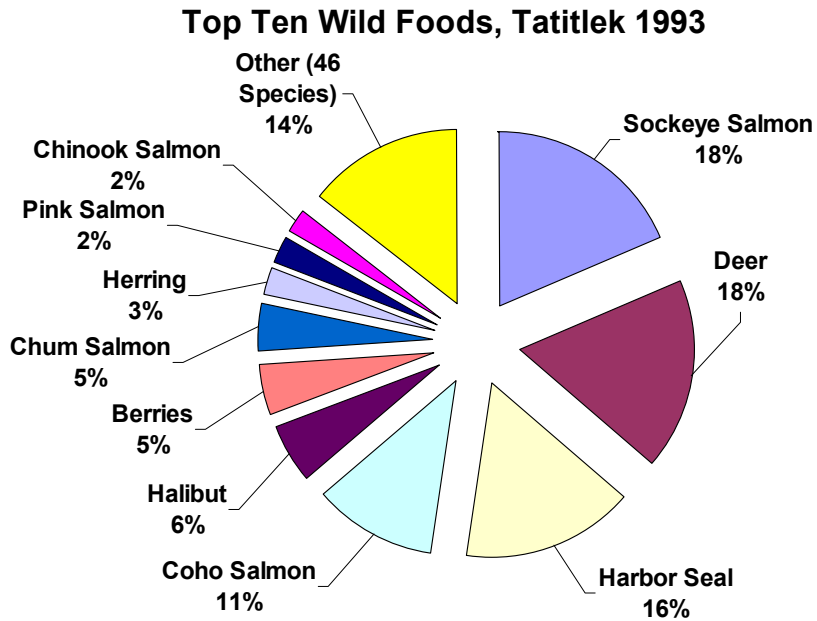


Figure 3.9

### 3.6.1 Direct and indirect effects of the alternatives

The *direct effect* of the preferred alternative is to define a halibut subsistence fishery that legalizes the customary and traditional practices of approximately 88,000 Alaska Native and non-Natives in certain rural communities and urban areas. No significant effect is expected since this rule would legalize the existing practice of harvesting halibut for subsistence purposes and the total amount estimated to be harvested is less than one percent of the exploitable biomass. This is a negligible amount in terms of the halibut resource, but an important component of the diet of many of the eligible users.

*Indirect effects* that may result from the preferred alternative are potential negative impacts on the status of rockfish and ling cod stocks that may be harvested along with halibut. These fish will be consumed by the harvesters, are part of the customary and traditional subsistence diets of many eligible users so will not be wasted. In fact, the subsistence harvest of rockfish and ling cod may be no more than would occur outside of the halibut subsistence fishery since these fish are consumed for subsistence purposes.

The principal species of concern are the demersal rockfish that are likely to be taken on longline gear in the halibut subsistence fishery. These include yelloweye *Sebastes ruberrimus*, quillback *S. maliger*, and redbanded *S. babcocki* rockfishes in Sitka Sound. Additional slope rockfish species may be coincidentally caught in deeper waters outside the Sound, principally shorttraker *S. borealis* and rougheye *S. aleutianus* (T. O'Connell, pers. commun). In Area 3A, the principal species of concern are yelloweye, quillback, and dusky *S. ciliatus* rockfishes (C. Trowbridge, pers. commun.).

The analysis concludes the indirect effects of Action 1, Alternatives 2 and 3 are speculative. Recordkeeping and reporting requirements will document all fish landed in the halibut subsistence fishery under proposed federal regulations. This data may be used to assess the potential impacts of these harvests on rockfish and ling cod populations in the future.

A second indirect effect is the potential for expanded halibut harvests in the future because the eligibility criteria may include participants who do not have the same customary and traditional practices as described in the analysis as the basis of the preferred alternative. There has been some speculation that some non-Native participants in rural areas using up to the maximum amount of allowable gear may target up to the maximum number of halibut each day and harvest halibut and other groundfish while targeting halibut in excess of their needs. Again, recordkeeping and reporting requirements would document these harvests and allow managers to consider necessary amendments to the proposed regulations to address management concerns.

### 3.6.2 Cumulative effects of the alternatives

Cumulative impacts are those combined effects on the quality of the human environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what Federal or non-Federal agency or person undertakes such other actions (40 CFR 1508.7, 1508.25(a), and 1508.25(c)). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The concept behind cumulative effects analysis is to capture the total effects of many actions over time that would be missed by evaluating each action individually.

To avoid the piecemeal assessment of environmental impacts, cumulative effects were included in the 1978 Council on Environmental Quality (CEQ) regulations, which led to the development of the CEQs cumulative effects handbook (CEQ 1997) and federal agency guidelines based on that handbook (e.g., EPA 1999). Although predictions of direct effects of individual proposed actions tend to be more certain, cumulative effects may have more important consequences over the long term. The possibility of these “hidden” consequences presents a risk to decision makers, because the ultimate ramifications of an individual decision

might not be obvious. The goal of identifying potential cumulative effects is to provide for informed decisions that consider the total effects (direct, indirect, and cumulative) of alternative management actions.

The advantages of this approach are that it (1) closely follows CEQ guidance, (2) employs an orderly and explicit procedure, and (3) provides the reader with the information necessary to make an informed and independent judgment concerning the validity of the conclusions.

*Cumulatively significant impacts* are not possible to determine because there is a paucity of biological, social, or economic data on the halibut subsistence fishery. The preferred alternative is not expected to effect the diminutive levels of halibut removals from this fishery since total halibut subsistence halibut removals are less than one percent of the total halibut biomass and exploitable halibut biomass. As a result, there is expected to be no significant impact of the proposed action on the human environment since the halibut subsistence fishery is diminutive.

**Checklist for initial identification of marine fisheries management ISSUES to analyze in an EA or EIS**

<i>Potential Issues</i>	<i>Alternative 1.</i>	<i>Alternative 2.</i>	<i>Alternative 3.</i>
<b>Biological Effects</b>			
Bycatch of Halibut PSC limit	No Effect	No Effect	No Effect
Incidental Catch - invertebrates	No Effect	No Effect	No Effect
Incidental Catch - target species	No Effect	No Effect	No Effect
Biological Diversity	No Effect	No Effect	No Effect
Trophic Guild Effects	No Effect	No Effect	No Effect
Marine benthic habitat disturbance by fishing gear	No Effect	No Effect	No Effect
Water quality parameter change - biological oxygen demand - turbidity - toxins	No Effect	No Effect	No Effect
“may affect determination” of Essential Fish Habitat	No Effect	No Effect	No Effect
“may adversely affect” Endangered Species Act (ESA) listed salmon	No Effect	No Effect	No Effect
“may adversely affect” ESA listed great whales	No Effect	No Effect	No Effect
“may adversely affect” ESA listed Steller sea lion	No Effect	No Effect	No Effect
“may adversely affect” short-tailed albatross	No Effect	No Effect	No Effect
direct effect on northern fur seal	No Effect	No Effect	No Effect
indirect effect on northern fur seal	No Effect	No Effect	No Effect
direct effect on harbor seal	No Effect	No Effect	No Effect
indirect effect on harbor seal	No Effect	No Effect	No Effect
indirect effect on seabirds	No Effect	No Effect	No Effect
direct or indirect effect on beluga whale	No Effect	No Effect	No Effect

<i>Potential Issues</i>	<i>Alternative 1.</i>	<i>Alternative 2.</i>	<i>Alternative 3.</i>
direct effect on seabirds	No Effect	No Effect	No Effect
rate of physical loss of fishing gear	No Effect	No Effect	No Effect
introduction of non-indigenous or exotic species	No Effect	No Effect	No Effect
disease (introduction, spread)	No Effect	No Effect	No Effect
cumulative effects - of the fishery over time - of other fisheries - from other human activities	No Effect	No Effect	No Effect
<b>Socio-Economic</b>			
Safety, loss of human life	No Effect	No Effect	No Effect
Enforcement - Under-reporting violation rate	No Effect	Unknown	No Effect
Enforcement - Fishing in closed area	No Effect	No Effect	No Effect
Coastal Community (\$\$, jobs)	No Effect	No Effect	Unknown
Management requirements (FTEs, complexity)	No Effect	No Effect	No Effect
Fleet Composition	No Effect	No Effect	Unknown
Management Challenge - complexity - staff level required to maintain - technological requirements	No Effect	No Effect	No Effect
Fleet Size (change in numbers of vessels)	No Effect	No Effect	Unknown
Energy consumption (by fleet)	No Effect	No Effect	No Effect

No known significant direct, indirect, or cumulative environmental impacts have been identified as a result of any of the proposed alternatives to manage the halibut subsistence fishery since total halibut subsistence halibut removals are both very small and unlimited. As a result, no adverse impacts to the halibut resource or the human environment are expected. A summary checklist of impacts is presented above.

### 3.6.3 Conclusions

One of the purposes of an EA is to provide the evidence and analysis necessary to decide whether an agency must prepare an environmental impact statement (EIS). A Finding of No Significant Impact (FONSI) is the decision maker's determination that the proposed action will not result in significant impacts to the human environment and therefore further analysis in an EIS is not needed. Council on Environmental Quality regulations define significance in terms of context and intensity (40 CFR 1508.27). An action must be evaluated at different spatial scales and settings to determine the context of the action. Intensity is evaluated with respect to the nature of impacts and the resources or environmental components affected by the action. NOAA Administrative Order (NAO) 216-6 provides guidance on NEPA specific to line agencies within NOAA. It further specifies the definition of significance in the fishery management context by listing factors that should be used to test the significance of fishery management actions (NAO 216-6 § 6.01 and 6.02). These factors form the basis of the analysis presented in Section 3.0 of this EA/RIR, Affected Environment and Environmental Impacts of the Alternatives. The results of that analysis are summarized here for each factor.

*Context:* The setting of the action is the subsistence halibut fisheries of Convention waters. Any effects of the proposed action are limited to these areas. The effect on society within these areas is isolated to the direct participants in the halibut subsistence fisheries. There are no major changes to subsistence fishing practices, as the intent of the action is to legalize existing subsistence fishing practices without expanding them. The principal consequence of the preferred alternative is to define and limit halibut subsistence fisheries in Alaska.

*Intensity:* A listing of considerations to determine intensity of the Effects are in 40 CFR § 1508.27 (b) and NAO 216-6 § 6.01 and 6.02. Each consideration is addressed below in order as it appears in the regulations and guidance.

1. **Beneficial and adverse impacts are required to be considered in this action, including sustainability of target and nontarget species, damage to ocean or coastal habitat or essential fish habitat, effects on biodiversity and ecosystems, and marine mammals.** Details of the potential biological effects are in section 3.5. The preferred alternative would define and limit halibut subsistence fishing in Alaska. The principal beneficial aspect of the preferred alternative is to recognize a legitimate historical and cultural fishery for halibut taken by rural Alaska residents dependent on that resource to feed their families. There are no beneficial impacts associated with the status quo alternative, and the negative impact associated with it is the continued conflict between the halibut fishing regulations and customary and traditional fishing practices. Bycatch of rockfish and lingcod is not expected to increase with the action over current levels of bycatch but additional information regarding bycatch in the subsistence fisheries will be collected with the preferred alternative.

2. No **public health and safety** impacts were identified in any of the proposed alternatives.

3. This action takes place where there are **cultural resources and ecologically critical areas in geographic areas** of Convention waters. No effects on the unique characteristics of these waters are anticipated to occur with any alternative considered with this action.

4. The effects of this action on the human environment are not **controversial** in the sense that they do not adversely affect the biology of the halibut biomass; however, the preferred alternative is potentially socially and economically controversial. The Constitution of the State of Alaska does not permit the determination of subsistence privileges based on Tribal or rural residence, both of which are allowed under Federal law. In fact, the Federal government has a responsibility for managing for the subsistence needs of Tribes. State of Alaska legislators made numerous requests to defer this decision while it addressed the conflict between the State Constitution and Federal responsibilities for managing subsistence fish and game. The Council deferred action in 1998 and 1999, while the State of Alaska Legislature considered amending the State Constitution to comply with Federal law related to management of fish and game on Federal lands. When the Legislature did not take such action by an October 1999 Congressional deadline, NMFS recommended that the Council reschedule final action.

5. There are no known **risks to the human environment, including social and economic effects** from implementing a halibut subsistence program. Because the preferred action recognizes existing practice, it is anticipated that there will be minimal or no risk to the human environment by taking this action.

6. The preferred action defined a halibut subsistence program that will be used to develop regulations. Since that action, the Council initiated an analysis of a **future action**. The future action is to analyze possible changes to gear limits, bag limits, fishing areas, and recordkeeping and reporting requirements. The proposed changes were recommended by the Alaska Board of Fisheries, at the request of the Council.

7. **Cumulatively significant impacts, including those on target and nontarget species** are not expected with this action. The preferred action legally defines eligibility and fishing practices for harvesting halibut

for subsistence uses. No Federal regulations are currently in place for subsistence purposes. That use is currently included within sport and personal use regulations in Federal regulations. No direct or indirect effects were identified for the action, therefore, no cumulatively significant impacts are anticipated with the action, as detailed in section 3.6.2, or future actions which have been recommended to limit the socioeconomic interactions between the subsistence and other sectors (i.e., commercial and sport sectors).

8. There are no known effects on **districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places**, nor cause loss or destruction of significant scientific, cultural, or historical resources. This consideration is not applicable to this action.

9. NEPA required NMFS to determine the degree an action may affect **threatened or endangered species or on designated critical habitat** under the ESA. Details of potential effects are in section 3.5.3. There are no known interactions between implementation of a halibut subsistence program and Steller sea lions, or any other listed marine mammal, fish, or seabird.

10. This action poses no known violation of **Federal, State, or local laws or requirements for the protection of the environment**. See section 4.0 for details.

11. None of the alternatives will result in the introduction or spread of a **non-indigenous species**.

No known significant environmental impacts have been identified as a result of the preferred alternative to manage the halibut subsistence fishery since total halibut subsistence halibut removals are both very small and limited. As a result, no adverse impacts to the halibut resource or the human environment are expected.

#### 3.6.4 Coastal Zone Management Act

Implementation of the preferred alternative would be conducted in a manner consistent, to the maximum extent practicable, with the Alaska Coastal Management Program within the meaning of Section 30(c)(1) of the Coastal Zone Management Act of 1972 and its implementing regulations.

### 4.0 CONSISTENCY WITH OTHER APPLICABLE LAWS

#### 4.1 Halibut Act Requirements

The North Pacific Halibut Act of 1982 governs the promulgation of regulations for managing the halibut fisheries, in both State and Federal waters. The language in the Halibut Act regarding the authorities of the Secretary of Commerce and the Regional Fishery Management Councils is excerpted below:

*The Regional Fishery Management Council having authority for the geographic area concerned may develop regulations governing the U.S. portion of Convention waters, including limited access regulations, applicable to nationals or vessels of the U.S., or both, which are in addition to, and not in conflict with regulations adopted by the Commission. Such regulations shall only be implemented with the approval of the Secretary, shall not discriminate between residents of different States, and shall be consistent with the limited entry criteria set forth in Section 303(b)(6) of the Magnuson Act. If it becomes necessary to allocate or assign halibut fishing privileges among various U.S. fishermen, such allocation shall be fair and equitable to all such fishermen, based upon the rights and obligations in existing Federal law, reasonably calculated to promote conservation, and carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of the halibut fishing privileges...*

From the language in the Halibut Act, it is clear that while the jurisdictional authority for limited access and other allocational measures resides within the provisions of the Halibut Act, consideration of those types of measures is subject to many of the same criteria described under the Magnuson-Stevens Act. In particular, the 303(b)(6) provisions of the Magnuson-Stevens Act and the language from National Standard 4 are directly referenced.

The current analysis addresses subsistence use by residents of Alaska who are Alaska Natives or live in rural communities. Because not all Alaskans may be considered as eligible for subsistence privileges (versus all non-Alaskans) the proposed alternatives comply with National Standard 4.

## 4.2 Regulatory Flexibility Act

### 4.2.1 Introduction

The Council is proposing a revision to Federal regulations to define subsistence for Pacific halibut for eligible Alaska Natives or eligible residents of Alaska rural communities. Such an action recognizes the cultural significance of subsistence fishing for people of those communities. These practices and the Alaska Native tribal members and other rural residents for which the action is proposed are described in detail in Sections 3 and Appendix 6. The Council is proposing a range of options for defining eligibility, gear, customary and traditional trade, bag limits, and cooperative agreements between the tribes or communities to collect necessary data for accounting of the subsistence harvests for an accurate and complete stock assessment of the species.

The Regulatory Flexibility Act (RFA) requires analysis of impacts to small entities (e.g., businesses, non-profit organizations, government jurisdictions) which may result from regulations being proposed. On the basis of an initial analysis, a decision must be made either to “certify” no significant adverse impacts on a substantial number of small entities will result from the proposed action, or an Initial Regulatory Flexibility Analysis (IRFA) must be prepared.

The RFA specifies that an IRFA will contain the following:

- A description of the reasons why action by the agency is being considered;
- A succinct statement of the objectives of, and the legal basis for, the proposed rule;
- A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply (including a profile of the industry divided into industry segments, if appropriate);
- A description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
- An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap or conflict with the proposed rule;
- A description of any significant alternatives to the proposed rule that would minimize any significant economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives, such as:
  1. The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;



2. The clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
3. The use of performance rather than design standards;
4. An exemption from coverage of the rule, or any part thereof, for such small entities.

#### 4.2.2 Statement of Problem

The Halibut Subsistence EA/RIR addresses the development of fishery regulations to define the legal harvest of halibut for subsistence use in Convention waters. First, subsistence halibut harvests are currently included within the personal use, or sportfish, regulations, largely because the pattern of subsistence use has not been adequately documented. Sportfish regulations do not reflect the customary and traditional use of halibut in rural communities. Federal fishery regulations for Alaska limit all non-commercial halibut harvests to two fish per person per day, caught on a single line with a maximum of two hooks or a spear, from February 1 through December 31. Increased enforcement of commercial halibut IFQ and CDQ regulations has led to increased awareness of the conflict between halibut regulations and customary and traditional subsistence practices of Alaska Natives in coastal communities.

Subsistence harvests may not be adequately accounted in the International Pacific Halibut Commission calculations of total halibut removals. Cooperative agreements would enhance data collection of subsistence harvests. Despite the lack of complete subsistence harvests, all such harvests are estimated to account for less than one percent of total halibut removals.

#### 4.2.3 Objective Statement of Proposed Action and its Legal Basis

The objective of the proposed action is to define subsistence for Pacific halibut for eligible Alaska Natives or residents of eligible rural communities for the purpose of recognizing the spiritual and cultural significance of these customary and traditional practices to members of those communities. The Halibut Act along with the Magnuson-Stevens Act grants the Council authority to oversee allocations of the halibut fishery in Convention waters. Accurate accounting and the setting of total removals of halibut is under the authority of the International Pacific Halibut Commission.

#### 4.2.4 Description of each Action (non-mutually exclusive alternatives)

The complete list of specific alternatives is contained in Section 1 of this document. The principal decisions in the Council's preferred alternative are:

1. Define subsistence.
2. Define eligibility for halibut subsistence:
3. Define legal gear.
4. Allow the customary and traditional trade of subsistence halibut.
5. Define a daily bag limit.
6. Develop cooperative agreements with tribal, State, and Federal governments to collect, monitor, and enforce subsistence harvests and develop local area halibut subsistence use plans in coastal communities.

#### 4.2.5 What is a Small Entity?

The RFA recognizes and defines three kinds of small entities: (1) small businesses, (2) small non-profit organizations, and (3) and small government jurisdictions.

Small businesses. Section 601(3) of the RFA defines a ‘small business’ as having the same meaning as ‘small business concern’ which is defined under Section 3 of the Small Business Act. ‘Small business’ or ‘small business concern’ includes any firm that is independently owned and operated and not dominant in its field of operation. The SBA has further defined a “small business concern” as one “organized for profit, with a place of business located in the United States, and which operates primarily within the United States or which makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials or labor...A small business concern may be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, except that where the form is a joint venture there can be no more than 49 percent participation by foreign business entities in the joint venture.”

The SBA has established size criteria for all major industry sectors in the US including fish harvesting and fish processing businesses. A business involved in fish harvesting is a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates) and if it has combined annual receipts not in excess of \$ 3 million for all its affiliated operations worldwide. A seafood processor is a small business if it is independently owned and operated, not dominant in its field of operation, and employs 500 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide. A business involved in both the harvesting and processing of seafood products is a small business if it meets the \$3 million criterion for fish harvesting operations. Finally, a wholesale business servicing the fishing industry is a small businesses if it employs 100 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide.

The SBA has established “principles of affiliation” to determine whether a business concern is “independently owned and operated.” In general, business concerns are affiliates of each other when one concern controls or has the power to control the other, or a third party controls or has the power to control both. The SBA considers factors such as ownership, management, previous relationships with or ties to another concern, and contractual relationships, in determining whether affiliation exists. Individuals or firms that have identical or substantially identical business or economic interests, such as family members, persons with common investments, or firms that are economically dependent through contractual or other relationships, are treated as one party with such interests aggregated when measuring the size of the concern in question. The SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic and foreign affiliates, regardless of whether the affiliates are organized for profit, in determining the concern’s size. However, business concerns owned and controlled by Indian tribes, Alaska Regional or Village Corporations organized pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. §1601), Native Hawaiian Organizations, or Community Development Corporations authorized by 42 U.S.C. §9805 are not considered affiliates of such entities, or with other concerns owned by these entities solely because of their common ownership.

Affiliation may be based on stock ownership when (1) A person is an affiliate of a concern if the person owns or controls, or has the power to control 50% or more of its voting stock, or a block of stock which affords control because it is large compared to other outstanding blocks of stock, or (2) If two or more persons each owns, controls or has the power to control less than 50% of the voting stock of a concern, with minority holdings that are equal or approximately equal in size, but the aggregate of these minority holdings is large as compared with any other stock holding, each such person is presumed to be an affiliate of the concern.

Affiliation may be based on common management or joint venture arrangements. Affiliation arises where one or more officers, directors or general partners controls the board of directors and/or the management of

another concern. Parties to a joint venture also may be affiliates. A contractor and subcontractor are treated as joint venturers if the ostensible subcontractor will perform primary and vital requirements of a contract or if the prime contractor is unusually reliant upon the ostensible subcontractor. All requirements of the contract are considered in reviewing such relationship, including contract management, technical responsibilities, and the percentage of subcontracted work.

Small organizations. The RFA defines “small organizations” as any nonprofit enterprise that is independently owned and operated and is not dominant in its field.

Small governmental jurisdictions. The RFA defines small governmental jurisdictions as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of less than 50,000.

#### 4.2.6 Small entities affected by the Proposed Action(s)

There are no small entities directly regulated by the proposed action.

#### 4.2.7 Conclusion

There are no “small entities” as defined by the Regulatory Flexibility Act, directly regulated by the proposed action and therefore the Act does not apply. The proposed action bears on the non-commercial activities of individuals exclusively.

### 5.0 CONCLUSIONS

The preferred alternative would codify a subsistence halibut fishery that exists in practice and has been in existence for a long time. None of the proposed actions are expected to effect the amount of halibut removed from the resource for subsistence use. None of the alternatives is expected to result in a “significant impact” under E.O. 12866 since neither action would have an annual effect on the economy of \$100 million or more, create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in this Executive Order. The affected entities in this analysis are not considered “small entities” under the Regulatory Flexibility Act.

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## APPENDIX 1. Federally Reserved Submerged Lands and Waters (ANILCA)\*

Certain public lands that were withdrawn for Federal purposes before Alaska's statehood contain Federally reserved submerged lands and waters, including some that are deemed navigable. These areas include:

Area	Species	Determination
KOTZEBUE-NORTHERN AREA - Northern District	All fish	Residents of the Northern District, except for those domiciled in State of Alaska Unit 26-B.
KUSKOKWIM AREA	Halibut	Residents of Chevak, Newtok, Tununak, Toksook Bay, Nightmute, Cheformak, Kipnuk, and Mekoryuk.
ALEUTIAN ISLANDS AREA  Aleutian Islands Area and the waters surrounding the Pribilof Islands.	Halibut	Residents of the Aleutian Islands Area and the Pribilof Islands.

**Wales area:** all of the submerged land and water of the Seward Peninsula lying west of Longitude 168°00'00" West, including the peninsula dividing the waters of the Bering Sea and Lopp Lagoon, together with the adjacent waters of the Bering Sea extending 3,000 feet from the shore line;

**Little Diomed Island:** all of the submerged land and water of Little Diomed Island together with the adjacent waters of the Bering Sea extending 3,000 feet from the shore line;

**Fish River (at White Mountain):** all of the submerged land and water within the SW 1/4 SW1/4 of Section 23, SW1/4 SW1/4 of Section 25, and Section 26 of Township 9 South, Range 24 West, Kateel River Meridian;

**Unalakleet River:** the submerged land and water from the mouth easterly up the river for one mile;

**Nunivak Island:** all of the submerged land and water of Nunivak Island together with the adjacent waters of the Bering Sea extending 10 miles from the shore line;

**Aleutian Islands:** all of the submerged land and water located on the Aleutian Islands west of False Pass, excluding Akutan, central and northern Amaknak, Sanak, Sedanka, Tigalda, Umnak, and Unalaska Islands;

**Kiska Island:** all submerged lands and waters of the Pacific Ocean and Bering Sea lying within 3 miles of the shoreline;

**Unalaska Island:** all submerged lands and waters of the Pacific Ocean and Bering Sea lying within 3 miles of the shoreline;

**Akun Island:** all of the submerged land and water of Akun Island together with the adjacent waters of the Pacific Ocean and Bering Sea extending 3,000 feet from the shore line;

**Simeonof Island:** all of the submerged land and water of Simeonof Island together with the adjacent waters of the Pacific Ocean extending 1 mile from the shore line;

**Semidi Islands:** all of the submerged land and water of the Semidi Islands together with the adjacent waters of the Pacific Ocean lying between parallels 55°57'00" - 56°15'00" North Latitude and 156°30'00" - 157°00'00" West Longitude;

**Kodiak National Wildlife Refuge:** all of the submerged land and water on Kodiak Island within the refuge boundary;

**Karluk River area:** all of the submerged land and water of the Pacific Ocean (Shelikof Strait) extending 3,000 feet from the shoreline between a point on the spit at the meander corner common to Sections 35 and 36 of Township 30 South, Range 33 West, and a point approximately 1 1/4 miles east of Rocky Point within Section 14 of Township 29 South, Range 31 West, Seward Meridian.

**Womens Bay, Gibson Cove, portions of St. Paul Harbor and Chiniak Bay:** all of the submerged land and water encompassed within U.S. Survey 2539;

**Afognak Island:** all submerged lands and waters of the Pacific Ocean lying within 3 miles of the shoreline;

**Kenai National Wildlife Refuge:** all of the submerged land and water within the former Kenai National Moose Range boundary;

**Passage Canal:** the waters of Passage Canal west of Decision Point;

**Glacier Bay National Monument:** the waters and submerged lands of Excursion Inlet, Icy Passage, North Passage, North Indian Pass and Cross Sound together with the adjacent waters of the Pacific Ocean extending three nautical miles from the shoreline as described in Presidential Proclamation No. 2330 dated 4/18/1929;

**Makhnati Island:** all of the submerged land and water of Makhnati Island together with the adjacent waters of Whale Bay and Small Arm extending 1 mile from the shore line;

**Hydaburg area:** all of the submerged land and water within the former Hydaburg Reservation including Sukkwann Island together with the adjacent waters surrounding these uplands extending 3,000 feet from the shoreline as described in Secretarial Order dated 11/30/1949;

**Metlakatla area:** all of the submerged land and water within the Annette Island Fishery Reserve including Annette, Ham, Walker, Lewis, Spire, and Hemlock Islands together with the adjacent waters surrounding these uplands extending 3,000 feet from the shoreline as described in Presidential Proclamation No. 1332 dated 4/28/1916. *[Note: this area probably not subject to Federal Subsistence Management Program regulations.]*

\* This is a preliminary list of areas containing pre-Statehood withdrawals was compiled by the USFWS, Division of Realty in consultation with BLM, NPS, and USDA-FS.

## APPENDIX 2.

### Other alternatives considered and rejected

#### February 1997 Alternatives

Alternative 1. Status quo.

Alternative 2. Allow the harvest of halibut for subsistence.

OPTION 1. Define subsistence.

Halibut subsistence regulations are needed to allow the continued practice of long-term customary and traditional practices of fishing halibut for food for families in a non-commercial manner for non-economic consumption. Subsistence is defined as ‘non-commercial fishing for food.’

OPTION 2. Define eligibility for halibut subsistence:

Suboption A. Members of Alaska Native Federally-recognized Tribes with customary and traditional use of halibut. (Subsistence Committee definition)

Suboption B. Alaska rural residents as defined in ANILCA and identified in the table entitled ‘Alaska Rural Places and Native Groups with Subsistence Halibut Uses,’ and will also include other communities for which customary and traditional findings are developed in the future. (ANILCA definition)

Suboption C. Tribal members and non-Native permanent residents of Native villages who have legitimate subsistence needs. (Migratory Bird Treaty Act definition)

OPTION 3. Define legal gear.

Legal halibut subsistence gear is defined as (1) hook-and-line gear (including set and hand-held gear) with a range of 10 hooks, 30 hooks, and 60 hooks and (2) rod-and-reel gear. An individual would be limited to one skate of gear up to 1,800 ft long (not including the buoy line), with hooks set 18-20 ft apart, with a legibly marked buoy.

Suboption. Allow Tribal governments to contract with NMFS to register designated fishermen to fish for the community using:

- A. 1 - 3 skates of gear, up to 60 hooks each
- B. any gear type

OPTION 4. Define minimum size.

Suboption A. No minimum size be imposed for subsistence harvests of halibut.

Suboption B. Revise the commercial halibut minimum size regulations to allow the retention of halibut under 32 inches caught with authorized commercial halibut gear in Area 4E for subsistence use.

OPTION 5. Allow the customary and traditional trade of subsistence halibut.

Suboption A. Allow the customary and traditional trade of subsistence caught halibut.

Suboption B. Allow the barter of subsistence caught halibut, limited to an annual amount:

1. \$200
2. \$400
3. \$600

Allow low monetary, non-commercial sale of halibut to legalize current practice of compensating subsistence fishermen for fuel or other fishing expenses in exchange for fish. The analysis would define 'barter,' 'non-commercial,' 'low monetary value,' and 'customary trade' and analyze the enforcement and monitoring costs of allowing barter.

OPTION 6. Sale of subsistence halibut.

Suboption A. Allow the commercial sale of subsistence-caught halibut.

Suboption B. Prohibit the commercial sale of subsistence-caught halibut.

OPTION 7. Collect subsistence harvest estimates through cooperative agreements with Tribal, State, and Federal governments.

**April 1997 Halibut Subsistence Alternatives**

Alternative 1: No Action

Alternative 2: Allow the harvest of halibut for subsistence.

Option 1. Define subsistence.

Halibut subsistence regulations are needed to allow the continued practice of long-term customary and traditional practices of fishing halibut for food for families in a non-commercial manner for non-economic consumption. Subsistence is defined as 'long-term, customary and traditional use of halibut.'

Option 2. Define eligibility for halibut subsistence:

Suboption A. Members of Alaska Native Federally-recognized Tribes with customary and traditional use of halibut and other permanent rural residents in areas with subsistence halibut uses. (based on original Halibut Subsistence Committee recommendation)

Suboption B. Alaska rural residents as defined in ANILCA and identified in the table entitled 'Alaska Rural Places and Native Groups with Subsistence Halibut Uses,' and will also include other communities for which customary and traditional findings are developed in the future. (based on ANILCA)

Suboption C. Tribal members and other permanent residents of Native villages who have legitimate subsistence needs. (based on migratory bird treaty language)

Option 3. Define legal gear.

Suboption A. rod-and-reel gear.

Suboption B. hook-and-line gear (including set and hand-held gear) with a range of:

1. 2 hooks;
2. 10 hooks;
3. 30 hooks;
4. 60 hooks.

Suboption C. Allow Tribal governments to contract with NMFS to register designated fishermen to fish for the community using:

1. 1 - 3 skates of gear, up to 60 hooks each;
2. any gear type.

Option 4. Define minimum size.

Suboption A. No minimum size shall be imposed for subsistence harvests of halibut.

Suboption B. Revise the commercial halibut minimum size regulations to allow the retention of halibut Under 32 inches caught with authorized commercial halibut gear in Area 4E for subsistence use.

Option 5. Allow the customary and traditional trade of subsistence halibut.

Suboption A. Prohibit the customary and traditional trade of subsistence-caught halibut.

Suboption B. Allow the customary and traditional trade of subsistence-caught halibut limited to:

- (i) an annual amount of:
  - 1. \$200;
  - 2. \$400;
  - 3. \$600.
- (ii) and exchanges with:
  - 1. other Alaska Tribes;
  - 2. any Alaskan rural resident;
  - 3. any Alaskan resident;
  - 4. anyone.

Option 6. Define a daily bag limit of between 2-20 halibut.

Option 7. Develop cooperative agreements with Tribal, State, and Federal governments to collect, monitor, and enforce subsistence harvests and develop local area halibut subsistence use plans in coastal communities.

Alternative 3. Provide for personal consumptive use of halibut.

Option 1. Define legal gear.

- Suboption A. 1-3 hooks per line
- Suboption B. 1-3 skates, up to 60 hooks each
- Suboption C. any gear type.

Option 2. Define legal gear by area.

- Suboption A. statewide
- Suboption B. IPHC halibut regulatory area
- Suboption C. through local use plans.

Option 3. Define minimum size.

- Suboption A. No minimum size be imposed for personal use harvests of halibut.
- Suboption B. Revise the commercial halibut minimum size regulations to allow the retention of halibut under 32 inches caught with authorized commercial halibut gear in Area 4E for personal use.

Option 4. Define trade and barter of personal use halibut.

- Suboption A. Prohibit the customary and traditional trade of personal use halibut.
- Suboption B. Allow the customary and traditional trade of personal use halibut.

**December 1999 Alternatives**

ALTERNATIVE 1. Status quo.

ALTERNATIVE 2. Allow the harvest of halibut for subsistence.

OPTION 1. Define subsistence.

Halibut subsistence regulations are needed to allow the continued practice of long-term customary and traditional practices of fishing halibut for food for families in a non-commercial manner for non-economic consumption. Subsistence is defined as 'long-term, customary and traditional use of halibut.

OPTION 2. Define eligibility for halibut subsistence:

- Suboption A. Members of Alaska Native Federally-recognized Tribes with customary and traditional use of halibut and other permanent rural residents in such Native villages.
- Suboption B. Alaska rural residents as defined in ANILCA and identified in the table entitled 'Alaska Rural Places and Native Groups with Subsistence Halibut Uses,' and will also include other communities for which customary and traditional findings are developed in the future.
- Suboption C. Tribal members and other permanent residents of Native villages who have legitimate subsistence needs.

OPTION 3. Define legal gear.

- Suboption A. rod-and-reel gear.
- Suboption B. hook-and-line gear (including set and hand-held gear) with a range of:
  1. 2 hooks;
  2. 10 hooks;
  3. 30 hooks;
  4. 60 hooks.
- Suboption C. Allow Tribal governments to contract with NMFS to register designated fishermen to fish for the community using:
  1. 1 - 3 skates of gear, up to 60 hooks each;
  2. any gear type
- Suboption D. Allow retention of subsistence halibut using commercial gear while IFQ/CDQ fishing.

OPTION 4. Allow the customary and traditional trade of subsistence halibut.

- Suboption 1. Customary and traditional trade through monetary exchange shall be limited to an annual maximum of:
  1. \$0;
  2. \$200;
  3. \$400;
  4. \$600.



Suboption 2. Customary and traditional trade through non-monetary exchange is allowed with:

1. other Alaska Tribes;
2. any Alaska rural resident;
3. any Alaska resident;
4. anyone.

OPTION 5. Define a daily bag limit of between 2-20 halibut.

Suboption. No bag limits for subsistence halibut.

OPTION 6. Develop cooperative agreements with Tribal, State, and Federal governments to collect, monitor, and enforce subsistence harvests and develop local area halibut subsistence use plans in coastal communities.

**April 2000 Alternatives**

ALTERNATIVE 1. Status quo.

ALTERNATIVE 2. Allow the harvest of halibut for subsistence.

OPTION 1. Define subsistence.

Halibut subsistence regulations are needed to allow the continued practice of long-term customary and traditional practices of fishing halibut for food for families in a non-commercial manner for non-economic consumption. Subsistence is defined as ‘long-term, customary and traditional use of halibut.’

OPTION 2. Define eligibility (\*residency is defined as one calendar year):

- Suboption A. 1. Members of Alaska Native Federally-recognized Tribes with customary and traditional use of halibut; and  
2. Other permanent rural residents\* of communities with customary and traditional use of halibut.

Suboption B. Alaska rural residents\* as defined in ANILCA and identified in the table entitled ‘Alaska Rural Places and Native Groups with Subsistence Halibut Uses,’ and will also include other communities for which customary and traditional findings are developed in the future.

- Suboption C. 1. Members of Alaska Native Federally-recognized Tribes with customary and traditional use of halibut.  
2. Other permanent rural residents\* who have legitimate subsistence needs in communities with customary and traditional use of halibut.

Need will be determined on an individual basis by either:

1. State of Alaska
2. Tribes
3. Co-management authority.

Suboption D. Members of Alaska Native Federally-recognized Tribes with customary and traditional use of halibut.

Suboption E. Members of Alaska Native Federally-recognized Tribes who reside in rural communities with customary and traditional use of halibut. *(This language also may be substituted under Suboptions A, C, or D.)*

OPTION 3. Define legal gear.

Suboption A. Define hand held gear as:

1. Rod and reel gear
2. Spear
3. Hand troll gear

Suboption B. Define hook-and-line gear (including set and hand-held gear) with a range of:

1. 2 hooks;
2. 10 hooks;

3. 30 hooks;
4. 60 hooks.

Suboption C. Allow tribal governments to contract with NMFS to allow proxies to be used by designated fishermen to fish for the community using:

1. 1 - 3 skates of gear, up to 60 hooks each;
2. any gear type

Suboption D. Allow retention of subsistence halibut using commercial gear while IFQ/CDQ fishing.

1. Statewide
2. 4C, 4D, and 4E only
3. Require subsistence fishermen to designate a particular trip as a subsistence trip outside of areas 4C, 4D, and 4E

OPTION 4. Allow the customary and traditional trade of subsistence halibut.

Suboption A. Customary and traditional trade through monetary exchange shall be limited to an annual maximum of:

1. \$0;
2. \$200;
3. \$400;
4. \$600.

Suboption B. Customary and traditional trade through non-monetary exchange is allowed with:

1. other Alaska Tribes;
2. any Alaska rural resident;
3. any Alaska resident;
4. anyone.

OPTION 5. Define a daily bag limit of between 2-20 halibut.

Suboption. No bag limits for subsistence halibut.

OPTION 6. Develop co-management agreements with tribal, State, and Federal governments and other entities to collect, monitor, and enforce subsistence harvests and develop local area halibut subsistence use plans in coastal communities.

## **APPENDIX 3.**

### **Annette Island Reserve halibut fishery regulations**

**insert page**

## **APPENDIX 4.**

### **Reporting Instrument for undersized halibut in Area 4E CDQ fisheries**



March 24, 1999

**TO:** All Applicable Halibut CDQ Managers  
**FROM:** Gregg Williams, IPHC staff  
**RE:** Reporting of retained sublegal halibut from Area 4E CDQ halibut fishery

As you are probably aware, at its January 1999 Annual Meeting IPHC adopted the following reporting requirement concerning the retention of sublegal halibut in the Area 4E CDQ halibut fishery:

*“The manager of a CDQ organization that authorizes persons to harvest halibut in the Area 4E CDQ fishery must report to the Commission the total number and weight of undersized halibut taken and retained by such persons pursuant to paragraph 7(1). This report, that shall include data and methodology used to collect the data, must be received by the Commission prior to December 1 of the year in which such halibut were harvested.”*

This memo is intended to outline what we envision insofar as the data and methodology reported to us by December 1, 1999.

#### **Data**

We are requiring CDQ managers to report the number and weight of sublegal halibut retained. Estimates of these items are not acceptable; only actual counts/weights will do. An important point concerns the weight units reported: (1) is the head off or on; (2) are the fish weighed round or eviscerated; and (3) are the fish washed or unwashed (i.e., is ice/slime deducted or not). ***Please indicate the status of each of these 3 items.*** The report should provide a year-end total; we do not expect nor need any type of breakdown.

#### **Methodology**

We are looking to get an explanation of how the halibut weights and counts were collected. As one example, you might require the vessel’s captain to weigh and count the retained sublegals at the conclusion of the offload at the fish processor. We are not expecting an elaborate plan, but something that is reliable and makes sense. Feel free to call if you think you may have difficulty devising an acceptable method.

#### **General Comments**

Our goal is to get a proper accounting of the retained catch of sublegals. The current program expires at the end of the 1999 season. An extension has been discussed, but the Commission needs to know how much halibut is involved in this program before it will consider a program for 2000. Please call Gregg Williams (ext. 209) if you have any questions.



Insert 4 pages









## APPENDIX 5.

### Definitions

The following definitions are taken from 1996-97 Statewide Subsistence and Personal Use Fisheries Regulations Sec. 16.05.940 Definitions in Alaska Statute §16.05 - Alaska Statute § 16.40 and included in the analysis at the request of the Council.

personal use fishing means the taking, fishing for, possession of finfish, shellfish, or other fishery resources by Alaska residents for personal use, and not for sale or barter, with gill or dip net, seine, fish wheel, long line, or other means defined by the Board of Fisheries.

resident means a person who for the preceding 12 consecutive months has maintained a permanent place of abode in the state and has continually maintained his voting residence in the state; and in the case of a partnership, association, joint stock company, trust, or corporation, resident means one that has its main office or headquarters in the state; however, a member of the military service who has been stationed in the state for the preceding 12 consecutive months is a resident for the purpose of this paragraph, and the dependent of a resident member of the military service, who has been living in the state for the preceding year is a resident for the purposes of this paragraph; and a person who is an alien but who for one year has maintained a permanent place of abode in the state is a resident for the purpose of this paragraph.

sport fishing means the taking or attempting to take for personal use, and not for sale or barter, any fresh water, marine, or anadromous fish by hook and line held in the hand, or hook and line with the line attached to a pole or rod which is held in the hand or closely attended, or by other means defined by the Board of Fisheries.

subsistence fishing means the taking of, fishing for, or possession of fish, shellfish, or other fisheries resources by a resident domiciled in a rural area of the state for subsistence uses with gill net, seine, fish wheel, long line, or other means defined by the Board of Fisheries. The Alaska Supreme Court decided in *McDowell v. State*, 785 P.2d 1 (Alaska 1989) that the rural residency requirement of the state's subsistence law violates several provisions of the Alaska Constitution. As such, any rural residency requirement in the State statutes are without effect.

subsistence uses means the noncommercial, customary and traditional uses of wild, renewable resources by a resident domiciled in a rural area of the state for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation, for the making and selling of handicraft articles out of nonedible by-products of fish and wildlife resources taken for personal or family consumption; and for customary trade, barter, or sharing for personal or family consumption.

The following definitions are taken from 1996-97 Subsistence Management Regulations for the Harvest of Fish and Wildlife on Federal Public Lands in Alaska (USFWS).

customary and traditional use means a long-established, consistent pattern of use, incorporating beliefs and customs which have been transmitted from generation to generation. This use plays an important role in the economy of the community.

customary trade means cash sale of fish and wildlife resources regulated herein, not otherwise prohibited by State or Federal law or regulation, to support personal and family needs; and does not include trade which constitutes a significant commercial enterprise.

resident means any person who has his or her primary, permanent home within Alaska and whenever absent from this primary, permanent home, has the intention of returning to it. Factors demonstrating the location of a person's primary, permanent home may include, but are not limited to: the address listed on an Alaska license to drive, hunt, fish, or engage in an activity regulated by a government entity; affidavit of person or persons who know the individual; voter registration; location of residences owned, rented or leased; location

of stored household goods; residence of spouse, minor children or dependents; tax documents; or whether the person claims residence in another location for any purpose.

rural means any community or area of Alaska determined by the Board to qualify as such under the process described in §242.15 of this Part.

non-commercial means subsistence, personal use, and recreational harvests of halibut.

low monetary means either \$200, \$400, or \$600.



## APPENDIX 6. DESCRIPTION OF THE SOCIAL ENVIRONMENT

This chapter describes the dependence of fishermen and communities on the halibut fishery, with special attention given to the differing economies found in rural and urban communities. The material presented in this chapter is adapted from the public review draft of the EIS/RIR/IRFA for the Proposed Individual Fishing Quota Management Alternatives for the Halibut Fisheries in the GOA and BSAI (NPFMC 1991). It has been updated using ADF&G Subsistence Division household surveys, where available. More specific information on individual Alaskan coastal communities can be found in *Faces of the Fisheries* prepared for the Council's 'Comprehensive Rationalization' Process in 1994 and a series of 54 reports that assess the holdings of restricted use-privileges by persons from various Gulf of Alaska coastal communities and urban areas (Dinneford, et al. 1999).

Information considered in this chapter has been drawn from published materials and the data files of CFEC, Alaska Department of Fish and Game Subsistence Division (Subsistence Division), and the International Pacific Halibut Commission (IPHC). Additional data has been provided by the U.S. Department of Agriculture [Forest Service (USFS)], U.S. Department of Commerce [Bureau of Census and National Marine Fisheries Service (NMFS)], and the U.S. Department of Interior [Minerals Management Service (MMS) and Park Service].

### 1.0 The Halibut Fishery

Alaskan rural communities, in which the preponderance of smaller vessels are based, are socially and culturally tied to local fishing areas. In the case of Alaska Natives these areas have been defined since before the start of the commercial halibut fishery in 1878 (Betts and Wolfe, 1990). Thus investment in the smaller vessels is related to local operating areas, and this segment of the fleet is less mobile and thus less able to seek out new fishing areas. In 1990, nearly 40% of vessels fishing for halibut were less than 36 feet in length and their proportion of the total catch landed was less than 9%. These smaller vessels totaled 1,811 in 1990, increasing 32% from 1984, mostly in vessels between 31 and 35 feet. Vessels between 36 and 55 ft more than doubled to 1,955 by 1990. Larger vessels greater than 56 feet tripled to 728 in 1990.

Some rural communities, and some urban communities, engage in a seasonal round of fisheries for commercial and subsistence purposes. Typically these fisheries include salmon, halibut, herring, crab, sablefish and rockfish. The fishermen who participate in the halibut fishery usually fish commercially in at least two other fisheries (Langdon et al. 1984). With the increasing restrictions on days fished in the open access halibut fishery, and occasional conflicts with seasonal openings in other fisheries, the small boat fleet took fewer halibut in the open access commercial fishery because they are less mobile (and unable to fish in other areas) and have less fishing power. Heavy weather on fishing days also restricted the activities of the small boat fleet during halibut openings. The same segment of the fleet is also active in the subsistence fisheries, often using "commercial" gear, and halibut harvests in the subsistence sector are often substantial. Most rural Alaskan communities have mixed cash-subsistence economies; of which neither sector is sufficient to support the community's population. Rural communities which experience a loss of income from commercial fishing experience disruption in the balance between cash economy and subsistence economy activities, to the detriment of the local economy, society, and traditional culture (R.J. Wolfe 1991, pers. commun. to P. Fricke). Alaskan rural communities strike a balance in their mixed cash-subsistence economy in order to maintain community viability (Wolfe and Walker 1987).

From a review of communities involved in the commercial or subsistence use of halibut, 115 Alaskan communities were found to have active participants in the fishery. Of these Alaskan communities, 101 were rural with mixed cash-subsistence economies (as determined by the Federal Subsistence Board), while 14 communities were urban centers with cash-based economies. In Alaska, Wolfe and Bosworth (1990) estimated that approximately 80% of the population lives in urban areas, principally in and around Anchorage, Fairbanks, Juneau, the Kenai Peninsula, Kodiak City, and Sitka. One-fifth of the population, or

some 110,000 people, lives in mixed-economy rural communities. Of this rural population, some 50,000 are Alaska Natives while 60,000 are non-Natives.

Participation in the fishery varies from IPHC region to region. Overall, Langdon et al. (1984) reported that one-fifth of their study sample of fishermen in 1982 derived 100% of their gross fishing income from the halibut fishery. Given the length of seasons in the open access fishery, measured in days and hours, it can be surmised that these fishermen were part-time fishermen, who held other jobs. Area 2C, in particular, had this level of involvement in the halibut fishery but Area 3A also had a number of halibut-only fishermen (Wilkinson 1990). Both areas have significant numbers of small boats under 31 feet in length, and access to alternative employment. Wolfe (1991) reported that families in mixed cash-subsistence economies typically patch together multiple income streams because individual sources of income tend to be small and insecure. Langdon and Miller found that 45% of commercial halibut fishermen worked solely in the fishing industry; 55% of the 1982 sample had at least one shore-side job.

Langdon et al. (1984) reported the average size of crew on halibut vessels, including captain, to be 1.7 persons. Noting that the structure of the fleet has changed and there are more larger vessels than before, but also that there have been technological advances in fishing gear and vessel design, it is estimated that there were some 16,920 fishermen active in the fishery in 1990. Average plant employment in Kodiak per day/shift was estimated to be 60 persons (NPFMC 1992) and the average involvement of plants in processing halibut was four days of processing for every day of fishing activity (Impact Assessment Inc. 1991a: Kodiak 21; NPFMC 1992). Thus, a “guesstimate” of involvement of processing workers in the 176 plants reported handling halibut from the 36 days of halibut fishing in 1990 can be derived. This “guesstimate” is that some 10,560 plant employees processed halibut at the point of landing and that the equivalent of 2,315 person-years of employment was generated.

The principal gear used in the directed halibut fishery is longline gear, but there are a number of hand and power trollers in the fishery in Area 2C. Longline vessels commonly fish for sablefish, Pacific cod, rockfish and halibut fisheries. Many vessels also fish for salmon in season. The dominance of the 35-55 feet-long size class can be attributed to the State of Alaska's 58-foot length overall rule for salmon seiners in the Gulf of Alaska. Similarly, the dominance of the 31-35 feet-long class in Area 4E (East Bering Sea) can be attributed to the 32-foot length-overall rule for Bristol Bay salmon seiners. Seine vessels, typically with a forward house, can be easily rigged for longlining (Bell 1981) but the traditional halibut schooner is less able to engage in the salmon fishery. The Alaska Native halibut fishery traditionally used hand lines with one or two hooks, or short skates of longline fished from canoes or bidarkas. Today, handlines are used in the commercial halibut fishery by Alaska Natives in only a few places (for example, Nelson Island) with most Alaska Native fishermen using long line gear from small boats. Handlines continue to be used in the subsistence halibut fishery. Alaska Native fishermen traditionally also trolled with their hand lines, and some modern salmon trollers also use troll gear for halibut today (Kelley 1991). Since the key to present-day fisheries in the waters off Alaska is flexibility in gear and vessel configuration, combination vessels designed for multiple gears and fisheries have evolved and now dominate the fleet.

### 1.1. Participation in the Fishery

In this section, information on participation in the fishery is summarized by IPHC halibut area. Overall, however, participation in the halibut fishery has been reduced under the IFQ program (Dinneford, et al. 1999). Initial QS issues totaled 7,391 at the start of the initial IFQ season in 1995, and were consolidated to 6,729 QS holders by the end of the season; a reduction of 9% as a result of voluntary transactions in areas 2C-4B. No transactions occurred in areas 4C-E. Alaskans represented the majority of QS both at the start and end of the 1995 season, ranging from 31% of QS holders in Area 4D to 91% in Area 4E, although the overall number of QS holders declined.

#### 1.1.1 Southeast Alaska (Area 2C)

Area 2C extends northwest from the United States boundary line in the Dixon Passage to Cape Spencer. The Alexander Archipelago and an adjacent narrow coastal strip of mountains, glaciers, and icefields comprise this region of Alaska. With the exception of roads linking Haines and Skagway with the interior, transportation in Area 2C is by air or sea. The Alaskan ferry system, or “marine highway,” links the majority of communities with Haines and Skagway to the north, and Prince Rupert, B.C. and Bellingham, WA to the south. The region's climate is relatively mild and wet, and supports extensive coastal forests. Most of the land area in Area 2C is held by USFS in the Tongass National Forest, but the Park Service also has extensive holdings of land in the Glacier Bay National Park. The activities of both agencies affect land and marine resource use by the approximately 65,000 residents of Area 2C.

While the region's major population center (Juneau) is fully integrated into the national economy, most of the region's smaller communities are supported by a traditional mixed cash-subsistence economy, in which there co-exist a subsistence sector and a market sector (Wolfe and Walker 1987). In the region's market sector economy, four industries dominate: commercial fishing, timber products, tourism, and employment generated by State oil revenues (Alaska Dept. of Fish and Game 1989). State, local, and Federal government employment is of considerable importance, particularly in the vicinity of Juneau, the State capital. In Area 2C, the commercial fishing industry employed 25% of the labor force (Langdon and Miller 1983). During the 1980s, logging or timber products were important sources of employment (i.e., over 25%) in Coffman Cove, Craig, Hoonah, Hydaburg, Klawock, North Whale Pass, and Thome Bay. Fish processing plants are located in the predominantly non-Native communities of Ketchikan, Craig, Petersburg, Wrangell, Sitka, Juneau, Gustavus, and Pelican, and seasonal plants are in six other communities. In the ten predominantly Alaska Native and nine non-Native rural communities of southeast Alaska, commercial fishing is an important element in the cash or market sector of the local economy. During the 1980s, in the subsistence sector of the regional economy, about 4.5 million lb of wild foods were processed annually by rural communities for family consumption. Of these foods about 51% was fish, including halibut; 27% was game; 19% was marine invertebrates, and 3% marine mammals.

Commercial and subsistence fishing for halibut are found in nearly every community in southeast Alaska (Table A-1). In 1987, subsistence harvest of fish and shellfish included 235,000 lb of Dungeness crab, 565,000 lb of halibut, and 131,000 salmon. The take of subsistence halibut was equivalent to 5% of the commercial harvest in 1987 (Alaska Dept. of Fish and Game 1989). Subsistence harvest information is available for all Southeast Alaskan communities except Juneau and Ketchikan for which surveys of subsistence harvest and use have not been carried out. The most important commercial fishery to local communities, whose residents have limited entry permits, is that for salmon lb. Halibut fishing has occupied an important place in the spring, fall and winter fisheries, and herring, crab, sablefish, and rockfish complement the fisheries for halibut and salmon in the seasonal round of activities in Area 2C.

In 1984, 55% of commercial vessels fishing in Area 2C for halibut were less than 36 feet in length; this proportion of the fleet had decreased to 44.5% in 1990, although the absolute number of fishing boats in this size class increased to 662 (Table A-2). The catch of the smallest boats, less than 26 feet long, totaled 1,195 lb (3.8%) in 1990. Boats less than 26 feet long form 21% of the Area 2C fleet. Vessels between 36 and 55 feet long formed 49% of the fleet and took 68% of the catch in 1990, with average individual boat catches of 9,101 lb in 1990. These vessels, and larger classes too, were typically mobile within the Archipelago and would then move to the west following the sablefish and halibut openings in Area 3A. It has been estimated that approximately 12% of the fleet which longlines for sablefish and halibut in the southeast Alaska and East Yakutat districts moved further west as the open access season advanced and continued longlining in the West Yakutat, Kodiak, and southwest districts (J. Gharrett, pers. commun. to P. Fricke 1991). The smaller vessels (less than 30 feet in length) rarely fished outside southeast Alaska.

## Fishermen

Langdon and Miller's survey of fishermen found that crew size on vessels in Area 2C varied with the rural or urban nature of the community in which the fishermen resided. For urban communities, from which the larger vessels fished, crew size including captain averaged 3.6 persons in 1982, while for rural communities crew size averaged 3.0 persons. If crew sizes remained equivalent to those in 1982, it is estimated that 4,768 fishermen fished commercially for halibut in 1990 in Area 2C. At the start of the initial IFQ season in 1995, 1,963 Alaskans were awarded QS in Area 2C; by the end of the season 191 Alaskan QS holders transferred their shares to other individuals, leaving 1,772 active fishermen in the fishery. Crew sizes were reported to have declined, as QS holders pooled their IFQs and fished on fewer vessels during the longer, eight month season. The total number of QS holders decreased by 29% between initial issuance and end-of-year 1998 (Dinneford, et al. 1999).

A similar disparity between urban and rural residence was found in kinship and crew patterns; Langdon and Miller found that rural crews were more likely to be formed with kinfolks than those fishing from urban communities. It should be noted here that crews from Alaska Native villages tend to be larger, and with greater involvement of kin, because of the cultural basis of fishing as a family economic activity and the cultural pattern of initiating young people into traditional occupations. Since the family is the "economic firm" in subsistence activities (a "domestic mode of production"), transfer of this pattern of activity to the commercial fishery is appropriate both culturally and economically in the mixed economy of rural communities.

The fishermen of southeast Alaska participate in a number of commercial fisheries. Langdon and Miller's data showed that halibut fishermen fished for a mean of 2.62 species, with a median of 2.48 species, during the fishing year. A 45-year old non-Native fisherman, self-described as a "seiner," from Angoon reported his seasonal round of fishing in 1990 as follows: "January: bait; February: crab; March: sac roe [herring], brown crab, and get ready for black cod; April, May: black cod (2 weeks here, 6 weeks off Seward coast); June: halibut (hits third opening), get ready for seining; July, August: seining; September: one day black cod, halibut, and usually fall dogs [salmon]" (Betts et al. 1991). According to Betts et al. (1991), the pattern described by the seiner above is atypical; he fishes for crab and black cod "outside" the islands of the Alexander Archipelago while most seiners do not. Angoon and Kake fishermen, mostly Tlingit, seine for salmon, hand-troll for salmon (during seine closures) using skiffs, and long-line for halibut using seine boats. Some fishermen also use their boats as halibut tenders for other fishermen fishing from skiffs. Langdon and Miller (1983) reported that only 7.9% of the fishermen interviewed in Area 2C fished in just one fishery, while 42.9% fished in two directed fisheries, typically halibut and salmon. One-fifth of the fishermen in Langdon and Miller's sample fished for four or more species during the course of the year.

Table A-1 1990 Population, Distribution of Halibut Permits and Landings in Southeast Alaskan Communities (Area 2C)					
Halibut					
Community	Pop. N	Native Pop %	Permits N	Commerc lb	Subsist lb*
Juneau	26,751	11.2	213	390,151	n/a
Ketchikan	13,459	11.1	128	1,036,245	n/a
Sitka	8,588	21.4	278	3,638,138	206,112
Petersburg	3,207	10.9	215	2,283,585	102,303
Wrangell	2,479	17.9	109	556,897	47,597
Metlakatla	1,407	80.2	27	234,650	11,256
Craig	1,260	32.3	65	677,596	16,884
Haines	1,238	18.9	74	44,198	18,322
Hoonah	795	79.9	59	703,747	29,733
Klawock	722	66.0	13	**	22,815
Kake	700	84.1	43	**	14,700
Skagway	692	4.6	2	**	4,429
Angoon	638	88.6	53	**	14,929
Thorne Bay	569	2.8	6	**	22,020
Hydaburg	384	84.9	28	**	9,178
Saxman	369	71.1	#	**	3,727
Gustavus	258	2.0	17	39,327	16,202
Pelican	222	18.3	40	1,132,088	12,632
Coffman Cove	186	0.0		**	5,264
Klukwan	129	83.7	#	**	150
Port Alexander	119	5.8	17	**	3,713
Hollis	111	18.0		**	1,032
Hyder	99	1.3	2	**	4,712
Tenakee Springs	94	5.1	5	**	4,362
Edna Bay	86	0.0	23	**	5,452
North Whale Pass	75	0.0	0	**	1,586
Port Protection	62	5.6	#	**	2,220
Elfin Cove	57	7.1	19	**	1,767
Kasaan	54	56.0	1	**	540
Point Baker	39	5.6	18	**	1,365
Meyers Chuck	37	0.0	5	**	2,853
Excursion Inlet##				1,052,386	
Killisnoo##				245	
Misc. SE Alaska Ports				3,676	
Totals	64,886		1,460	11,792,929	
<p>Population data are from the 1990 Census 1990 permit and commercial landings data are from IPHC files.  * = 1990 Subsistence landings data are estimated from Alaska Dept. of Fish and Game baseline studies for 1987; estimated landings are in pounds of dressed fish (H&amp;G).  ** = Any commercial landings were at other ports.  n/a = Data not available.  # = IPHC permit data are based upon postal zip codes; many Alaskan communities share zip codes, and CFEC data indicate that halibut permit holders reported elsewhere reside here.  ## = These are cannery/floating processor sites.</p>					

Table A-2 Fleet Composition, Size Class, and Percent of Catch in the Halibut Fishery Off Alaska, 1990 (Area 2C)				
IPHC Area	Vessel Size (ft)	1990		
		N	% Fleet	% Catch
2C	<26'	308	20.7	3.8
	26-30'	132	8.9	3.0
	31-35'	222	14.9	8.7
	36-55'	722	48.5	67.8
	56'>	84	5.6	16.2
	n/a	22	1.5	0.6

Area, vessel, and catch data provided by IPHC 1991; all percentages are rounded  
n/a = Vessel size data not available for these vessels.

The demography of fishermen varies with residence in rural or urban communities. The mean age of all fishermen surveyed by Langdon and Miller in 1982 was 38.8 years, with a median of 34.6 years. Fishermen from urban communities were younger, however, with an average age of 37 years compared to the mean age of 44 years in rural communities. Urban fishermen had completed more years of formal education than those from rural communities in Langdon and Miller's sample; 13.1 years of schooling compared to 10.1 years. Both of these indicators suggest that life in urban communities offers more opportunities for training and employment.

Income from the fishery varied considerably. For the communities with a mixed cash-subsistence economy, the halibut fishery is very important. A 50-year old Tlingit hand troller from Angoon, reporting on his 1990 season, said that "Angoon just wants to make living, not be huge highliners . . . one quarter of total income from fishery is from halibut. It's an important fishery. There are three 24-hour openings, whole summer of trolling [for salmon] won't equal what you make on halibut, considering costs" (Betts et al. 1991). As shown in Table A-3, the mean personal taxable income in the rural community of Angoon is approximately half that of Juneau, emphasizing the importance of earnings from the commercial fishery to the small communities of Area 2C.

Table A-3: Population, Mean Household Size, and Mean Taxable Income for Selected Communities with Halibut Harvests (Area 2C)				
Community	Population (N)	Native Pop (%)	Household Size (N)*	Mean Taxable Income (\$) **
Alaska, State	530,043	16.2	2.80	
Juneau	26,751	11.2	2.66	24,250
Petersburg	3,207	10.9	2.77	21,211
Angoon	638	88.6	4.09	11,563

Population data is from the 1990 census, U.S. Bureau of Census  
\* = Household size in mean number of persons  
\*\* = Mean taxable income per income return, 1981-1985; Alaska Department of Revenue

## **Fish Processing**

In 1984, IPHC reported that there were 28 plants processing halibut in Area 2C communities. By 1990, this number had grown to 38 plants, reflecting the 167% increase in halibut catch to some 9,693,000 lb. Table A-1 shows the ports in which landings were made in southeast Alaska. With the exception of Craig, Hoonah, and Metlakatla, all the ports in which landings were made to processors had Alaska Native populations of less than 25% of their overall population. Employment in the plants in 1990 is estimated to be of the order of 3,800 persons on a seasonal basis. Sablefish, salmon, halibut, and herring, with some crab and rockfish are processed by these plants. The halibut fishery is estimated, conservatively, to provide the equivalent of 180 full-time year-round jobs in processing plants in southeast Alaska.

Sitka, Petersburg, Juneau, Hoonah, Wrangell, and Yakutat ranked first, fourth, fifth, seventh, eighth, and tenth in number of vessel landings in 1999. Juneau, Sitka, and Petersburg ranked sixth through eighth in Alaska ports for total pounds landed (Dinneford, et al. 1999).

### **1.1.2 Gulf of Alaska - (Area 3A)**

Area 3A extends from the western end of Kodiak Island eastwards across the Gulf of Alaska to Cape Spencer. Within this region, three sub-regions can be easily defined - Prince William Sound, including Yakutat; Cook Inlet and the Kenai Peninsula; and Kodiak Island. This region had the largest halibut catches off Alaska, and the highest number of halibut fishery permit holders (1,602 or 42% of permits) in 1990. Tables A-4 and A-5 detail the population and communities, and the commercial and estimated subsistence landings in the region.

As in southeast Alaska, communities fall into rural and urban types. The urban areas of the Kenai peninsula and Anchorage dominate the economy of Alaska since more than half the population of the state lives in this sub-region. Valdez, Whittier, and Seward have primarily market-oriented economies in contrast to the other communities in the other sub-regions in Area 3A. Because the Division of Subsistence, Alaska Department of Fish and Game, has focused its research on those communities defined as rural by the Alaska Boards of Fish and Game, the non-commercial harvest of fish in this area is sketchily known for the communities of the Kenai Peninsula. Mixed cash-subsistence economies are found in the rural villages of Area 3A. The Kodiak Island communities produce about 5.5 million lb of subsistence foods for family use annually; data for Prince William Sound communities for subsistence harvests prior to 1989 suggest a similar level of family consumption of wild foods (Wolfe 1991).

Kodiak, Homer, and Seward ranked second, third, and sixth in number of vessel landings in 1999. Homer, Kodiak, Seward led Alaska ports for total pounds landed (Table A-6). For the initial year of IFQ fishing, 2,418 Alaskans received initial QS for Area 3A. By the end of the 1998 season, the total number of QS holders had declined by 27% (Dinneford, et al. 1999).

This rural/urban split can be seen in the distribution of income in communities in Area 3A. In Table A-6, the communities with processing facilities have incomes nearly double those without. The villages with no processing facilities are also those with high Alaska Native populations although, as we have seen in southeast Alaska, this is not necessarily concomitant with rural, low-income, mixed economy communities. The lack of available capital in the rural communities, and lack of diversified employment, serves to keep investment in the fisheries by residents of these communities relatively low, and promotes the use of a mixed cash-subsistence economy as the most economically efficient. Where rural communities have both a high Alaska Native population and relatively low cash incomes, investment in vessels is lower as is the harvest of halibut. These relationships can be found in Table A-7.

The seiners with Alaskan limited entry permits are limited to 58 feet in length overall (50 feet between rudder and stemposts), and these vessels dominate the halibut fleet (Table A-8). In 1990, there were 1,005 boats in the 36-55 feet-long size class operating in area 3A. The average catch per boat in this size class was 11,501

lb of halibut in 1990. Vessels 56 feet or more in length totaled 423 in 1990, and their average halibut catch per boat was 35,073 lb. The small boats totaled 504 boats in 1990 and averaged 1,049 lb.

Increased fishing effort in Area 3A is attributed largely to vessels over 35 feet in length moving from Area 2C to fish halibut openings further to the west and to fish in the sablefish fishery. While investment in new vessels did occur, the restrictions on fishing days and areas caused vessel owners to move to new regions in order to find fish and meet their bills. The small boats, however, were not mobile and thus their reduced catches could not be increased by fishing in other areas.

### **Prince William Sound Sub-Region**

In the Prince William Sound sub-region, the principal fisheries are for salmon using seines, drift gillnets and set gillnets. Crab, herring and sablefish are also important commercial and subsistence species. Processors operated in four ports, Yakutat, Cordova, Valdez, and Whittier, and vessels fished for halibut throughout Area 3A in 1990. Langdon et al. (1984) noted that smaller boats (up to 15 nrt) predominated in the local fleet fishing for halibut in 1982. Valdez, an urban community, and Cordova are the major population centers, and there are six rural villages, including Yakutat, in this sub-region. Two villages can be considered to be Alaska Native villages. Total population for the sub-region's fishing communities in 1990 was 7,003, of whom 58% lived in Valdez. Subsistence fishing was an important part of the mixed economy of the rural communities, both Alaska Native and non-Native villages.

The Prince William Sound sub-region is a meeting place for Alaska Native cultures, due to its rich and diversified marine habitat, including significant marine mammal populations. The Eyak Indians have lived in the Cordova and Copper River area for some 3,000 years. Tlingit Indians are found in Yakutat and Cordova, while Athabaskan Indians remain in the Copper River area. Members of the Chugach Eskimos are in Tatitlek and Cordova, and in many of the other communities, too. Aleuts live in all the coastal communities of the sub-region. Principal land holder is the Federal government; the Chugach National Forest covers much of the Prince William Sound and Copper River watersheds.

Employment in the area has historically revolved around commercial fishing and the mining of gold, copper and other minerals (Schroeder et al. 1987). Tourism has increased as an economic activity, with development of guided and charter boat fishing services and the cruise ship services. Yakutat has a mixed cash-subsistence economy, for example, in which the cash employment sector includes government services (7%), schools (22%), commercial fishing and fish processing (32%), tourism (22%), and transportation (10%). With the exception of government employment, all wage-sector employment is seasonal. The development of Valdez as the terminus for the Trans-Alaska Pipeline and the Richardson Highway has led to rapid development of a marine services and transportation sector in that port coupled with a diversified industrial base supporting the oil industry. Whittier is also a transportation center as it is the terminus of the Alaskan Railroad, which links it, and western Prince William Sound to Anchorage. Cordova was the site of large scale copper mining activities between 1905 and the 1930s, when the mines closed; it and the other, smaller communities depended upon the seafood industry as the basis of the cash economy since that time. Employment of local residents in the commercial halibut fishery in the Prince William Sound sub-region was estimated to be 698 fishermen and 146 full-time equivalent (FTE) workers in processing plants in 1990. Seasonally, it was estimated that 2,805 individual workers process halibut.



Table A-4 1990 Population and Distribution of Halibut Permits and Landings in Southcentral Alaskan Communities (Area 3A)--Kodiak Island, Prince William Sound and Yakutat Communities						
Community	Pop. N	Native Pop %	Halibut			
			Permits	Commerc lb	Subsist lb*	
Kodiak City	6,365	14.0	404	11,573,328	325,252	
Valdez	4,068	5.7	29	598,497	n/a	
Other Kodiak	3,643	9.5	#	**	n/a	
Kodiak Station	2,291	0.6	0	**	n/a	
Cordova (Eyak)	2,110	14.9	114	1,816,665	33,971	
Yakutat	534	62.1	39	918,046	22,428	
Old Harbor	284	92.6	12	**	16,103	
Whittier	243	8.6	8	280,882	n/a	
Port Lions	222	73.5	21	**	19,003	
Ouzinkie	209	94.2	20	**	7,064	
Larsen Bay	147	71.4	6	**	6,806	
Tatitlek	119	77.9	1	**	2,785	
Cheneg Bay	94	77.0	0	**	3,882	
Akhiok	77	96.2	#	**	1,871	
Karluk	71	100.0	#	**	3,202	
Port Bailey ##				728,754	n/a	
Alitak ##				689,458	n/a	
Totals	20,477		654	16,605,630		
Other Area 3A Communities	306,832		948	12,965,282		
Totals	327,309		1602	29,570,912		
<p>Population data are from the 1990 Census 1990 permit and commercial landings data are from IPHC files.  * = 1990 Subsistence landings data are estimated from Alaska Dept. of Fish and Game baseline studies for 1987; estimated landings are in pounds of dressed fish (H&amp;G).  ** = Any commercial landings were at other ports.  n/a = Data not available.  # = IPHC permit data are based upon postal zip codes; many Alaskan communities share zip codes, and CFEC data indicate that halibut permit holders reported elsewhere reside here.  ## = These are cannery/floating processor sites.</p>						

Table A-5 1990 Population and Distribution of Halibut Permits and Landings in Southcentral Alaskan Communities (Area 3A)--Kenai Peninsula and Anchorage Area Communities

Community	Pop. N	Native Pop %	Halibut		
			Permits	Commerc lb	Subsist lb*
Anchorage	226,338	5.1	196	42,994	n/a
Matsu area	31,027	3.7	#	**	n/a
Kenai area	13,522	3.2	#	**	n/a
Kenai City	6,327	6.1	99	1,223,591	53,147
Wasilla	4,028	4.7	23	**	n/a
Sterling	3,802	1.7	9	**	n/a
Homer	3,660	3.0	293	5,877,869	94,428
Soldotna	3,482	3.1	73	**	n/a
Palmer	2,866	3.5	9	**	n/a
Nikiski	2,743	4.0	14	**	n/a
Seward	2,699	12.9	52	5,183,281	n/a
Big Lake	1,477	0.7	2	**	n/a
Fritz Creek	1,426	1.0	0	**	n/a
Anchor Point	866	1.8	53	**	n/a
Ninilchik	456	17.0	30	195,724	5,700
Kasilof	383	0.0	47	**	n/a
Seldovia	316	24.4	29	441,823	2,496
Willow	285	1.4	4	**	n/a
Cooper Landing	243	1.7	1	**	n/a
Port Graham	166	87.6	#	**	7,736
Hope	161	2.9	0	**	n/a
English Bay	158	79.0	#	**	6,051
Tyonek	154	92.9	0	**	n/a
Moose Pass	81	6.6	0	**	n/a
Clam Gulch	79	0.0	14	**	n/a
Halibut Cove	78	0.0	#	**	n/a
Sub-totals	306,832		948	12,965,282	
Other Area 3A Communities	20,477		654	16,605,630	
Totals	327,309		1,602	29,570,912	

Population data are from the 1990 Census 1990 permit and commercial landings data are from IPHC files.  
 \* = 1990 Subsistence landings data are estimated from Alaska Dept. of Fish and Game baseline studies for 1987; estimated landings are in pounds of dressed fish (H&G).  
 \*\* = Any commercial landings were at other ports.  
 n/a = Data not available.  
 # = IPHC permit data are based upon postal zip codes; many Alaskan communities share zip codes, and CFEC data indicate that halibut permit holders reported elsewhere reside here.  
 ## = These are cannery/floating processor sites.

Table A-6 Population, Mean Household Size, and Mean Taxable Income for Selected Alaskan communities with Halibut Harvests				
Community	Population (N)	Native Pop. (%)	Household Size (N)*	Mean Taxable Income (\$)***
Alaska, State	530,043	16.2	2.80	
Kodiak (City)	6,356	14.0	2.92	19,953
Kenai	6,327	6.1	2.70	24,995
Homer	3,660	3.0	2.54	18,515
Cordova	2,110	14.9	2.61	20,560
Yakutat	534	62.1	2.94	19,166
Ouzinkie	209	94.2	3.07	11,204
Port Graham	166	87.6	2.77	10,682

Population data is from the 1990 census, U.S. Bureau of Census  
 \* = Household size in mean number of persons  
 \*\* = Mean taxable income per income return, 1981-1985; Alaska Department of Revenue.

Table A-7 Numbers and size of vessels used for commercial halibut fishing and catch, by community type, defined by proportion of Native population and mean personal income.*			
Community Type	Vessel Size		
	<5 tons (N) a	>5 tons (N) b	Ratio of b/a (%)
Population with less than 25% Native	1217	1199	98.5
Population with more than 25% Native	355	157	44.2
Mean personal income less than \$17,000	285	167	58.6
Mean personal income more than \$17,000	1284	1183	92.1
Mean Commercial Halibut Catch by Vessel Size (lb)			
Population with less than 25% Native	1306	16788	1285.4
Population with more than 25% Native	1498	8915	595.1
Mean personal annual income per income tax return, 1981-1985			

Table A-8		Fleet Composition by Area, Size Class, and % of Catch in the Halibut Fishery Off Alaska, 1990		
IPHC Area	Vessel Size (ft)	1990		
		N	% Fleet	% Catch
3A	<26'	327	13.9	1.0
	26-30'	177	7.5	0.9
	31-35'	371	15.8	5.7
	36-55'	1005	42.8	40.1
	56'>	423	18.0	51.5
	n/a	43	1.8	0.7
Area, vessel, and catch data provided by IPHC, 1991; all % ages are rounded. n/a = Vessel size data not available for these vessels.				

### Cook Inlet/Kenai Peninsula Sub-Region

Some 307,000 people resided in the communities in or abutting this sub-region in 1990. Residents held 948 halibut permits and it is estimated that the fishery employed some 3,120 fishermen and 294 FTE processing workers. The number of processing jobs has increased with the addition of 12 new plants since 1984 for a total of 34 processing halibut in 1990. The fish processing sector of the sub-region's economy employed 1,838 FTE workers; because of the seasonal nature of processing operations some 6,000 workers were involved during the course of a year.

The economy of the region is dominated by that of Anchorage and the development of the Cook Inlet and Kenai Peninsula oilfields. Founded in 1914 as a railroad construction camp, Anchorage is now the principal transportation center for central, western and Arctic Alaska, and is the state's center for banking and financial services, industry, and the wholesale and retail trades and their distribution networks. The city has grown rapidly since the 1960s and has absorbed many local communities into its suburbs. The Kenai Peninsula/Cook Inlet communities have developed recreational and charter-boat fishing and other tourist facilities to serve Anchorage's population. Anchorage has a fleet of fishing vessels and 4 fish processing plants which handled 42,994 lb of halibut in 1990. Persons with Anchorage addresses held 196 halibut permits in 1990.

The Kenai Peninsula has developed a diversified economy including oil production and refining, recreation and tourism, commercial fishing and fish processing, transportation and communications, and government services (Schroeder et al. 1987). The majority of the communities are "new" non-Native towns; in 1890 only English Bay, Kasilof, Kenai, Ninilchik, Seldovia, and Seward were settlements. These towns, and Tyonek, had the only substantial proportions, that is more than 12%, of Alaska Native people in their populations. English Bay, Port Graham and Tyonek are in fact Alaska Native communities.

Homer, sometimes referred to as the "halibut capital," was developed as a farming, ranching, and fishing community. Some 293 halibut permits were held by persons with Homer addresses in 1990. However, since Homer shares its postal zip code with English Bay, Halibut Cove and Port Graham, some permits are in fact held by residents of those communities. Ten fish processing plants handled 5,877,869 lb of halibut in 1990. Principal employment opportunities in Homer are divided between fishing and fish processing (23%), commercial services and government (38%), and farming or homesteading (10%).

Kenai and Seward also handle major landings of halibut. Seward, the southern terminus of the Alaska railroad, has 8 fish processing plants and some 52 residents hold halibut permits. Seward receives landings

from vessels fishing in the Prince William Sound sub-region in addition to those of the local fleet fishing off the Kenai Peninsula, in the lower Cook Inlet, and southwesterly towards Kodiak.

### **Kodiak Sub-Region**

Kodiak Island has a major urban center, the city of Kodiak, and five Alaska Native villages. Kodiak City is a predominantly Euro-American community with substantial Alaska Native and Filipino minority populations. Most of the Filipino, and the newly established Latin-American community work in the 12 fish processing plants active in the port in 1990. Crab, halibut, salmon and groundfish - including sablefish and Pacific cod - are the principal commercial fisheries, with herring and shrimp as secondary fisheries. The groundfish fleet based in Kodiak has switched from an emphasis on trawling to fishing with longlines and pot gear (for Pacific cod); this gear is similar to that used for halibut. Langdon et al. (1984) report that the specialized, larger Kodiak halibut vessels fished throughout the Gulf of Alaska and Bering Sea grounds. Both Langdon et al. (1984) and Tetra Tech (1981) reported that the smaller vessels fished close to Kodiak Island, and Tetra Tech reported that 80% of the small boat fleet fished exclusively for halibut on the grounds adjacent to Kodiak Island.

Kodiak Island and other nearby islands, including Afognak, Sitkalidak, and the Trinity Islands form a network of bays, fjords, and other bottom habitat which support an extremely productive fishery. The communities of the islands are accessible by sea or air, but the road system only extends from Kodiak to its immediate satellite communities. The remote villages, all with predominantly Alaska Native populations, are Ahkiok, Karluk, Larsen Bay, Old Harbor, Ouzinkie, and Port Lions. None of the villages have fish processing plants, although there are seasonal canneries at Port Bailey and Alitak. Mixed cash-subsistence economies are found in all the communities, and halibut is important both for subsistence use and commercial sale. Alaska Native employment is in fishing rather than processing; most processing workers in Kodiak are Filipinos or Latin Americans. Seasonal summer employment is also available, but the majority of these employees are recruited from other states (NPFMC 1994b). It is estimated that there is year-round employment for some 2,800 FTE workers in fish processing on the Island (of which 336 FTE jobs are related to halibut), and some 1,523 fishermen are employed in the halibut fishery. NPFMC (1994b) reported that 3,200 fishermen worked in Kodiak's fisheries, of whom 672 were skippers and 2,500 crew.

### **Fishermen**

Estimates for the number of fishermen engaged in the halibut fishery were 1,523 in the Kodiak sub-region, some 3,120 in the Cook Inlet/Kenai Peninsula area, and 698 for the Prince William Sound sub-region, for an estimated total of 5,341 in Area 3A. These fishermen do not include those from other areas who fish for and/or land halibut in Area 3A, nor does it include all fishermen who fish for subsistence use.

Langdon et al. (1984) reported that the mean age of Kodiak halibut fishermen was 37.1 years, with a median age of 34.5. The rural/urban difference in demographic patterns discussed earlier is evident in the fishermen interviewed by Langdon and Miller; fishermen from the rural villages had a mean of 10.6 years of formal education, while those resident in Kodiak had a mean of 14.2 years. Rural fishermen had a mean of 14.4 years of experience in the halibut fishery in 1982, while Kodiak City fishermen had 6.8 years of experience. Some 88% of rural fishermen in Langdon and Miller's study were Aleuts, which is comparable to the proportion of Aleuts in the villages, and the urban sample was 95% Euro-American. Rural fishermen in Langdon and Miller's Kodiak Island sample received, in 1982, 39% of their gross earnings from the halibut fishery, while urban fishermen earned 31%. Of those vessel owners in the Kodiak study, 73% were sole owners of their vessels, and the balance had partners in their fishing vessel financing.

### **Fish Processing**

There were 66 processing plants active in the halibut fishery in Area 3A in 1990. Some 786 full-time equivalent (FTE) jobs were created in the processing sector by the halibut fishery in 1990; this is approximately 15% of the 5,153 FTE employees in the area's fish processing industry. Because of the seasonal nature of the fishery, the number of processing workers who actually worked on halibut lines is estimated to be of the order of 11,000.

Processing line workers in Kodiak have been largely of Filipino descent. Relatively few, in proportion to their numbers in the population at large, Alaska Native work in the processing plants. Much of the seasonal labor for the processing of salmon is recruited outside the region.

### 1.1.3 Alaska Peninsula (Area 3B)

Seven of the ten fishing communities of the southwestern Alaska Peninsula are involved with the Area 3B halibut fishery (Table A-9). Some 50% of halibut permit holders for 1990 have Sand Point addresses, and Langdon et al. (1984) noted that 45% of the fishermen for halibut resided in Sand Point in 1982 at the time of their survey. The principal centers of fishing activity are Sand Point and King Cove, with Chignik also a major player. Although on the Peninsula, Nelson Lagoon is on the north side facing Bristol Bay and has no commercial or subsistence fishery for halibut and pursues a salmon set-net fishery.

The villages active in the fishery have predominantly Alaska Native populations; however the population is a blend of Scandinavian, Scots, Aleut and Eskimo groups, and fishermen prefer to describe themselves as "locals." Sealers and fishermen from Seattle and the Pacific Northwest settled in Sand Point and King Cove at the turn of century, married Aleut or Eskimo women, and combined commercial fishing with the customary subsistence use of local resources to develop a very resilient mixed economy.

The major fisheries in the area are salmon, crab, Pacific cod and other groundfish, shrimp and halibut. A longline fishery for both halibut and Pacific cod has developed, and the catches are delivered to processors in Chignik, Sand Point and King Cove. In 1990, King Cove ranked 8th, Sand Point 14th, and Chignik ranked 18th in the volume of landings of halibut caught off Alaska according to IPHC landings data. Some 98% of these landings were taken in the immediate vicinity of the ports; the balance was caught in halibut openings to the West, in Area 4A, or in the Bering Sea.

The Area 3B fleet included 8 small skiffs with an average catch of halibut per boat of 940 lb in 1990. The vessels in the 36-55 feet long class had an average catch of halibut per boat of 13,326 lb. Vessels over 55 feet in length totaled 131 vessels and averaged 42,962 lb per vessel in 1990 (Table A-10).

The communities in Area 3B are stable ones and growing steadily. In King Cove, for example, nearly 70% of the 1987 year-round population had lived in the community for 16 years or longer (Miller 1987). The movement of the fishing fleets through the area increases the population of King Cove by some 100 fishermen and 350 processing workers each summer. The processing workers live in company bunk houses, and are recruited from other parts of the United States. Chignik Lagoon has a similar in-migration of seasonal fishermen; in 1986, 36 houses (62% of the dwellings) in the community were owned by fishermen who lived in the community for three to six months each year. Seattle, Kodiak City and Anchorage were the most common winter addresses for these seasonal families (Morris 1987).

Table A-9 1990 Population and Distribution of Halibut Permits and Landings in Southwest Alaskan Communities (Area 3B)					
Halibut					
Community	Pop. N	Alaska Native Pop. %	Permits N	Commerc. lb	Subsist. lb *
Sand Point	878	57.1	58	1,058,103	n/a
King Cove	541	79.8	38	1,598,466	n/a
Chignik Bay	188	53.4	9	918,322	9,062
Cold Bay	148	4.4	0	**	n/a
Chignik Lake	133	89.1	#	**	3,259
Perryville	108	92.8	2	**	5,130
Nelson Lagoon	83	93.2	0	**	0
False Pass	68	86.7	3	**	2,604
Chignik Lagoon	53	85.4	7	**	1,919
Ivanoff Bay	36	92.5	0	**	1,462
Totals	2,236		117	3,574,891	

Population data are from the 1990 U.S. census; 1990 permit and commercial landings data shown are from IPHC files.  
 \* = 1990 Subsistence landings data are estimated from Alaska Dept. of Fish and Game baseline studies for 1987; estimated landings are in pounds of dressed fish (H&G).  
 \*\* = Any commercial landings were at other ports.  
 # = IPHC permit data are based upon postal zip codes; many Alaskan communities share zip codes, and CFEC data indicate that halibut permit holders reported elsewhere reside here.

Table A-10 Fleet Composition by Area, Size Class and % of Catch in the Halibut Fishery off Alaska, 1990				
IPHC Area	Vessel Size (ft)	1990		
		N	% Fleet	% Catch
3B	<26'	5	1.3	0.1
	26-30'	3	0.8	<0.1
	31-35'	46	12.0	4.9
	36-55'	195	50.8	29.7
	56'>	131	34.1	64.7
	n/a	4	1.0	0.6

Area, vessel, and catch data provided by IPHC, 1991; all % ages are rounded.  
 n/a = Vessel size data not available for these vessels.

Although household size is high, relative to the state average, so are the relative incomes of residents of selected Area 3B communities (Table A-11). Since there is a mixed cash-subsistence economy in Area 3B, the fishery makes a substantial contribution to both sectors. In Sand Point in 1987, 87% of employment was in commercial fishing and fish processing (NPFMC 1994b) and King Cove had a similar reliance on fishery employment. Construction trades, marine services, education and government, and trade accounted for the balance of employment in both communities.

Table A-11 Population, Mean Household Size, and Mean Taxable Income for Selected Alaskan Communities with Halibut Harvests				
Community	Population N	Alaska Native Pop. (%)	Household Size (N)*	Mean Taxable Income (\$)***
Alaska, State	530,043	16.2	2.80	
Sand Point	878	57.1	2.85	29,254
King Cove	541	79.8	2.98	19,197
Chignik Bay	188	53.4	3.48	16,403

Population data is from the 1990 census, U.S. Bureau of Census  
Household size in mean number of persons  
Mean taxable income per income tax return, 1981-1985; Alaska Department of Revenue.

### Fishermen

Langdon and Miller note that the average age of Sand Point fishermen in 1982 was 40.7 years. Fishermen resident in Sand Point had a mean of 10.5 years of education. Halibut fishing in 1982 provided 35.9% of mean personal gross income, but the median gross personal income from halibut was 10%, indicating that some fishermen fished only for halibut, while the majority fished for salmon or other species in addition to halibut. Sand Point, unlike King Cove, had a fleet of vessels considered to be “local;” IAI note that, of the fleet of 21 groundfish vessels delivering to the Sand Point plant, 17 were 58 feet-long salmon limit seiners and only one boat was from “Outside,” although some of the skippers and crew were seasonal residents from Anchorage and Seattle (NPFMC 1994b ). The resident fleet in Sand Point numbered 127 in 1986. Of these vessels the majority fished in the salmon fishery and a few were involved in the halibut and herring fisheries (W 1991a: Sand Point Profile 18). It is estimated that 280 fishermen resident in Area 3B fished for halibut in 1990. For the initial year of IFQ fishing, 772 Alaskans received initial QS for Area 3B. By the end of 1998, the total number of QS holders declined by 37% (Dinneford, et al. 1999).

A seasonal migration occurs of fishermen north and west from Washington State and, on a smaller scale, from Oregon. Area 3B provided 18.5% of the total catch of Washington-based vessels, which took 23.5% of Area 3B's halibut harvest. Prior to 1970, crews on “local” vessels were largely kin-based and few nonresidents were employed. In 1986, it was estimated, for Sand Point, that half of the crews on local seine vessels were non-residents outside the kinship system of hiring. Most of these fishermen came from Washington, Oregon and California, with some from the Mid-West (NPFMC 1994b ). All “outside” boats were crewed by non-residents.

### Fish Processing

In 1990 there were 4 fish processing plants in Area 3B, located in King Cove (1), Sand Point (1) and Chignik (2) (IPHC 1991). Chignik has had a commercial salmon and halibut processing plant (first in 1880, a saltery; then, a cannery, and now processor/freezer facilities) since the beginning of the halibut fishery. In 1982 it was estimated that some 600 non-resident seasonal workers worked on the processing lines of the original plant (Morris 1987), and the workforce has expanded with the building of the second plant in 1988. King Cove's processing facility was built in 1911 as a salmon packing plant, but it also handles halibut, crab, herring and groundfish in season. In 1987 the plant employed 336 seasonal workers and 5 permanent employees (Miller 1987). King Cove and Sand Point landed 1 million and 780,000 lb of IFQ halibut in 1999.

Sand Point has had a salmon processing plant since 1931, although the community had been active in the Pacific cod fishery since 1890 (Langdon 1982). Until 1986, processing workers had been principally local



residents. However, the new owners of the plant, Trident Seafoods, adopted a policy of hiring non-residents on six-month contracts and lodging them in company bunkhouses. Employment at the plant ranged from 360 persons at the height of the Pacific cod fishery to between 60 and 180 workers at other times.

#### 1.1.4 Aleutian and Pribilof Islands (4A, 4B, 4C and 4D)

These areas extend west of Unimak Pass (Cape Lutke) along both sides of the Aleutian Island chain, and west of a line running approximately from Unimak Pass to Cape Mohican on Nunivak Island and then to Cape Prince of Wales on the Seward Peninsula. The principal civilian communities with year-round settlements are Akutan, Unalaska/Dutch Harbor, Atka, and Nikolski on the Aleutian Islands, and St. Paul and St. George on the Pribilofs. While there was some commercial fishing for halibut by military personnel at Adak, none was reported from the base at Shemya Station in 1990 (IPHC 1991). The base was closed in 1996. Population and halibut harvest data is shown below in Table A-12. This area is sparsely populated, with a civilian population of 4,688 in 1990. Landings from these sections of Area 4 are not negligible; Akutan ranked 9th in reported landings of halibut caught off Alaska while Unalaska ranked 12th. It should be noted that some deliveries to these two ports were made by vessels fishing in the eastern Bering Sea and Bristol Bay (Area 4E), but the amounts in 1990 were of the order of 27,000 lb only (IPHC 1991).

The four Aleutian Island communities, Unalaska, Atka, Akutan and Nikolski, have been permanent year-round communities occupied by the Aleut peoples since pre-contact days. All are located in sites with good access to marine resources such as marine mammals, salmon streams, and marine fish and shell-fish grounds. Halibut has traditionally been a species sought and used by the Aleuts for subsistence (Schroeder et al 1987). The Aleuts of the Pribilofs are the descendants of Aleuts from Atka and Unalaska transported to the Pribilofs as seal hunters by Russian fur traders (Veltre and Veltre 1981a).

Large scale commercial fishing, including halibut, has developed in the Aleutian Islands since 1970. Originally linked to the development of the king crab fishery, ports such as Unalaska and Akutan developed very rapidly. Unalaska had a population of 342 people in 1970; 1,322 people in 1980, and 3,089 people in 1990 (NPFMC 1994b ). This growth has gone through boom and bust cycles; the crab fishery dramatically declined between 1981 and 1982, and the pollock fishery did not fully develop until 1988. There were no recorded commercial landings of halibut in the Aleutian Islands 1967 to 1973, and this fishery developed as stocks and fishing days declined in Areas 2A, 2C, and 3A, and vessels moved westward in search of fish.

Akutan is a village with 589 residents in 1990, and a large processing facility employing, in peak months from January through March, 500 or so non-resident seasonal employees. Akutan Bay has been a seasonal location for floating processors for crab and salmon since 1920, but the on-shore facility was not built until 1981 and began processing in 1982. The company which owns the plant, Trident Seafoods, also owns the plant in Sand Point and applies the same policy of preferring to employ temporary contract workers recruited outside the community. Year-round operation of these plants was feasible during the period 1985-89, but closures in the groundfish fishery have led to seasonal closures of these plants in the early 1990s (NPFMC 1994b ).

Community	Pop. N	Alaska Native Pop. %	Halibut		
			Permits N	Commerc. lb	Subsist. lb *
Adak Station	4,633	0.8	3	1,970	n/a
Unalaska/Dutch Harbor	3,089	15.1	10	1,096,677	n/a
Saint Paul	763	87.7	14	145,152	n/a
Shemya Station	664	0.2	0	**	n/a
Akutan	589	39.6	10	1,417,727	n/a
Saint George	138	96.8	10	43,587	n/a
Atka	73	96.8	4	12,604	n/a
Nikolski	36	96.0	#	**	n/a
Totals (Civilian)	9,985 (4,688)		51	2,717,717	

Population data are from the 1990 U.S. Census; 1990 permit and commercial landings data are from IPHC files.  
 \* = 1990 subsistence landings data are estimated from Alaska Dept. of Fish and Game baseline studies for 1987; estimated landings are in pounds of dressed fish (H&G)  
 \*\* = Any commercial landings were at other ports  
 n/a = Data not available  
 # = IPHC permit data are based on postal zip codes; many Alaskan communities share zip codes, and CFEC data indicate that halibut permit holders reported elsewhere reside here.

The use of contract, non-resident labor in fish processing in the Aleutian Islands has led to dual economies being developed. While Unalaska can be said to have an urban, cash-based economy, all the other communities have a mixed cash-subsistence economy. Table A-13 showed the disparity in taxable income between Unalaska and Akutan residents which reflects this. Saint Paul, during 1981-1985, shows a relatively high level of personal income; it must be noted that these were the last of the years of Federal employment in fur sealing.

Community	Population N	Alaska Native Pop. (%)	Household Size (N)*	Mean Taxable Income (\$) **
Alaska, State	530,043	16.2	2.80	
Unalaska	3,089	15.1	2.57	20,055
Saint Paul	763	87.7	3.68	17,369
Akutan	589	39.6	4.50	8,241

Population data is from the 1990 census, U.S. Bureau of Census  
 Household size in mean number of persons  
 Mean taxable income per income tax return, 1981-1985; Alaska Department of Revenue.

Subsistence harvests of marine resources have been described for Atka, Unalaska, and the Pribilofs by Veltre and Veltre (1981a, 1981b, and 1983), but Schroeder et al. (1987) noted that no systematic measurement of harvest and use levels has been undertaken and thus baseline projections of use are not possible. Schroeder et al. reported that ethnographic accounts of the communities in the region indicate that there is a high dependence on fish, shell-fish and marine mammals for subsistence purposes. They suggest that this dependence is probably higher in Atka, Akutan, Nikolski, St. George and St. Paul, where other food supplies are more expensive and often more difficult to obtain than in other communities. Veltre and Veltre recorded subsistence use of marine mammals and fish in a survey of Pribilovian communities in 1981. At that time halibut were the principal fish consumed; on St. Paul subsistence consumption per household was 513 lb/year, while on St. George the subsistence use per household was 270 lb/year.

Participation in the harvesting of fish by local residents of the Aleutian communities and the Pribilofs is also restricted. NPFMC (1994b) reported that Unalaska has three fleets of vessels using the port. It was estimated in 1991 that 33 vessels belong to local residents and operate year round from the port; these vessels are a mix of longliners and crabbers. A second fleet, owned and operated by nonresidents of Unalaska, had 507 vessels based in Unalaska each fishing season. The third, transient fleet had 575 vessels and used the port for supplies and occasional landings. Of these fleets it is estimated that 200 vessels longlined for halibut.

Similarly, Akutan has only 12 locally owned skiffs involved in fishing for the processor; between 90 and 100 company-owned vessels and non-resident vessels under contract to the plant supply most of the fish delivered to the plant. Some 40 of these larger vessels fished for halibut (NPFMC 1994b).

St. Paul and St. George have a different problem; their isolation and previous dependence upon commercial fur sealing have created difficulties in establishing a commercial fishing industry on the Pribilof Islands. St. Paul has one, recently developed, on-shore plant which processes groundfish, crab and halibut. In 1990 all halibut deliveries to the plant were made by 18 locally-owned vessels. St. George had a floating processor moored in the harbor and halibut was delivered there. Local vessels are small, between 18 and 40 feet in length, and unable to fish far from the islands (Table A-14). The IPHC created Area 4C as a fishery development area for the Pribilofs and stipulated that vessels which did not land halibut on the Pribilofs had to obtain a vessel clearance prior to the opening of Area 4C for fishing and before unloading catch (IPHC 1991 Regulation 13-2). IAI reports that in spite of these restrictions, “outside” vessels took two-thirds of the halibut quota in Area 4C in 1990 and landed their catches in Unalaska, and local fishermen made very little money and perhaps a net loss on their operations (NPFMC 1994b).

Table A-14		Fleet Composition by Area, Size Class, and % of Catch in the Halibut Fishery Off Alaska, 1990		
IPHC Area	Vessel Size (ft)	1990		
		N	% Fleet	% Catch
4	<26'	66	18.7	2.1
	26-30'	37	10.5	1.5
	31-35'	117	33.1	6.6
	36-55'	33	9.3	16.2
	56'>	90	25.4	73.0
	n/a	10	2.8	0.5

Area, vessel, and catch data provided by IPHC, 1991; all % ages are rounded.  
n/a = Vessel size data not available for these vessels.

## Fishermen

There is no information available in the literature on participants in the commercial halibut fishery in areas 4A, 4B, 4C, and 4D. The fishermen operating 26 local vessels in the Pribilofs are Aleuts from the Islands, as described above, who primarily fish for halibut, and there are local fishermen fishing from skiffs in Akutan and Unalaska (NPFMC 1994b ). IAI reported that the out-of-state fishermen and processing workers who comprise the commercial fishing work-force are largely from the Pacific Northwest states and California, and state that, “as a group, locals, and Aleuts in particular, are very under-represented in the harvesting of marine resources” (NPFMC 1994b : Unalaska-19). The number of halibut fishing permits held by Unalaska residents totaled only 10 in 1990. Income earned from 13 permits fished in 1987 was \$361,827 and 77 fishermen were employed on local halibut vessels fishing from Unalaska (NPFMC 1994b ). Alaskan QS holders declined from 372 to 333 in the first year of IFQ fishing in 1995 (Muse et al. 1996). Total QS holders declined for Areas 4A - D by 32, 18, 10, and 18%, respectively, by 1998 (Dinneford, et al. 1999).

### **Fish processing**

Information on fish processing is described in the previous sections. Again there is no information in the literature on fish processing employment related to the halibut fishery. The plants on Saint Paul Island and in Akutan used seasonal workers from communities outside the region in 1990 (NPFMC 1994b ), and the majority of workers in Unalaska and on the floating processors are also from outside the region. Year-round processing of seafood in Unalaska has promoted some stability in employment, and it appears that some of the seasonal employees have settled in the community, hence the population increase. Dutch Harbor/Unalaska ranked ninth in number of landings and fourth in halibut IFQ pounds landed in 1999. St. Paul had landings of 280,000 lb in 1999.

#### **1.1.5 Bristol Bay-Eastern Bering Sea (Area 4E)**

The principal communities involved in the halibut fishery are in the Nelson Island/Nunivak Island area. The broad shelf of the Bristol Bay seabed drops off into deeper water, and halibut grounds are found close to shore in this area. Alaska Natives in this area are predominantly Yup'ik Eskimos, and with the exception of Bethel, Dillingham, and Nome, 20 rural villages engaged in the halibut fishery for commercial or subsistence use have populations less than 700 people in 1990. Population data and the distribution of halibut permits are shown in Table A-15.

Schroeder et al. reported that the communities of the region have been found to have mixed cash-subsistence economies (1987). In approximate order of importance, cash-economy employment available to residents of the region include government, education and service sector jobs; commercial fishing for salmon in Bristol Bay, the Yukon and Kuskokwim Rivers; commercial fishing for herring and halibut in the Nelson Island and Nunivak area; and employment in sales and services. Schroeder et al. reported that limited employment was generated by a private business sector, which was virtually non-existent in most villages (1987).

Subsistence activities continued in all the communities of the region, with the exception of King Salmon which is a government “town” servicing the air strip, since these are the most economic activities which yield the most consistent return to families. Schroeder et al. noted that local residents continued to rely on local fish and wildlife resources for most of the protein and fats they consume. In the Nelson Island area, for example, the community of Tununak harvests halibut from June through August for subsistence use. Some 93% of the households in Tununak engage in this harvesting activity, and all households reported consuming halibut in 1987 (Table A-16). The amount of halibut consumed was 93.4 lb per capita in 1987.

Table A-15 1990 Population, Distribution of Halibut Permits and Landings in East Bering Sea Communities (Area 4E)					
			Halibut		
Community	Pop. N	Alaska Native Pop. %	Permits N	Commerc. lb	Subsist. lb *
Bethel	4,674	67.6	#	**	n/a
Nome	3,500	58.5	1	**	n/a
Dillingham	2,017	57.0	20	**	0
King Salmon	696	5.9	2	**	n/a
Emmonak	642	91.29	0	**	n/a
Togiak	613	4.3	17	**	n/a
Naknek	575	50.6	13	**	n/a
Pilot Station	463	94.2	#	**	n/a
Toksook Bay	420	93.7	8	**	n/a
New Stuyahok	391	94.0	3	**	n/a
Manokotak	385	92.9	5	**	n/a
Chefornak	320	96.1	#	**	n/a
Tununak	316	95.0	#	3,413	29,514
Newtok	207	94.7	1	**	n/a
Aleknagik	185	89.6	2	**	n/a
Mekoryak	177	95.6	17	7,730	n/a
Nightmute	153	97.5	#	**	n/a
South Naknek	136	85.5	7	**	n/a
Egegik	122	76.0	1	**	268
Port Heiden	119	64.1	1	**	167
Sheldon Point	109	95.1	1	**	n/a
Levelock	88	100.0	0	**	396
Pilot Point	53	86.4	#	**	186
Ugashik	7	100.0	1	**	0
Bristol Bay (General)				25,401	n/a
Totals	16,369		100	36,544	

Population data are from the 1990 U.S. Census; 1990 permit and commercial landings data are from IPHC files.  
 \* = 1990 subsistence landings data are estimated from Alaska Dept. of Fish and Game baseline studies for 1987; estimated landings are in pounds of dressed fish (H&G)  
 \*\* = Any commercial landings were at other ports  
 n/a = Data not available  
 # = IPHC permit data are based on postal zip codes; many Alaskan communities share zip codes, and CFEC data indicate that halibut permit holders reported elsewhere reside here.

Table A-16 Population, Mean Household Size, and Mean Taxable Income for Selected Alaskan Communities with Halibut Harvests in 1990.

Community	Population N	Alaska Native Pop. (%)	Household Size (N)*	Mean Taxable Income (\$) **
Alaska, State	530,043	16.2	2.80	
Tooksook Bay	420	93.7	4.77	10,034
Tununak	316	95.0	4.05	8,223
Nightmute	153	97.5	5.28	8,112

Population data is from the 1990 census, U.S. Bureau of Census  
 Household size in mean number of persons  
 Mean taxable income per income tax return, 1981-1985; Alaska Department of Revenue.

In 1990, the IPHC established a special commercial halibut fishery development zone in Area 4E, with similar rules to those established for Area 4C off the Pribilofs (see above). This change encouraged a number of local fishermen to fish in the halibut fishery using Bristol Bay limit seiners (i.e., under 32 feet in length). Vessels landed halibut at buying stations/processing plants at Mekoryak, on Nunivak Island, and at Tununak, Nelson Island. Other catches were landed in various ports around Bristol Bay and transhipped to processors. Four vessels from “Outside” took another 24,000 lb and landed their catches in Unalaska (see Table A-17).

Table A-17		Fleet Composition by Area, Size Class, and % of Catch in the Halibut Fishery Off Alaska, 1990 (Areas 4A, 4B, 4C, 4D, and 4E)		
IPHC Area	Vessel Size (ft)	1990		
		N	% Fleet	% Catch
4	<26'	66	18.7	2.1
	26-30'	37	10.5	1.5
	31-35'	117	33.1	6.6
	36-55'	33	9.3	16.2
	56'>	90	25.4	73.0
	n/a	10	2.8	0.5

Area, vessel, and catch data provided by IPHC, 1991; all % ages are rounded.  
 n/a = Vessel size data not available for these vessels.

**Fishermen**

There are no data available in the literature surveyed on the commercial fishermen participating in the eastern Bering Sea fishery for halibut. Forty-eight Alaskans were initially awarded QS for Area 4E in 1995. No consolidation has occurred here since this area is 100% CDQ and no IFQs are awarded to those QS.

**Fish processing**

Halibut buying stations and/or processing plants are reported by the IPHC for Mekoryak and Tununak. There is no information about these operations in the literature surveyed.

## 1.2 Historical Fishing Practices and Dependence on the Fishery

The fisheries for halibut off Alaska have been prosecuted since prehistoric times by Alaska Natives. In historic times and to the present the halibut fisheries have continued to provide food for local people and fish for trade and commerce. The development of the commercial fishery in the late 1800s by schooner and dory fishermen from Washington, Oregon and California has resulted in long standing ties to the present fishery by fishermen from those states. The linkages have changed over time; halibut schooner and, later, steamer fishermen settled in communities such as Ketchikan, Petersburg, Kodiak, Sand Point, and King Cove. From these communities they developed local halibut fisheries and fisheries for other species as part of an annual round of commercial fishing.

Processing plants were built in many communities, and the large schooners and steamers delivering fresh halibut on ice to the States of Washington and Oregon in the first quarter of this century have been replaced by the container shipment of frozen product to reprocessing plants in those states or abroad. Changes in the management of fisheries, to the derby fishery for example, hastened the demise of historic patterns of involvement in the commercial halibut fishery. It is now largely an Alaskan-based fishery, with some 88% of permit holders having postal addresses in the state in 1990. Involvement in the fishery by fishermen from Washington and Oregon is usually with vessels which travel to Alaska, and then are based in a port for the duration of the fishing year. These vessels typically land at local plants and to all intents and purposes are indistinguishable from their Alaskan counterparts.

Historically, economic dependence on the fishery for a year-round livelihood by individual fishermen lasted from 1900 to 1950. Fishing companies relinquished their company vessels and concentrated on the businesses of processing and marketing fish in the period after the First World War, permitting independent fishing ventures to increase and prosper for a while. Overfishing of the resource, stagnant or declining over-the-dock prices, and increasing operating costs were offset by investment in new technologies, different approaches to management, and finally diversification into other fisheries. Bell reports that the average fishing season, measured from first port clearance to last landing, for a Seattle-based vessel participating in the halibut fishery was 272 days in 1930, 224 days in 1931, 99 days in 1954, and 173 days in 1965 (Bell 1981). Over the same period productivity per fisherman increased by a factor of 2.34, and crew size shrank by a third from an average of 9.3 men per vessel to 6 men.

The number of days actually spent fishing for halibut has decreased over time; in some years voluntary industry schemes had vessels laying-up for periods of time. In other years maximum poundage per fisherman was set as the cut-off point. By 1977, the IPHC had established a season of four "openings" totaling 73 fishing days for Southeast Alaska during the fishing year. In the same year, Area 3A had three openings totaling 47 days; 3B was open for a total of 65 days on four occasions; and Area 4A was open for 227 days consecutively (TetraTech 1981). In 1991, the halibut fishery in Areas 2C, 3A, and 3B is scheduled for three 24-hour openings; in Area 4A, there will be four 24-hour openings (IPHC 1991). To reduce fishing pressure further, the openings coincide so that vessels cannot move from one area to another. The Alaskan halibut fishery has been under an Individual Fishing Program and an eight month fishing season (March 15-November 15) since 1995.

Thus, the historical dependence on the fishery for a livelihood by some fishermen has been replaced by dependence on the fishery as part of a seasonal round of other fishing activities. Or, in the case of some part-time fishermen, by periods of employment ashore between fishing seasons.

### 1.2.1 Historic Participation of Southeast Alaska Fishermen

The Alaska Natives of the Alexander Archipelago have fished for halibut from “time immemorial” (General J. Davis, 1870, cited in Price 1990). The Tlingit, Haida, and Tsimshian Indian tribes had developed specialized fishing gear for taking halibut by the time of first contact and used the fish for subsistence and for customary trade with other, inland, groups. Halibut were, and are, not as important as salmon to the existence of Alaska Natives. They are part of the myth/belief/folklore systems of each of the tribes and considerable cultural value is ascribed to the fish and fishery. Halibut contributed a significant portion of the mixed economy of cash-subsistence activities after the development of the commercial fishery, and continues to do so to present times. Alaska Natives worked in the salteries and processing plants of the early fishery and caught fish for the plants and tenders, too. This participation has continued, and the fisheries from ports such as Angoon, Hoonah, Hydaburg, Kake, and Metlakatla are prosecuted in the main by Alaska Natives fishing traditional grounds.

Southeastern Alaska fisheries were developed by fishermen, many of Scandinavian origin, and companies in the salmon fishery. Canneries were located at a number of communities by the mid-1880s, and the first recorded halibut processing was done at the newly-built salmon cannery in Klawock in 1878 (Bell 1981). The development of the commercial fishery for halibut was attempted in 1888 with Gloucester-style schooners fishing dories, but the narrow island passages and difficult weather delayed any major fishery until the mid-1890s when auxiliary powered vessels based in Puget Sound began fishing the relatively-sheltered inside waters during the fall and winter. Their catches were iced down and shipped to Seattle and Vancouver by tender (Bell 1981).

Ketchikan prospered from this fishery as it was the U.S. Customs point of entry and departure. A salmon cannery was built in the port in 1887, and a cold storage plant for halibut was completed in 1910. Fishermen and process workers for these ventures were drawn, in part, from the neighboring Alaska Native communities of Craig, Hydaburg, and Metlakatla. As the halibut fishery in the central Gulf of Alaska, that is west of Cape Spencer, developed after 1913, Ketchikan became a principal supply port for the Puget Sound vessels fishing in the new fishery. The importance of the commercial halibut fishery to Ketchikan continues to this day and in 1990, the port handled some 1,036,245 lb of commercially caught halibut.

Petersburg was created as a “green field” site port in 1897. The early Norwegian settlers chose as the site for their fishing port a spot which lay close to the boundaries of the traditional fishing areas of the Tlingit villages of Kake and Wrangell, and thus provided access to fishing grounds with a minimum of disturbance of traditional property rights. Construction of a wharf and salmon cannery in 1899, permitted development of a year-round halibut fishery. Particularly important was the fall and winter fishery, in which Puget Sound vessels participated. Bell notes that, in 1906, there were 23 Puget Sound vessels fishing for halibut from Petersburg and 18 local vessels (1981). As the grounds west of Cape Spencer developed in the 1920s, the Puget Sound vessels shifted westwards and Petersburg developed its own fleet of medium-sized vessels fishing for halibut and salmon. Local fishermen operated a marketing cooperative and later purchased the processing plant to ensure stable markets for locally caught fish. In 1990, Petersburg ranked fifth in halibut landings with 2,283,525 lb or 4.3% of all landings. As the halibut season has shortened due to fishing pressure and stock decline, full-time employment in longlining for halibut has ceased to be possible. In consequence the Petersburg fleet has diversified, and vessels now round out their fishing year with salmon and herring seining, longlining for sablefish, or pot fishing (Langdon et al. 1984). The number of commercial halibut permits fished has remained fairly constant between 1980 and 1990 at approximately 210, and the halibut fishery continues to be of importance to the community.

The other communities in Southeast Alaska have also seen their fisheries for halibut change in ways similar to those in Petersburg and Ketchikan. The predominantly Alaska Native communities, such as Angoon and Hoonah, have seen their commercial halibut catches decrease but since they were already fully exploiting a diversified “portfolio” of fisheries in the vicinity of their villages, the impact was somewhat sharper as there



was a real loss of economic opportunity and of subsistence food. In addition, processing ventures in Kake and Angoon failed. Sitka and Pelican, communities with processors and links with the Area 3A halibut fisheries, have continued to lead in halibut production but their larger Gulf of Alaska vessels have had to develop new longline fisheries, and there has been major growth in fisheries such as that for sablefish.

### 1.2.2 Historic Participation in the Fisheries in Area 3A

As noted elsewhere, the larger Puget Sound vessels began developing the fishery for halibut west of Cape Spencer in 1913. Commercial fishing for halibut moved steadily westwards as stocks were depleted. Since the spawning grounds for halibut are in the Bering Sea, the move westward further increased the possibility of overfishing as more juvenile fish were encountered in the fishery (Bell 1981).

The rural communities of Area 3, as in Southeast Alaska, had relied upon halibut as an element in their mixed cash-subsistence economy from the beginning of the fishery. Changes in the commercial halibut fishery have impacted these communities in terms of reduced economic opportunity and reduced subsistence harvests. Port Graham and English Bay, for example, have been shown by Schroeder et al. (1987) to be part of a system of resource use that is important economically, socially and culturally. The mixed cash-subsistence economy in Port Graham was severely impacted by closure of the local processing plant from 1960 to 1968, and again after 1984 when the plant closed.

The rural communities of Kodiak Borough have high percentages of Alaska Natives as population and continue a mixed cash-subsistence economy. Langdon et al. note that the skiff fishery (vessels of less than 5 net tonnes) was largely prosecuted by Alaska Natives, and that in 1984 the fishermen of Ouzinkie relied almost entirely upon the halibut fishery for the cash segment of their economy (1984). Schroeder et al. report similar findings for the importance of the commercial fishery and fish processing to the inhabitants of these rural Kodiak communities (1987).

Non-Native communities such as Homer, which was founded in 1895 as a coal port, did not enter the halibut fisheries until the 1920s (Schroeder et al. 1987), and the fishery -- although of importance -- is part of a diversified fishing economy and the local dependence upon the halibut fishery is lessened. Homer is, however, the second port in volume of halibut landings in the Northwest Pacific. Some 11% of all landings (5,877,869 lb of halibut) were made in Homer in 1990.

Similarly, Seward was developed as a railroad port and terminus in 1903, and a cold storage plant was built there in 1917 to service the Gulf of Alaska halibut fishery (Bell 1981). Bell reports that after 1931, and the first major downturn in the fishery, few halibut were landed in Seward until the 1960s. In 1990, some 9% of all halibut landings were made in Seward. In part this was because of its role as a transportation center, but also because it was a convenient landing point for the halibut harvested in the openings in Area 3A. In all, 5,183,281 lb of halibut were landed in Seward from 72-hours of fishing activity in 1990.

Kodiak City was the leading port for halibut landings in 1990, with 22% of all landings, but played a minor role in the fishery prior to 1960. Bell notes that the development of the productive halibut grounds west of, and contiguous to, Kodiak in the 1930s was at a time when vessels returned to their home-ports to land catches and "fulfill their self-imposed between-trip lay-ins" (Bell 1981). After the Second World War, there was ample cold storage in other ports, including Sand Point, to handle halibut catches and thus no reason to select Kodiak as a landing point. However, with the growth of the crab and shrimp fisheries in the 1960s additional cold storage and other facilities were built in Kodiak which were attractive to the halibut vessels. Smaller catches in the 1970s made intermediate off-loading ports, such as Kodiak and Seward even more attractive and the switch to short openings in 1977 confirmed the economic attractiveness of the port to vessels in the fishery.

Thus the present day dependence of the Kodiak City fleet on the halibut fishery as part of the seasonal round is because of the development of the fleet for other fisheries and the imposition of fishing season management on the halibut fishery. The dependence is no less real for all that. Langdon et al. reported that two-thirds of the halibut fishermen resident in Kodiak in 1982 were born in states other than Alaska, and had resided in Kodiak City between 6 and 10 years on average (1994). Langdon et al. note that, in 1982, there was a small fleet of Aleut-owned vessels, some 10 to 15% of the total fleet at the time, fishing from Kodiak City. These vessels participated in a mixed cash-subsistence economy typical of the six Alaska Native communities in the Kodiak Borough (1984).

### 1.2.3 Historic Participation in the Fisheries of Area 3B

Some 45% of all halibut fishermen resident in Area 3B were estimated by Langdon et al. to live in Sand Point (1984). The communities of Chignik Lake, Chignik Lagoon, Chignik, Perryville, and King Cove are homes to the balance of the resident fishermen. Halibut processing began in Sand Point in 1946 when a former military cold store was sold as surplus (Bell 1981). When Langdon et al. interviewed fishermen in 1983, it was found that the mean length of participation in the commercial halibut fishery by Sand Point residents was 9.1 years, with a median of 7.5 years (1984). Such a short participation span can be indicative of a recently developed fishery. In recent years the halibut landings at Sand Point, although 1,058,103 lb in 1990, have been small relative to the groundfish landings (NPFMC 1994b). The structure of the fleet has also changed since the Langdon and Miller study in 1983, and the dependence on halibut as a commercial fishery is part of a seasonal round, which includes salmon and crab fishing, by a segment of the fishing industry based at Sand Point.

Halibut is traditionally part of the mixed cash-subsistence economy of the Aleut population of Area 3B. Subsistence harvests range between 36 and 48 lb per capita for the communities studied (ADF&G 1988), and some 85% of the population uses subsistence halibut.

### 1.2.4 Historic Participation in the Fisheries of Area 4A, B, C, D

The Aleut population of the Aleutian Islands and the Pribilof Islands has traditionally harvested halibut for subsistence use (Schroeder 1987; Veltre and Veltre 1981a and 1983; Orbach and Holmes 1983). The local communities of Atka, Nikolski, Akutan, Saint George and Saint Paul harvest halibut as part of a seasonal round of commercial and subsistence fisheries. The commercial fishery, with halibut landed in the Aleutian Islands, is a development of the past twenty years as the halibut longliners sought new grounds. Between 1967 and 1973 there were no recorded commercial halibut landings in the Aleutian communities.

Akutan and Unalaska rank 9th and 12th respectively in commercial landings of Pacific halibut in 1990. However, the majority of vessels landing at the processing plants are non-resident. IAI report that the halibut harvesting sector in Unalaska employed 77 people locally in 1987, a gain of 30 people since 1981, and this is appropriate given the 11 commercial halibut permits held by local residents in 1986 (NPFMC 1994b). Of these permits, IAI report that 3 were for longline vessels less than 5 net tonnes, and 8 permits were for vessels over 5 net tonnes.

In the processing sector, groundfish processing dominates but all Unalaska plants process halibut when available although IAI report that one plant discontinued halibut processing at the end of the halibut season in 1990. Fish delivered to the plants comes from throughout Area 4 (including 4E), even though vessel clearance requirements militated against catches from the area of the Pribilofs and Area 4E. Local residents fish for halibut as part of a mixed cash-subsistence economy, and as such are more dependent on the fishery.

The Aleuts of the Pribilof Islands have used the halibut resources of the Islands for subsistence since they were moved there by Russian fur traders (Veltre and Veltre 1981a). With the termination of the fur seal harvest, the Pribilovians have turned to commercial fishing as their primary economic activity, with halibut

as their principal resource. To this end, the IPHC declared Area 4C as a fishery development area for the Pribilofs with a view to assisting islanders in becoming economically self-sufficient. In 1990, however, 44.6% of the halibut catches taken in Area 4C were landed by vessels owned by Washington State permit holders.

### 1.2.5 Historic Participation in the Halibut Fishery of Area 4E

The Yup'ik peoples of Area 4E have traditionally used halibut for subsistence purposes. In particular, Nelson Island communities, such as Tununak, have relied on the resource. Communities further south, along the shores of Bristol Bay, have used halibut when available, but the principal subsistence fishery has been for salmon.

As the Yup'ik villages have developed cash economies, they have turned to harvesting marine resources. To this end they have begun to participate in the halibut fishery. Area 4E was designated in 1990 as a fishery development area by the IPHC, and there was a increase in the number of local fishermen and permit holders participating in the fishery. However, 36% of the halibut harvested in Area 4E in 1990 was taken by vessels owned by Washington State permit holders.

### 1.3. Alaska Native Fisheries

The 1990 census reported that of the 550,043 people living in Alaska, 21 % (116,653) were rural residents (Wolfe and Bosworth 1994). Of these, 48% were Alaska Natives (55,888) and 52% were non-Native (60,765). Of the remaining 433,390 urban residents, 16% were Natives (29,810) and 84% were non-Natives (403,580).

In this section, the participation of Alaska Natives in the fisheries in each area will be considered. General Jefferson Davis, in his report to the U.S. Congress in 1870 on his administration of Alaska, wrote: "Fish form the chief and most easily procured food of the natives, and has from time immemorial" (cited in Price 1990). Fishing has historically been an important component of the lives of Alaska Natives, and the exploitation of halibut for subsistence and trading purposes is well documented. Each major Alaska Native group active in the halibut fishery will be reviewed in turn, beginning with those fishing in Area 2C and moving northwest.

In previous sections in this chapter it has been noted that the Alaska Native populations are largely found in the rural communities, and blend subsistence activities with fishing in the market economy. Traditionally, coastal Alaska Natives fished in waters near to their settlements and established a pattern of fishing rights and obligations recognized by other Alaska Native groups. In a report prepared for Congress by Lieutenant G.T. Emmons in 1905 at the request of President Roosevelt, it is noted that "the whole country was portioned off among the [Alaska Native] families as hunting reserves, berry grounds, or fishing sites, and their laws of property and rights were very clearly defined and strictly observed" (cited in Price 1990). These "territorial user rights in fisheries" (TURFS, as described by Pollnac 1983) correspond to the areas and resources needed for subsistence by the group or clan. Mapping of traditional fishing grounds, as presently observed by Alaska Natives, by the Alaska Department of Fish and Game show these areas to have minimum overlap between communities and an agreed upon scope embodied in folk lore and the cultures of the communities.

Similarly, fishing patterns and gears were, and are, developed to fit the particular needs of the local fishery. In all these activities related to fishing for subsistence and trade, the Alaska Native communities seek social and economic efficiency; that is, the maximum return to the community for the minimum investment of labor and capital. Thus a pattern of seasonal fishing and hunting is tailored to local needs; when a sufficiency of one good, say firewood or seal oil, has been collected, effort will be directed to the harvesting of other needed subsistence items. Thus the use of commercial fishing gears for subsistence harvesting is commonplace.

In this survey it has been found that there is a confusion in the reporting of subsistence harvests in general, and by Alaska Natives in particular, since IPHC lumps subsistence harvesting with recreational fishing as

activities using non-commercial gears and with a bag-limit of two fish per day (G. Williams, IPHC; pers. commun. to P. Fricke). Information provided by Alaska Department of Fish and Game's Subsistence Division for rural communities show that, regardless of the IPHC definition, subsistence fishing for halibut is conducted in traditional patterns of seasonality and intensity that are socially and economically efficient for the harvesters. The scale of harvesting is in excess of the recreational harvest's bag-limits, but is self-limiting in that the harvest is tailored to the need of the individual, family, or extended family unit as culturally defined.

### 1.3.1 Traditional and Customary Fishing Practices of Alaska Native Peoples

The following is adapted from Wolfe (1993a). More than 55,000 Alaska Natives live in about 250 rural settlements, including Tlingit, Haida, Tsimshian, Aleut, Alutiiq, Yup'ik, Inupiat, and several Athabaskan tribal groups (Figure A-1). The economies, cultures, and spiritual well-being of Alaska's indigenous societies are heavily dependent upon customary and traditional fishing and hunting practices (Wolfe and Walker 1987). Subsistence activities of Alaska Natives are usually conducted by traditional, kinship-based groups using small-scale efficient harvesting technologies. The food is preserved by traditional, labor-intensive methods including air-drying, smoking, freezing, salting, and fermenting. Traditional foods are distributed along non-commercial networks of sharing and exchange and consumed primarily by families in rural areas. Fishing occurs in traditional areas following customary principles of the local society. During the past century, traditional subsistence practices have been substantially eroded by competing commercial and sport fishing by non-Natives and other factors. These interests have exerted considerable political influence on Federal and state governments that manage fish and game. These influences have resulted in many fishing and hunting regulations that substantially restrict traditional fishing and hunting by Alaska Native groups.

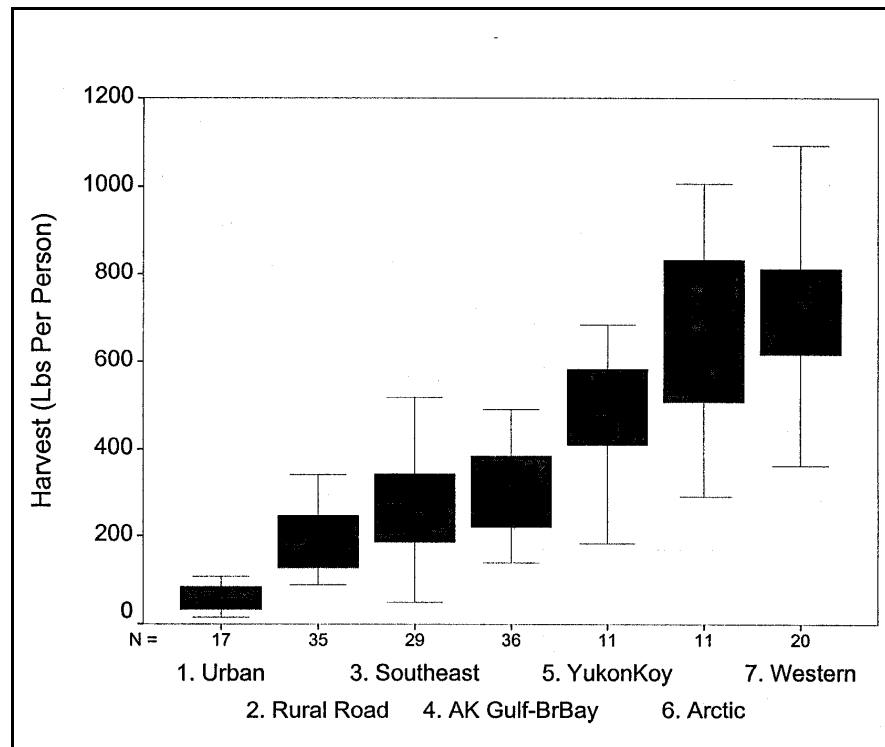


Figure A-1. Wild food harvests in Alaska communities.

labor-intensive methods including air-drying, smoking, freezing, salting, and fermenting. Traditional foods are distributed along non-commercial networks of sharing and exchange and consumed primarily by families in rural areas. Fishing occurs in traditional areas following customary principles of the local society. During the past century, traditional subsistence practices have been substantially eroded by competing commercial and sport fishing by non-Natives and other factors. These interests have exerted considerable political influence on Federal and state governments that manage fish and game. These influences have resulted in many fishing and hunting regulations that substantially restrict traditional fishing and hunting by Alaska Native groups.

The following section is adapted from Smith and Kancewick (1995). Alaska Native subsistence occurs not only to obtain food, but is also part of a cultural/socioeconomic system that has six basic characteristics: a community-wide seasonal round of subsistence activities; high participation rates in fishing and hunting activities; substantial outputs of fish and game products for local use; a domestic mode of production; extensive non-commercial distribution and exchange networks; traditional systems of land use and occupancy; and a mixed economy combining subsistence and commercial sectors (Wolfe 1984).

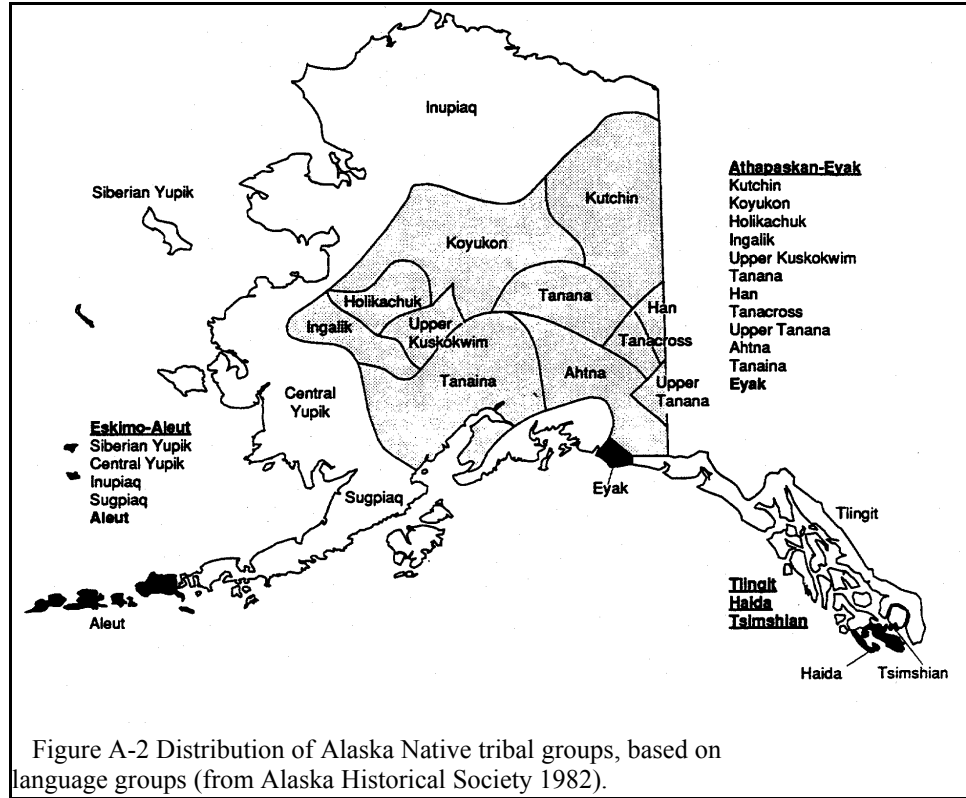
A crucial cultural aspect also occurs for Alaska Native subsistence uses: the territorial nature of subsistence; the reliance on taking fish and game when available and needed; the importance of the manner of take; and the way in which subsistence activities are a group effort. The location of subsistence harvests is not a matter of preference, but a key element of the 'customary and traditional uses' of fish and game. The place one takes fish and game helps define the group to which one belongs, and hence the particular rules that one may follow. Subsistence is, by its very nature, a local activity.

The systems of land use represent a sociopolitical organization of fishing and hunting whereby access to resources is defined and control exerted (Wolfe 1984). The locations of fishing and hunting activities by residents of a community are influenced by systems of non-codified customary laws defining rights of access. Trap lines, fish camps, set net sites, big game areas, and other areas are recognized as the use areas of particular kinship groups and communities. ADF&G studies indicate that subsistence users tend to harvest in traditional use areas surrounding their communities, therefore, most subsistence harvests tend to be relatively accessible from the community (Wolfe and Bosworth 1990). Subsistence harvest areas for particular groups of people are definable and relatively predictable. Subsistence users generally do not harvest outside their community's traditional use area.

A second defining characteristic of subsistence uses is that resource harvesting is seasonal in nature; resources are taken when they are available and needed. The seasonal round of subsistence is a built-in aspect of the entire custom and tradition of subsistence harvesting. A third component is the interplay of spiritual beliefs and subsistence fishing. These beliefs define those between harvester and prey and those within the community itself. The continuity of these hunting patterns throughout the generations is a reflection of the strength of these cultural ties. A fourth component relates to subsistence as a group activity. Subsistence is in part an economic system whereby subsistence harvesting and processing are engaged in by small groups within a village, usually families, (Wolfe et al. 1984).

Figure A-2 (from Wolfe and Bosworth 1994) demonstrates that a substantial portion of rural households harvest and use wild foods. For surveyed rural communities, 75-98% harvested fish and 92-100% of households used fish; 48-70% harvested wildlife and 75-98% used wildlife. These patterns indicate that many households shared harvested fish with non-harvesting community members. The composition of wild food harvests by rural residents is 60% fish, 20% land mammals, 14% marine mammals, 2% shellfish, 2% birds, and 2% plants.

Subsistence food harvests provide a major part of the nutritional requirements of Alaska's rural population (Wolfe and Bosworth 1994). The annual rural harvest of 375 lb of wild food per person contains 243% of the protein requirements of the rural population (i.e., about 107 g of protein per person per day compared to a mean daily requirement of 44 g). Subsistence harvests, however, contains only about 35% of the necessary caloric requirements (i.e., it contains about 840 Kcal daily of the 2,400 Kcal daily requirement).



### 1.3.2 Alaska Natives of Area 2C

In Area 2C, three tribal groups have been involved in the subsistence and commercial halibut fisheries from the time of the Seward Purchase. These groups are the Haida, Tlingit, and Tsimshian tribes. The Tlingit and Haida inhabited the Alexander Archipelago prior to contact with non-Natives, and the archaeological record suggests that habitation goes back at least 9,000 years before present. The Tsimshian are a tribe that, like the Haida, is also found in British Columbia, and the principal settlement of Tsimshian in Area 2C, at Metlakatla, was founded in the 1870.

Communities in Area 2C with more than 20 per cent Alaska Native population include Sitka, Metlakatla, Craig, Hoonah, Klawock, Kake, Angoon, Hydaburg, Saxman, Klukwan, and Kasaan.

#### 1.3.2.1 The Haida

The Haida have lived, and utilized marine resources, in southeast Alaska since before historic contact (Stewart 1977). Halibut, in combination with other marine fish, made up the backbone of the economies of the southeast communities at the time of contact. The fish catches of the southeast region were so large and dependable that they functioned as the basis for the development of one of the most complex cultures on the northwest coast. The Haida culture is multi-faceted, including but not limited to large populations, a stratified society, and elaborate systems of art and ceremony, which find expression through complex networks of sharing and exchange (Spencer and Jennings 1965; Alaska Department of Fish and Game 1991).

Fish, and halibut in particular, have long been important for the Haida. Like other Alaska Native tribes and communities, the fish that are caught in the subsistence fishery are shared among their large extended-family groups, defined by ancestry to ancient clans and lineages (Alaska Department of Fish and Game 1991).

Halibut is still a highly valued resource in the region today. Continuing in the traditions of their forefathers, many Haida still catch halibut with baited hooks on weighted lines that are set with floats or held by hand. The younger generation of harvesters continue to learn the techniques for harvesting and processing halibut and other bottomfish by watching their elders and joining them in subsistence fishing activities (Alaska Department of Fish and Game 1991). And many still prefer the traditional methods of drying and smoking the halibut as was done in the past. As discussed by an Alaska Department of Fish and Game report (1991), halibut that is smoked and dried is still a highly valued food by southeast residents.

While commercial fishing for salmon and halibut have been a principal source of income to the Haida, non-Native practices in the development of commercial fisheries in the region have been costly to them. For example, fish stocks have been greatly depleted. And, along with non-local control of profit from fishing enterprises, have been restrictions on Haida subsistence practices. Nevertheless, subsistence activities have persevered in these mixed, subsistence-market communities, although at a lower level than in other Alaska Native Alaskan groups (Betts and Wolfe 1990). And as the Haida have been, they continue to be dependent on halibut and other marine fish not only as a source of nutrition and potential capital but also for the significant cultural and psychological benefits they attain from subsistence activities.

Haida participation in the commercial halibut fishery is not documented, but some 100 commercial licenses are estimated to be fished by Haida resident in rural communities.

### 1.3.2.2 The Tlingit

Tlingit Indians have lived in the southwest archipelago area and utilized the marine environment there for nearly 3,000 years (Langdon 1989; Moss 1989) and have, perhaps, lived in Hoonah for as long as 9,000 years (Ackerman 1968). Tlingit artifacts that date back 900 years, and oral history that tells of their presence in the Cross Sound area hundreds of years ago (Schroeder and Kookesh 1988), clearly establish their constancy in the region. In Angoon, evidence for Tlingit occupation, such as a salmon weir and village and fishing sites, has been found for 3,000, 1,600, and 1,000 years before present.

As with all Alaska Native American tribes or communities, Tlingit culture and well-being are inextricably tied to the use of the natural resources that surround them (Gmelch and Gmelch 1984). Fish and halibut, in particular, have been very important for the Tlingit. As stated in a recent report by the Alaska Department of Fish and Game (1991), “Historically, the fish produced by the Tlingit . . . were shared and consumed among large extended family groups who traced ancestry as lineages and clans who resided within large plank clan houses.” In addition, large amounts of food were prepared and given away in elaborate feasts, and ceremonies to assert their status, rank, and prestige in the social group.

The people of Angoon and Hoonah, for example, still adhere to many of their traditions that are related to obtaining and using wild resources. This enables them to maintain deep cultural ties with important land and water areas, and with the resources that have sustained their culture for thousands of years (George and Bosworth 1988). In keeping with past traditions, modern Tlingit place a great deal of value on their Alaska Native cultural heritage. This includes subsistence hunting, fishing, and gathering as well as sharing the harvested food (George and Bosworth 1988). Stated simply, “Alaska Native Tlingit culture has traditionally been defined largely by its relationship to the environment. The survival of the Tlingit tradition depends on the sea and land continuing to provide resources; if the foundation of Alaska Native subsistence is weakened, other elements of the culture will begin to crumble” (Gmelch and Gmelch 1984).

The Tlingit continue to fish in the commercial and subsistence fisheries for halibut. While there are no survey data on Tlingit participation in the commercial halibut fishery, it is estimated that some 150 halibut permits are held by Tlingit in rural communities such as Angoon and Kake. Participation in fishing crews and processing is an important activity for tribal members, but again there are no survey data available.

### 1.3.2.3 The Tsimshian

The Tsimshian have utilized halibut and other bottomfish since before historic contact (Stewart 1977). Archaeological studies show evidence of halibut bones, among other types of fish, in prehistoric village sites (de Laguna 1960), in addition to evidence that the Tsimshian had developed special methods and gear for harvesting bottomfish (Stewart 1977).

As with other Alaska Native groups and communities, Tsimshian culture is intricately tied to the surrounding natural resources. As stated in a recent report by the Alaska Department of Fish and Game (1991), “Historically, the fish produced by the . . . Tsimshian were shared and consumed among large extended family groups who traced ancestry back as lineages and clans . . . Large quantities of food also [were] prepared and given away by the headmen of the extended families in elaborate feasts and ceremonies to publicly demonstrate and validate rank, status, and prestige within the social group.”

The abundance and reliability of marine resources enabled fish to serve as the basis for the development of the complex non-agrarian Northwest Coast culture area (Spencer and Jennings 1965). As Bell (1981) states, “With fishery products being so important in the lives of the coastal tribes both as a direct source of food and as trade items with inland groups, it is not surprising to find fish, including halibut, commemorated in the heraldry on the totem poles.”

Marine resources continue to play an important role in Tsimshian daily life. Following in the steps of their forefathers, many Tsimshian still harvest halibut by traditional methods. And many residents continue to value highly halibut that is smoked and dried in the traditional way (Alaska Department of Fish and Game 1991).

As Irwin (1984) states, “The people of the Northwest Coast practiced no agriculture. Rather, they were children of the sea. Their life was dominated by a benevolent ocean that teemed with life.” Although commercial fishing and other industrialized influences have reduced Tsimshian ability to completely keep their old life ways, the importance of subsistence fishing to their culture and well-being cannot be overstated.

The Tsimshian settlement, and tribal reservation, at Metlakatla is active in the halibut fishery. With reserved water areas and fishing sites, the village harvested 0.45% of all commercially caught halibut in 1990 and ranked 31st of the 48 individual ports with reported landings. Residents of Metlakatla held 27 permits and landed 234,650 lb of halibut in the commercial fishery and an 11,256 lb in the subsistence fishery in 1990.

### 1.3.2.4 Customary and Traditional Practices of Alaska Natives in Area 2C

This section is adapted from ADF&G (1991) and describes the 1987 halibut fisheries for Southeast Alaska communities excluding Juneau and Ketchikan. Bottomfish, including halibut, have been an important food fish utilized by the Tlingit, Haida, and Tsimshian in southeast Alaska since before historic contact and continuing to the present. These tribes developed specialized gear and harvesting methods, but have adopted recent modifications of fishing techniques introduced by Euro-American settlers.

Three types of hooks were developed for harvesting halibut. Steam-bent U-shaped hooks of various sizes made of wood tipped with slender bone (and later iron) barbs were used by the Haida and Tsimshian. Carved V-shaped hooks made of two wood arms, fitted and lashed, and tipped with bone or iron barb were used in the northern portions of the southeast by the Tlingits. Bi-pointed throat gorges were also used. All three types of hooks were commonly set as single hooks, in pairs with rig spreaders, or as multiple hooks along longlines. Bait was typically octopus or whole small fish. Set hooks were attached to wood or bladder floats, and were weighted with sinker stones. Sets were checked with open boats. Line was made from spruce root or sinew in the north, and bull kelp, nettle fiber, and cedar bark fiber in the south.



Trolling techniques and rod and reel gear also underwent technological modifications over the years. Skiffs and larger vessels are currently used. Currently, as in the past, most halibut are taken with baited hooks on weighted lines. Lines are set with float, held by hand, or attached to a pole with a reel. Although set lines with multiple hooks are not allowed by regulation for the non-commercial harvest of halibut, this practice does occur and appears to be a continuation of historical harvest methods.

Non-commercial use of halibut has continued alongside the development of commercial fisheries which began in the 1880s. Halibut harvests totaled 705,126 lb in 1987 for Southeast Alaska (Figure A-3). Estimated total community harvests ranged from five communities with under 1,500 lb of halibut to thirteen communities with greater than 10,000 lb but less than 75,000 lb, and two communities with greater than 150,000 lb. Per person

insert Figure A-3

halibut harvests ranged from 1 pound in Klukwan to 77 lb in Meyers Chuck (Figure A-4). Most harvests occurred in relatively deep, open marine waters near the main winter settlement, but seasonal moves also occurred to camps nearer to halibut.

Halibut were shared and consumed among large extended family groups who traced common ancestry (Figures A-5 and A-6). The Tlingit, Haida, and Tsimshian were also avid traders. Halibut were eaten fresh, but also thinly cut, dried, and smoke over racks for later use, especially in northern southeast. Today halibut is halved smoked and frozen. Some use a dehydrator to replace the old system of air drying.

### 1.3.3 Alaska Natives of Area 3A

Area 3A has a number of tribal groups intermingled along the coast. Tlingit live in Yakutat together with Athapaskans, Chugach Eskimo are found throughout the Prince William Sound area, Tanaina Athapaskan Indians are found throughout the Cook Inlet area, Sugpiaq and Koniag Eskimos (who refer to themselves as “Aleuts”) are found in Lower Cook Inlet and on Kodiak Island respectively, and Aleuts are scattered throughout Area 3A. Eyak Athapaskan Indians, once widespread from south of Yakutat through the Copper River Delta, are now found only in the Cordova region. The dispersion of Aleuts through the region is in part due to the resettlement of these peoples from the Aleutian Islands during World War II and in part to the Russian settlers who recruited (some sources say “enslaved”) Aleuts as workers.

Little information is available on the involvement of Alaska Natives in the commercial fishery for halibut in Area 3A. Estimates of permit holders, based on community of residence, suggest that between 100 and 150 Alaska Natives hold permits to fish in the area. Estimates are difficult to arrive at because, for example, the zip code of two Sugpiaq Eskimo communities, English Bay and Port Graham, is the same as that for Homer, a predominantly non-Native settlement. Communities with an Alaska Native population greater than 20% in the region include Old Harbor, Port Lions, Ouzinkie, Larsen Bay, Ahkiok and Karluk on Kodiak Island (Koniag Eskimo); Yakutat (Tlingit); Chenega and Tatitlek (Chugach Eskimo); Port Graham, Seldovia, and English Bay (Sugpiaq Eskimo); and Tyonek (Tanaina).

#### 1.3.3.1 The Chugach Eskimo

The Chugach Eskimo have a long history of living throughout Prince William Sound, and have resided there at least since Captain James Cook made the first recorded contact with them in 1778 (Stratton 1989). According to oral tradition and based on research done in the 1930's, there were 8 geographical groups of Chugach residing in the Prince William Sound area. Their villages were always located on the shore line to provide easy access to marine resources (Stratton 1989). These geographical groups or tribes shared their culture and language and came together for feasts, but maintained political independence from each other (Birket-Smith 1953; de Laguna 1956).

Marine resources such as sea mammals and a variety of fish, including salmon, halibut, red snapper, and cod are the staple foods of the Chugach. Dependent on the weather, the Chugach fished for halibut with hooks and lines. They had the most success in this pursuit in the early summer (Birket-Smith 1953).

By the early 1960s, in Chenega, a Chugach Eskimo community, halibut had become the most commonly harvested bottom fish. Like other Alaska Native American tribes and communities, subsistence food sharing was prevalent. Ten out of fourteen households fished for halibut, primarily from late spring to early fall and shared the catch with any member of the community who wished to partake (Stratton and Chisum 1986). By the mid- 1980s, sharing halibut had become even more common, with ten households (67%) reporting that they gave away halibut and twelve households reporting they had received it (Stratton and Chisum 1986).

Insert Fig A-4

Insert A-5

Insert A-6

Following the Exxon Valdez oil spill 1990 subsistence harvests were 60% less than previous years in Chenega.

#### 1.3.3.2 Kodiak Eskimos

Kodiak-area Alaska Natives refer to themselves as Aleuts, but ethnographically they are Kodiak Eskimos, using the Sugpiaq Eskimo dialect (Schroeder, et al; 1987). Archaeological data shows that Kodiak Island was first settled some 8,000 years before present, and the Kodiak Eskimos have occupied the island for at least 700 years.

Schroeder et al. (1987) report that “Koniag culture has been strongly focused on the sea, and major subsistence use has been made of marine fish, mammals, and invertebrates” (1987). The wealth of marine resources was such that it is estimated that the population in pre-contact times was between 6,500 and 10,000 people. It is estimated that some 3,100 Kodiak Eskimos lived on Kodiak Island and the out-islands in 1983 (Schroeder et al. 1987). Subsistence harvest of halibut is important to Alaska Natives in the six non-road-connected communities of Akhiok, Karluk, Larsen Bay, Old Harbor, Ouzinkie, and Port Lions, as well as in Kodiak City. Highest per-capita levels of halibut subsistence harvest were in Port Lions (85.6 lb/capita) and Old Harbor (56.7 lb/capita). Akhiok residents had the lowest halibut subsistence catch and harvested 24.3 lb/capita in 1987.

The participation of Alaska Natives in the commercial fishery for halibut on and around Kodiak Island is not known, but it is estimated that at least 60 Kodiak hold commercial fishing permits. Some Alaska Natives work in the fish processing plants, but the majority of the processing workforce is Filipino.

#### 1.3.4 Alaska Natives of Area 3B

Two groups of Alaska Natives inhabit the communities of this area. Chignik, Chignik Lake, Chignik Lagoon, Perryville, and Ivanof on the Lower Alaska Peninsula was populated by Kaniagmuit Eskimos at the time of Russian contact (Schroeder, et al; 1987). The population relocations during the Russian period led to mixing of, and inter-marriage between, Eskimo, Aleut and other Alaska Native groups and families and with Europeans. The communities of Sand Point, King Cove, Cold Bay, and False Pass were developed with the commercial sealing and fishing industry. Their Alaska Native population was drawn from in-migration of Aleut groups from communities further west on the Aleutian Chain. Inter-marriage with European fishermen and sealers has also been frequent, and some Aleuts who were moved to Southeast Alaska during World War II or were sent to a Bureau of Indian Affairs school in Sitka returned to the region with Tlingit spouses. The residents of the area prefer to call themselves “locals” rather than Alaska Natives, although all the communities (with the exception of Cold Bay) have an Alaska Native population greater than 50 per cent of the whole (see Table A-9). When an Alaska Native descriptor is sought, residents refer to themselves as Aleuts (Schroeder et al. 1987).

Commercial and subsistence fishing are important activities of these communities and halibut features in both. It is estimated that some 40 Alaska Natives hold commercial halibut fishing permits in Area 3B of the 117 permits issued. Employment as crew and in processing plants is unknown at this time.

#### 1.3.5 Alaska Natives of Area 4

Area 4 includes the waters surrounding the Aleutian Chain and the Bering Sea. The Alaska Native population of the Pribilof and Aleutian Islands is Aleut. Saint George, Saint Paul, Akutan, Atka, and Nikolski have Alaska Native populations in excess of 39% of the whole population (see Table A-12). The four Aleutian communities have been year-round Aleut settlements since pre-contact days, and the Aleuts of the Pribilofs were transported to the Islands as seal hunters by the Russians in the late eighteenth century (Schroeder et al. 1987; Veltre and Veltre 1981a).

The East Bering Sea communities are populated by Yup'ik Eskimos, and only regional centers such as Nome, Dillingham, Bethel, or special function towns like King Salmon, Naknek, and Port Heiden, have an Alaska Native population of less than 85%.

#### 1.3.5.1 The Aleut

Based on archaeological data, the Aleut Indians have lived in the Aleutian archipelago area for at least 4,000 years and probably have been living there for as long as 8,500 years before present. Throughout this time, they have maintained their cultural adaptation to the sea, which serves as the essential provider of nearly all of the basic necessities of life (Veltre and Veltre 1983). As Orbach and Holmes (1983) state, "...fishing in the Pribilofs is centered about a species which is both an Aleut tradition and a commercial prize: halibut."

Aleuts, like other Alaska Native American tribes/communities, are enmeshed culturally and economically with the surrounding natural resources (Veltre and Veltre 1983; Orbach and Holmes 1983; Schroeder, Andersen, Bosworth, Morris, and Wright 1987). In most communities halibut is harvested year round, providing a constant supply of this important resource (Schroeder, Andersen, Bosworth, Morris, and Wright 1987). Most people prefer to eat traditional foods over many of the commercial items that are available. For some, traditional foods comprise as much as 50% of the diet. In addition, many people prefer traditional preservation methods, salting and drying, for example, even though most have freezers (Veltre and Veltre 1983).

Fishing for halibut provides not only valuable nutrition but is important for maintaining social ties within families and between various members of the community. In Atka, most of the fishing is done by men, either alone or in small groups. Women, who normally do not participate in subsistence activities, may sometimes fish for halibut from the shore (Veltre and Veltre 1983) or may even go along on fishing trips with the men (Orbach and Holmes 1983). Besides berry-picking, this is the only harvesting activity where the women are relatively equal partners in the acquisition of resources (Orbach and Holmes 1983).

Once the halibut is brought back, it is shared with the community (Orbach and Holmes 1983; Veltre and Veltre 1983; Schroeder et al. 1987). As Veltre and Veltre state, "Two of the basic tenets of the Aleut subsistence economy since pre-contract times have been cooperation in subsistence endeavors and sharing of the products of hunting, gathering, and fishing. Both cooperation and sharing are still very much a part of resource utilization in Atka today . . ." (1983). Members of Aleut communities derive great satisfaction and pride in being able to share traditional foods that they have caught with their families and with the community as a whole (Veltre and Veltre 1983). As Orbach and Holmes (1983) note, "it is the kindness, remembrance and satisfaction of this activity as much as its support of tradition or sustenance which gives it its value."

#### 1.3.5.2 The Yup'ik

Although the area where the Yup'ik live has been inhabited by several different human groups in the last 10,000 years, archaeological evidence suggests that by A.D. 1000 the cultural ancestors of present-day western region Yup'ik Eskimos were living in and utilizing the subsistence resources of the area (Schroeder et al. 1987).

In Togiak, for example, halibut is harvested for subsistence whenever available. However, not being able to rely on halibut year-round in no way detracts from the importance of subsistence fishing for halibut for the Yup'ik. Like other Alaska Native tribes and communities, the Yup'ik will save these catches of halibut for eating at home or will share them with others in the village (Schroeder et al. 1987; Wright, Morris, and Schroeder 1985).

The Yup'ik way of life is intricately entwined with the natural environment and the resources therein. Natural resources are valued not only for their obvious nutritional and economic components but for the cultural and



familial glue they provide to the members of the community, particularly for the elderly and those in need. As noted in Schroeder et al. "Family activities, particularly in the Yup'ik and Athapaskan communities, are centered around fishing and hunting. Families are bound together by the distinctive labor roles of men and women and different responsibilities of different age groups. The distribution and exchange of subsistence products link families and provide an expression of kinship ties and social order" (1987).

A Yup'ik individual's psychological well-being and social adjustment are dependent upon fishing and hunting and gathering. Those who participate in the acquisition of the resources as well as those who receive them attach deep personal meaning to the process of harvesting, processing, and sharing subsistence foods. These are based upon traditional values, belief systems, and ideological structures that are culturally learned and culturally maintained (Schroeder et al. 1987). For many Yup'ik men, much like their counterparts in the commercial fishing industry, self-worth is measured by their ability to provide for their families and their community. Disruption of this way of life could lead to many negative consequences, from shaking up the family and social order to substance abuse (Schroeder et al. 1987).

### 1.3.5.3 Kuskokwim

The following is adapted from an ADF&G Subsistence Division report (ADF&G 1993) describing the long term, consistent customary and traditional pattern of use of halibut and Pacific cod in the Kuskokwim area. Halibut, along with a variety of other marine fish species, have been historically harvested in this area since the 1840s. Most of the directed marine fish harvest is conducted by coastal community residents of all ages, and dried halibut is also traded and bartered along local networks. Jigging, spearing, and handpicking are especially important activities for children and youth who learn the practice from elder women and men.

Kuskokwim fishermen have developed a use pattern consisting of methods and means of harvest which are characterized by efficiency and economy of effort and cost. Directed fishing for halibut and Pacific cod begins immediately after herring fishing in June and extends through August in the Nunivak and Nelson Island areas, although July affords the best weather and most productive fishing. Halibut are caught by jigging or longlining, but also in salmon nets in Kuskokwim Bay. Locally made hand-held jigs typically contain two or three baited hooks and weight attached to the center hook; this gear is a traditional method described as early as the 1880s. Manufactured surf-casting rod-and-reel containing one baited circle hook with weight attached is also frequently used, particularly by younger fishermen. Commercial longline gear is also set for halibut, and undersized fish are kept for subsistence. Most halibut fishing crews are composed of both commercial and subsistence fishermen during commercial fishing periods because most families have one marine fishing boat and one set of longline gear. Further, weather and rough seas generally restrict the opportunities for effective fishing, so combining commercial and subsistence efforts takes advantage of limited good weather and saves on gear and gasoline.

Halibut fishing areas are generally in deep waters near each community. Mekoryuk fishermen fish from Cape Etolin south and east along Nunivak island. Halibut are believed to travel northward as the summer progresses, so Nelson Island fishermen follow the schools between the south side of the island and north of Chinit Point by August. Chefornak and Kipnuk fishermen occasionally fish for halibut along the coast of their communities. Along southern Kuskokwim Bay, halibut are caught incidentally in commercial salmon nets. The proximity, economy, and ease of harvest make halibut an important resource.

Halibut are eaten fresh, dried, and frozen to be cooked in the winter. Halibut heads are highly prized; they are boiled fresh or partially dried. Halibut are filleted and scored like salmon for drying, and are also smoked.

Halibut and other marine fish are shared among community households, particularly the first harvests of the season. A 1986 subsistence survey in Tununak showed that 97% of households participated in halibut harvesting. Halibut was the second single highest species produced for subsistence at 93.5 lb per person.

Irregular trade and barter exchanges occurred in which dried and frozen halibut was traded for dried salmon with Kuskokwim River residents.

#### 1.3.5.4 Tununak

The following is taken from a description of the 1986 Tununak halibut fishery from a memo from M. Pete to R. Wolfe, ADF&G Subsistence Division (1988). Both commercial and subsistence fishing is conducted primarily with either locally-made, hand-held jigging gear or purchased deep-sea rod-and-reel gear. Although the number has been slowly increasing since the inception of the commercial fishery in 1982, few fishermen use longline gear to catch halibut. Thirty-one of 33 Tununak households sampled (total of 64 households and 325 residents) owned an average of 2.7 units of home-made jigging or purchased rod-and-reel gear; 16 of the 33 owned an average of 1.2 units of longline gear. In 1986, 76% of sampled households reported using only rod-and-reel or home-made jigging gear to catch halibut; 6.1% only used longline gear; and 15% used a combination of jigging, longline and set net gear to catch halibut. Halibut caught in salmon set gill nets is an incidental catch, but taken for subsistence. In all Nelson Island area communities, most area residents retain halibut less than the 32 inch commercial minimum size caught on longlines for subsistence.

##### 1.3.5.4.1 Subsistence Fishery

All but one of 33 households sampled attempted to fish for halibut in 1986. The total harvest was 790 halibut, ranging between 1 and 120 and averaging 24 fish/household and 7-11 fish/person. Ten percent of the households provided 55 % of the total harvest. The halibut harvest totaled 15,800 lb round weight, approximately 9% of the total subsistence harvest of all resources. All fish harvests accounted for 71% by weight, and halibut accounted for 12% of usable pounds of fish. It provided 94 lb per capita of food, which was second only to herring (439 lb per capita). Expanding the subsample subsistence harvest to the entire Tununak village yields an estimated 30,000 lb in 1986. The annual subsistence harvest for the Nelson Island region may exceed the commercial harvest. The annual quota ranged between 35,000 and 75,000 lb. Expanding the 94 lb of halibut per capita generated from the subsample yields an estimated 94,000 lb of subsistence halibut, greater than the commercial catch for any year prior to 1986.

The implementation of Individual Fishing Quotas (IFQs) and Community Development Quotas (CDQs) for halibut and sablefish in 1995, has resulted in increased fishing opportunities for Western Alaska rural communities. The CDQ program has redirected set percentages of the commercial quota to coastal communities in the BSAI (Table A-8). Approximately 20% of the halibut commercial quota is allocated to Western Alaska coastal communities. The economic effects of the CDQ program on Western Alaskan communities are discussed below.

##### 1.3.5.4.2 Commercial Fishery

Twenty-five of 33 sampled households had members involved in commercial fishing in 1986. Of these, 19 had members involved in the commercial halibut fishery, compared with 20 and 6 households, with members in herring and salmon fisheries, respectively. Mean household income from commercial halibut fishing was \$488. Twenty-seven persons earned between \$15 and \$2,000 for a total income of \$16,090 for the community. In 1984, a total of \$10,882 was earned from commercial halibut fishing. Commercial fishing produced 10% of total income, and halibut fishing produced 2%. These income amounts may be misleading because wage employment (buyers, cleaners, packers, etc.) is not included. It is important to note that because incomes in rural Western Alaskan communities are low and cost of living is high, the contributions made by subsistence fishing are important.



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