


MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke 
Executive Director

DATE: April 14, 1993

SUBJECT: Legal gear types

ACTION REQUIRED

Final decision on defining legal gear types

BACKGROUND

In January the Council reviewed a draft regulatory amendment which would define specific legal gear types. Current regulations define only illegal gears. That amendment was released for public review on February 4 and a copy is included in your notebook as Item D-3(d)(1). If adopted, gear types defined as legal would include hook and line, jig, troll, longline, longline pot, pelagic trawl, pot and line, and trawl. Vessels participating in non-groundfish fisheries using undefined gear could retain bycatch amounts of groundfish consistent with existing directed fishing standards.

New gear types could still be developed under experimental fishing permits where fishing efficiency, bycatch rates, and effects on the environment could be assessed. Gear types assessed under this process could subsequently be authorized to fish for groundfish under future regulatory amendments.

Effects of this amendment on the environment, administration, and enforcement are expected to be positive, but could negatively affect up to 19 vessels that in 1992 harvested 179 mt and 141 mt of groundfish in the GOA and BSAI, respectively. Gears included sunken gillnets and seine; they would not be legal under this amendment.

DRAFT

ENVIRONMENTAL ASSESSMENT

and

REGULATORY IMPACT REVIEW/INITIAL REGULATORY FLEXIBILITY ANALYSIS

FOR REGULATORY AMENDMENTS TO

PROHIBIT UNDEFINED GEAR TYPES IN THE DIRECTED FISHERIES FOR

GROUND FISH IN THE GULF OF ALASKA

AND

THE BERING/SEA ALEUTIAN ISLANDS AREAS

February 1993

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1.0 INTRODUCTION

The groundfish fisheries in the Exclusive Economic Zone (EEZ) of the Gulf of Alaska (GOA) and Bering Sea Aleutian Island area (BS/AI) are managed under the Fishery Management Plan (FMP) for Groundfish of the GOA and the FMP for the Groundfish of the BS/AI. Both plans were developed by the North Pacific Fishery Management Council (Council) under the Magnuson Fishery Conservation and Management Act (Magnuson Act). The GOA FMP was approved by the Secretary of Commerce and become effective in 1978 and the BS/AI FMP become effective in 1982.

At times, amendments to the FMPs and/or their implementing regulations are necessary to resolve problems pertaining to management of the groundfish fisheries. The structure of the FMP allows certain measures to be changed by regulatory amendments without amending the FMP itself.

Actions taken to amend the FMPs or their implementing regulations must meet the requirements of Federal laws and regulations. Among the most important of these are the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), Executive Order (E.O.) 12291, and the Regulatory Flexibility Act (RFA).

NEPA, E.O. 12291, and the RFA require a description of the purpose and need for the proposed action as well as a description of alternative actions which may address the problem. This information is included in Section 1 of this document. Section 2 contains information on the biological and environmental impacts of the alternatives as required by NEPA. Impacts on endangered species and marine mammals also are addressed in this section. Section 3 contains a Regulatory Impact Review (RIR) which addresses the requirements of both E.O. 12291 and the RFA that economic impacts of the alternatives be considered. Section 4 contains the Initial Regulatory Flexibility Analysis (IRFA) required by the RFA which specifically addresses the impacts of the proposed action on small businesses.

This Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) addresses regulatory amendments that propose to prohibit the use of undefined fishing gear in a directed fishery for groundfish in the GOA and BS/AI.

1.1 Description of the problem and need for action

The proposed regulatory amendment would prohibit the use of undefined gear types to participate in a directed fishery for groundfish in the GOA and BS/AI. This action is necessary to more fully implement FMP provisions governing the groundfish fishery that are intended to authorize the use of only those gear types defined in regulations. This action also is proposed to (1) prevent additional grounds preemption and gear conflict problems in the overcapitalized groundfish fisheries, (2) clarify the application of gear specific fishery closures under prohibited species bycatch restrictions, and (3) prohibit the use of undefined gear types that have unknown effects on prohibited species bycatch mortality and the biological or physical environment. This action is intended to promote the goals and objectives of the North Pacific Fishery Management Council with respect to groundfish management off Alaska.

Traditional gear-types used to fish for groundfish are defined in regulations at 50 CFR 675.2 and 672.2. These defined gear types are: hook-and-line, jig, longline, longline pot, pelagic trawl, pot-and-line and trawl. Notwithstanding gear specific restrictions set forth under CFR 672.24 and 675.24, regulations generally do not prohibit the use of undefined gear types to participate in a directed fishery for groundfish.

Groundfish harvests with undefined gear occurred in 1992. Additional interest has been expressed by members of the fishing industry to use other than defined gear types in a directed fishery for groundfish. Concerns exist that additional fishing effort using undefined gear types in the overcapitalized groundfish fisheries would aggravate grounds preemption and gear conflict problems within the groundfish fisheries. Although the amount of groundfish harvested during 1992 with undefined gear types is small (320 mt) relative to the total 1992 groundfish harvest off Alaska (2,214,206 mt), potential exists for increased use of undefined gear in directed groundfish fisheries.

Concern also exists about the unknown effects that undefined gear types may have on the biological and physical environment. Furthermore, prohibited species bycatch management measures have been developed specifically for defined gear-types that implement gear specific fishery closures when specified bycatch limits are reached. Although all gear types are prohibited from directed fishing for a groundfish species when the directed fishing allowance for that species are reached, only specific gear types (those defined at 50 CFR 672.2 and 675.2) may be prohibited from directed fishing for groundfish under prohibited species bycatch closures authorized under §675.21 and §672.20(f). These closures are intended to limit further bycatch amounts of prohibited species after established bycatch limits have been reached. Without the proposed action, no regulatory authority exists to prohibit the use of undefined gear as long as directed fishing allowances remain. As a result, regulatory intent to limit prohibited species bycatch amounts under existing bycatch management measures are potentially thwarted. As competition increases for groundfish quotas and associated PSC limits, prohibited species bycatch allowances are being reached more quickly, resulting in earlier closures for specified gear types. Interest to fish for groundfish with undefined gear types has increased accordingly.

In response to similar concerns, the Alaska Board of Fisheries adopted a proposal to prohibit the use of sunken gillnet gear at it's November 8-12, 1992, meeting. Sunken gillnets are undefined gear in federal regulations and fishermen have been targeting on Pacific cod with this gear type in both state and federal waters off Alaska.

Under the proposed action, industry interest in new gear types to fish for groundfish could be developed under experimental fishing permits. Under these permits, fishing efficiency, bycatch mortality rates, and the effects on the environment could be assessed. Gear types assessed under this process could be subsequently authorized to fish for groundfish under future regulatory amendments.

1.2 The Alternatives

Alternative 1. (Status quo alternative) Do not prohibit the use of undefined gear types.

Under this alternative undefined gear types could be used in directed groundfish fisheries and continue to be used to harvest groundfish after gear-specific bycatch limits are reached. In

addition, additional fishing effort using undefined gear types in the overcapitalized groundfish fisheries could aggravate grounds preemption and gear conflict problems in the groundfish fisheries.

Alternative 2. Prohibit the use of gear-types that are not defined in 50 CFR 672.2 and 675.2.

Only those gear types defined in the regulations could be used to participate in directed fishing for groundfish. Defined gear types include: hook-and-line, jig (which includes troll), longline, longline pot, pelagic trawl, pot-and-line, and trawl. Vessels participating in a non-groundfish fishery using undefined gear could retain bycatch amounts of groundfish consistent with directed fishing standards set forth in regulations 50 CFR 672.20(g) and 675.20(h).

New gear types to fish for groundfish could be developed under experimental permits. Under these permits, fishing efficiency, bycatch mortality rates, and the effects on the environment could be assessed. Gear types assessed under this process could be subsequently authorized to fish for groundfish under future regulatory amendments.

2.0 NEPA Requirements: Environmental Impacts of the Alternatives

An environmental assessment (EA) is required by the National Environmental Policy Act of 1969 (NEPA) to determine whether the action considered will result in significant impact on the human environment. An Environmental Impact Study (EIS) must be prepared if the proposed action may be reasonably expected: (1) to jeopardize the productive capability of the target resource species or any related stocks that may be affected by the action; (2) to allow substantial damage to the ocean and coastal habitats; (3) to have a substantial adverse impact on public health or safety; (4) to affect adversely an endangered or threatened species or a marine mammal population; or (5) to result in cumulative effects that could have a substantial adverse effect on the target resource species or any related stocks that may be affected by the action. An EA is sufficient as the environmental assessment document if the action is found to have no significant impact (FONSI) on the human environment.

An EA must include a brief discussion of the need for the proposal, the alternatives considered, the environmental impacts of the proposed action and the alternatives, and a list of document preparers. The purpose and alternatives for the subject proposed action were discussed in Sections 1.1 and 1.2 of this document, and the list of preparers is in Section 8. Section 2 contains the discussion of the environmental impacts of the alternatives, including impacts on threatened and endangered species and marine mammals.

The following two alternatives are analyzed in response to the requirements described above.

2.1 Environmental Impacts of the Alternatives

Potential biological effects on the environment under Alternatives 1 and 2 are those caused by changes in the associated mortality of groundfish or other fish species, marine mammals, including Steller sea lions and harbor seals, and sea birds that could result from the use of undefined gear types in directed groundfish operations. A summary of the effects of the 1993 groundfish total allowable catch amounts on the biological environment and associated impacts on marine mammals, seabirds, other predators and prey, and threatened or endangered salmon

is set forth in the final environmental assessment for 1993 groundfish total allowable catch specifications (USDOC, 1993).

Physical impacts under Alternatives 1 and 2 are those that would be caused by fishing activity using undefined gear types on the sea bed and associated benthos (i.e., attached animals and plants).

Alternative 1. (Status quo alternative) Do not prohibit the use of undefined gear types.

Adoption of the status quo alternative could potentially aggravate any adverse effects that groundfish harvesting operations have on the biological and physical environment if mortality of non-target species are increased through the use of undefined gear or the continued "ghost fishing" of lost gear.

For example, gillnets, or any other undefined gear-type, could be used in directed groundfish fisheries and continue to harvest groundfish after gear-specific bycatch limits are reached. Under current authority, a closure to a specific gear-type when specified bycatch limits are reached, would not prohibit the use of undefined gear (in this case, gillnets). Gillnets are non-selective and have a high potential to capture protected, endangered or threatened species. Lost gillnets also have the capacity to "ghost fish", after they have been abandoned or lost. Some evidence exists that lost gillnets continue to catch fish and crustaceans for years (Way, 1977). Gillnets have also been known to catch marine mammals and shore birds (AFJ, 1991). The Alaska Board of Fisheries recently adopted to prohibit the use of sunken gillnets at its November 8-12, 1992, meeting. Under federal regulations the use of undefined gear, including sunken gillnets, could continue to be used in the EEZ.

Alternative 2. Prohibit the use of gear-types that are undefined in 50 CFR 672.2 and 675.2.

Adoption of this alternative would prohibit the use of undefined gear to fish for groundfish off Alaska. Only those gear types defined in the GOA and BS/AI groundfish regulations could be used to participate in directed fishery for groundfish. Those gear types are: hook-and-line, jig, longline, longline pot, pelagic trawl, pot-and-line and trawl.

This alternative would provide all the conservation benefits that have been developed specifically for defined gear-types. This is consistent with the original intent and objective of the Council bycatch management measures and without the implementation of this alternative, these objectives and intent to protect prohibited and bycatch species are thwarted.

Under the proposed action, industry interest in new gear types to fish for groundfish could be developed under experimental fishing permits. Under these permits, fishing efficiency, bycatch mortality rates, and the effects on the environment could be assessed. Gear types assessed under this process could be subsequently authorized to fish for groundfish under future regulatory amendments.

2.2 Effects on Endangered and Threatened Species and on the Alaska Coastal Zone

None of the alternatives are expected to have any adverse effect on endangered or threatened species or their habitat. Thus, formal consultation under Section 7 of the Endangered Species Act is not required.

Also, each of the alternatives would be conducted in a manner consistent, to the maximum extent practicable, with the Alaska Coastal Management Program within the meaning of Section 307(c)(1) of the Coastal Zone Management Act of 1972 and its implementing regulations.

2.3 Findings of no Significant Environmental Impact

For the reasons discussed above, neither implementation of the proposed action nor any of the alternatives to that action would significantly affect the quality of the human environment, and the preparation of an environmental impact statement on the preferred action is not required by Section 102(2)(C) of the National Environmental Policy Act or its implementing regulations.

3.0 Regulatory Impact Review: Social and Economic Impacts of the Alternatives

A review of the social and economic impacts of the alternatives provides information about those industry members affected by the proposed action and the economic gains or losses they are likely to experience as a result of the action. This section also addresses the requirements of both E.O. 12291 and the Regulatory Flexibility Act to provide adequate information to determine whether an action is "major" under E.O. 12291 or will result in "significant" impacts on small entities under the RFA.

Executive Order 12291 applies to the issuance of new rules, the review of existing rules, and the development of legislative proposals concerning regulations. The EO requires that:

- (1) regulatory objectives and priorities be established with the aim of maximizing aggregate net benefits to society, taking into account the condition of the particular industries affected by the regulations, the condition of the national economy, and other actions contemplated for the future;
- (2) decisions be based on adequate information concerning the need for and consequences of the proposed rules;
- (3) the chosen regulatory approach or alternative be the one with the least net cost to society, if practicable; and
- (4) regulatory action should not be undertaken unless the potential benefits outweigh the potential costs to society.

E.O. 12291 also requires the Secretary of Commerce to determine whether the impact of a regulation is "major" and, if so, complete a Regulatory Impact Analysis (RIA) of the alternatives. A major regulation is one that is likely to result in: (1) an annual effect on the economy of \$100 million or more; (2) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (3) significant adverse

effects on competition, employment, investment, productivity, innovation, or on the ability of U.S based enterprises to compete with foreign based enterprises in domestic or export markets.

A description of the purpose and need for the action and alternatives considered to address these problems were described in Sections 1.2 and 1.4. The social and economic impacts of these alternatives are discussed below.

3.1 Alternative 1. (Status quo alternative) Do not prohibit the use of undefined gear types.

Status quo means that NMFS takes no action to reduce the possibility that potential problems discussed in Section 1.1 will occur. These problems include the need to clarify defined gear-types to make the regulations consistent with the FMP intent, to prevent future harvests of groundfish by gear types that are not covered by the prohibited species catch limits in the Gulf of Alaska, and to discourage the development of groundfish fisheries using new or undefined gear types.

In 1992, 19 of the 2,300 vessels that were issued federal groundfish permits were permitted to harvest groundfish using undefined or "other gear". Each of these vessels were also authorized to harvest groundfish with hook-and-line gear. Seventeen of the vessels listed gillnet as their other gear and 2 listed seine.

Shore plants reported harvests of groundfish with "other" gear that totalled 179 mt in the GOA and 141 mt in the BS/AI. These landings were primarily Pacific cod (288 mt or 90% of the groundfish landed). The ex-vessel value of the Pacific cod landings was approximately 178,000 dollars.¹ Processor reports do not indicate the specific gear used for these cod harvests nor do they indicate whether the harvests took place in state or federal waters. Although individual fish tickets have not been examined, discussions with ADF&G groundfish biologists indicate that most of these landings were taken with gillnet gear in directed fisheries for Pacific cod. The landings occurred primarily from January through April, a time when no other non-groundfish directed fisheries were occurring.

The status quo alternative would continue to permit harvests of groundfish with undefined gear, including sunken gillnets, in the EEZ. However, any harvests using sunken gillnets that formerly had occurred in state waters will be prohibited in the future under State of Alaska regulations.

While groundfish harvests by "other" or undefined gear currently is a small proportion of overall groundfish harvests, the associated mortality of prohibited species are unknown. Furthermore, since prohibited species bycatch mortality limits are gear specific, the closing of gear specific fisheries will not prevent undefined gear types from continuing to fish if TAC amounts remain unharvested. As a result, regulatory intent to limit prohibited species bycatch amounts under existing bycatch management measures could be undermined. This problem would be alleviated in the BS/AI pending approval of proposed Amendment 21 to the FMP for the Groundfish Fishery in the BS/AI. This amendment authorizes the establishment of halibut bycatch mortality limits for trawl and non-trawl gear. However, the problem still exists in the GOA because bycatch mortality limits remain specific to trawl, hook-and-line, and pot-and-line gear.

¹. The average ex-vessel value for Pacific cod landed by "other" gear in 1992 was 28 cents per pound (PACFIN, 1992).

The status quo has the potential to encourage the development of groundfish fisheries using new or undefined gear types. The degree to which fisheries using alternative, undefined gear types will develop is unknown, as are the impacts on groundfish fisheries. However, because the groundfish fisheries in the GOA and BS/AI are generally overcapitalized, with harvesting and processing capabilities well above that necessary to harvest existing TACs, regulations which allow continued expansion of these fisheries are not desirable from a social or economic perspective. Any addition of effort in these fisheries is a loss to the nation unless the new gear types are more efficient and they are used to replace other, less efficient gear types. Under 50 CFR 672.6 and 675.6, the effects and development of new gear types that are more efficient could be monitored and analyzed under experimental fishing permits.

Alternative 2. Prohibit the use of gear types that are undefined in 50 CFR 672.2 and 675.2.

Directed fishing for groundfish would be permitted only for those gear types defined in the regulations. The only harvests that have occurred in 1992 which would be prohibited under Alternative 2 would be those made using gillnets or seines. It is difficult to use historical harvest information to determine the number of vessels or value of harvests which may be affected by this alternative. The impact of a recent Board of Fisheries decision to prohibit the use of sunken gillnets will probably reduce future harvests of Pacific cod using gear that is undefined under federal regulation. Alternative 2 only impacts that portion of the fleet that harvested groundfish with undefined gear in the EEZ.

The proposed regulation only prohibits directed fishing for groundfish with undefined gear. Gillnet and seine vessels may continue to land groundfish as bycatch in non-groundfish fisheries such as salmon and herring.

If groundfish landings such as those made in 1992 are prohibited in the future under this alternative, the owners of these vessels may experience a loss. However, the extent of their loss depends on whether their harvests are already prohibited under state regulations, how important these groundfish harvests are to their overall income and whether they have the capability to harvest this groundfish with a legal gear. The extent of these losses is unknown but probably less than the estimated ex-vessel value of the Pacific cod harvest (\$178,000). Some portion of these harvests are now prohibited under state law and this loss should not be attributed to the proposed change in federal regulations. Second, some of the income lost as a result of this alternative may be made up by groundfish harvests with legal gear. All vessels with 1992 federal groundfish permits listing gillnet and seine gear also listed hook-and-line gear, so these vessel owners would still be able to harvest groundfish with defined, legal gear in the future.

The intent of this regulation is not to prevent the development of more efficient or effective methods of harvesting groundfish. However, any increased effort, regardless of the technical improvements it may represent, will result in net losses to the industry and the nation unless it is an improvement in technology that replaces less efficient harvesting techniques. In the case of the current groundfish fisheries, it is more likely that this effort using new or undefined gears would be in addition to current effort, not a more efficient replacement for it.

Industry members interested in the use of new or undefined gear types are able to apply for experimental fishing permits to do so. It is preferable to have new fisheries develop through the permitting process under the control of experimental fishing permits. This would allow

monitoring of the biological and environmental affects of the gear. Additional legal gear types would have to be added by regulation which would allow consideration of the potential social and economic impacts before industry members became dependent on these fisheries.

3.3 Reporting Costs

Reporting costs by vessels currently participating in the groundfish fisheries off Alaska will not change as a result of this proposed regulation.

3.4 Administrative, Enforcement and Information Costs

Prohibiting the use of undefined gear types will not significantly change administrative, enforcement and information costs. However, failure to implement this regulation may lead to additional administrative and enforcement costs in the future if fisheries using undefined gear develop.

3.5 Summary of Economic Impacts: Distribution of Costs and Benefits

The proposed regulation may have an impact on up to 19 vessels permitted to harvest groundfish using undefined gear types (gillnets or seines), however, many of the landings made by these vessels in 1992 would be prohibited in the future under State of Alaska regulations. In addition, all vessels with permits for other gear had hook-and-line permits. It is difficult to estimate the net loss of this proposed regulation change to fishermen who would have been able to continue to fish or develop new fisheries under the status quo. The estimated ex-vessel value of Pacific cod harvests in 1992 using "other" gear was \$178,000. However, this probably overestimates the loss to fishermen because some of this income will be lost as a result of the State of Alaska prohibition against sunken gillnets and some of the income can be made up in other groundfish fisheries using legal gear. All vessels authorized to use undefined gear also were authorized to use hook-and-line gear.

Alternative 2 is beneficial from both a social and economic perspective because it discourages the development of new effort in already overcapitalized fisheries and prevents the overharvest of prohibited species, gear conflicts, and fishing ground preemptions among all vessels in the GOA and BS/AI. The proposed regulation to prohibit the use of undefined gear in groundfish fisheries off Alaska is not expected to have major impacts as defined by E.O. 12291.

4.0 Initial Regulatory Flexibility Analysis

The objective of the Regulatory Flexibility Act is to require consideration of the capacity of those affected by regulations to bear the direct and indirect costs of regulation. If an action will have a significant impact on a substantial number of small entities an Initial Regulatory Flexibility Analysis (IRFA) must be prepared to identify the need for the action, alternatives, potential costs and benefits of the action, the distribution of these impacts, and a determination of net benefits.

NMFS has defined all fish-harvesting or hatchery businesses that are independently owned and operated, not dominant in their field of operation, with annual receipts not in excess of \$2,000,000 as small businesses. In addition, seafood processors with 500 employees or less,

wholesale industry members with 100 employees or less, not-for-profit enterprises, and government jurisdictions with a population of 50,000 or less are considered small entities. A "substantial number" of small entities would generally be 20% of the total universe of small entities affected by the regulation. A regulation would have a "significant impact" on these small entities if it resulted in a reduction in annual gross revenues by more than 5 percent, annual compliance costs that increased total costs of production by more than 5 percent, or compliance costs for small entities that are at least 10 percent higher than compliance costs as a percent of sales for large entities.

If an action is determined to affect a substantial number of small entities, the analysis must include:

- (1) description and estimate of the number of small entities and total number of entities in a particular affected sector, and total number of small entities affected; and
- (2) analysis of economic impact on small entities, including direct and indirect compliance costs, burden of completing paperwork or recordkeeping requirements, effect on the competitive position of small entities, effect on the small entity's cashflow and liquidity, and ability of small entities to remain in the market.

4.1 Economic Impact on Small Entities

Most commercial fishing vessels harvesting groundfish off Alaska and delivering to shore-based processing plants meet the definition of a small entity under the RFA. In 1992, approximately 2,000 catcher vessels landed groundfish from the GOA or BS/AI. The maximum number of vessels which would be impacted by limiting harvests to legal gears would have been less than 20 vessels in 1992. These vessels represent less than 1% of the catcher vessel fleet and, therefore, this proposed regulation does not impact a substantial number of small entities.

5.0 Summary

The adoption of alternative 2 would prohibit the use of undefined gear types to participate in a directed fishery for groundfish in the GOA and BS/AI. This action is necessary to more fully implement FMP provisions governing the groundfish fishery that are intended to authorize the use of only those gear types defined in regulations. This action is also intended to (1) prevent additional grounds preemption and gear conflict problems in the overcapitalized groundfish fisheries, (2) clarify the application of gear specific fishery closures under prohibited species bycatch restrictions, and (3) prohibit the use of undefined gear types that have unknown effects on prohibited species bycatch mortality and the biological or physical environment. This action is intended to promote the goals and objectives of the North Pacific Fishery Management Council with respect to groundfish management off Alaska.

Adoption of Alternative 2 may negatively affect up to 19 vessels that in 1992 harvested 179 mt and 141 mt of groundfish in the GOA and BS/AI, respectively. The extent of losses to these vessels is unknown but probably less than the estimated ex-vessel value of the Pacific cod harvest (\$178,000). Some portion of these harvests are now prohibited under state law and this loss should not be attributed to the proposed change in federal regulations. In addition, some of the income lost as a result of this alternative may be made up by groundfish harvests with legal gear.

Adoption of Alternative 1 would not prevent additional grounds preemption and gear conflict problems in the overcapitalized groundfish fisheries. In addition, adoption of Alternative 1 would allow directed fisheries to remain open to undefined gear types once PSC limits are reached and specific gear-types are closed to fishing. Furthermore, authority exists at 50 CFR 672.6 and 675.6 for vessels seeking to develop new gear types to apply for an experimental fishery permit for that purpose. Under Alternative 2, therefore, industry interest in new gear types to fish for groundfish could be developed under experimental fishing permits. Under these permits, fishing efficiency, bycatch mortality rates, and the effects on the environment could be assessed. Gear types assessed under this process could be subsequently authorized to fish for groundfish under future regulatory amendments.

Without the proposed action to prohibit undefined gear-types no regulatory authority exists to prohibit the use of undefined gear as long as directed fishing allowances remain. Use of undefined gear-type has unknown and undocumented effects on the environments.

6.0 References

1. United States Department of Commerce, USDOC, 1993. Final Environmental Assessment for 1993 Groundfish Total Allowable Catch Specifications Implemented under the Authority of the Fishery Management Plans for the Groundfish Fishery of the Bering Sea and Aleutian Islands Area and Groundfish of the Gulf of Alaska. NOAA, NMFS, Alaska Region, Juneau, AK, January 1993
2. Way, E.W. 1977. Lost gillnet (ghost net) retrieval project. 1976 Industrial Development Branch, Newfoundland Region, Canada
3. Staff, September 1992. The Marbled Murrelet. Old growth savior or double whammy? Alaska Fisherman's Journal.
4. PACFIN, 1992. Pacific Coast Fisheries Information Network Portland, OR. Report No. 128, December 10, 1992.

7.0 Agencies and Individuals consulted

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