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APPENDIX B
INDIVIDUAL QUOTA ENFORCEMENT PROGRAM

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The need for an increase in effort to enforce individual quota (IQ) programs is discussed in Section 3.9. The enforcement options being considered by the Council are (1) leave the design of an enforcement program completely to National Marine Fisheries Service (NMFS) or (2) specify in general terms certain elements which may or may not be included in an enforcement program (Appendix A, Section 15.12).

While the specifics of an enforcement program are not part of the proposed plan amendment, this appendix contains an example of what might be a realistic and effective enforcement program. This example has been developed in order to assess the demands an IQ system could place on enforcement and the accompanying industry compliance burden. An earlier example program developed during a May 1993 enforcement workshop was intended to be sufficient to handle any IQ program the Council might develop at some later date. This program was largely revised after it became apparent that the costs of such a comprehensive enforcement system could not be offset by the benefits of a fixed gear sablefish IQ program. The current example program was developed during a November 1993 enforcement/industry meeting.

GOALS FOR IQ ENFORCEMENT

The report from the May 1993 enforcement workshop listed four goals for an enforcement program.

1. Create an environment conducive to voluntary compliance.
2. Design a program which provides adequate enforcement resources to respond to known violations. (For any enforcement program to be effective it is vital that it be capable of apprehending and prosecuting known violators. Failure to prosecute known violators can have the effect of encouraging even more noncompliance.)
3. Provide an enforcement program that is both cost effective and realistic in terms of current budget concerns.
4. Provide an enforcement program that does not needlessly interfere with normal and traditional business practices. (The net result of an IQ program should be a better product for the consumer and a higher return to the industry. However, IQ enforcement necessitates a much more intrusive interaction between government and industry. Instead of managing one quota for each management area or fishery, IQ programs result in managing hundreds of individual quotas. This requires a direct link between the fisheries manager, enforcement personnel and the individual fishers.)

Additionally, an Enforcement Consultant report from March 1993 listed a number of basic enforcement principles for an IQ program which may be summarized as follows:

Accurate Landings Reports and Quota Share (QS) Authenticity. Enforcement officers must be able to quickly, simply and accurately determine that participants possess sufficient documented and authentic QS to cover all fish on board a vessel.

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Monitoring Landings. Enforcement officer must be able to efficiently monitor movement of all IQ product through the commercial distribution system.

Strong Sanctions for Violations/Fraud. Penalties must include loss of permits and/or QS. Fraud would collapse the program making it impossible to accurately monitor and track IQ sablefish landings as the fish progress through the distribution system.

Enforcement of an IQ program will differ from traditional fishery enforcement in that enforcement will occur primarily at the point of landing and beyond, as compared to traditional fishery enforcement efforts which put more emphasis on at-sea enforcement. While at-sea enforcement will remain largely unchanged, additional shoreside presence will be required.

FISHERY ENFORCEMENT: A FOUR-TIER ACTIVITY

Fisheries enforcement generally relies upon four separate enforcement functions, each cohesively interfacing with the others. The four-tier profile is composed of patrol operations, monitoring activities, auditing activities and investigative operations. Development of an enforcement program adequate to achieve compliance with an IQ program would rely on the enhancement of activities in one or more of these tiers. The detection/deterrence balance would be the cornerstone of the IQ enforcement operation.

For an IQ program, the four-tier enforcement system provides the ability to ensure accurate accounting of the resource and the ability to apprehend commercial enterprises which operate outside the auspices of the IQ program. These tiers are described below in the context of an IQ program.

Tier I: Patrol Operations

The patrol mission is comprised of two areas: offshore and inshore.

- a. Offshore patrols would detect non-IQ participants who engage in IQ fishing, including those fishers who may be quota busting (this term is used to denote someone who continues to fish after reaching their quota).
- b. Inshore patrols operate as a unit designed to detect and deter fish landings outside authorized channels, nonparticipant landings to unlicensed buyers and licensed buyers purchasing illegally harvested fish. This function is also tasked with random monitoring, random inspections, monitoring of transshipment and enforcement of regulations.

Tier II: Monitoring Operations

The primary method of assuring accurate IQ harvest data would be random monitoring of landings and transshipments. Monitoring may also be conducted through various enforcement efforts such as vessel clearances and tracking, inspections of fishing vessels, processing plants and shipping containers. The fundamental enforcement concept is to establish an environment conducive to program compliance by elevating the probability of detection and apprehension of illegal activities.

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Tier III: Auditing Operations

The auditing branch is tasked with the random and systematic review of processing facilities and other licensed buyers. Additionally, auditors may be tasked with inspecting commercial traffic of nonparticipants in the IQ program. Inspections of processors and buyers would include a complete review of shipping records and other documents which would reflect the accuracy of the IQ fish received and processed. This would provide a check and balance system for fish received and shipped.

Tier IV: Investigation Operations

The investigation operations section would be tasked with two types of activities: routine and complex.

- a. Routine investigations would consist of fraud review of applications for permits and verification and insurance of compliance with processing and buyer permit requirements.
- b. Complex investigations would consist of those investigations of interstate or international shipments of fish which were taken or possessed in violation of IQ regulations. These types of cases would have to be investigated by specialists trained in the detection of fraud and "white collar" crimes. These complex cases would involve the following of paper trails composed of the various commercial documents as an integral part of their investigations.

EXAMPLE ENFORCEMENT PROGRAM

In attempting to develop the most cost effective program possible, the enforcement/industry meeting focused primarily on additional enforcement effort needed at the point of landing. Those at the meeting believed the following measures would provide for an effective enforcement system:

1. Require federal licenses for all receivers of groundfish.
2. Limit IQ sablefish delivery hours (6 a.m. to 6 p.m.)
3. Require advance notice of landing and hail weights.
4. Limit the season to May through October (only if necessary to bring enforcement costs down to acceptable levels).
5. Implement an electronic reporting system (card swipe or hybrid paper/electronic system based on touch tone telephones).
6. Impose strong sanctions for violations, including suspensions and revocation of QS and other federal permits.
7. Require that individual fishing quota (IFQ) inspectors be present at every landing; or randomly monitor 25 percent or more of the landings with fisheries technicians.

What follows is a description of how these elements might work together to create an effective enforcement program.

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Annual Individual Quota Statement and Quota Share Account Verification

Under the proposed IQ regulatory system, all harvesting vessels fishing for or possessing IQ fish would be required to have IFQ assigned to persons associated with the fishing vessel or to the vessel itself. This must be verified by either the possession on board the vessel of appropriate paper documentation or an IQ account card. The vessel would be required to have access to annual IFQ poundage in IQ accounts which equals to or exceeds the poundage of IQ fish in possession.

The first enforcement check point would be random boarding both at sea and in port by the U.S. Coast Guard, state and NMFS enforcement officers. Vessels found in possession of IQ fish would be required to produce paper documentation on their IFQ or an IQ account card. An account query would allow the boarding personnel to verify that IQ fishers have sufficient IFQ in their accounts to cover the fish in their possession. Failure to have sufficient poundage would trigger immediate enforcement action. Queries to a central data point would also flag the IFQ holders account to insure that a landing did take place at a later time and at a authorized dealer. An electronic system with immediate inquiry capability would provide industry with the greatest flexibility in making IFQ/QS transfers while at the same time providing enforcement on site ability to determine that sufficient IFQ is held and that the evidence of IFQ holdings is authentic.

Vessel Landings

The second check point in the IQ enforcement system would be at the point of landing and require advance notice of landings. All vessel could be required to notify NMFS before off-loading. Notices would be by touch-tone telephone made from the vessel or through a shore-based site. Notices could be made before departure to the grounds, by a vessel at sea or after a vessel's return to port. NMFS would establish a 1-800 hotline to accept all notices required by these regulations. Landings could be made to licensed buyers within the Washington, Oregon and California IQ system. Landings would be allowed only during certain hours of the day (6 a.m. to 6 p.m.). Off-loading that begins during the allotted window would be allowed to continue to completion. Alternate off-loading schedules could be authorized on a port-by-port basis at the discretion of the regional director.

Advance notices would alert enforcement personnel to legal landings. Enforcement and monitoring personnel would be able to query central processing at any time to ascertain in progress or pending landings. Legal landing would be randomly monitored by enforcement. Additionally, either 25 percent or more of all landings would be observed randomly by fishery technicians or 100 percent of all landings would be monitored by IQ inspectors. Landings which have not been preceded by advance notice would be illegal and trigger immediate enforcement action. Hail weights substantially different from weights observed at landing by technicians or observers may trigger either enforcement action or more intense monitoring of the vessel's activities.

Verification of Landings

To off-load any IQ fish, the harvesting vessel would have to present an IQ account card or the appropriate paper documentation to the registered dealer/buyer. Once the off-load is complete, the buyer would query the central IQ exchange using either a credit card style machine or a

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touch-tone telephone. With an account card, the buyer would run the IQ account card through the machine which would read the sellers account information from the card's magnetic stripe. With a touch-tone telephone system this information would be entered manually. The buyer would then input the delivery vessel identification number, IQ account number, landing condition and poundage. The sellers account would be queried to determine if sufficient annual IFQ is available. The buyer would receive a confirmation of sale authorizing completion of the transaction. If sufficient IFQ is not available, no confirmation would be given. NMFS Office of Enforcement would be immediately notified of the overage and the buyer would be unable to complete the transaction until cleared by NMFS. Confirmation of landings are required within 6 hours of the completion of the off-loading.

Harvesting vessels delivering IQ fish would be required to off-load all IQ fish on board, including any home pack or exceptional sales. Dockside sales would be facilitated by allowing the vessel to act as the first fish receiver. Home packs and exceptional sales would have to be reported by the buyer along with all other IQ fish sold to the buyer. Overdrawing an IQ account would trigger immediate enforcement action. Failure to obtain a confirmation within 6 hours would trigger enforcement action when detected.

MONITORING OF POST LANDING MOVEMENTS OF IQ PRODUCT

Discussed in the enforcement workshop but not included in the enforcement/industry meeting report was the monitoring of product distribution channels. The enforcement/industry meeting report did not recommend that significant additional effort be put into the monitoring of post landing movement of product. However, ongoing enforcement activity in these areas accompanied by some additional restrictions on the movement of IQ product may implement some of the distribution channel monitoring measures sufficiently to make them an effective part of the enforcement program at small additional cost. These measures were reported out of the May 1993 enforcement workshop as follows.

Shipping by Registered Buyers

Registered buyers of IQ fish would have to report all shipments of IQ fish from the original landing site to any other site. Reporting would be similar to current reporting requirements. Registered buyers would be allowed to use their own company bill of lading. Bills of lading would include specific information including species, product type, number of shipping units, product weight, shipper and details of the shipping means and route. For domestic shipments, the bill of lading would have to be received by NMFS before the shipment. A copy of the bill of lading would have to accompany the shipment to its first point of landing.

Shipments detected by NMFS and state officers that are not accompanied by a bill of lading would trigger enforcement action. Shipments that are not reported before transportation would also trigger enforcement action.

Shipments in foreign commerce would have to be reported 24 hours before transportation from the Washington, Oregon and California area. These shipments would also have to be shipped from or through a primary port (not determined at this time). The advance notice and routing through primary port would provide NMFS and the U.S. Coast Guard an opportunity to inspect the fish before departure from U.S. jurisdiction.

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Motherships and Tenders

Motherships and tenders would operate much the same way as shoreside registered buyers. Tenders and motherships would have to register as IQ buyers. The primary difference would be that motherships and tenders could use INMARSAT or marine radio to report deliveries and receive sale confirmations. The use of credit card machines would not be mandatory unless suitable electronics become available. Motherships and tenders would have to have the ability for voice communications with NMFS from any receipt location. Motherships and tenders would need to meet transshipment or vessel clearance requirements of these regulations. Off-loading of a mothership or tender would have to meet the advance notice of landing and shipping requirements.

Transshipments

Transshipping of IQ fish from one vessel to another would be restricted. Only motherships and tenders operating as registered buyers would receive unfrozen IQ fish at sea. All processing vessels transshipping frozen or processed product vessel to vessel would give 24 hours advance notice of any such transshipment. All transshipments of IQ fish would be required to be completed within the confines of a primary port (not determined at this time). The advance notice and routing through primary port would provide NMFS and the U.S. Coast Guard an opportunity to inspect the fish before departure from U.S. jurisdiction.

Dockside Sales

Vessels wishing to sell IQ fish dockside or market their own fish through means other than a fixed shoreside buyer could do so with certain restrictions. Vessels marketing their own catch have to become registered buyers. The vessel would have to meet all the requirements of a registered buyer including reporting of landing, receive confirmations and reporting of shipments. Such vessels would have to report and receive lading confirmation for all IQ fish on board before any dockside sales, shipment or off-loading.

Vessel Clearances

Harvesting vessels, catcher-processors, motherships and tenders landing catch outside Washington, Oregon and California would have to obtain a vessel clearance at a primary port (not determined at this time) before departure from the Washington, Oregon and California fishery. The vessels would have to enter a primary port to receive clearance. At time of clearance, the vessel may undergo inspection and have its hold sealed. The vessel would have to present a IFQ card or appropriate paper script for all IQ fish on board. The vessel would additionally hail its catch and provide intended date, time and location of off-loading. All such vessels would have to provide the same advance notice of landing requirements as a vessel landing within Washington, Oregon and California. Harvesting vessel would have to become registered buyers and report their landing in the same manner as dockside sales in Washington, Oregon and California.

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PARTICIPATION IN VESSEL TRACKING SYSTEM

At the November 1993 Council meeting, a provision was added to Option 1 of Section 15.12 (Appendix A) which would allow NMFS to require vessels participating in the IQ program to also participate in a satellite-based vessel tracking system. Equipment for this tracking system would run \$6,000 to \$11,000 (including \$1,000 to \$3,000 for a personal computer). Annual costs for participating in the system have been estimated at between \$500 and \$1,000 depending on the fishery. If 200 vessels participate in the IQ fishery and every vessel were required to participate in the vessel tracking system, the start up costs would be between \$1.2 and \$2.2 million and annual costs would be \$100,000 to \$200,000. Such a system would provide information on the location of vessels and could replace expenses of the hailing system discussed in Appendix C. This would save up to \$60,000 in start up costs and \$7,000 in annual costs. The mechanism by which other categories of enforcement effort might be reduced is not clear. Unless such a vessel tracking system were restricted to fewer vessels or has significant benefits outside the fixed gear sablefish IQ program, it does not appear that its costs would be greater than its benefits.

COSTS OF EXAMPLE PROGRAM

The costs estimated here are the direct costs of the example program. Costs of industry compliance (except for costs for inspectors/observers) and costs of an electronic reporting system are included in Appendix C under sections on industry compliance and administrative costs.

Diversion of Existing Enforcement Effort

It was estimated that existing enforcement personnel will divert the equivalent of two full-time employees of time from other activities to enforcement activities related to the IQ program. While this diversion of effort will have no direct impact on agency budgets, there is some opportunity cost which must be estimated. The nominal value of the time diverted from other activities was estimated at the rate of compensation for NMFS enforcement officers used in the May 1993 enforcement workshop (\$80,000 per officer, including taxes, benefits and overhead). This value may be an underestimate to the degree that the benefits from the forgone enforcement activities were greater than the nominal cost of the time spent on them.

Cost of a Federal Permit System for Groundfish Processors

The start-up cost for a federal groundfish processor permit has been estimated at \$10,000 to \$25,000 with an ongoing annual cost of \$6,250 (1/4 full-time employee, cost estimate provided by the report from the May 1993 enforcement workshop). In addition there would be some costs for materials and mailings (estimate \$1,000 per year).

Costs of New Monitoring Effort

Individual Fishing Quota Inspector Option

The IFQ inspector option would require that an IFQ inspector be present at every landing (100 percent coverage). Industry would be responsible for acquiring and paying for inspector services. Industry cooperatives or organizations, such as Pacific States Marine Fisheries

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Commission, would provide pools of inspectors. These organizations could levy fees for their services based on the amount of fish landed. It might also be possible to form cooperative arrangements with observers employed by the Fishermen's Marketing Association.

After examining information on historic landings patterns, individuals at the industry/enforcement consultant workshop estimated that 34 inspectors would be able to cover all coastal ports where fixed gear sablefish landings have been made. It was generally agreed that it should be possible to retain and train these inspectors for less than \$12,000 per year per inspector (a figure identified as that which would result in a total IQ program administrative and enforcement costs--\$700,000--equal to or less than likely program benefits). If the full \$12,000 per year was required to retain and train inspectors, the cost of this portion of the monitoring program would be \$408,000. (A 6-month season would reduce this cost by less than \$204,000. The amount of reduction depends on the amount of overhead going to recruitment and training).

Fishery Technician Observer Option

Under this option, 25 percent or more of the landings would be observed by 7 fisheries technicians hired by state fisheries agencies with grant money provided through NMFS. These individuals would receive a higher level of training than IFQ inspectors. Total costs for the technicians would be \$280,000. (A 6-month season is assumed to reduce this cost to \$140,000).

The deterrence value of these technicians would depend largely on the requirement that hail weights be provided in advance of unloading. These technicians would not be in a position to arrive during or just after a landing and determine whether a landing had been accurately recorded. They would be effective in judging the accuracy of landings reports only on those landings which they observed from start to end. Therefore, the deterrence value of the technician would be minimal the landings (up to 75 percent) that they did not observe (i.e., once it was determined that no inspector would be present for the off-loading, the primary deterrence for misreporting would be the chance that an enforcement officer would show up after the landing had been reported to the tracking system). The deterrence value of a technician in combination with the requirement that hail weights be provided in advance of unloading is much greater. The requirement that hail weights be provided forces the vessel to commit to an approximate landings amount before it is known whether a technician or enforcement officer will be present at the landing. An observed landing grossly over hail weight could trigger enforcement action. Vessels or processors with landings consistently a small amount under hail weight could attract attention and additional monitoring by enforcement officers.

Comparison to Status Quo

Anticipated new costs for an observer program must be compared to the costs expected under status quo management. There is much uncertainty about what might occur under status quo, due to the implementation of a license limitation program in 1994 and pending implementation of an IQ system for the Alaskan sablefish and halibut fisheries. Under best case scenarios, seasons might be slightly longer due to the effects of the license program. Under the worst case scenarios, Alaska sablefish fishery participants, who have not participated in recent West Coast sablefish openings, might acquire West Coast licenses and as a result seasons substantially shorten. Under either of these scenarios, it is not clear that enforcement costs would change substantially. A shortening of the season may actually reduce enforcement costs.

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Total Enforcement Cost Estimates

The following is a summary of annual enforcement costs based on a 12-month fishery.

Cost Category	Annual Enforcement Costs	
	IFQ Inspector Monitoring (34 Inspectors Providing 100 Percent Coverage)	Fishery Technician Monitoring (7 Fishery Technicians Providing 25 Percent Coverage)
Diversion of Existing Enforcement Resources (2 Full-time Employees)	\$160,000	\$160,000
General Groundfish Processing Permit	\$7,250	\$7,250
Additional Monitoring	\$408,000	\$280,000
TOTAL	\$575,250	\$447,250

Costs of additional monitoring could be significantly reduced by limiting the IFQ sablefish season to 6 months. However, this would have the potential of reducing program benefits.

In addition to these annual costs, a one time start-up cost of up to \$25,000 has been identified for computer software and hardware to support the issuance of a general groundfish processing permit. Requirements for such a permit are not part of the current proposed amendment, but are under consideration by the Council.

Not included in this cost example is the cost for a satellite vessel tracking system which is identified as an option in Section 15.12 (Appendix A). Based on current knowledge about the costs and benefits of such a system, it does not appear that the system would be justified by the potential fishery benefits from a fixed gear sablefish IQ fishery.

While enforcement costs are included in the cost benefit analysis, their impact on agency budgets may be defrayed by fees on QS/IFQ owners which may be charged if the Magnuson Fishery Conservation and Management Act is amended to allow such fees.