ELECTRONIC MONITORING – BACKGROUND, PURPOSE AND NEED, GOALS AND OBJECTIVES

Context for Electronic Monitoring Deliberations (Background) 1
Why 100% Monitoring? 1
Why Monitoring With Observers? 2
Purpose and Needs (Strawman to Initiate Discussion Only – Based on Council Discussion) 2
Goals and Objectives (Strawman to Initiate Discussion Only – Based on Council Discussion) 4
MSA and FMP Policy Goals and Objectives 5
MSA Management Standards 5
Groundfish FMP Goals and Objectives 6
General FMP 6
Trawl Rationalization Goals and Objectives (Amendment 20) 8
Rebuilding Plan Goals and Objectives 9
License Limitation Goals and Objectives (Amendment 6) 10
Trawl Rationalization Program Provisions for Tracking and Monitoring 11

Context for Electronic Monitoring Deliberations (Background)

Prior to the trawl rationalization program, the West Coast groundfish observer program monitored approximately 20 percent of the trips taken on groundfish trawl vessels. The trawl rationalization program relies on the monitoring of all trips. See page 11 for the current language on electronic monitoring in the trawl rationalization appendix (Appendix E) to the groundfish FMP. Modification of this language would occur through a regulatory amendment.

Why 100% Monitoring?

One hundred percent monitoring is required to provide for the individual accountability on which the program relies, to fully achieve the potential program benefits, and to prevent the complexity and challenging enforcement circumstances which would arise if some vessels were monitored and others were not. The trawl fishery is a multispecies fishery in which the allowable harvest levels for some stocks (potentially including overfished species) constrain total harvest. If a vessel were not monitored on a particular trip, the elimination of individual accountability would generate an incentive to alter fishing behavior and target stocks that are more difficult to catch without encountering high levels of constraining species. The trawl rationalization program has helped the fleet make tremendous gains in bycatch avoidance. During an unmonitored trip the incentive to avoid bycatch would be minimal. Alternative regulations would have to be

developed for unmonitored trips, adding to regulatory complexity. Those regulations would have to assume high bycatch rates for constraining species in order to ensure that the trawl allocations not be exceeded. The assumption of such high bycatch rates would increase vessel operation costs (require the vessel to use more quota) and diminish quota potentially available for the remainder of the fleet. To provide more opportunity, different bycatch rates could be created for different harvest areas. However, this would increase regulatory complexity with a greater number of management lines and assumed bycatch rates, make the calculation of trip catch more complex and time consuming, and potentially burden enforcement with determination of whether any tows on the trip crossed into the high bycatch area. This example assumes that area of catch is the only parameter affecting high bycatch rates of constraining species. Other parameters such as the sonar signal on which fishermen set their gear and the configuration and manner in which the gear is fished may also affect bycatch rates. For example, halibut excluders might be disabled on unmonitored trips in order to increase CPUE. Finally, the Council is in the process of considering more fully achieving the potential benefits of the individual incentives provided by the trawl rationalization program by liberalizing a number of regulations governing trawl vessels (e.g. gear regulations). If some vessels were unmonitored, two sets of regulations might need to be maintained, one for monitored vessels the other for unmonitored vessels, further increasing regulatory complexity. For these reasons, 100 percent monitoring is required for effective function of the program.

Why Monitoring With Observers?

Currently 100% monitoring is achieved through the use of observers on the vessels. The Council's final action on trawl rationalization included a provision allowing vessel observes to be supplemented with cameras (one of the most common forms of electronic monitoring), but not allowing the use of cameras to completely fulfill the monitoring function. At the time the Council took final action, the program had already been in development for over five years and consideration of camera monitoring may have further delayed implementation. The trawl rationalization program entailed a tremendous change to the fishery and, while the change was expected to be positive, there was concern about the potential for unexpected consequences. Even though cameras had been successfully used to monitor the whiting fleet on an experimental basis, the incentives provided by individual accountability also create an incentive to avoid detection, which was not present during the development of the camera monitoring program for the whiting fishery. The West Coast Groundfish Observer Program was successfully monitoring about 20% of the trips and was a familiar tool. While the incentives to avoid detection could also lead to behaviors frustrating the observer's role, a human observer has more ability than a camera system to detect and respond to contingencies and collect information useful to modifying the monitoring program. The decision to not include cameras as an alternative to observes was made in the context of uncertainties about the performance of the overall program and cameras and potential delays in program implementation that may have resulted from a more careful considering of the camera options.

Purpose and Needs (Strawman to Initiate Discussion Only – Based on Council Discussion)

These circumstances, under which electronic monitoring was originally rejected, have changed. Fishery managers have now had two years of experience under the program, which has provided

a better understanding of how the fishery performs and how fishermen operate under the program. This has reduced some of the uncertainty about potential unintended consequences. Now, increasing information is becoming available on the performance of electronic monitoring and there is time to more carefully consider the utility of electronic monitoring relative to human observers. There are a number of needs that an alternative to monitoring with observers may address. First, for vessels, the need to pay for vessel observers is one of the most expensive compliance costs associated with participation in the trawl rationalization program. For the first years of the program, NMFS has subsidized observer costs to help the fleet though the period of adjusting to the new management system. Overall fleet profits, and consequently the price of quota, will be below what they might otherwise be if less expensive monitoring is available. Second, small vessels may be disproportionately affected by observer costs. Vessels are billed for observers on a per day basis, and because smaller vessels have a lower total revenue per day at sea [this statement needs to be verified with data] observer costs reduce vessel net revenue disproportionately more than for larger vessels. On this basis, over time it might be expected that quota will migrate to larger vessels and there will be fewer smaller vessels in the fleet—assuming small vessels do not have other countervailing advantages. Third, because of the overhead involved with maintain observer availability in small somewhat isolated ports with relatively low demand for observers, at least one observer company has indicated that it may pull out of at least one of the small ports on the West Coast. Thus, over time, smaller ports may be disadvantaged by the observer requirement, relative to larger ports. Fourth, if overall monitoring costs can be reduced (those borne by both private parties and the public), national net economic benefits may be increased. And finally, the observer fee system puts pressure on vessels to fish in unsafe conditions. Because vessels are billed on per day both for at-sea and for standby time, vessels may incur higher costs for standing down due to marginal weather conditions. In summary, the needs for action are:

- to reduce total observer costs for the fleet as a whole,
- to reduce relative cost burden for small vessels,
- to ensure that vessels operating out of smaller ports have an equitable opportunity to acquire observers,
- to increase national net economic benefits, and
- to reduce the pressure on vessels to fish in poor weather

while at the same time providing for catch monitoring adequate to maintain full functionality of the trawl rationalization program, in particular with respect to maintaining individual accountability.

While considering policy adjustments to meet these needs, there is also a need to ensure continued collection of adequate scientific data on the fishery. The effect of any changes in observer coverage on the quantity and quality of other biological and habitat data will need to be considered and appropriate adjustments made. On the one hand, the use of electronic monitoring may reduce the amounts of some types of data collected by the fishery monitoring system. On the other hand, it is possible that electronic monitoring might otherwise mitigate some of the potential losses or that the amounts of other types of useful data might be increased.

Goals and Objectives (Strawman to Initiate Discussion Only – Based on Council Discussion)

The regulatory objectives for this action are closely tied to the needs and would be intended to further the policy goals and objectives of the Magnuson-Stevens Act (MSA) and the groundfish fishery management plan (FMP). The regulatory objectives for this action are to:

1. reduce total fleet monitoring costs;
2. reduce disproportionate costs for small vessels;
3. maintain monitoring capabilities in small ports;
4. increase national net economic value generated by the fishery; and
5. decrease incentives for fishing in unsafe conditions,

while

6. maintaining individual accountability for catch,
7. maintaining the collection of biological information necessary for managing the fishery, for stock assessments, and to meet other needs for scientific data,
8. taking into account agency budgets and abilities to support any new policy, and
9. following an implementation path most optimal for the fishery.

The following section contains a list of the MSA and FMP policy goals and objectives most directly furthered by to these regulatory objectives.

MSA and FMP Policy Goals and Objectives

This section contains the primary goals and objectives cited in the MSA and the groundfish FMP and related amendments.

MSA – National Standards 5
Groundfish FMP Goals and Objectives 6
Trawl Rationalization Goals and Objectives (Amendment 20) 8
Rebuilding Plan Goals and Objectives 9
License Limitation Goals and Objectives (Amendment 6) 10

Those that appear least related to electronic monitoring have been struck through. There may be some that are not yet stricken that should be. Further, during review, additional sections of the MSA and FMP providing standards and requirements may be found to include implicit goals and objectives relevant to deliberations on electronic monitoring. These may be added to this list as they are identified.

Finally, trawl rationalization program language related to tracking and monitoring is provided on page 11.

MSA Management Standards

	SEC. 301. NATIONAL STANDARDS FOR FISHERY 16 U.S.C. 1851 CONSERVATION AND MANAGEMENT
NS-1	Conservation and management measures shall prevent overfishing while achieving,on a continuing basis, the optimum yield from each fishery for the United States fishing industry.
NS-2	Conservation and management measures shall be based upon the best scientific information available.
~~NS-3~~	~~To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.~~
NS-4	Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.
NS-5	Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.
~~NS-6~~	~~Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.~~
NS-7	Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.
NS-8	Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of paragraph (2), in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

	SEC. 301. NATIONAL STANDARDS FOR FISHERY 16 U.S.C. 1851 CONSERVATION AND MANAGEMENT
NS-9	Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.
NS-10	Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

Groundfish FMP Goals and Objectives

General FMP

	GROUNDFISH FMP GOALS AND OBJECTIVES
FMP – G1	Goal 1 - Conservation. Prevent overfishing and rebuild overfished stocks by managing for appropriate harvest levels and prevent, to the extent practicable, any net loss of the habitat of living marine resources.
FMP – G2	Goal 2 - Economics. Maximize the value of the groundfish resource as a whole.
FMP – G3	Goal 3 - Utilization. Within the constraints of overfished species rebuilding requirements, achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities.
	Objectives. To accomplish these management goals, a number of objectives will be considered and followed as closely as practicable:
FMP – O1	**Conservation** Objective 1. Maintain an information flow on the status of the fishery and the fishery resource which allows for informed management decisions as the fishery occurs.
FMP – O2	Objective 2. ~~Adopt harvest specifications and management measures consistent with resource stewardship responsibilities for each groundfish species or species group.~~ Achieve a level of harvest capacity in the fishery that is appropriate for a sustainable harvest and low discard rates, and which results in a fishery that is diverse, stable, and profitable. This reduced capacity should lead to more effective management for many other fishery problems.
~~FMP – O3~~	~~Objective 3. For species or species groups that are overfished, develop a plan to rebuild the stock as soon as possible, taking into account the status and biology of the stock, the needs of fishing communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock within the marine ecosystem.~~
~~FMP – O4~~	~~Objective 4. Where conservation problems have been identified for non-groundfish species and the best scientific information shows that the groundfish fishery has a direct impact on the ability of that species to maintain its long-term reproductive health, the Council may consider establishing management measures to control the impacts of groundfish fishing on those species. Management measures may be imposed on the groundfish fishery to reduce fishing mortality of a non-groundfish species for documented conservation reasons. The action will be designed to minimize disruption of the groundfish fishery, in so far as consistent with the goal to minimize the bycatch of non-groundfish species, and will not preclude achievement of a quota, harvest guideline, or allocation of groundfish, if any, unless such action is required by other applicable law.~~

	GROUNDFISH FMP GOALS AND OBJECTIVES
FMP – O5	Objective 5. Describe and identify EFH, adverse impacts on EFH, and other actions to conserve and enhance EFH, and adopt management measures that minimize, to the extent practicable, adverse impacts from fishing on EFH.
FMP – O6	**Economics** Objective 6. Within the constraints of the conservation goals and objectives of the FMP, attempt to achieve the greatest possible net economic benefit to the nation from the managed fisheries.
~~FMP – O7~~	~~Objective 7. Identify those sectors of the groundfish fishery for which it is beneficial to promote year-round marketing opportunities and establish management policies that extend those sectors fishing and marketing opportunities as long as practicable during the fishing year.~~
~~FMP – O8~~	~~Objective 8. Gear restrictions to minimize the necessity for other management measures will be used whenever practicable. Encourage development of practicable gear restrictions intended to reduce regulatory and/or economic discards through gear research regulated by EFP.~~
~~FMP – O9~~	~~**Utilization**~~ ~~Objective 9. Develop management measures and policies that foster and encourage full utilization (harvesting and processing), in accordance with conservation goals, of the Pacific Coast groundfish resources by domestic fisheries.~~
~~FMP – O10~~	~~Objective 10. Recognize the multispecies nature of the fishery and establish a concept of managing by species and gear or by groups of interrelated species.~~
FMP – O11	Objective 11. Develop management programs that reduce regulations-induced discard and/or which reduce economic incentives to discard fish. Develop management measures that minimize bycatch to the extent practicable and, to the extent that bycatch cannot be avoided, minimize the mortality of such bycatch. Promote and support monitoring programs to improve estimates of total fishing-related mortality and bycatch, as well as those to improve other information necessary to determine the extent to which it is practicable to reduce bycatch and bycatch mortality.
FMP – O12	**Social Factors.** Objective 12. When conservation actions are necessary to protect a stock or stock assemblage, attempt to develop management measures that will affect users equitably.
~~FMP – O13~~	~~Objective 13. Minimize gear conflicts among resource users.~~
~~FMP – O14~~	~~Objective 14. When considering alternative management measures to resolve an issue, choose the measure that best accomplishes the change with the least disruption of current domestic fishing practices, marketing procedures, and the environment.~~
FMP – O15	Objective 15. Avoid unnecessary adverse impacts on small entities.
FMP – O16	Objective 16. Consider the importance of groundfish resources to fishing communities, provide for the sustained participation of fishing communities, and minimize adverse economic impacts on fishing communities to the extent practicable.
FMP – O17	Objective 17. Promote the safety of human life at sea.

Trawl Rationalization Goals and Objectives (Amendment 20)

	TRAWL RATIONALIZATION GOALS AND OBJECTIVES
A20-G	Goal *Create and implement a capacity rationalization plan that increases net economic benefits, creates individual economic stability, provides for full utilization of the trawl sector allocation, considers environmental impacts, and achieves individual accountability of catch and bycatch.*
	Objectives The above goal is supported by the following objectives:
A20-O1	1. Provide a mechanism for total catch accounting.
A20-O2	2. Provide for a viable, profitable, and efficient groundfish fishery.
A20-O3	3. Promote practices that reduce bycatch and discard mortality and minimize ecological impacts.
A20-O4	4. Increase operational flexibility.
A20-O5	5. Minimize adverse effects from an IFQ program on fishing communities and other fisheries to the extent practical.
~~A20-O6~~	~~6. Promote measurable economic and employment benefits through the seafood catching, processing, distribution elements, and support sectors of the industry.~~
~~A20-O7~~	~~7. Provide quality product for the consumer.~~
A20-O8	8. Increase safety in the fishery.
	Constraints and Guiding Principles The above goals and objectives should be achieved while the following occurs:
~~A20-C1~~	~~1. Take into account the biological structure of the stocks including, but not limited to, populations and genetics.~~
~~A20-C2~~	~~2. Take into account the need to ensure that the total OYs and allowable biological catch (ABC) are not exceeded.~~
~~A20-C3~~	~~3. Minimize negative impacts resulting from localized concentrations of fishing effort.~~
A20-C4	4. Account for total groundfish mortality.
~~A20-C5~~	~~5. Avoid provisions where the primary intent is a change in marketing power balance between harvesting and processing sectors.~~
~~A20-C6~~	~~6. Avoid excessive quota concentration.~~
A20-C7	7. Provide efficient and effective monitoring and enforcement.
~~A20-C8~~	~~8. Design a responsive mechanism for program review, evaluation, and modification.~~
A20-C9	10. Take into account the management and administrative costs of implementing and oversee the IFQ or co-op program and complementary catch monitoring programs, as well as the limited state and Federal resources available.

Rebuilding Plan Goals and Objectives

	4.6.3.1 GOALS AND OBJECTIVES OF REBUILDING PLANS
RBP-G	The overall goals of rebuilding programs are ~~to (1) achieve the population size and structure that will support the MSY within a specified time period that is as short as possible, taking into account the status and biology of the stock, the needs of fishing communities, and the interaction of the stock of fish within the marine ecosystem;~~ (2) minimize, to the extent practicable, the adverse social and economic impacts associated with rebuilding, including adverse impacts on fishing communities~~; (3) fairly and equitably distribute both the conservation burdens (overfishing restrictions) and recovery benefits among commercial, recreational, and charter fishing sectors;~~ (4) protect the quantity and quality of habitat necessary to support the stock at healthy levels in the future; ~~and (5) promote widespread public awareness, understanding and support for the rebuilding program. More specific goals and objectives may be developed in the rebuilding plan for each overfished species.~~
RBP-O	To achieve the rebuilding goals, the Council will strive ~~to (1) explain the status of the overfished stock, pointing out where lack of information and uncertainty may require that conservative assumptions be made in order to maintain a risk-averse management approach; (2) identify present and historical harvesters of the stock; (3) where adequate harvest sharing plans are not already in place, develop harvest sharing plans for the rebuilding period and for when rebuilding is completed; (4) set harvest levels that will achieve the specified rebuilding schedule; (5) implement any necessary measures to allocate the resource in accordance with harvest sharing plans;~~ (6) promote innovative methods to reduce bycatch and bycatch mortality of the overfished stock; (7) monitor fishing mortality and use available stock assessment information to evaluate the condition of the stock; (8) identify any critical or important habitat areas and implement measures to ensure their protection; ~~and (9) promote public education regarding these goals, objectives, and the measures intended to achieve them.~~

License Limitation Goals and Objectives (Amendment 6)

The following are the goals and objectives for LE adopted by the Council in April 1990. The primary objective directly addresses the overcapacity problem, and the secondary objectives address the ways the Council hopes LE will promote achievement of the Council's goals and objectives for the groundfish fishery.

	11.1.2 Goals and Objectives for Groundfish Limited Entry
A6-G	Goals. The goals for the west coast groundfish fishery LE program are to improve stability and economic viability of the industry while recognizing historic participation, meet groundfish management objectives, and provide for enforceable laws.
A6-PO	Primary Objective. ~~The primary objective of the LE program will be to limit or reduce harvest capacity in the west coast groundfish fishery.~~
A6-SO	Secondary Objectives. In pursuit of the primary objective, the following secondary objectives will be addressed:
	Economic
A6-SO1	1. Promote long-term economic stability.
A6-SO2	2. Increase net returns from the fishery.
A6-SO3	3. Allow flexibility for combination vessels.
	Management
~~A6-SO4~~	~~4. Stabilize management regimes by reducing need for frequent inseason changes.~~
A6-SO5	5. Reduce the cost of management.
A6-SO6	6. Reduce bycatch and waste.
~~A6-SO7~~	~~7. Encourage effort in underutilized species fisheries.~~
	Enforcement
A6-SO8	8. Promote cost-effective enforcement by reducing need for frequent changes and tight trip limits.
~~A6-SO9~~	~~9. Promote logistically viable enforcement by minimizing need to use regulations such as trip limits or subarea closures which are more difficult to enforce.~~
	Social
~~A6-SO10~~	~~10. Recognize and accommodate historical participation of those investing their life and resources in the fishery.~~
~~A6-SO11~~	~~11. Maintain a mechanism for fishery entrance/exit and flexibility for change in the fleet.~~
~~A6-SO12~~	~~12. Reduce conflicts between user groups by limiting or reducing effort competition for the same resource.~~
A6-SO13	13. Provide a stable supply of groundfish to the public at a reasonable price.

Trawl Rationalization Program Provisions for Tracking and Monitoring

Table D-1. Full description of the IFQ Program for shoreside trawl deliveries.	
A-2.3.1 Tracking, Monitoring and Enforcement	It is the Council intent to provide NMFS flexibility sufficient to design and implement a tracking and monitoring program that will achieve the goals and objectives of the trawl rationalization program. **Discarding by Shoreside Sector** Nonwhiting – Discarding of IFQ species allowed, discarding of IBQ species required, discarding of nongroundfish species allowed. Whiting Maximized retention vessels: Discarding of fish covered by IFQ or IBQ, and nongroundfish species prohibited. Vessels sorting at-sea: Same as for nonwhiting. **At-Sea Catch Monitoring for Shoreside Sector** Nonwhiting – The sorting of catch, the weighing and discarding of any IBQ and IFQ species, and the retention of IFQ species must be monitored by the observer. Whiting For maximized retention vessels: video monitoring as proposed under Amendment 10. Observers would be required in addition to or as a replacement for video monitoring. For vessels that sort at-sea: The sorting, weighing and discarding of any IFQ or IBQ species must be monitored by an observer with supplemental video monitoring. Shoreside Landings Monitoring The sorting, weighing and reporting of any IFQ species must be monitored by a shoreside landings monitor (IBQ will have been discarded at sea). **Catch Tracking Mechanisms for Shoreside Sector** **Electronic vessel logbook report** VMS-based electronic logbook required to be transmitted from vessel. At-sea entry by vessel personnel required including catch weight by species and if retained or discarded. **Vessel landing declaration report** Mandatory declaration reports. **Electronic ITQ landing report** Mandatory reports completed by processors and similar to electronic fishticket report. **Processor production report** Mandatory reports (possible inclusion of proprietary data included to be recommended as option is fleshed out). **Cost Control Mechanisms for Shoreside Sector** **Shoreside landing hour restrictions** Landing hours may be restricted. **Shoreside site Licenses** Mandatory license for shoreside deliveries. License can be issued to any site that meets the monitoring requirements. **Vessel Certification** Mandatory certification. Certificate can be issued to any vessel that meets the monitoring requirements. **Program Performance Measures for Shoreside Sector** Integrate into the tracking and monitoring program the collection of data on cost, earnings and profitability; economic efficiency and stability; capacity measures; net benefits to society; distribution of net benefits; product quality; functioning of quota market; incentives to reduce bycatch; market power; spillover effects into other fisheries; contribution to regional economies (income and employment); distributional effects/community impacts; employment in seafood catching and processing; safety; bycatch and discards; administrative, enforcement, and management costs. (See A-2.3.2)

B-1.4 At-sea Observers/ Monitoring

At-sea Whiting Fishery: 100 percent observer coverage aboard MS and CP will continue. Observers would be required in addition to or as a replacement for video monitoring.

For some coverage, cameras may be used in place of observers (feasibility to be determined). It is the Council's intent to provide NMFS flexibility sufficient to design and implementation a tracking and monitoring program that will achieve the goals and objectives of the trawl rationalization program.