IV. Core Elements

➢ HABITAT
Habitat is Key

AGRICULTURAL STRATEGY TO IMPROVE FISH HABITAT

I. Current Situation: *Where are we now?*

Background
Agriculture in Washington State is a large, diverse and complex industry and a significant contributor to the state's economy. Agricultural lands cover 15.7 million acres or 37 percent of the state. There are 37,000 farms, which produced 108,000 jobs and $5.8 billion worth of products in 1996. Over 200 commodities are grown on these farms. More than half of Washington's farms are less than 50 acres in size and have sales of less than $10,000 annually, while others are large corporate entities. Food processing is a $7.7 billion industry providing another 41,000 jobs. Thousands of other people are employed in related support jobs. The challenge of developing and implementing a comprehensive agricultural strategy for salmon recovery while preserving industry viability is daunting because of this magnitude of complexity and diversity.

Despite forty years of effort by farmers, conservation districts, and state and federal agencies, the number of waterbodies not meeting water quality standards in agricultural areas continues to increase. Irrigation diversions have led to extreme low flow condition in several areas of the state. Agricultural activities have contributed to the degradation and loss of salmonid habitat. In addition to the threat to salmon from poor agricultural practices, over the past twenty-five years agricultural lands have been converted to other uses (i.e., roads, industrial, commercial and residential developments) at an alarming rate. This conversion results in greater problems to salmon. A strategy to keep the land in agriculture and improve agricultural practices is very important to salmon recovery and ecosystem restoration. See Chapter I. A Sense of Urgency for detailed discussion on the impacts of agricultural practices on salmon.

Current Applicable Policies and Programs
Agricultural nonpoint pollution, water conservation, and habitat protection and restoration are currently addressed through voluntary, incentive-based programs. Most program delivery is through local conservation districts in partnership with the U.S. Department of Agriculture, the Natural Resources Conservation Service (NRCS). The state Conservation Commission

provides grant funds to the districts to carry out local implementation of conservation practices. NRCS staff provides technical assistance to private landowners and with conservation district staff work with landowners to develop resource management plans that protect the resources and the landowner's economic interests.

In addition the state Conservation Commission funds a variety of water quality projects using state Centennial Clean Water funding. These projects are implemented by local conservation districts. The Department of Ecology also funds agricultural water quality and quantity projects.

Most of the existing state laws and regulations dealing with agricultural practices are based largely on providing technical and financial assistance to farmers, applying incentive-based approaches. Key state laws and regulations include: Conservation Districts Law, Water Pollution Control Act, Surface and Ground Water Codes, Water Resources Act, Pesticide Application Act, Pesticide Control Act, Dairy Nutrient Management Act, Public Lands Act, and implementing regulations. In addition, policies and implementing regulations and programs adopted by counties and cities under the Growth Management Act and the Shorelines Management Act have some impact on agricultural activities. The Hydraulic Project Approval also regulates certain agricultural activities such as requirement for fish screen on irrigation diversions, construction or modification of diversion dams, and channel modification. [1]

The federal laws and programs related to farm conservation, administered by U.S. Department of Agriculture through the Natural Resources Conservation Service (NRCS) and the Farm Service Agency (FSA) include:

1) Environmental Quality Incentives Program (EQIP),
2) Federal Farm Act of 1996,
3) Wildlife Habitat Incentives Program (WHIP),
4) Conservation Reserve Program (CRP),
5) Wetlands Reserve Program (WRP),
6) Grazing Lands Conservation Initiative (GLCI),
7) Conservation Farm Option (CFO), and
8) Conservation Reserve Enhancement Program (CREP).

The federal programs are also voluntary, incentive-based. Several of the programs are important to protection of ecosystems. For the purpose of the agricultural strategy, the key programs are the Conservation Reserve Enhancement Program (CREP), the Environmental Quality Incentives Program (EQIP) and the Conservation Reserve Program (CRP).

[1] Several of the state programs outlined above are addressed in other chapters of the strategy which are considered part of the agricultural strategy by reference, especially the chapters *Ensuring Adequate Water in Streams for Fish* and *Clean Water for Fish: Integrating Key Tools*.

II. Goal and Objectives: *Where do we want to be?*

Goal:

Improve farm and sector-based practices to provide the water quality, water quantity, and functional riparian habitat needed for salmon recovery in the agricultural sector.

Objectives

- Provide regulatory certainty under the Endangered Species Act (ESA) and the Clean Water Act (CWA) for producers.
- Revise the Field Office Technical Guides (FOTG) to provide the tools needed to enhance, restore and protect habitat for fish and to address state water quality standards.
- Develop guidance for comprehensive Irrigation District Management Plans that address ESA and CWA concerns.
- Ensure that there is thorough stakeholder participation in the process of revising the Field Office Technical Guides under the Natural Resource Conservation Service's Memorandum of Understanding (MOU) with state and federal resource agencies.
- Raise the awareness and understanding in the agricultural community of salmon recovery and watershed health, and build support for the agricultural strategy and its implementation.
- Support agricultural organizations' and associations' efforts to implement the agricultural strategy and to help communities and the general public understand and support this effort.
- Fully implement the Conservation Reserve Enhancement Program (CREP) and expand its scope to include tree fruit, berries and grapes.

III. Solutions: *What is the route to success?*

It is important that the agriculture community work to enhance healthy watershed functions for salmon recovery through practices that meet performance and program standards. The Agricultural Strategy is a statewide approach that will look at both sector wide performance based programs and general performance outcomes. This approach provides agriculture with the opportunity to voluntarily enhance resource protection and meet the requirements of state and federal laws and regulations in a manner tailored to their operations.

The agricultural strategy is based on the belief that well-managed agricultural lands can contribute both to the state's economy and the recovery of salmon. The central part of the strategy is the use of economic incentives and technical assistance to improve and restore habitat conditions and keep agricultural land in production. This strategy builds upon the infrastructure used for the last 40 years to implement conservation practices on farms. This system has relied on voluntary actions and incentives, with technical assistance and cost-share money provided by the Natural Resource Conservation Service and state Conservation

Districts. The Strategy will encourage comprehensive programs in those areas most in need of protection and restoration.

There are three elements that the agricultural strategy is based on: Conservation Reserve Enhancement Program (CREP), use of the updated Field Office Technical Guides for comprehensive farm plans, and development of sector-based programs.

- **The Conservation Reserve Enhancement Program (CREP)** is a joint effort between the state of Washington and the US Department of Agriculture to restore riparian habitat on private agricultural lands adjacent to streams with depressed or critical salmon stocks, as defined by the Department of Fish and Wildlife's Salmon and Steelhead Stock Inventory (SASSI). The CREP program is administered by the federal Farm Services Agency (FSA). Landowners contract with the FSA to take land out of agricultural production and plant it with native trees and shrubs. In return FSA pays the landowner annual rental payments for fifteen years. State and federal cost-share funds pay up to 87.5 percent of the cost of restoration. Most of the work is done by local Conservation Districts. In October 1998, Governor Gary Locke and Dan Glickman, Secretary of the US Department of Agriculture, signed an agreement that provides 200 million dollars of federal money to implement the program. Combined with 50 million dollars of state cost share funding a total of 250 million dollars is available to restore and protect degraded salmon habitat. (See Appendix A for full text of the agreement.)

- **Field Office Technical Guides (FOTG).** The standards by which agriculture protects against nonpoint pollution and restores fish and wildlife habitat are contained in the Field Office Technical Guides (FOTG) maintained by the USDA, Natural Resources Conservation Service (NRCS). In March of 1998, a Memorandum of Understanding (MOU) was signed by the state of Washington, Washington Fish & Wildlife Commission, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Environmental Protection Agency Region 10, and Natural Resources Conservation Service. The MOU will lead to a "timely review of all applicable state and federal standards, including NRCS FOTG's, and make enhancements necessary to ensure the conservation of species of concern." (See Appendix A for full text of the MOU.)

- **Sector based Programs.** These are programmatic programs to respond to ESA and CWA requirements built around commodities such as wheat, or sector such as agricultural irrigation.

The approach of the strategy is to first review and, if necessary, upgrade the conservation practices currently used by the Conservation District - Natural Resource Conservation Service partnership. These standards will address water quality and fish habitat on farms and are designed to provide upgraded conservation standards that meet Endangered Species Act (ESA) and Clean Water Act (CWA) requirements. Conservation Districts and the Natural

Resource Conservation Service will use these to develop farm plans that will be the mechanism used to address water and fish habitat quality. Federal and state programs will be used to provide technical assistance and cost-share money to help farmers implement the practices. The program will use conservation practices from the Natural Resource Conservation Service's updated Field Office Technical Guides. A second component of this effort is a guidance document to assist irrigation districts in developing comprehensive plans that address their ESA-related concerns. This effort is known as the "Agriculture, Fish, and Water (AFW) forum.

A second cornerstone of the strategy is implementation of the Conservation Reserve Enhancement Program (CREP). The program is a joint effort between the state of Washington and the U.S. Department of Agriculture to restore fisheries habitat on private agricultural lands adjacent to depressed or critical salmon streams. The $250 million in funding is enough to restore 6,000 miles of degraded riparian habitat.

The strategy also relies on a commitment by the state to enforce existing environmental laws and regulatory programs. It includes better tracking and accountability than in the past and calls for monitoring and adaptive management. Benchmarks will be set to measure success, and if they are not met within three years, the state will seek new authority from the Legislature to ensure salmon protection in agricultural areas.

The strategy also encourages sector-based approaches such as commodity groups or irrigation districts developing Habitat Conservation Plans. The state will provide technical and funding support to groups developing these comprehensive commitments.

The following sections describe the approach in more detail:

1. Need for a Comprehensive Approach

The traditional approach of addressing separately the impacts of agricultural practices on ecological functions, such as water quality and quantity and riparian habitat, has had some results over the last forty years. But multiple fish listings under the ESA and the number of waterbodies not meeting water quality standards show the need for a more comprehensive approach. In the past, programs were implemented with some discretion on what to accept from farmers who receive federal or state financial assistance. Conservation districts have accepted what they could get from landowners in some cases, with the assumption that any level of conservation is better than nothing.

The proposed approach is the development and implementation of comprehensive programs constructed around either individual farms or agricultural commodities or sectors using updated conservation standards. As stated before the agricultural strategy is based on three major elements - implementation of the CREP program, implementation of farm plans (consistent with revised FOTGs), and comprehensive programs for a specific agricultural commodity or sector. Efforts will be focussed first in those areas most in need of protection and restoration. It is

important to note, however, that elements of the agricultural strategy will be integrated with other strategies (i.e. restoring instream flows and removing barriers).

A collaborative effort between state and federal agencies, agricultural community, tribes, and environmental groups – "Agricultural, Fish, and Water" (AFW) forum has been launched in September 1999 to ensure active participation in the processes and products of the agricultural strategy such as the revision of the Field Office Technical Guides.

Some of the processes and products, such as the revision of technical standards, could serve the requirements of either section 7 consultation or section 4(d) rule exception under ESA. The intent is to develop the new standards with the participation of the appropriate federal agencies (i.e. NRCS, NMFS, USFWS, EPA, US Bureau of Reclamation, and FSA), state agencies (i.e. Departments of Ecology, Fish and Wildlife, Agriculture, and the state Conservation Commission) and agricultural producers, tribes and environmental groups.

Once the standards are approved by the federal agencies under ESA and CWA and once the farmer or producer implements a farm plan based on the requirements, protection from ESA and CWA regulatory actions will be provided to the farmer/producer. The ESA protection may take different form- incidental take under section 7, exception under a 4(d) rule, or incidental take permit under a section 10 HCP. The CWA protection has not been fully discussed but it may be similar to what will be provided to the timber industry (i.e., delay TMDL and monitor improvement to water quality).

2. Redesign Existing Systems into a Comprehensive Program with Monitoring and Accountability

Farm plans

The comprehensive program to develop farm plans will rely extensively but not solely on the efforts to revise the technical standards. As stated above other efforts such as the implementation of riparian standards under the CREP program and local watershed efforts to address water quality, quantity, and barriers are also important. The farm plan will include all practices an individual farm needs to achieve compliance with the Endangered Species Act, and Clean Water Act, and state laws and rules such as the Water Resources Act, Hydraulic Code, Growth Management Act, and Shorelines Management Act.

The state Conservation Commission will develop a tracking and database system to monitor implementation on a watershed or regional level and statewide. Farm plans will be tracked and monitored by conservation districts and the Natural Resources Conservation Service. MOU signatories will serve as a program oversight committee. Enforcement of farm plan compliance will be carried out by the Farm Service Agency or state agencies (e.g. Department of Ecology for dairies). The state is committed to enforce existing environmental laws including agricultural nonpoint pollution. Technical and financial assistance will be available to growers.

Figure 3 is a schematic diagram explaining the development, implementation, and monitoring pieces of the comprehensive program. As previously stated, this program centers on what is happening "on the ground" on each individual farm.

- First a "toolbox" of standards and practices that meet the requirements of the Endangered Species Act and the Clean Water Act is developed (see "B"). Building this "toolbox" is the most important foundation element of the entire comprehensive program. The toolbox must be complete enough to address all of the diverse farming activities in the state as well as meet the substantive requirements of the ESA and CWA. Also the FOTG's, if implemented, should also meet state requirements around the Shoreline Management Act, the State Environmental Policy Act (SEPA), the Growth Management Act (GMA) and the Hydraulic Code.

- A workgroup, identified in Box "A", is made up of those agencies that signed the MOU and will develop the toolbox, with participation from producers, tribes and the environmental community.

- Once the standards are in place, the program will start with individual producers or associations (Box "D") working with their local conservation districts and NRCS (Box "C") to identify from the toolbox which BMP's are necessary for their individual farm. This process will produce an individual farm plan (Box "E") that when implemented, will lead to issuance of a "certificate of participation" to the producer from NRCS. This certificate of participation will certify that the farm has implemented the farm plan.

- Monitoring and accountability of the program would have two tiers. The first tier is represented in Box "F". The focus is on the individual farms actually implementing their farm plans. The first order of accountability would be with the conservation districts and NRCS to review farm plans and maintain a database on all of the farm plans on record. An oversight/audit committee made up of the MOU signatories would also be established to oversee the program and conduct random audits. These audits would insure that the farm plans are actually being implemented "on the ground."

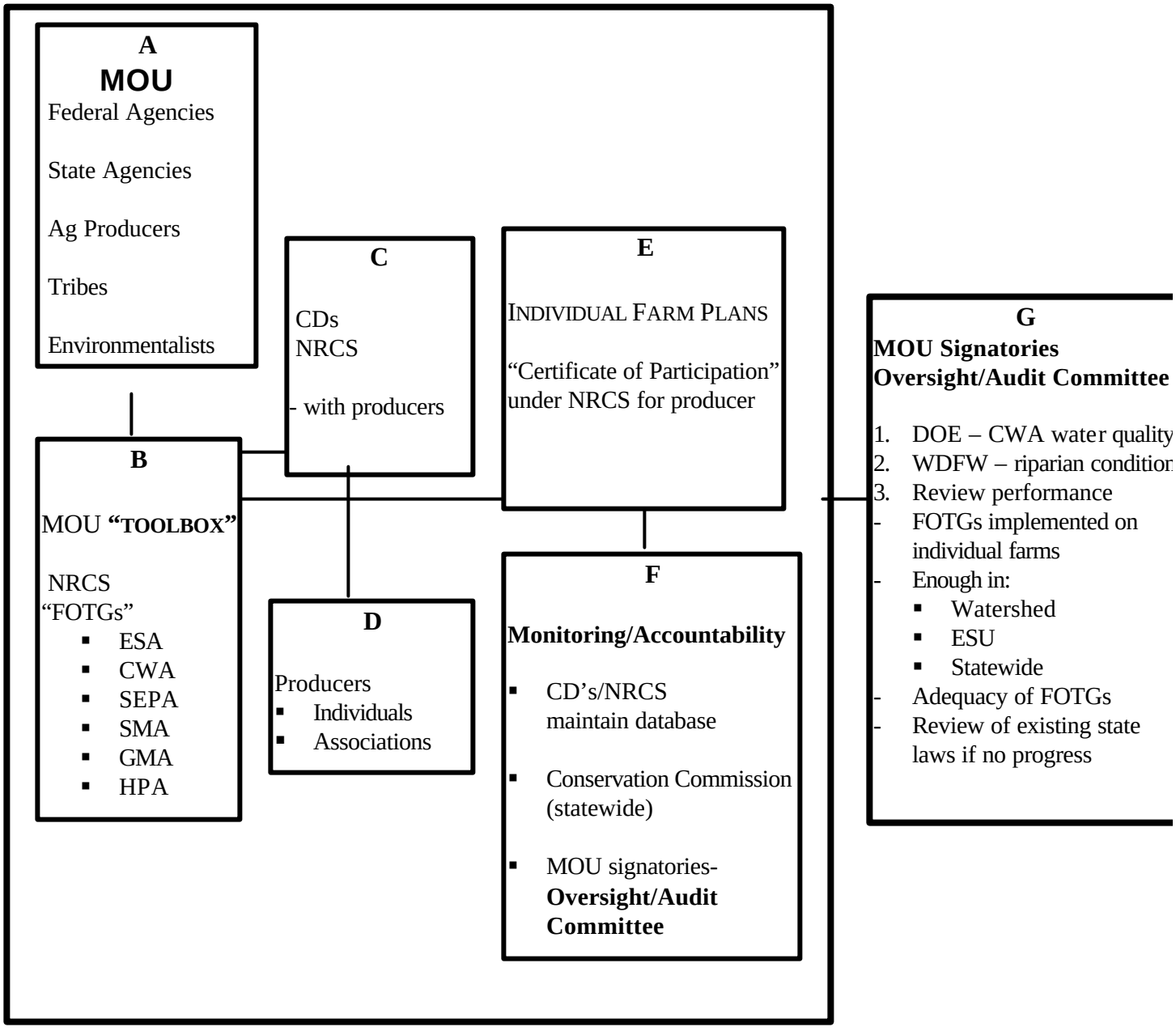
  The second level of monitoring and accountability would also be implemented by the oversight/audit committee, as illustrated in Box "G". The committee will evaluate the level of implementation and effectiveness of the standards to determine whether our outcome measures are being met. This is part of an adaptive management process built into the strategy. A review will be done on a three year cycle, and if targets are not being reached, then other options will be considered, including regulatory.

Central to the success of this element is the development and acceptance of common standards by the various governmental agencies especially National Marine Fisheries Service and U.S.

Department of Fish and Wildlife, federal agencies with lead responsibilities for salmon recovery, as well as EPA and the Department of Ecology on water quality. These standards will be the performance measures that will be used to measure success or failure at the individual farm level and at the watershed and basin levels.

Additionally, Washington State University developed best management practices (BMPs) for irrigated agriculture. These BMPs describe the best available technology for this large and diverse sector of agriculture for water quality, quantity and land management activities. They were largely derived from the FOTG's and may be revised as applicable sections of the FOTG are revised through the MOU process.

Figure 3. Agricultural Strategy- Development, Implementation and Monitoring



Implementation of Conservation Reserve Enhancement Program (CREP)
The Natural Resource Conservation Service Forested Riparian Buffer Standard will be the conservation practice used to implement the program. This standard has been updated to meet the needs of the Endangered Species Act and the Clean Water Act through negotiations under an MOU between the State of Washington, Natural Resource Conservation Service, National Marine Fisheries Service, US Fish and Wildlife Service, US Environmental Protection Agency and the Washington Fish and Wildlife Commission.

The program is currently available to producers of agricultural commodities. This includes the traditional agricultural crops of grains and vegetables and also includes hay and pasture lands used for livestock production. It does not include land producing tree fruits, berries or grapes. Governor Locke has formally requested USDA to expand the program to include these crops. Such a change would greatly expand the benefits of the program in recovering salmon.

Sector Based Programs
In addition to the farm-by-farm approach described above, the Strategy encourages development of sector-based approaches. The state will provide technical and funding support to groups developing these programmatic strategies. Examples of current sector-based projects are given below:

- Irrigated Agriculture
The Washington State Water Resources Association (WSWRA), representing most of the irrigation districts in the state, is developing a process for a programmatic response to ESA and CWA issues relevant to irrigated agriculture. Irrigation districts will work with federal and state agencies, tribes and other stakeholders to develop guidance for Comprehensive Irrigation District Management Plans. Individual irrigation districts will then develop and implement plans that will address all ESA and CWA concerns within that district. The plans will have monitoring and oversight components. The Department of Agriculture has been working with a steering committee of WSWRA members on the initial model.

- Douglas County Habitat Conservation Plan
The Foster Creek Conservation District has taken the lead in developing a multi-species HCP for agricultural lands in Douglas County. The district has obtained the support of many local ranchers, farmers and orchardists in the county and has received funding for the fish portion of the HCP from FY 99 federal funds for salmon restoration.

3. Accountability System
An effective accountability system is necessary for the success of the state's strategy on agricultural lands. Because there are statewide and local implementation strategies, there are multiple levels of accountability that include the individual farmer, local conservation districts,

watershed councils, as well as, state and federal agencies that are signatories to the NRCS MOU. It is important to:

1) identify which entity is accountable for each element of the strategy,
2) use clear performance measures to monitor progress both on the individual farm and system-wide for improvements in water quality and fish habitat,
3) have an efficient method to report results, and
4) resolve problems that arise if improvements don't occur.

Individual farmers will be the first level of the accountability system. They must understand why certain agricultural practices need to change, what changes are needed, what options are available to them to achieve the desired results, how they can get assistance in making the changes, and the consequences of inaction. *An extensive outreach process will be needed.*

Accountability for implementation of the standards will be shared primarily between local farmers and conservation districts. The role of governmental agencies will be to provide leadership and resources, coordinate between the various entities, educate conservation districts, local governments, and farmers about the standards, and to stimulate farmers to implement the standards.

The conservation districts will work with farmers to ensure that the farm practices standards are incorporated into individual farm plans, develop a system to track implementation and report problems, and provide progress reports to government oversight agencies. Failure to carry out terms of agreements may result in loss of governmental assistance, financial or technical, and enforcement of existing laws when applicable.

To further strengthen accountability and credibility, an oversight group will be formed. This group will be composed of representatives of the agencies that developed the revised NRCS Field Office Technical Guides. This group will conduct random audits to ensure that farms are actually implementing and managing farm plans. They will also monitor water quality and habitat indicators to determine if the higher standards and new system are effective, and participate in the review of the system in three years.

Government agencies are accountable in several ways. First, there must be a commitment to expeditiously develop the performance standards that will be implemented via farm plans. The development and implementation of an extensive outreach program will also be needed. Agencies will be required to provide financial and technical assistance to the conservation districts and farmers. Agencies must also be prepared to address problems identified by the local conservation districts in getting farmer participation and compliance. Enforcement actions by federal, state, and local government may be required. Government agencies will also be accountable for interagency coordination.

Conservation districts will track and monitor implementation of state-approved standards and farm plans. They are on-site and will be doing most of the "on the ground" work and will also be working with local watershed groups. The state Conservation Commission will develop a database and tracking system to monitor progress on a statewide basis.

For sector-based programs (such as irrigation districts) using the comprehensive planning process to deal with ESA and CWA issues or the development of agricultural HCPs, accountability would lie in the hands of the federal agency approving the HCP and state agency with oversight responsibility (e.g. Department of Ecology for water rights or water quality).

3. Enforcement

Farm Plans

It is important to hold private landowners responsible for fully implementing practices they have committed to do and have received public resources to do. Enforcement of farm plan compliance will be done by a state regulatory agency or in some cases the Farm Service Agency if they have a contract with the landowner. Landowners who do not live up to their agreements should have to repay any cost share money they received and other financial incentives. Audits will be conducted to ensure standards are being implemented. Actual changes in water quality, habitat condition and fish populations will be measured by the statewide monitoring program.

State Environmental Regulations

There are currently limited state regulations relative to fish habitat or water quality on private agricultural lands. In Chapter I. A Sense of Urgency we listed several laws and regulations dealing with agricultural practices. Some of the regulatory programs, such as the Hydraulic Code, the Water Code and Water Resources Act, the Dairy Nutrient Management law, the Shorelines Management Act, state water quality standards, and some local ordinances, impact agricultural activities.

There are, however, limited requirements within the laws and regulations for enforcement; a good example is the limitation on enforcing state water quality standards on agricultural nonpoint sources pollution. In addition, most agencies, in particular the Department of Ecology, have few resources for enforcement. (See Enforcement Chapter V. B. for further discussion of enforcement strategy.) Enforcement strategy identifies the need to significantly increase staffing levels for Department of Ecology (water resources and water quality programs), Fish and Wildlife (Hydraulic Code), and grants to local government to enhance their enforcement capabilities. The legislature in 1999 provided some funding. The "Early Action Plan" outlines how and where the resources will be used.

The Statewide Strategy to Recover Salmon makes a strong commitment to developing a credible nonpoint enforcement and compliance strategy for the state as well as enforcing existing

state environmental laws. A key regulatory driver is the fear of sanctions from the federal government or fear of regulatory impacts of ESA (i.e. loss of ability to divert water for irrigation) and CWA and fear of citizen lawsuits that can be brought under ESA and CWA.

4. Outreach and Education

The goal and the objectives of the Statewide Strategy to Recover Salmon will be achieved only through cooperative partnerships of local, state, and federal agencies, tribes, agricultural groups and organizations, and other key stakeholders. Improving our watersheds to restore wild salmon and meet water quality standards will require the agricultural community and other key stakeholders have a basic understanding of the background and tools necessary for protection and restoration of our watersheds. Local, state and federal government programs will provide regulatory and technical support to these efforts, but the bulk of the work to conserve, protect and restore watersheds will be done by the local landowner.

Outreach and education is a fundamental part of this locally-based action. Agricultural stakeholders must understand why certain practices need to change, specifically what changes are needed and what their options are for achieving the desired goals. They also need to know how and where they can get both technical and financial assistance and the consequences of inaction. They also need to be aware of the possibility of regulatory action or citizen lawsuits under the ESA and CWA.

Outreach efforts will be focused on involving the agriculture community, governments and citizens and partnering with them to support the approach; providing education for protection, restoration and/or enhancement efforts; and serving as a network to share information and ideas. Communication and education efforts are needed regarding the NRCS MOU and technical standards development, the Agricultural Strategy, and ongoing outreach during implementation.

IV. Monitoring and Adaptive Management: *Are we making progress?*

Monitoring and performance measures

The overall goal of the agricultural strategy is to provide cool, clean water and good physical habitat for fish in agricultural areas. Conservation practices implemented by farmers will address the limiting factors associated with agricultural practices, such as sediment deposition and temperature. In some cases results will be seen soon after the practice is implemented. In others it will take some time to achieve the desired function and this will be taken into account in the monitoring program.

Benchmarks or performance standards are necessary to measure the success of the strategy and to determine if we need default approaches. Benchmarks for the agricultural strategy are divided into two components: 1) implementation and the success of the strategy in getting

practices on the ground, and 2) environmental response. Many of the programs that will be used to implement practices on the ground will be targeted to priority areas and benchmarks will initially be applied to priority basins or watersheds for this reason.

It is the intent to track what, where, and how much is being done at a farm, watershed, and regional level. Landowners will be expected to meet their commitments. The MOU signatories Oversight Group will conduct audits to ensure farm plans are being implemented "on the ground" and participate in the three-year review and ongoing adaptive management. Basin assessments and limiting factor analysis will provide baseline data to determine the scope of work that needs to be done in a given basin. The agricultural strategy calls for effectiveness monitoring of conservation practices and changing them if they are not effective through adaptive management.

Comprehensive Farm Plans. Figure 3.outlines the monitoring and accountability system that will be put in place to monitor the development and implementation of the comprehensive farm plans. As stated above, farmers agree to implement practices that result in good water quality and fish habitat in return for technical assistance, financial incentives and regulatory certainty. The central question is whether the strategy can deliver enough fully implemented farm plans to provide the habitat and water quality necessary to recover salmonids in a given basin and statewide. Measurement of the number of conservation practices implemented relative to the number needed, in a given basin will be used to evaluate the effectiveness of this element of the strategy. Benchmarks for this will be:

- The number of farmers with farm plans relative to the number of farms needing plans, and

- The percent of farmers in compliance with farm plans.

Conservation Reserve Enhancement Program. Implementation and compliance monitoring for CREP will be done by the FSA and local Conservation Districts, with statewide tracking and monitoring being done by the state Conservation Commission. Effectiveness monitoring of the riparian standard implemented by the program will be part of the overall state monitoring program. (See Chapter VI. Adaptive Management and Monitoring: How will we recognize success?) Although CREP buffers can be implemented as one element of a farm plan or separately, they will be tracked and can be used as an example of benchmarking. If the basin assessment determines that 70 miles of riparian needs to be protected and restored, this is the baseline against which success is measured. The key elements are:

- How many miles or acres of CREP buffers are needed based on the assessment?

- How many miles or acres were actually enrolled in the program in three years?

- The percent of miles or acres implemented versus the miles or acres needed relative to the timeframe for the entire basin.

Sector based programs. The monitoring of the development and implementation of comprehensive sector based programs will be part of the requirement of ESA and CWA compliance.

The strategy calls for improvements in water quality and habitat as a measure of success, but these benchmarks cannot be used within a three-year timeframe. It takes several years for vegetation planted in a restored riparian area to establish itself and grow enough to provide the necessary functions such as shade and sediment retention.

The agricultural strategy calls for a monitoring program to show that water quality and habitat is improving as a result of its implementation. If measurable improvement does not occur, then adaptive management calls for a revision of the standards. This analysis needs to be done as part of the statewide monitoring strategy. (See Chapter VI. Adaptive Management and Monitoring: How will we recognize success?) With assistance from conservation districts and the Natural Resource Conservation Service, agricultural producers will use the Field Office Technical Guides and data from monitoring and adaptive management to achieve the following environmental outcomes:

1) Maintain productive aquatic habitats for salmonids and their food supply.
2) Meet or exceed state surface water quality standards for physical and chemical parameters such as temperature, dissolved oxygen, pH, turbidity, and suspended solids.
3) Meet or exceed standards needed for spawning areas.
4) Maintain channel bank stability on streams through natural methods or, if needed, bioengineering.
5) Assure side channels and other off-channel habitat, including wetlands; remain connected and passable by salmonids to the channel.
6) Maintain riparian areas and wetland protection that are compatible with the needs of fish .
7) Provide and maintain free and unobstructed passage for all wild salmonids, according to state and federal screening and passage criteria, and guidelines at all human-built structures.
8) Provide maximum opportunity for water use efficiency through conservation, re-use and re-regulating (non-mainstem blocking) reservoirs.

Similar monitoring data will be compiled for other state and federal programs focussed in a given basin and will provide the information necessary to measure the success or failure of the strategy and determine if default to another approach is needed.

Default Actions

The Statewide Strategy to Recover Salmon calls for agencies to use collaborative, incentive-based approaches when working with private and other governmental parties to achieve salmon recovery. It also calls for "default actions" in areas where no effort is being made to recover salmon or where performance measures are not being met after a reasonable period of time. For the agricultural strategy, if no significant progress is made after three years the state will seek new authority to ensure salmon protection in agricultural areas.

Three years into the implementation of the salmon strategy an analysis will be conducted to determine if the voluntary, incentive-based approach has been successful. The following three questions need to be answered to determine the success or failure of the strategy:

1) How successful was the strategy in priority areas as measured by percent implementation of conservation practices.
2) How long will it take to achieve full implementation if there are resource issues, and is the timeframe acceptable?
3) What is the cost/benefit ratio for the strategy in priority areas?

There are two initial default triggers for the agricultural strategy. 1) If the strategy is not supported by the majority of the agricultural leadership in the state; or 2) if the NRCS MOU process is not successful in developing standards acceptable to the National Marine Fisheries Service which are then incorporated into the NRCS Field Office Technical Guides.

At the end of three years all options will be considered; however, several regulatory options have been discussed. A final decision will not be made until default is imminent. The options being considered are summarized below:

1) A comprehensive Agricultural Practices Act. This would be modeled after the Forest Practices Act where the standards and best management practices would be in rule.
2) Require mandatory farm plans and implementation of state approved conservation practices in areas where fish or other species have been listed as threatened or endangered under the ESA or as critical or depressed by the state and in areas where CWA water quality standards are not being met. This approach should have the flexibility to allow its use in areas where voluntary implementation is not successful.
3) Develop a State Riparian Standards Act. This would require mandatory implementation of state approved riparian standards statewide or in areas where fish have been listed under the ESA or as critical or depressed by the state. This approach should also have the flexibility to be targeted at areas where voluntary efforts are not working.
4) Use the Growth Management Act and the Shoreline Management Act as tools to implement the Agricultural Strategy. The state would ask local government to adopt specific regulations or practices, such as those resulting from the NRCS MOU, and use

their regulatory authority to implement them. The state would be proactive in its role in administering the Shoreline Management Act and ensure that revised Master Program Guidelines address salmon issues. The state would not ask for relief under the ESA for those counties, which did not respond to the request.

ESA Compliance Strategy

Although the agricultural strategy is a voluntary, incentive-based approach, it can provide regulatory certainty under the Endangered Species Act (ESA) and the Clean Water Act (CWA) for producers who participate.

A farmer or a producer who implements a farm plan based on the approved requirements will receive protection from ESA and CWA regulatory actions. The ESA protection could take the form of an incidental take statement under section 7, an exception under a 4(d) rule, or incidental take permit under a section 10 Habitat Conservation Plan (HCP). CWA protection is under discussion, see Chapter IV. A. 6. Clean Water for Fish: Integrating Key Tools.

The sector-based (agricultural irrigation) or commodity-based strategy is focused on development of programmatic response to CWA and ESA issues. Federal agencies involved in the implementation of programs for irrigated agricultural such as the US Bureau of Reclamation and EPA will be involved in the development of comprehensive plans as well as NMFS and USFWS. The intent is to use the comprehensive plans to meet the requirements of ESA section 7 consultation, or section 4(d) exception or section 10 HCP.