

RESOLUTION OF THE WASHINGTON FISH AND WILDLIFE  
COMMISSION ADOPTING POLICIES TO SUSTAIN AND REBUILD  
WILD SALMONID STOCKS

WHEREAS, since 1994, the programs and actions of the Department of Fish and Wildlife, Tribes, other government agencies, and the private sector have been reviewed to determine what changes are needed to protect and rebuild wild Salmonid stocks. The Department and Tribes have a particular interest in the rebuilding of these irreplaceable natural resources, in partnership with other governments, citizens, and the private sector and, therefore, have sought to enter a joint policy to sustain and rebuild such wild Salmonid populations, and

WHEREAS, the Washington Fish and Wildlife Commission recognizes that Indian Tribes are committed to adoption of a joint Wild Salmonid Policy to address the mutual interests of the Department and Tribes in rebuilding and protecting wild salmonids and their ecosystems. The Commission, as governing body of the Department of Fish and Wildlife, strongly supports the Tribes in that effort, and

WHEREAS, the Commission recognizes that Tribal governing bodies have not yet approved the document labeled "*Policy of Washington Department of Fish and Wildlife and Western Washington Tribes Concerning Wild Salmonids*" (Joint Policy). The Commission, therefore, invites Tribal adoption of this Joint Policy, or Tribal resolution that will lead to a Joint Policy in the near future. The Department of Fish and Wildlife and this Commission shall work in good faith with Tribal governing bodies to resolve issues and merge Department and Tribal Policies into a jointly adopted Wild Salmonid Policy, and

WHEREAS, the Commission also recognizes that certain issues that may be necessary for Salmonid rebuilding are not resolved in the Joint Policy and are deferred for implementation and resolution at the watershed level with concerned tribes and public.

NOW THEREFORE, by adopting the document labeled "*Policy of Washington Department of Fish and Wildlife and Western Washington Treaty Tribes Concerning Wild Salmonid?*" dated December 5, 1997, the Commission expresses its commitment to reaching a joint Wild Salmonid Policy with Washington Treaty Indian Tribes, and the Commission adopts the "*Additional Policy Guidance on Deferred Issues Concerning Wild Salmonid Policy*" to notify interested persons of the Department's policy direction and to guide the Department efforts at the watershed level, and to further ensure that Department programs and actions will lead to rebuilding and sustaining wild salmonids.

The Commission action today arises from substantial scientific review by the Department and western Washington Tribes, as well as public review and input. The Commission hereby directs the Department to follow these policy directions, to work with the public, Tribes, neighboring states, and Canada as directed in these documents, and to take further actions with the Tribes in conjunction with the Commission to allow Tribal joinder in a Wild Salmonid Policy.

Resolved this 5th day of December, 1997.

# **Policy of Washington Department of Fish and Wildlife and Western Washington Treaty Tribes Concerning Wild Salmonids**

**Adopted by Washington Fish and Wildlife Commission  
December 5, 1997**

*(Please see note regarding  
Tribal adoption at page 4)*

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# Executive Summary - Goal and Policy Statements

## Goal of the Joint Wild Salmonid Policy<sup>1</sup>

**The goal of this joint Wild Salmonid Policy of the Washington Fish and Wildlife Commission and the Western Washington Treaty Tribes is to protect, restore, and enhance the productivity, production, and diversity of wild salmonids and their ecosystems to sustain ceremonial, subsistence, commercial, and recreational fisheries, non-consumptive - fish benefits, and other related cultural and ecological values.**

## Summary of Joint Policies

1. **Framework for Implementation of joint policy for fish populations, escapement, harvest management, and hatcheries:** The fishery and hatchery management principles that are stated in this joint policy shall be implemented by affected signatory tribal parties and WDFW, who shall cooperatively review and, where there is agreement, jointly amend management agreements and plans relating to affected fisheries. Such review and agreements shall utilize best available science and be made with appropriate consultation with affected stockholders.
2. **Spawner Escapement Policy:** The wild populations or management units to which this spawner escapement policy applies will be defined on a comprehensive, statewide, or regional basis, recognizing scientific uncertainty, in accordance with policy statement . . . . The parties will review existing court orders, joint agreements, and management plans to determine if it is agreed whether modifications are necessary to be consistent with the goals of this policy. Within this context, sufficient escapement of appropriate naturally spawning fish will be provided to encourage local adaptation and maximize long-term surplus production that sustains harvest, and to provide for recreational opportunities and ecological benefits. Exceptions to this general policy may be developed on a regional basis through agreement of the Department and affected Tribes to provide for recovery and rebuilding of wild stocks or where natural productivity is low.

Hatcher-v Fish and Spawner Abundance Where hatchery fish are cultured to augment the naturally produced population in a stream, spawning of hatchery origin adults beyond what is needed for broodstock will be evaluated through a case-by-case analysis of the effects on the naturally spawning stock characteristics. However, the goal would be to develop harvest strategies that optimize harvest on the hatchery production and hatchery production strategies that are consistent with section 6 of this Policy and protect naturally spawning populations.

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<sup>1</sup>The Fish and Wildlife Commission is taking action on this proposed joint Policy in advance of action by the numerous Tribal governments who have worked towards this joint Policy. Therefore, until a Tribal government takes action to adopt this Policy, it is not Tribal Policy.

Further, there are issues on which Tribes may have slightly different policy positions. To inform the Department and public, this document identifies some outstanding issues with footnotes. After tribal action to adopt Policy, the Department and Tribes will attempt to resolve any differences and execute a jointly adopted Policy. These notes are not intended to completely recite tribal positions or identify every possible word change. It merely describes the more significant points proposed.

3. **Conserving Genetic Diversity Policy:** Genetic diversity within and among stocks will be maintained or increased to encourage local adaptation and sustain and maximize long-term productivity. Conditions will be created that allow natural patterns of genetic diversity and local adaptation to occur and evolve.

4. **Ecological Interactions Policy:** Wild salmonid stocks will be maintained at levels that naturally sustain ecosystem processes and diverse indigenous species and their habitats.

Healthy populations of other indigenous species will be maintained within levels that sustain or promote abundant wild salmonid populations and their habitats.

5. **Harvest Management Policy:** The fisheries will be managed to meet the spawning escapement policy as well as genetic conservation and ecological interaction policies.

6. **Cultured Production/Hatcheries Policy:** Use programs of stable, cost-effective artificial production to provide significant fishery benefits while having no significant adverse impacts on the long-term productivity of naturally spawning salmon and their ecosystems.

Protect, rehabilitate, and re-establish naturally spawning populations using integrated principles of genetic conservation, ecology, hatchery production, and fish management.

7. **Habitat Protection and Management Policy:** Maintain or increase the quality and quantity of habitat necessary to sustain and restore salmonid populations.

8. **Basin Hydrology and In-stream Flow Policy:** Maintain or restore the physical processes affecting natural basin hydrology. In addition, manage water use in a manner that would optimize stream flows for Salmonid spawning, incubation, rearing, adult residency, and migration, that would address the need for channel-forming and maintenance flows, and that would address the impacts of water withdrawals on estuarine and marine habitats.

9. **Water Quality and Sediment Quality, Delivery and Transport Policy:** Provide for water and sediments of a quality that will support productive, harvestable, wild salmonid populations, unimpaired by toxic or deleterious effects of environmental pollutants.

Manage watersheds, stream channels, wetlands, and marine areas for natural rates of sediment erosion, deposition, and routing, that will allow salmonids to live, grow, and reproduce. There should be no net loss of wetlands that are utilized by salmonids or that support salmonid habitat through water quality and stormwater retention. When possible, wetlands supporting salmonids and their habitat should be increased.

10. **Stream Channel Complexity Policy:** Maintain or restore natural stream channel characteristics for channel sinuosity, gravel quality and quantity, in-stream cover, large woody debris (LWD), pool depth and frequency, bank stability, and side-channel, off-channel, and flood plain connectivity, and function.

11. **Riparian Areas and Wetlands Policy:** Functional riparian habitat and associated wetlands are protected and restored on all water bodies that support, or directly or indirectly impact, salmonids and their habitat. There should be no net loss of wetlands that are utilized by salmonids or that

support Salmonid habitat through water quality and stormwater retention. When possible, wetlands supporting salmonids and their habitat should be increased.

12. **Lakes and Reservoirs Policy:** Maintain and restore lake and reservoir habitats that are conducive to wild salmonid passage, rearing, adult residency and spawning.
13. **Marine Areas Policy:** Provide nearshore marine, estuarine, and tidally influenced marine ecosystems that contain productive, balanced, integrated communities of organisms having species composition, abundance, diversity, structure, and organization comparable to that of natural ecosystems of the region.

Ensure that functions and values of the following habitat types are maintained or increased: eelgrass habitats, herring spawning habitats, intertidal forage fish spawning habitats, intertidal wetlands, intertidal mudflats, and safe and timely migratory pathways for salmonids in marine waters.

Allow natural rates of erosion and transport of sediments, nutrients, and large woody debris that affect habitat quality in tidally influenced estuarine and marine shorelines.

14. **Fish Access and Passage Policy:** Provide and maintain safe and timely pathways to all useable wild salmonid habitat in fresh and marine waters, for salmonids at all life stages.

Ensure salmonids are protected from injury or mortality from diversion into artificial channels or conduits (irrigation ditches, turbines, etc.).

Ensure natural fish passage barriers are maintained where necessary, to maintain biodiversity among and within salmonid populations and other fish and wildlife.

15. **Habitat Restoration Policy:** Restore usable wild Salmonid habitat to levels within the range and frequency of natural variability to promote natural watershed processes and wild salmonid utilization of habitats.

16. **Continued Public Input and Science Upgrades:** **This policy reflects Department and Tribal Parties' consideration of the best science and public input that could be agreed to and incorporated at this time. The Department and Tribal governments believe that this Policy identifies important Fish Management and Habitat parameters and frameworks that will lead to rebuilding of Salmonid stocks. However, the Department and Tribal parties intend that this Policy be a living document, to be updated with improved science as it is developed.**

# **Policy of Washington Department of Fish and Wildlife and Western Washington Treaty Tribes Concerning Wild Salmonids**

## **Goal of the Wild Salmonid Policy**

The goal of this Wild Salmonid Policy is to protect, restore, and enhance the productivity, production, and diversity of wild salmonids and their ecosystems to sustain ceremonial, subsistence, commercial, and recreational fisheries, non-consumptive fish benefits, and other related cultural and ecological values. <sup>2</sup>

## **Framework for Implementation of Joint Policy for Fish Populations, Escapement, Genetics, Harvest Management, and Hatcheries (Policies I-6)**

### **1. Policy Statement**

The fishery and hatchery management principles that are stated in this joint policy shall be implemented by affected signatory tribal parties and WDFW, who shall cooperatively review and, where there is agreement, jointly amend management agreements and plans relating to affected fisheries. Such review and agreements shall utilize best available science and be made with appropriate consultation with affected stakeholders.

### **Purpose of Implementation Policy**

Participation by Tribal parties in this Policy extends to all areas where such Tribes have co-management responsibilities in treaty fisheries.<sup>3</sup> The Department shall be solely responsible for implementation of this Policy in areas where no tribal co-management responsibilities exist.

The Tribes and Department will approach fishery and hatchery management in the context of regional or other planning processes such as the Puget Sound Salmon Management Plan and Hoh v. Baldrige framework planning and by using the existing or additional processes for technical review of matters between the Department and affected tribes in regional, comprehensive, or statewide forums.

When addressing salmonid management matters within the existing frameworks or new setting, the Tribes and Department will have both formal and informal management principles and guidance in

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<sup>2</sup> Tribes have proposed a shortened version of the Goal.

<sup>3</sup> Tribes have proposed additional words on this sentence.

addition to the joint policies, performance standards, and other management principles contained in this document. By agreeing to this joint policy, the Department and Tribes do not forego their governmental power to seek particular goals or specific measures that may further sustainable fisheries, be more protective of salmonids, or more desirable for a particular management issue or other governmental purpose. However, the Tribes and Department intend to do so while working within the general goals of this joint policy and other management frameworks. Therefore, the Department and Tribes reaffirm their commitment to a spirit of cooperation and coordination that will be necessary to successfully address goals of this joint policy.

## **Fish Population Management Spawning Escapement Policy**

### **2. Policy Statement**

The wild populations or management units to which this spawner escapement policy applies will be defined on a comprehensive, statewide, or regional basis, recognizing scientific uncertainty, in accordance with policy statement #1. The parties will review existing court orders, joint agreements, and management plans to determine if it is agreed whether modifications are necessary to be consistent with the goals of this Policy. Within this context, sufficient escapement of appropriate naturally spawning fish will be provided to encourage local adaptation and maximize long-term surplus production that sustains harvest, and to provide for recreational opportunities and ecological **benefits**.<sup>4</sup> Exceptions to this general policy may be developed on a regional basis through agreement of the Department and affected Tribes to provide for recovery and rebuilding of wild stocks or where natural productivity is low.

#### Hatchery Fish and Spawner Abundance

Where hatchery fish are cultured to augment the naturally produced population in a stream, spawning of hatchery origin adults beyond what is needed for broodstock will be evaluated through a case-by-case analysis of the effects on the naturally spawning stock characteristics. However, the goal would be to develop harvest strategies that optimize harvest on the hatchery production and hatchery production strategies that are consistent with section 6 of this Policy and protect naturally spawning populations.

### **Performance Standards**

1. In each watershed region, for each species, populations and/or management units to which MSH management will apply shall be identified and the pertinent management agencies shall establish escapement goals designed to achieve MSH. MSH shall be calculated by using long-time series of accurate spawner and recruit statistics for each population. When such statistics are not available, MSH may be calculated by using historical production, habitat availability, or the best available methods for calculation.

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<sup>4</sup> Tribes propose additional reference to “where parties agree” in this sentence.

2. The State and Tribes will seek agreement on the total escapement rates, escapement levels, or escapement ranges that are most likely to maximize long-term surplus production for wild populations or combinations of wild populations or management units. These rates, levels, or ranges will be based upon achieving MSH and will account for all relevant factors, including current abundance and survival rates, habitat capacity and quality, environmental variation, management imprecision, and uncertainty, and ecosystem interactions.
3. For other resident and anadromous trout and char, managers may employ wild fish release and other approaches that can maintain high abundance as agreed upon in watershed or sub-regional management plans that may be developed between the Department and the affected Tribes after consultation with affected stakeholders and pursuant to applicable law and court orders. Where an affected Tribe has not chosen to participate in such management, the Department may continue to rely on the escapement approach for wild managed populations contained in A Basic Fishery Management Strategy for Resident and Anadromous Trout in the Stream Habitats of The State of Washington adopted in 1986.
4. It will not be necessary to physically measure spawner abundance for each and every stock, though every stock will need to be covered by the inventory process. Index stocks that are typical of stocks within an area may be used to estimate abundance for the entire area. Surrogate measures such as standing stocks, random samples, stock composition or other measures may be substituted for actual measures of spawners. Evidence of the utility of such surrogates will need to be established for their **use**.<sup>5</sup>
5. If spawner management goals are not achieved for three consecutive years, or if the five-year moving average of spawner abundance falls below 80% of the goal, a management assessment including all factors responsible for the 'failure to reach this goal (e.g., forecast harvest rate estimates, environmental variation or spawner enumerations, appropriateness of spawner abundance goals, loss of habitat quantity and quality) will be completed within six months to determine the cause(s). The Department and affected Tribal parties will cooperatively design and implement appropriate actions to return spawning levels to, or above, the goal. Actions will include any necessary measures to meet the goals of this Policy.

## **Conserving Genetic Diversity**

### **3. Policy Statement**

Genetic diversity within and among stocks will be maintained or increased to encourage local adaptation and sustain and maximize long-term productivity. Conditions will be created that allow natural patterns of genetic diversity and local adaptation to occur and evolve!

### **Performance Standards**

General requirements for genetic conservation in this element call for:

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<sup>5</sup> Tribes proposed additional sentence regarding agreement to index stock use.

<sup>6</sup> Tribes proposed slightly different formulation of genetic conservation policy and words in the performance standards.

1. No stocks will go extinct as a result of human impacts, except in the unique circumstance where exotic species or stocks may be removed as part of a specific genetic or ecological conservation plan.
2. The biological characteristics and structure within and among populations, as monitored by such things as spawning and rearing distribution, life history traits, habitat associations and genetic traits and differences, will not change as a result of human influences.
3. The number and distribution of locally adapted populations should be allowed to expand as a result of such management actions taken to: increase spawner abundance from previous wild generations, minimize negative impacts of hatchery strays, reduce genetic selection from fishing, and recoup access to lost spawning and rearing areas.

In some areas, the number and distinction of separate locally adapted populations may decrease as a result of successful habitat rehabilitation efforts to restore and connect damaged habitat; in such cases the total abundance of the “new” spawning population in its habitat will increase.

4. Fishery selection for salmon will be minimized to insure that population characteristics such as adult size, timing and distribution of population migration and spawning, and age at maturity are similar between the fished and unfished portions of the population. This means that the population will not be changing over time as the result of harvest influences except that a population may change back to its natural patterns as a result of this policy and other management actions. For the salmonids that have multiple spawning capabilities, the primary goal will be to prevent any significant harvest caused shift to sexual maturity at a smaller size and/or age.
5. Habitat will be protected so that both the distribution and amount of habitat is sufficient to maintain local adaptation and genetic diversity. Genetic diversity may be measured both in terms of diversity at the level of gene composition and the maintenance of key life history characteristics. Key life history characteristics include such things as timing, age at maturity, habitat use, how long an anadromous fish remains in freshwater, stream, river, and lake rearing characteristics of freshwater populations and other such characteristics that provide for local adaptations and diversity.
6. Sanctuaries, or refuges, may be established by agreement where populations can be protected from most of the effects of habitat, harvest and hatchery influences. It will not be possible to protect populations from all of these influences all the time, but it may be possible for some populations to be largely protected from many of these influences. These protected populations serve two important functions: (1) they may provide a comparison for measuring the changes in unprotected populations so that we can see the impacts of our actions, and (2) may be a source of fish if a related neighboring population is changed too much to recover naturally.

## Ecological Interactions

### 4. Policy Statement

Wild salmonid stocks will be maintained at levels that naturally sustain ecosystem processes and diverse indigenous species and their habitats.

Healthy populations of other indigenous species will be maintained within levels that sustain or promote abundant wild salmonid populations and their habitats.

### Performance Standards

The standard for ecological interactions is “no significant negative impact” on wild populations. Actions will be taken to minimize risk, which will be estimated for each species within individual regions. There will be flexibility in using hatchery programs. There are four key goals and considerations for applying this policy:

1. Maintain wild salmonid populations at diverse, abundant levels that naturally sustain salmonid ecosystem processes and diverse indigenous species and their habitats. This will primarily be done by meeting the spawning escapement goal, but hatchery carcasses may be used for this purpose during rebuilding phases.
2. Maintain healthy populations of indigenous animal and plant species within levels that sustain or promote abundant wild salmonid populations and their habitats. A healthy, balanced ecosystem requires that all the parts be available in the right amounts. Where there is a lack of species diversity it may be necessary to increase populations by providing the proper habitat characteristics.

Alternatively, human caused changes to many ecosystems have created situations where there is an excess of predators. Healthy predator populations (e.g., marine mammals, birds, fish) may be controlled as necessary when they are an important factor in not achieving spawner escapement goals. Consistent with applicable law:

- (a) Animal populations that are not marine mammals can be controlled if: (1) they are not indigenous to the watershed of concern and have been determined to be a cause of mortality of salmonids; or (2) they are abundant due to human caused changes to the ecosystem and are taking otherwise harvestable fish. Such predator control will follow management plans developed and approved by the Department and affected tribes and federal agencies with jurisdiction.
  - (b) Abundant pinnipeds causing mortality of salmonids can be controlled based on agreements with the federal agencies with jurisdiction, the Department, and affected tribes.
3. Hatchery or other enhancement programs shall avoid significant negative impacts due to predation or competition on the health and abundance of wild salmonid while minimizing the risk to other indigenous non-salmonid populations. All hatchery and other fish culture programs will follow specific ecological risk assessments and management plans to avoid adverse impacts on wild populations. Where co-management responsibilities exist, the affected Tribal parties and the Department will jointly review and evaluate salmonid populations that currently exist outside their historical range to determine if they pose an unacceptable risk to indigenous species and ecosystems. If they do, then the affected parties will agree upon and take steps to remove or reduce the risk.

4. Control the numbers, varieties, habitat changes, and distribution of non-indigenous species or stocks that allow them to compete with, prey on, or parasitize salmonids and other indigenous species. Introductions of fish populations will be managed to avoid significant adverse impacts on wild populations. This policy requires the affected Tribal parties and the Department to conduct an appropriate joint ecological risk assessment of the current distribution.

## **Harvest Management**

### **5. Policy Statement**

The fisheries will be managed to meet the spawning escapement policy as well as genetic conservation and ecological interaction policies.<sup>7</sup>

### **Performance Standards**

1. Harvest management will be responsive to annual fluctuations in abundance of salmonids, and will be designed to meet any requirements for sharing of harvest opportunity.
2. The allowable incidental harvest impact on populations shall be addressed in existing preseason and in-season planning processes as described in policy number 1.
3. Where a population is not meeting its desired spawner abundance level, the State, in managing the non-treaty harvest, may give priority to non-treaty fisheries that can minimize their impacts on weak stocks and increase their harvest on healthy stocks by: (1) using gears that can selectively capture and release stocks with minimal mortality, or (2) avoid impacts by eliminating encounters with weak populations (proven time/area closures, gear types). This must be done consistent with meeting treaty and non-treaty allocations and in accordance with agreed mass marking policies.

## **Cultured Production/Hatcheries**

### **6. Policy Statement**

Use programs of stable, cost-effective artificial production to provide significant fishery benefits while having no significant adverse impacts on the long-term productivity of naturally spawning salmon and their ecosystems.

Protect, rehabilitate, and re-establish naturally spawning populations using integrated principles of genetic conservation, ecology, hatchery production, and fish management.

### **Performance Standards**

1. Meet policy goals articulated in the criteria under the Conserving Genetic Diversity and Ecological Interactions sections.

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<sup>7</sup> Tribes proposed wording that harvest “consider” the genetic conservation and ecological interaction policies.

2. *Meet criteria in Salmonid Disease Control Policy of the Fisheries Co-Managers of Washington State.*
3. Each hatchery program will be conducted under a complete operational plan that describes the specific operational components, production goals, measures to control risk, monitoring and evaluation, and performance audits.
4. Appropriate uses of different kinds of artificial production techniques, to include, but not be limited to, the situations below, will be based on meeting the goals, policy statements and performance standards contained within this policy. The policy recognizes that a hatchery program may fall into one situation now, but it may need to change to another as habitat and population status change.
  - In areas where suitable environmental conditions are restored or are being restored and recovery of naturally reproducing populations is a goal, artificial propagation may be used in conjunction with other rehabilitation measures to assist in recovery of populations.
  - In areas where viable naturally reproducing populations have been extirpated, and restoration of natural populations is a goal, artificial propagation may be used in conjunction with other rehabilitation measures to assist in restoration of populations.
  - In areas where habitat has been permanently lost, or restoration is presently unfeasible, artificial propagation for mitigation may be used to establish and maintain fisheries and/or to conserve genetic characteristics of native wild Salmonid populations.
  - In areas where cultured fish will have no significant negative impact on natural populations, artificial propagation may be used to establish and maintain fisheries.
  - In areas where wild stocks are healthy, cultured fish programs will be designed to maintain the health of wild stocks.
  - Fisheries enhancement can provide fishing opportunities in certain areas when such enhancement is consistent with overall fisheries management policies that protect native stocks.
  - All recommended guidelines for genetic diversity and ecological interactions should apply in aquaculture programs where there is a likelihood of adverse interaction with wild populations.
5. Mass marking of hatchery produced coho salmon will meet the Requirements, Criteria, and Condition of the Stipulation and Order Concerning Co-Management and Mass Marking. Mass marking of chinook and other anadromous salmon will occur according to agreements on comparable implementation plans. Hatchery fish may not be marked for reasons such as: (1) broodstock development or maintenance, (2) Treaty/non-Indian allocation problems that cannot be resolved by other methods, or (3) an agreed to wild stock supplementation program. Proven and agreed to mass marking technologies must be utilized.

Resident hatchery salmonids released from WDFW facilities will be adipose clipped, or identifiable using proven technology any time they are planted in fluvial habitats, or (2) where there are significant wild population in lakes and reservoirs, provided these releases do not interfere with Indian Treaty Rights.

## **Habitat Protection and Restoration**

The Wild Salmonid Policy addresses habitat protection and restoration because habitat is essential to wild Salmonid protection. Habitat protection and restoration crosses agency and governmental lines and requires coordination at the fundamental level of determining habitat needs for salmonids. The

Department and Tribes will pursue implementation of this policy to the greatest extent possible within governing statutes and regulations, and will encourage other governmental and private entities to provide new statutes, regulations, and funding necessary for full implementation. Habitat protection and restoration will occur primarily through a combination of locally-based watershed planning and general policy objectives that have the flexibility to implement performance measures and action strategies in light of local conditions. State, Tribal, local or federal regulatory authorities will not be relinquished during locally-based watershed planning, but these authorities shall be used in a manner that supports locally-based planning consistent with this document. Regulatory action should be taken when authority to implement standards and requirements exists and voluntary actions are either not being taken or are insufficient to achieve compliance consistent with this document. Statewide planning or rule-making will occur on a collaborative basis. The Department and the Tribes will participate in the Timber, Fish, and Wildlife process to develop a Forestry Module intended to address Endangered Species Act and Clean Water Act standards on state and private forest lands.’ The Governor’s Joint Cabinet for Natural Resources, the Washington State Natural Resources Council, and the Joint Legislative Task Force on Salmon Recovery are among the appropriate forums to address fish and wildlife habitat issues related to agriculture and development on a statewide basis.

Protection and restoration of Salmonid habitat also: (1) benefits other fish and wildlife resources, (2) protects valuable ecosystem features, such as flood plains and wetlands, (3) reduces flood damages and other community infrastructure costs, (4) facilitates groundwater recharge and helps to prevent ground and surface water contamination, and (5) contributes to maintenance of a healthy economic climate across the state.

## **Current Status**

There are a myriad of laws and actions that affect habitat protection and restoration. Indeed, ‘habitat protection and restoration has improved significantly over the last 20 years. Some forest practices, for example, now employ “watershed analysis.” This tool assesses Salmonid habitat condition on state and private forest lands, determines the likely impact of proposed forest practices, and develops prescriptions designed to protect instream resources while allowing certain levels of forest practice activities. Where the Growth Management Act (GMA) applies, it couples land use and zoning with protection of critical areas including Salmonid habitat. The GMA has brought some improvement in habitat protection. These are important steps and should continue. However, without continued modification and significant improvement of the state’s habitat management programs, Salmonid habitat will continue to decline in productive capacity, causing the loss of additional wild Salmonid populations.

Many government programs, regulations, and plans affect land use. These directly or indirectly protect Salmonid habitat. There are also non-regulatory programs that provide technical assistance or financial assistance for stewardship practices. There is also a growing number of volunteer efforts to restore Salmonid habitat.

These regulatory programs limit one or more aspect of the use of land or water. Any one project may be subject to a multitude of requirements from the listed programs. Some of the programs prescribe specific processes (e.g., SEPA, NEPA, GMA ), others require specific permits, and some both (e.g., Shoreline Management Act). The permits frequently have different time requirements, sometimes even

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§ Tribes have proposed different approach and concern over the adequacy of the TFW process, and concern regarding oversight, participation, and control so that watershed groups can achieve the needs of salmonids.

contradictions, and getting required permits can last several years for major projects. There are no consistent, coordinated, statewide goals, performance measures, or action strategies.

## **Policy Intent**

Habitat protection requires a high degree of specificity and guidance about “what fish need”. The policy defines narrative and numeric performance measures that reflect the best available science to evaluate biological and physical processes for salmonids. The performance measures will be used to direct adaptive management and policy decision making, ensure compliance and accountability, and measure adequacy of implementation. Achieving the performance measures will also ensure consistency in achieving the goals of this policy. The Policy intends that performance measures will have a level of force and accountability comparable to that provided for by other elements of the Policy over which the co-managers have direct control. This document encourages local planning for specific implementation consistent with these policies and performance measures. In the absence of adequate local implementation, the obligation will rest with state and tribal entities to implement these policies.

It will be the policy of the Tribal Parties and the Fish and Wildlife Commission that:

1. Protection and restoration of wild Salmonid habitat is fundamental to meeting the overall Wild Salmonid Policy goal. This will require identification and provision for the habitat needs of wild salmonids, identification of natural and human effects on habitat, and implementation of actions that will maintain or increase the quality and quantity of habitat necessary to sustain and restore Salmonid populations.
2. The Department and Tribal Parties will advocate for the habitat measures identified within this document. The Department shall within two years of the adoption of this policy review its Hydraulic Project Approval (HPA) rules and work with Tribal Parties and affected parties to commence rulemaking to effectively implement the habitat measures in this document. In advance of such rule review, the Department shall review applications for HPAs in accordance with its statutory authority and in light of the information about protection of fish life reflected in this document. During the next year, through co-management, the Department and the Tribal Parties will improve the HPA process. The improved process will enhance data sharing and provide timely notice to the affected Tribal Parties and a meaningful opportunity for review and comment on applications prior to their approval.
3. Habitat protection and restoration will require a comprehensive watershed-based approach that will stress the continuum that extends throughout the watershed, its estuary, and near shore marine waters. The Department and Tribal Parties will provide the leadership and coordination for protection and restoration through cooperative planning and appropriate programs. The affected Tribes and the Department are conducting watershed assessments and will increase these efforts to identify limiting factors in the watersheds. The Department and Tribes should involve other appropriate parties and encourage development of local proposals, consistent with appropriate guidance, for habitat preservation, protection, and restoration that addresses such limiting factors.
4. A balance of local implementation processes and state level regulation is essential to habitat protection and restoration. A state and local government regulatory framework should remain in place. New, or revised, statutory or rule-making authority recommendations, if needed, should

result from collaborative discussion by all interested parties, including Tribal Parties, and should include additional SEPA review. Local implementation processes for habitat protection and restoration shall recognize tribal sovereignty in government-to-government interactions, be sensitive to the rights of citizens, and be accountable for protecting habitat.

5. Habitat goals, performance measures, and action strategies should apply to all salmonid habitat, regardless of land use and regardless of ownership.
6. The Department and Tribal Parties will cooperatively review local land use decisions and ordinance revisions to determine consistency with the performance measures of the Wild Salmonid Policy.
7. Many local, state, and federal laws currently exist to address elements of this policy, including water quality and quantity, habitat mitigation, and land use planning laws. The Department and Tribal Parties will work to ensure rigorous enforcement of existing applicable local, state, and federal laws and regulations.

This policy strongly encourages local problem solving with state, local, and federal agencies, and tribes at the table. The Department and Tribal Parties, as co-managers of salmon fisheries, should provide technical support and represent the habitat measures, but they should also be at the table as partners, working collaboratively with local citizens to achieve Wild Salmonid Policy goals. The Department and Tribal Parties will encourage other state agencies to assume a similar role. Individual habitat performance measures can be amended to reflect local habitat conditions, provided the amendments remain consistent with the habitat goals defined in this Policy. The Department and Tribal Parties will not endorse funding for projects or watershed plans that are not consistent with the habitat goals of this Policy. If projects, watershed plans, or local ordinances are inconsistent with this Policy, the Department and Tribal Parties will inform the Governor, National Marine Fisheries Service, and other appropriate parties of the inconsistencies.

Identification of the actual makeup and operating principles for watershed groups is beyond the scope of this policy. However, watershed groups should be diverse and be representative of all interests within the community. To the extent possible, existing watershed groups should be considered and included in any planning and implementation scenario.

The policy encourages, and builds on, numerous existing regulatory, proprietary, voluntary, and incentive or grant-based efforts such as the Growth Management Act, the Shoreline Management Act, the WDFW Hydraulic Code, the Department of Natural Resources Habitat Conservation Plan, the Puget Sound Action Plan, Ecosystem Standards for State-owned Agricultural Lands, the Timber, Fish, and Wildlife Agreement (TFW), and recent improvements to the Forest Practices Act Rules and Regulations, individual landowner farm and forest plans, habitat restoration efforts, and water conservation measures, many developed through the State Conservation Commission. Further, programs such as Jobs for the Environment, and Regional Fisheries Enhancement Groups, have made significant contributions to fish habitat improvement and protection.

This brief list clearly does not provide credit for all the positive efforts we have collectively taken, but serves to acknowledge the intent of our citizens to support salmonid habitat protection and restoration. For example, the TFW "Forestry Module" is a cooperative effort by agencies, tribes, and citizens to develop an ESA and Clean Water Act strategy that includes all the habitat components in this policy as they relate to forest practices on state and private forest lands. WDFW and the Tribal Parties are parties

to the TFW agreement and will defer to this process with the expectation that biological objectives for wild salmonids will be met.<sup>9</sup>

Maintenance of less intensive land uses, such as agriculture and forestry, when managed consistent with this policy, are integral to achieving the goals of the Wild Salmonid Policy. Providing technical assistance and other incentives to encourage landowners to continue in forestry and agriculture, consistent with the principles of this Policy, should be an integral part of watershed plans and/or collaborative rule-making processes.

The exact methods and products that will be developed to implement the habitat components of the policy are beyond the scope of this Policy. It is anticipated that additional plans, actions, agreements, and/or regulations will be developed, in most cases in arenas outside the WDFW rule-making process. It is also expected that additional SEPA review will be done to address the specific environmental impacts of those implementation actions subject to SEPA. In any event, successful implementation of the policy will require close coordination and cooperation of agencies, tribes, and individual landowners.

It is important to recognize that habitat protection and restoration are critical to the survival, production, and utilization of both wild and hatchery salmonids. This is because hatchery fish require high quality water in sufficient supply for efficient on-station incubation and rearing, and because they rely on the same habitat conditions as wild fish once they are released to the wild. If we allow habitat quality to decline, most hatcheries and other fish rearing facilities will eventually fail. Therefore, we cannot rely on increases in hatchery fish production to maintain harvest levels without addressing the same habitat issues as for wild salmonids.

In addition to this policy, other governmental obligations to rebuilding wild salmonids include the Pacific Salmon Treaty, the Magnuson Act, and the Columbia River Compact. These agreements require recovery of salmon to utilization or harvestable levels. Reductions in harvest levels alone cannot maintain wild Salmonid populations. Merely reducing harvest does nothing to improve habitat conditions. Sound and sustainable Salmonid management requires long-term habitat protection and restoration, from the spawning gravel through the full range of rearing and adult residency habitats.

## **Habitat Policy Framework**

The habitat policy is arranged along Salmonid life history needs, and the physical processes and habitat types affecting them. It consists of nine components.

The Habitat Policy components are:

1. Habitat Protection and Management
2. Basin Hydrology and Stream Flow
3. Water and Sediment Quality and Sediment Transport
4. Stream Channel Complexity
5. Riparian Areas and Wetlands
6. Lakes
7. Marine Areas

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<sup>9</sup> The Tribes proposed deletion of the last 2 sentences.

## 8. Fish Passage and Access

## 9. Habitat Restoration

It is important to recognize the inter-relationships between these components. Inadequate attention to one or more habitat components can reduce, or eliminate, the benefit of achieving the performance measures of another. For example, riparian buffers and stream channel complexity will be of reduced value to wild salmonids if flows are inadequate, or fish access is denied. For anadromous salmonids, production gained from fresh water may be lost if nearshore marine conditions for feeding and migration are inadequate. Habitat quality is also related to spawner abundance. Freshwater productivity may be heavily influenced by returning adult salmon whose carcasses provide a source of marine-derived nutrients (nitrogen, phosphorus, and carbon) to the aquatic and riparian zone.

### **Habitat Protection and Management**

Protection and restoration of useable wild Salmonid habitat is fundamental to meeting the overall Wild Salmonid Policy goal. Useable Salmonid fish habitats include those areas historically and currently utilized by salmonids, and those areas that can be made useable by restoration or enhancement activities. Failure to protect and restore habitat will severely constrain, or eliminate, our harvest management, hatchery, and genetic conservation options to utilize and protect wild salmonids. Fundamentally, protection of wild Salmonid habitat is the most effective way to ensure preservation of the Salmonid resource. However, given the current degraded state of much of our habitat base, restoration of that habitat is also integral to recovery of wild Salmonid populations.

The WSP recognizes that society and individual landowners can manage their activities to avoid impacts on wild Salmonid habitat (e.g., managing basin hydrology and instream flows to influence water quantity; protecting or restoring floodplains and wetlands to influence water quantity, water quality, and fish use). This section emphasizes the importance of partnerships, since no single organization or group has complete authority to protect and manage fish habitat - management responsibility is held by multiple agencies and local governments (towns, cities, counties). Furthermore, most regulations are minimum standards and the overall level of protection afforded wild salmonids varies widely, from comprehensive, rigorous protection, to virtually none at all.

The Department has regulatory authority to protect Salmonid habitat under the State Hydraulic Code. The Hydraulic Code requires that a permit be obtained from the Department for any activities that use, divert, obstruct, or change the natural flow or bed of waters of the state. The Department also has authority over fish passage at in-stream structures and can require screening of water diversion intakes. However, these WDFW actions are usually reactive to land use patterns and/or do not fully address the cumulative effects of watershed activities that affect stream and marine habitat. The Department and the Tribal Parties have the ability and responsibility to provide input into a variety of state and local activities. These activities include, but are not limited to, SEPA, forest practice applications, growth management plans, and water rights applications. The policies of this Policy will be used to guide input into these processes. It is a high priority to ensure these activities are consistent with this Policy. The Department and the Tribal Parties will utilize this document to guide challenges to these activities that are inconsistent with the goals and objectives of this Policy.

Protecting and restoring useable Salmonid habitat requires recognition of the dynamic nature of the physical processes that influence habitat, and requires better-coordinated planning and regulatory efforts.

It also requires complete and accurate inventory and assessment of existing, or potential, salmonid habitat, and land uses affecting that habitat.

Successful protection and restoration of wild salmonids and salmonid fisheries will require the participation of all levels of government and the Tribes. Under co-management, the State shares responsibility with the Tribes for managing fishery resources. Local governments and private interest groups have unique authorities and responsibilities that can affect salmonid habitat. All these groups should be brought into watershed planning processes. Further, the Governor has established a Joint Cabinet for Natural Resources and the Washington State Natural Resources Council will help guide interactions with the Tribes at both the state and local levels. The Department will be an active participant in the Natural Resources Cabinet as a vehicle to achieve wild salmonid protection. The Joint Legislative Task Force on Salmon Recovery will also be reviewing action strategies for salmonid recovery.

## **7. Policy Statement**

**Maintain or increase the quality and quantity of useable habitat necessary to sustain and restore Salmonid populations.**

### **Performance Measures**

The ultimate performance measure for habitat is a level of productivity and production that will sustain robust fisheries, while maintaining healthy adult spawning populations. However, relationships between habitat conditions and salmonid productivity are evolving. Therefore, the approach used will be to define performance measures based on the physical conditions within salmonid habitats that are expected to create good productivity. This is an indirect approach, that must periodically be evaluated to ensure its applicability. The physical performance measures are described in the habitat components that follow. They are based on our current understanding of what is expected to provide good salmonid habitat and productivity, and will be periodically updated as new or additional information becomes available.

### **Basin Hydrology and Stream Flow**

This component addresses stream flow from two dimensions: (1), maintenance or restoration of natural physical processes affecting hydrologic regimes (flow timing, volume, and duration); and, (2) maintenance or restoration of flows through administration of water rights, instream resources programs, water conservation strategies and similar programs.

Floods and droughts are natural events, and anadromous and resident salmonids evolved in basins subject to variable, but generally predictable, flow regimes. Salmonid evolutionary responses for survival and reproduction - where and when they rear, migrate, and spawn - are reflected in those flow regimes (the basin hydrology). The adaptive responses for salmonid species are complex, involving several kinds of habitats, in various parts of a river basin, over a relatively short time period. Many of the responses and habitat requirements are not well understood. Therefore, salmonid habitat requirements for basin hydrology should consist of flow patterns that reflect the natural hydrologic regime under unmanaged conditions.

Land use can have a significant affect on basin hydrology. For example, in urbanizing basins, increases in the amount of impervious surface within basins will increase peak run-off and storm flows, restrict groundwater recharge, and restrict summer base flows. Certain forest practices can alter peak run-off, especially where timber harvest occurs in transient rain-on-snow zones, and certain agricultural practices can alter basin hydrology through changes in vegetation and surface compaction. In addition, surface water flows are influenced by sediment transport rates, groundwater recharge, floodplain connectivity, riparian area condition, and the size, condition, location and extent of wetlands.

Stream flows are affected as well by water withdrawals for off-stream use, by certain groundwater withdrawals, and by in-stream impoundment and release operations to achieve flood control, hydropower, and other societal objectives. Water quantity requirements for wild salmonids can be met in part through management of activities that affect basin hydrology and stream flow (e.g., land use planning and land use regulation, timber harvest planning, etc.), and through efficient management of water use including maintenance and restoration of stream flows.

## **8. Policy Statement**

Maintain or restore the physical processes affecting natural basin hydrology. In addition, manage water use in a manner that would optimize stream flows for Salmonid spawning, incubation, rearing, adult residency, and migration, that would address the need for channel-forming and maintenance flows, and that would address the impacts of water withdrawals on estuarine and marine habitats.

## **Performance Measures**

1. In streams or basins that provide useable wild Salmonid habitat, and where stream flows have been adopted or are being revised, the performance measure will be the stream flow as adopted by rule. Where review is requested the objective will be to establish or revise stream flows to optimize habitat conditions for migration, spawning, incubation, and rearing of wild salmonids and their prey.
2. Physical indicators within a watershed should also be used, where applicable, as performance measures to assess or achieve the goals for basin hydrology and stream flow. These performance measures are typically expressed as thresholds of change - if the thresholds are exceeded, habitat conditions including water quality and water quantity decline dramatically, and often irreversibly. Threshold management can help to maintain or restore natural basin hydrology and stream flow. Examples of thresholds include:
  - a. Percent effective impervious surfaces - including road surfaces, rooftops, compacted soils, and parking lots. As percent effective impervious area exceeds a threshold range of 5-10 percent in a subbasin watershed, stream conditions (including the frequency and intensity of high flows and water quality) begin to deteriorate. Groundwater recharge and summer low flows also usually decline, although the relationship is not always as predictable. The threshold may be applied to stream reaches, subbasins, or wetlands. In subbasins where the threshold has been exceeded, there will be a joint assessment with the affected Tribal Parties and other interested persons to determine what useable wild Salmonid habitat remains and evaluate the effectiveness of existing or proposed stormwater controls using the best available science.

- b. Forest harvest and road density - the seasonal timing of forest harvests, and the density of roads in harvesting areas, can have significant effects on stream flows. The percent of upland forests at hydrologic maturity, and percent clearcut in rain-on-snow zones, have been used as thresholds beyond which significant adverse impacts on basin hydrology and stream flow will be expected. The thresholds are basin specific. For western Washington subbasin watersheds, a threshold of approximately 60% of standing timber at age 25 or more will begin to reflect hydrologic maturity. The effect of road densities is even more basin specific and will require some form of analysis and discussion to arrive at a threshold number, or other management prescription, to protect against unnaturally high stream flows.
- c. Threshold grazing standards should be set at the basin specific level. On state lands, guidance is available in the HB1309 Ecosystem Standards for State-Owned Agricultural and Grazing Lands. This guidance may also have application on other ownerships as a reference document.

## **Water Quality and Sediment Quality, Delivery and Transport**

Water and sediments within specific ranges of physical and chemical characteristics are essential to healthy and productive wild salmonid populations. Both water and sediment are excellent media for the uptake, storage, transportation, and concentration of dissolved and particulate materials. Natural rates of sediment delivery and routing within streams and marine areas are essential to creating and maintaining salmonid habitat, but accelerated rates of sediment erosion/deposition are usually detrimental to salmonid habitat.

Human activities can affect sediment delivery and routing, and introduce potentially toxic substances to water and sediment that can have deleterious effects on salmonids and the food webs they rely upon.

Preventing and minimizing releases of oil and other toxic or deleterious substances to the aquatic environment has been demonstrated to be much more cost-effective than remediation and restoration. Persistent hazardous materials accumulate in sediment depositional areas, such as wetlands and estuaries, where remediation options are very expensive.

### **9. Policy Statement**

Provide for water and sediments of a quality that will support productive, harvestable, wild salmonid populations, unimpaired by toxic or deleterious effects of environmental pollutants.

Manage watersheds, stream channels, wetlands, and marine areas for natural rates of sediment erosion, deposition, and routing, that will support salmonids at all life stages. There should be no net loss of wetlands that are utilized by salmonids or that support salmonid habitat through water quality and stormwater retention. When possible, wetlands supporting salmonids and their habitat should be increased.

### **Performance Measures**

1. Maintain productive aquatic habitats for salmonids and their prey bases that contain a balanced, integrated community of organisms, having species composition, abundance, diversity, structure, and organization comparable to that in unimpacted reference ecosystems of the region.
2. Physical and chemical parameters such as temperature, dissolved oxygen, pH, turbidity, and suspended solids levels will meet or exceed state surface water quality standards, including narrative standards and anti-degradation provisions, for waters of the state as set under applicable law.
3. Freshwater and marine areas that affect salmonids should meet or exceed water and sediment quality criteria, as established for toxic or deleterious pollutants that can affect the survival, growth, or reproductive success of salmonids or prey species. These areas will also meet or exceed human health standards for fish consumption.
4. Spawning areas are impaired if fine sediments (<.85mm) among spawning gravel exceeds 11%. However, if fine sediment levels naturally exceed 11% in spawning or rearing habitat, then sediment concentrations should not exceed natural levels.

### **Stream Channel Complexity**

Salmonids have evolved and adapted to streams that possess a variety of in-channel features important to spawning, rearing, and migration. These features include (1) frequency of pools and riffles, (2) substrate size and distribution, (3) sediment delivery and transport processes, (4) water depth and velocity, (5) undercut banks, (6) in-stream woody debris, and (7) a variety of side-channel and off-channel habitats. Stream channels exhibit various levels of complexity dependent upon their degree of confinement within their valley walls, their steepness and size, the geologic makeup of the basin, and the hydrologic regime. Stream complexity is subject to natural levels of disturbance, particularly as a result of catastrophic events, such as wildfire and disease affecting riparian areas, and by landslides and debris torrents.

However, in-stream complexity has been reduced or lost as well, due to human activities, such as removal of large woody debris, channel encroachments (including bank hardening), dredging, relocation and realignment, loss of side-channel, off-channel and floodway connectivity (diking, channel aggregation, tide gates) , conversion of free-flowing reaches to impoundments, burial of streams in culverts to facilitate development, and installation of road crossing structures.

### **10. Policy Statement**

Maintain or restore natural stream characteristics and processes for channel sinuosity, gravel quality and quantity, in-stream cover, large woody debris (LWD), pool depth and frequency, bank stability, water velocity, and side-channel, off-channel, and flood plain connectivity, and function.

### **Performance Measures**

1. It is the objective that spawning gravel be relatively stable, with a low potential for scour, throughout the nest building and incubation period of the wild Salmonid species in the basin. Salmonid production will be considered impaired if the frequency or depth of scour exceeds the natural disturbance rate and magnitude.

2. It is the objective that adult Salmonid holding pools contain sufficient depth (depending on species and stream, but generally greater than one meter) and associated cover.
3. It is the objective that more than 90% of channel banks on streams be stable through natural processes (vegetation root strength), relative to natural rates of erosion in the basin. Stability, if needed, can be provided in a number of ways. The need for stability should not override natural processes. If bank protection is necessary, bioengineering methods are preferred. Bank protection measures that are detrimental to Salmonid habitat should be prohibited unless adverse impacts are fully mitigated using proven methods.
4. At a minimum, the performance measures relative to pools and large woody debris in forested and previously forested areas, should conform to those in the *Washington State Watershed Analysis Manual* (listed below, from WAC 222-22), unless locally defined based on the best available science. The quality and quantity of large woody debris in streams and the potential for future recruitment should not be impaired by human activities regardless of which performance measure is used.
  - a. In streams of any gradient, but less than 15 meters wide, the frequency of pools should not occur at intervals less than one pool for every two channel widths in length.
  - b. The percent pools in a stream will not be impaired by the presence of sediments, or the effects of human disturbances. For streams less than 15 meters wide, the percent pools should be greater than 55%, greater than 40%, and greater than 30% for streams with gradients of less than 2%, 2-5% and more than 5%, respectively.
  - c. The quantity and quality of LWD in streams should not be impaired by human activities. For streams less than 20 meters wide, the number of pieces of LWD larger than 10 centimeters for every channel width, should exceed two; the number of key LWD pieces per “bank full width” (BFW) should be greater than 0.3 pieces for streams less than 10 meters BFW, and greater than 0.5 pieces for streams 10-20 meters BFW. Key piece size criteria are defined in the *Washington State Watershed Analysis Manual*.
5. Side channels and other off-channel habitat, including wetlands, should remain connected and passable by salmonids to the channel proper. Where feasible, dikes or levees, bridge approaches, and other structures that are constricting floodplains, should be removed or modified to allow flood flow, storage, recharge, and release.
6. It is the objective to manage stormwater so that there will be no increase in the number, frequency, or duration of flows that form channels or create scour, nor exceed those flows conducive to Salmonid rearing. Maintenance of other stream channel complexity features, identified under policy statement # 10, should also be maintained and restored to natural frequency and distribution in stream channels.

## **Riparian Areas and Wetlands**

Riparian areas are those areas immediately adjacent to streams, wetlands, and marine shorelines. The trees, shrubs, herbs and grasses comprising riparian vegetation influence aquatic areas, and in turn are influenced by them. Riparian areas are vitally important for maintaining, in varying levels of

contribution, the water quantity, water quality, food supply, shelter, migration, and reproductive needs for wild salmonids. Fully functional, naturally vegetated riparian areas have the following attributes:

1. Contribute sizes and species of large woody debris to the aquatic zone that (1) dissipate energy, (2) trap and route sediments, (3) retain detritus and salmonid carcasses, (4) maintain channel complexity, and (5) assist in flood plain formation.
2. Create and maintain spawning, rearing, and migratory habitat for salmonids and their prey.
3. Provide shade, and subsequently reduce summer stream temperature, and ameliorate winter low stream temperature.
4. Maintain vegetative community integrity and diversity that prevents debris flows, controls sediment delivery and transport, provides a source of nutrients to the channel, and stabilizes stream banks.
5. Provide and maintain areas of off-channel habitat.
6. Attenuate flows and moderate impacts from high flow events.
7. Facilitate groundwater recharge and maintain summer low flows.
8. Intercept and break down incoming pollutants.

Wetlands provide a variety of direct and indirect benefits to wild salmonids. Fully functional wetlands have the following characteristics:

1. Reduction of flood peak-flows (including stormwater runoff), and maintenance of low flows.
2. Shoreline stabilization (energy dissipation/velocity reduction).
3. Groundwater recharge.
4. Water quality improvement, including sediment accretion and nutrient/toxicant removal/retention.
5. Food chain support (structural and species diversity components of habitat for plants and animals).
6. Provide habitat for numerous fish and wildlife species, including wild salmon and trout.

Riparian areas and wetlands are sensitive to natural and human activities (vegetation removal, modification of basin hydrology, and sediment transport); wetland functions in particular are very difficult or impossible to restore or replicate after damages have occurred. Washington's riparian areas and wetlands have been reduced in both area and function, due to human impacts. Lack of a statewide program of riparian area and wetlands protection, with agreed upon numeric standards, contributes to loss of riparian and wetland area and function.

## **11. Policy Statement**

Functional riparian habitat and associated wetlands are protected and restored on all water bodies that support, or directly or indirectly impact, salmonids and their habitat. There should be no net loss of wetlands that are utilized by salmonids or that support Salmonid habitat through water quality and stormwater retention. When possible, wetlands supporting salmonids and their habitat should be increased.

## **Performance Measures**

There are no single, agreed-upon, statewide numeric standards for riparian areas or wetlands. Because the Department of Natural Resources maintains and updates a water typing system (defined and mapped per WAC 222-16-030), and since many local governments use this system, we will use that system as a point of reference. It should be noted that the performance measures recommended below provide general guidance for riparian buffers that protect aquatic functions and salmonid habitat. These buffers should be applied regardless of land use (e.g., forest lands, agricultural, rural, or urban lands).

Regional or watershed specific standards may need to be applied, based upon (a) watershed analysis; (b) the development of specific and detailed standards in individual watershed plans; or (c) other assessments of site conditions and intensity of land use. The factors limiting the maintenance of salmonids will be considered when developing the standards. Individual riparian and wetland performance measures can be amended, by local watershed groups in cooperation with the Department and affected Tribal Parties, to reflect local habitat conditions, provided the amendments remain consistent with the habitat goals in this Policy.

It is anticipated that statewide standards for state and private forest lands will be developed through TFW consensus recommendations on the Forestry Module, and provided to the Forest Practices Board for formal rule making. Once these are developed, they will provide the standards for forestry management under this policy. In the event the Forestry Module discussions do not result in consensus recommendations, the performance measures in this Policy are recommended as necessary to maintain or restore salmonid habitat. In developed non-forested areas under jurisdictional control of local governments, existing encroachments in riparian areas, or parcel size and configuration, may preclude attainment of adequate riparian buffers.

Nonetheless, in the absence of any other quantified alternative that provides the riparian area functions described above, the performance measures below are recommended to maintain riparian functions and conditions which protect salmonid habitat:

### 1. Riparian Areas

- For Water Types 1-3, a buffer of 100 - 150 feet (measured horizontally), or the height of a site potential tree representative of the mature dominant native vegetation capable of growing on those soils, whichever is greater, on each side of the stream's full channel migration or disturbance zone.
- For Type 4 streams, a buffer of at least 100 feet (each side).
- For Type 5 streams, a buffer of at least 50 feet (each side).
- For streams not identified directly or indirectly per WAC 222-26-030, apply a buffer of 100- 150 feet each side on salmonid streams larger than 5 feet wide, a buffer of 100 feet (each side) on smaller perennial streams, and a buffer of 50 feet (each side) on all other streams.
- Based on local habitat conditions, buffers may need to be expanded to accommodate the anticipated channel migration or disturbance zone, to increase recruitment of woody debris, as an additional buffer against windthrow, or to address upslope instability, or previous negative upslope impacts.
- Type 4 and 5 streams, with low stream gradient and relatively flat slope topography, may not need the full buffer width specified, and the buffer width may be reduced to that

necessary to protect the stream from upslope sedimentation and significant changes in stream temperature. The actual buffer width and composition should be based on site-specific conditions.

To the extent possible, buffers should be continuous along the stream channel. Selective tree removal may occur where site review and prescription clearly demonstrates removal can occur without significantly affecting the function of the riparian area, or that removal and/or removal and subsequent rehabilitation will improve the functional characteristics of the riparian area. Averaging buffers to meet buffer requirements will not be permitted except where it would result in greater protection. Complete tree removal should be limited to the minimum amount necessary for road alignments, stream crossings, or other corridors where no feasible alternative exists and adverse impacts will be fully mitigated.

- Riparian area restoration is strongly recommended after careful consideration and when consistent with guidelines to be established by the Department and Tribal Parties. Plant community structural complexity (understory herbaceous and woody overstory canopy), density, tree height and diameter should be similar to what would occur at the site under natural conditions (also known as site potential).
- Grazing, if allowed, should be managed to maintain or allow reestablishment of functional riparian vegetation. Other management activities may occur within the riparian area, provided the functional characteristics of the riparian area necessary to protect the stream are not significantly impaired.
- The performance measures for Basin Hydrology and Stream Flow, and Water and Sediment Quality and Sediment Transport and Stream Channel Complexity, should also be met to ensure riparian functions will be meaningful and attainable.
- Shade criteria shall be developed considering stream width.

## 2. Wetlands

Buffers for wetlands should be applied in accordance with the Department of Ecology Model Wetlands Ordinance - September 1990, and the updated 4-tier rating system (Pub. #93-74 for western Washington, and Pub. #91-58 for eastern Washington). The ordinance should be applied as guidance. It is not a legally required state standard, and it is not solely designed to meet the specific needs of salmonid habitat protection and recovery. The Wild Salmonid Policy is intended to encourage habitat protection through all means, not only through regulation. Generic application of the Model Wetlands Ordinance buffer widths and rating system, for salmonid habitat protection in all cases, may result in too much, or too little, protection of Salmonid habitat in different site conditions.

- Use of the Model Wetlands Ordinance standards for the protection of salmonid habitat is intended as interim guidance. There is a need to develop improved wetlands protection guidance that is specific to the salmonid habitat needs addressed in this policy and the role wetlands play in maintaining or restoring watershed functions essential to wild salmonids.
- Wetlands replacement is highly discouraged because of the difficulty of providing adequate replacement of functions and values. Where replacement is unavoidable, the replacement ratio will result in at least as much replacement as provided in the Model Wetlands Ordinance. Wetlands mitigation banking is also an option which may be considered where on-site, in-kind mitigation will not be feasible or practicable. However, such banking should be within the same affected subbasin, unless otherwise recommended by the Department and affected Tribal Parties.

- Performance measures for Basin Hydrology and Stream Flow, and Water and Sediment Quality and Sediment Transport should be met, where applicable, to ensure wetlands extent and functions are meaningful and attainable.

These buffers are not intended to fully protect, or consider, the needs of terrestrial or aquatic wildlife, or non-salmonid fishes.

## **Lakes and Reservoirs**

Lakes and reservoirs provide rearing, adult residency, spawning habitat, and migratory pathways for many species of salmonids. Access between lakes, and inlet or outlet streams, is critical for reproduction of many lake dwelling species. Lakes accumulate contaminants derived from upland or upstream sources. Outlet stream water quantity and quality is affected by in-lake conditions. Lake and outlet stream habitat is affected by a variety of human activities - particularly in highly developed urban, suburban, and recreational developments - including lake level manipulations, water withdrawals, high or poorly timed flow releases, loss of nearshore shallow water habitat, installation of overwater and underwater structures (docks, floats, ramps), loss of riparian vegetation, sedimentation of spawning habitat, control of aquatic plants, reduced dissolved oxygen, elevated temperatures, increased levels of chemical contaminants, such as fertilizers and pesticides, and increased fecal coliform bacteria and nitrate levels due to septic tank effluents. This results in accelerated aging (eutrophication) and “lake restoration” efforts, which may exacerbate habitat impacts on wild salmonids.

### **12. Policy Statement**

Maintain and restore lake and reservoir habitats that are conducive to wild salmonid passage, rearing, adult residency and spawning. Maintain or restore adequate flows through reservoirs to ensure optimal and timely passage of outmigrant smolts.

## **Performance Measures**

1. There are no statewide, agreed-upon, standards, particular to all issues specific to lakes and reservoirs. However, performance measures for basin hydrology and stream flows, water and sediment quality, riparian areas and wetlands, and fish access and screening should include factors relevant to lake and reservoir protection.

## **Marine Areas**

There are three key areas of marine habitat:

1. Tidally influenced lands and estuaries that provide transition habitat for Salmonid smolts as they leave fresh water to begin their ocean life phase.
2. Nearshore marine habitats that serve as the primary migratory corridor for juvenile salmonids on their seaward migration, providing a variety of prey organisms and refuge from predators.
3. Open water habitats that are important areas for migration and growth of larger salmonids.

Near-shore marine, estuarine and tidally influenced habitats are of vital importance to the survival of wild salmonids because:

1. Early marine rearing conditions are an important factor in overall survival rates of salmonids.
2. The productivity of these habitats influences the abundance of salmonid prey, including marine invertebrates and the forage fish populations, some salmonid species depend upon.
3. These areas also contain the critical intertidal and shallow subtidal forage fish spawning habitats that are the foundation of the coastal marine food web.

Beaches of Puget Sound are highly important areas for shorebirds, waterfowl, shellfish, finfish and other species of ecological significance to salmonids. Nearshore marine, estuarine, and tidally influenced habitats have been lost or modified to accommodate development along rivers and bays. These losses include diking and filling of intertidal wetlands, filling or dredging of shallow water habitat, loss or degradation of riparian vegetation, loss of channel system complexity near river mouths, alterations in freshwater inflows, alterations in flow interchange patterns, and a variety of water quality alterations. Marine habitats depend on continuation of watershed and coastal processes, such as basin hydrology, riverine sediment and nutrient transport, and coastal erosion and transport.

### **13. Policy Statement**

Provide nearshore marine, estuarine, and tidally influenced marine ecosystems that contain productive, balanced, integrated communities of organisms having species composition, abundance, diversity, structure, and organization comparable to that of natural ecosystems of the region.

Ensure that functions and values of the following habitat types are maintained or increased: eelgrass habitats, herring spawning habitats, intertidal forage fish spawning habitats, intertidal wetlands, intertidal mudflats, and safe and timely migratory pathways for salmonids in marine waters.

Allow natural rates of erosion and transport of sediments, nutrients, and large woody debris that affect habitat quality in tidally influenced estuarine and marine shorelines.

### **Performance Measures**

1. Natural shoreline erosion, accretion to beaches, and transport processes should be maintained or, where feasible, restored.
2. Ensure no net loss of eelgrass habitat, herring spawning habitat area or function, intertidal forage fish spawning habitat area or function, and intertidal wetland area or function.
3. Successful establishment of functioning compensatory mitigation projects should be demonstrated prior to final authorization for projects that adversely affect marine, estuarine, and intertidal habitats.
4. Maintain or restore continuous shallow-water migration corridors along nearshore marine, estuarine, and tidally influenced areas.

5. Maintain or restore adequate flows through estuaries to ensure optimal and timely passage of migrating smolts through the system and to prevent the saltwater mixing zone from moving upstream.

## **Fish Access and Passage**

Free and unobstructed passage among habitat types is essential for most wild salmonids at all life stages. Fish passage is affected by natural features and events. For example, high water temperature may cause thermal blocks to migration, drought or excessive sedimentation may result in stream flow too low for passage, and excessive turbidity may deter passage. High flows may cause velocity barriers, or Salmonid stranding, as flows recede. Natural barriers, such as waterfalls and cascades, are important features which contribute life history variation within species, and allow for species separation (i.e. anadromous/resident).

However, instream structures such as dams, culverts, screens, and tide-gates, and water quality and water quantity fluctuations because of human activity, also create significant fish passage and stranding problems, and loss of productivity and production. For example, the Columbia River basin system of dams has caused significant losses of Salmonid production. These losses are attributable to direct loss of access to habitat, transformation of a free-flowing riverine system to a system of fluctuating reservoirs, near-complete alteration of flow regimes, inadequate upstream and downstream fish passage, and inadequate screening at water intakes.

### **14. Policy Statement**

Provide, restore, and maintain safe and timely pathways to all useable wild Salmonid habitat in fresh and marine waters, for salmonids at all life stages.

Ensure salmonids are protected from injury or mortality from diversion into artificial channels or conduits (irrigation ditches, turbines, etc.).

Ensure natural fish passage barriers are maintained where necessary, to maintain biodiversity among and within Salmonid populations and other fish and wildlife.

## **Performance Measures**

1. 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.
2. Meet or exceed a 95% survival standard for fish passage through hydroelectric and flood control dams, and water diversion projects, and fully mitigate for fish mortalities.

## **Habitat Restoration**

The Wild Salmonid Policy goal will not be attained without active restoration of lost and damaged habitat. Continual restoration of unmitigated impacts to wild Salmonid habitat is undesirable, ineffective, and the most costly means to achieving the Wild Salmonid Policy goal.

Voluntary, cooperative, approaches to restoration are preferred, but those who willfully, or through neglect, damage habitat should be held accountable for restoration. Stream restoration will generally not be successful if upland processes and functions are not maintained, or restored to levels that support the restoration effort. Restoration activities are generally more successful when land use is stable over time. Projects initiated on lands with low-intensity, cyclical land uses/disturbances (forest, large lot rural residential, or agricultural lands) will usually be more successful than those initiated on high-intensity, high-density urban or suburban lands. Past degradation of salmonid habitat often occurred in response to societal values at the time. Therefore, restoration of salmonid habitat on privately owned lands is likely to be more readily accepted and implemented if the cost of restoration includes some level of public financing, if restoration provides flexibility to the landowner, and if restoration addresses, at least in part, relief from regulatory processes.

Successful restoration requires competent analysis of watershed processes and identification of limiting factors. Funding for restoration activities is limited; funding is enhanced where partnerships exist, where there is local support, where restoration is included in a larger project context (i.e., flood damage reduction plan, water storage, and release strategies), and where restoration is part of a completed overall land use and/or watershed plan. Restoration is more likely where dedicated fund sources are sufficient and stable. Restoration of wild salmonid habitat usually contributes to improved wildlife habitat and other societal benefits, such as aquifer recharge for drinking water, flood damage reduction, improvement of soil fertility, and maintenance of rural economies. Restoration projects are facilitated by regulatory processes (permits) which are coordinated, timely, consistent and affordable. Active participation in, or support of, watershed restoration fosters an environmental ethic, improved land stewardship, and support for habitat protection. Restoration is most successful when contemporary technical information and guidance is available to the public.

## **15. Policy Statement**

Restore usable wild salmonid habitat to levels of natural variability to promote natural watershed processes for wild salmonid utilization of habitats.

### **Performance Measures**

Restoration of salmonid habitat will be long-term, costly, and contentious. It will involve a combination of active in-water work, extensive upslope work, and in large part, just providing the opportunity and time for watersheds and marine areas to mend themselves. Many of the performance measures and action strategies in the preceding components include reference to restoration of the physical processes and habitat types necessary for salmonids, and they will not be repeated here.

Full habitat restoration within watersheds and marine areas will be ultimately achieved when the performance measures for the preceding components (i.e., basin hydrology and stream flow, water and sediment quality, and sediment transport, etc.) are met.

1. Establish clear restoration guidelines identifying conditions and strategies likely to result in successful habitat restoration.

2. Establish a statewide restoration monitoring program to assess the effectiveness of restoration strategies, and to improve the design and implementation of future projects.

## **Habitat Action Strategies**

The Habitat element involves: (1) salmonid requirements for survival, growth and reproduction; (2) how these requirements are influenced by natural physical processes and habitat conditions throughout the various salmonid life stages; (3) how human activities have affected these natural processes and habitats, (4) representative performance measures we can use to ensure success; and (5) examples of actions we can take to maintain or restore the processes and habitats vital to salmonid production. Summarized below are action strategies which are recommended to be successful in meeting the habitat goals and ultimately the overall goal of the Wild Salmon Policy. This initial list is intended to provide the basis for implementation actions and plans.

### **Components of Habitat Protection and Restoration Action Strategies**

The Action Strategies are organized into the following components:

- Habitat Protection and Management
- Basin Hydrology and Stream Flow
- Water and Sediment Quality and Sediment Transport
- Stream Channel Complexity
- Riparian Areas and Wetlands
- Lakes and Reservoirs
- Marine Areas
- Fish Passage and Access
- Habitat Restoration

Each component provides recommended action strategies that will address the issues specific to that component. Please note that many of the recommended action strategies are actions already being taken at federal, state and local government levels, and by tribes, or being taken voluntarily by individual land owners. Because this is a policy, except in a few cases, it will not specifically identify all of the wide variety of existing programs and activities in place for habitat protection. Rather, the policy provides principles and processes in a more general sense and specific programs will be identified during implementation.

Inadequate attention to one or more habitat components within the habitat element may reduce or eliminate the benefit of another. For example, riparian buffers and stream channel complexity will be of

reduced value to wild salmonids if stream flows are inadequate or fish access is precluded. For anadromous salmonids, production gained from freshwater rearing habitat can be lost if near-shore marine conditions for feeding and migration are inadequate.

Habitat quality is also related to all the other elements in the policy, particularly to spawner abundance and ecological interactions. Freshwater productivity can be heavily influenced by returning adult salmon whose carcasses provide a source of marine-derived nutrients (nitrogen, phosphorus and carbon) to the streams and riparian zones and lakes. Spawning aggregations of some freshwater salmonids produce similar responses in streams isolated from the ocean.

## **Action Strategies for Habitat Protection and Management**

Habitat protection and management first require an overarching goal and philosophy to guide the policy implementation. They also require a number of institutional, housekeeping details to ensure efficiency of staff and budget for those involved or affected by this effort. This includes coordination of regulatory and proprietary efforts, up-to-date comprehensive information to guide habitat decisions, and sharing, interpretation and application of that information to habitat issues. Acquisition of key parcels or easements adjacent to salmonid habitat will be an effective way of partially protecting and restoring salmonid populations as well and will be a part of the overall habitat approach. For full benefit and success, however, it will be necessary for local planning and implementation groups to adopt and embrace these action strategies in local watershed plans.

With this approach and framework in place, a habitat policy will address the issues of maintaining and restoring the physical and chemical processes necessary to meet salmonid life requirements, protecting and restoring key habitats and providing adequate migratory pathways between habitat types.

The following are examples of actions that will help to achieve the performance measures for this component:

- A. While it is the intent of the policy to avoid all habitat impacts, the policy recognizes that at times the needs of society will degrade habitat. Therefore, all human actions potentially affecting Salmonid habitat should use the following hierarchy of approaches:
  1. Avoiding the impact altogether by not taking an action or part of an action that would cause adverse impacts;
  2. Minimizing adverse impacts by limiting the degree or magnitude of the action and its implementation;
  3. Rectifying adverse impacts by utilizing proven methods that demonstrate success of repairing, rehabilitation, or restoring the affected habitat to its full productive capacity;
  4. Reducing or eliminating adverse impacts over time by preservation and maintenance operations during the life of the action; and/or
  5. Monitoring the impact and taking appropriate corrective measures to achieve the identified goal.

Seek full restoration, where feasible, or monetary compensation from responsible parties for direct loss of salmonids or adverse impacts to salmonid habitat, particularly in situations resulting from actions taken contrary to Department or Tribal recommendations in areas designated as high risk by watershed analysis. Monetary compensation shall be usually reserved for fish kills or habitat

damage where restoration is impossible. Compensate for the impact by replacing or providing substitute resources or habitats. This hierarchy will be applied to all planning activities and permit reviews and is recommended for other agencies and private citizens as an approach to protecting salmonid habitat. Avoidance is the most preferred and should be the most commonly used form of protection. Mitigation will be used only when no practicable or feasible alternative exists.

- B. Conduct a coordinated, comprehensive inventory and assessment of freshwater/marine Salmonid habitat, including aquatic biointegrity, with periodic updates:
  - 1. Include all habitats necessary for maintaining life history stages of existing and historical salmonid populations, incorporating both physical habitat elements and biological monitoring parameters such as water chemistry and prey-base assemblages and densities.
  - 2. Use the inventory to establish and evaluate watershed protection and restoration strategies.
  - 3. Create a system to keep cumulative track of approved and pending state and local environmental permits, accessible to the tribes, state and local agencies, and the general public.
- C. Define and improve quantitative relationships between habitat forming processes and the creation and maintenance of physical habitat. Establish habitat performance measures based directly on salmonid production/productivity.
- D. Routinely review and update physical habitat performance measures in the policy to reflect the best available science and data.
- E. Develop a process to coordinate local, state, tribal, and federal regulatory and proprietary authority that ensures opportunities for public review and input and that ensures that all components of the habitat policy are adequately and efficiently implemented. This coordination process should include regularly reviewing and recommending revisions to regulations and/or reviewing and revising typical permit conditions as appropriate to protect salmonid habitat.
- F. Develop a statewide, unified natural resource damage assessment and restoration strategy that will fully compensate the public for unauthorized activities that injure salmonids.
- G. Develop regulations and enforcement mechanisms to bring assurance of salmonid habitat protection.
- H. Encourage voluntary compliance with state and local habitat protection laws, consistent with this policy.
- I. Rigorously enforce current regulations to protect salmonid habitat where voluntary efforts are not underway or are unsuccessful.
  - 1. Prioritize enforcement of salmon habitat protection measures.
  - 2. Increase accountability of governments for enforcement of state and local habitat protection laws.
  - 3. Establish public and private partnerships in enforcing laws needed to protect salmon habitat.
- J. In collaboration with affected parties and in other forums addressing these issues, develop and propose rule changes or legislative changes to improve wild salmonid protection in four major areas: (1) forest practices (including Department representation on the Forest Practices Board); (2) growth management (addressing minimum standards for zoning, platting, and protection of critical areas); (3) water allocation (addressing water rights and permitting, instream flows beneficial to wild

salmonids, exemptions, water conservation); and (4) agriculture. The Department and the Tribal Parties should work closely with the Joint Cabinet for Natural Resources, the Washington State Natural Resources Council, the Joint Legislative Task Force on Salmon Recovery, and local watershed groups to accomplish this objective. Additional new forums may also be necessary.

- K. Support a uniform state water-type classification system for use in protecting Salmonid habitats. Efforts should be made to verify correct water typing prior to any land or water use decision or plan.
- L. Provide public access to the wild Salmonid habitat information to maximize the effectiveness of habitat protection and restoration efforts.
- M. Identify key parcels of wild Salmonid habitat as a priority for state-funded land acquisition programs.
  - 1. Support a dedicated funding source for securing wild Salmonid habitat.
  - 2. Acquire key wild Salmonid habitats using watershed inventories and analyses as a basis for identifying critical habitats. Acquisition priorities should be consistent with restoration priorities.
  - 3. Increase efforts to seek opportunities for acquisition of easements or land trades that secure wild Salmonid habitat.
- N. Develop an improved version of watershed analysis or equivalent procedure to meet both Endangered Species Act and Clean Water Act requirements, and that will address all watershed land uses. Watershed analysis is recommended as a tool to assess watershed processes and condition and develop management and restoration strategies.
- O. Identify and discourage the use of federal, state, and local subsidies that directly or indirectly detrimentally affect Salmonid habitat.
- P. Develop strategies and conduct analysis of cumulative effects resulting from past and currently approved activities before further habitat impacts occur.
- Q. In the event that any population fails to meet its prescribed spawning abundance levels, make an assessment of habitat, harvest management, and hatchery issues affecting escapement and make harvest and hatchery production adjustments as needed to meet the spawner abundance goal for the wild fish population. In addition, whenever failure to meet the prescribed spawner objectives is attributable, at least in part, to habitat degradation or loss, make an assessment to determine if the performance standards for the respective habitat components are being met, and make adjustments accordingly.

### **Action Strategies for Basin Hydrology and Stream Flows**

The basic life need for all living organisms is water and, obviously, a fish out of water is in trouble. The amount and quality of the water, and its pattern of flow are among the key factors of critical importance to salmonids.

The following are recommended action strategies that will help to meet the performance measures for basin hydrology and stream flows:

- A. Develop and integrate water conservation guidelines and standards into regional and watershed-

based water resource planning and implementation. Savings from conservation programs should, as needed, be used to restore optimum stream flows. Continue development and use of water rights as a means to achieve water conservation to benefit stream flows. If needed, request funding for development of statewide water conservation standards.

- B. Ensure that maintenance or restoration of the hydrologic regimes necessary to protect or restore salmonid habitats and life history needs are an integral part of upland management plans and practices, growth management planning, and stored water management plans.
  - 1. Develop strategies to maintain, restore, or emulate natural processes and land features that allow river basins to intercept, store, transfer, and release water so that stream flows are maintained and natural hydrologic regimes are attained.
  - 2. Develop means (including incentives, zoning, reaggregation of small parcels, clustering) to retain forest, agricultural, and rural lands in order to protect the extent and functions of aquifer recharge and discharge areas, wetlands, riparian zones, and frequently flooded areas.
  - 3. Develop mechanisms that limit the total effective impervious surface in a watershed subbasin to, or below, a threshold that prevents loss of habitat quality, habitat quantity, juvenile salmonids, and salmonid diversity. In watershed subbasins currently exceeding this threshold, employ best available technology to manage existing or anticipated stormwater runoff. These efforts can be coordinated with development and implementation of a statewide stormwater management strategy that recognizes and avoids impacts to salmonids that manifest at smaller discharge events than do damage to the channel.
  - 4. Develop mechanisms that limit increases in the duration or frequency of flow events in a subbasin below a threshold that juvenile salmon may use for overwintering habitat. In subbasins currently exceeding this threshold, increase habitat complexity to provide areas of low velocity for juvenile salmon to utilize as refuge during high flow events.
  - 5. Coordinate water resource planning for stream and potable uses with Growth Management Act (GMA) planning. Determine adequate water supplies in a manner that accounts for the protection and restoration of stream flows.
    - a. Identify and map known or potential aquifer recharge areas that provide base flows to streams, lakes, and wetlands.
    - b. Protect and restore groundwater recharge and discharge areas that are important for wild salmonids.
- C. Protect (and restore where feasible) floodplain habitat of value for wild salmonids.
  - 1. Employ low-density and low-intensity zoning and regulation.
  - 2. Utilize floodplain management measures that provide retention or reclamation of flood plain function and extent.
  - 3. Require that new roads constructed in floodplains avoid increasing water surface levels and minimize the channeling effects that convert sheet flow to directed flow points (bridges, culverts) during flood events. Correct, to the extent possible, existing roads that function as dikes to reduce or eliminate their adverse hydrologic impacts.
  - 4. Forest harvest planning should include harvest scheduling - including rotation ages that will prevent damaging changes in stream hydrology from rain-on-snow events, reduction in large woody debris recruitment, increases in the frequency and duration of flows above those suitable for juvenile salmonid over-wintering, and other hydrologic effects. Forest-road densities should be limited to thresholds which avoid damaging changes in stream hydrology and direct impacts to rearing salmonids.

- D. Establish and revise, as necessary, stream flow rules before any additional out-of-stream uses are permitted. Establish and maintain stream flows (minimum low flows, channel-forming and maintenance flows) that optimize habitat conditions for migration, spawning, incubation, and rearing for wild salmonids and their prey base.
- E. Maintain stream flows by modifying stored water release strategies and addressing interbasin transfers of water.
- F. Protect stream flows from impairment by groundwater withdrawals where groundwater is in hydraulic continuity with surface water. This protection includes minimizing the effects of exempt wells on stream flows.
- G. Promote the use of best available irrigation practices that emphasize water and wild Salmonid habitat conservation. State funding for new installation and upgrades of water delivery systems should be provided only where best available technology is used.
- H. Where voluntary efforts have not been successful, attain and maintain instream flows through (1) increased enforcement of existing instream-flow regulations, (2) active pursuit of relinquishments and abandonments, (3) reduction of waste, (4) increased water-use efficiency, (5) dedication of water from federal projects, (6) pursuit of water rights, and (7) denial of new consumptive water rights. Increased storage may also be investigated, where feasible, as an option to gain additional flows.
- I. Institute specific wild-Salmonid habitat protection criteria as part of the analysis to determine which flood control projects will be funded. These criteria will include channel-forming functions and values, bed character and quality, and overwintering habitat areas.

### **Action Strategies for Water Quality and Sediment Quality, Delivery and Transport**

Salmonids are dependent on abundant, clean, cool water for their survival. Several water quality components are important to, or regulate, Salmonid habitat and resources: water temperature, dissolved oxygen, pH, total suspended solids (TSS), and specific toxic materials. The quality, delivery and transport of sediments throughout stream channels, lakes, and marine areas plays a significant role in Salmonid survival and production.

The following action strategies are recommended in order to meet the performance measures for water quality and sediment quality, delivery and transport:

- A. Ensure surface water runoff, water discharge, water conveyance systems and irrigation return flows meet applicable water quality standards for a receiving water body.
- B. Establish spawning and rearing habitat criteria (e.g., percent fine sediment) through the state water quality standards triennial review process.
- C. Develop and implement a statewide stormwater management strategy that uses the best science and data to develop land use options that avoid significant changes in basin hydrology and non-point source point pollution that affect Salmonid rearing, spawning, and migration.

- D. Develop a statewide, unified aquatic-sediments strategy to prioritize clean-up of contaminated-sediment sites associated with Salmonid production.
- E. Continue to support a statewide, unified natural resource damage incident response, clean-up and assessment and restoration strategy to fully compensate the public for damages incurred due to releases of toxic substances.
- F. Organize a forum to promote understanding and communication between the fish and wildlife management community and the agricultural community on issues of Salmonid production and the production of agricultural crops and products. This could be modeled on the Timber, Fish and Wildlife Agreement that was used to address the interactions of timber management activities and fish. Develop an improved regulatory framework, including best management practices, that assures agricultural activities will comply with federal and state water quality requirements.
- G. Rigorously enforce compliance with the Clean Water Act, including the development and prioritization of total maximum daily loading (TMDL) allocations for water bodies, and those parameters that could adversely affect salmonids.
- H. Ensure that water quality standards recognize the value of Salmonid carcasses up to historical levels as a source of nutrients.
- I. Develop interim approaches, including best management practices, for impaired water bodies or watersheds for which a TMDL has not been developed.
- J. Deny, defer, or condition activities or permits that will adversely affect salmonid habitat or state waters to ensure that no further degradation would occur.
- K. Employ and promote land-use practices that prevent significant changes in the delivery and transport of sediments. Priority consideration will be given to high-risk areas where potential for adverse impacts is greatest, such as highly erodible areas.
- L. Employ and promote sediment control measures for activities that can introduce unnaturally high levels of fine sediments into streams and estuaries such as gravel or rock crushing/washing, gravel/dirt road use in wet weather, and land clearing on erodible soils.
- M. Employ and promote sediment control measures that protect all waters, including small non-fish bearing streams especially in areas with steep headwall slopes, unstable slopes, and high mass-wasting potential likely to result in sedimentation and pool filling, and to protect the integrity of downstream Salmonid-bearing waters.
- N. Manage watersheds to ensure that gravel and sediment delivery to streams approximates the natural disturbance regime.
- O. Design and operate dams, and water diversion structures to facilitate the normal downstream transport of sediments. Require spawning gravel supplementation to mitigate spawning gravel supply depletion.
- P. Ensure that gravel removal and dredging operations are evaluated, conditioned, and limited to protect incubating Salmonid eggs and Salmonid habitat, including instream, riparian, wetland, and marine

resources. Evaluations should include appropriate alternatives analysis.

### **Action Strategies for Stream Channel Complexity**

Salmonids have evolved and adapted to a stream's natural disturbance regime that provides a variety of in-channel features important to their survival, growth, migration, and reproduction. These features include pools, riffles and intermediate areas such as glides, cascades and waterfalls. Other features include substrate size and distribution (silt, sand, gravel boulders, etc.), sediment delivery and transport processes, water depth and velocity, undercut banks, side channels and instream large woody debris. These features collectively define the complexity - or simplicity - of a stream channel. Typically, complex channels are more productive for salmonids than simple channels.

The following action strategies are recommended for maintaining or restoring stream channel complexity:

- A. Allow river and stream channels to maintain or restore their natural meander patterns, channel complexity and flood plain connectivity. Where feasible, restore these features.
- B. Maintain or provide functional riparian corridors. See also action strategies under riparian areas and wetlands (next component).
- C. Avoid or minimize channel relocations or encroachments. Where channel relocations are absolutely necessary, ensure that new channel design and construction will not result in a net loss of function or value. Where altered channels are being rebuilt or restored, the reconstruction design should conform to the performance measures identified in the policy.
- D. Restrict large woody debris (LWD) removal from stream channels and floodways. Where LWD removal is warranted because of damage to public or private capital improvements, relocate LWD to other areas within the channel. Discourage LWD removal for other purposes.
- E. Develop performance measures, including channel complexity and sinuosity, for historically non-forested areas and intertidal lands of rivers and streams.

### **Action Strategies for Riparian Areas and Wetlands**

Riparian areas and associated wetlands perform a variety of functions, all of which have a direct or indirect effect on Salmonid production.

The following action strategies are recommended to protect and restore these areas:

- A. Develop wetland protection standards specific to the needs of wild salmonids.
- B. Support a mechanism of wetlands inventory, tracking, and characterization.
- C. Develop integrated strategies to include regulatory and non-regulatory approaches (e.g., incentives such as current-use taxation, conservation easements, awards/recognition, or land trusts or other forms of acquisition) to improve stewardship of riparian and wetland areas and buffers supporting wild Salmonid habitat.

- D. Ensure that land-use plans avoid the loss or degradation of riparian and wetland areas, fundamentally through land use allocation, and secondarily through application of mitigation techniques.
- E. Where wetlands alterations are unavoidable, support wetlands permitting programs to achieve no net loss of wetland acreage and function.
  - 1. Provide for a mechanism to assess the effectiveness of wetlands mitigation to replicate wetlands functions and extent.
  - 2. While avoidance of wetland impacts is preferable, there may be times when off-site mitigation is more practical, affordable and effective. A state mitigation banking protocol should be followed when site specific wetland impacts are unavoidable and mitigation should occur within the same affected subbasin. The protocol should ensure the needs of wild salmonids are met, including criteria for success and monitoring strategies.
- F. Over the long term, seek to gain an increase in wetland base and functional characteristics.
- G. Oppose new road construction or other encroachments in riparian areas and wetlands. Where construction, reconstruction, or upgrades are unavoidable, minimize encroachments in riparian areas and wetlands and mitigate for adverse impacts.

### **Action Strategies for Lakes and Reservoirs**

Lakes and reservoirs are significant and ever-changing features of the landscape of Washington. The over 8,000 lakes identified in the state vary widely in age and successional stage, origin, elevation, productivity, shape, hydrology and water quality, and in shoreline configuration and level of human development. Some are nearly pristine and virtually unchanged physically. Others, typically low-elevation lakes such the Lake Washington/Sammamish system, have been extensively altered and developed with wholesale changes in inlet and outlet drainage systems. Many lakes have been manipulated in some fashion; usually for lake-level maintenance, flood control or hydroelectric power generation, and they are often equipped with control structures at their outlets.

The state also abounds with human-built reservoirs. Most have been converted from previously free-flowing stream reaches. They range from small impoundments to single large dam/reservoir structures up to entire river system impoundments such as-the Columbia River system of hydroelectric dams.' Some are designed to allow fish passage, while others completely obstruct passage or the passage facilities are inefficient or ineffective.

Recommended Action Strategies for Lakes and Reservoirs include:

- A. Ensure that land-use plans and regulations take into account the particular sensitivity of lake habitats as identified in the lakes introduction.
- B. Ensure that lake level manipulation operations plans protect salmonid habitat.
- C. In areas of significant nearshore use by wild salmonids, minimize the size and numbers of docks, floats, ramps, and bulkheads, and seek appropriate mitigation. Use community or shared/common

structures where possible. Avoid the use of treated wood or other materials that release toxic substances in these structures. Where use of treated wood is proposed, the Department shall review and condition permits to protect salmonids and their habitats.

- D. Develop strategies to address aquatic plant introduction and control issues.
- E. Ensure that existing lake outlets afford free and unobstructed passage as necessary for anadromous and resident fish species. Avoid further installations and where feasible, remove these structures.

### **Action Strategies for Marine Areas**

Washington State has approximately 100 diverse estuaries within 14 regions, exhibiting structural, hydrological and biological diversity. As with freshwater habitat, Salmonid life histories have evolved in response to estuarine conditions. Estuaries are critical transition areas where seaward-migrating smolts adapt to seawater and returning adults prepare to enter spawning streams.

Recommended action strategies for marine areas include:

- A. Standards for basin hydrology and stream flows, water quality, stream channel complexity, and riparian areas and wetlands should be reviewed and modified to recognize and manage for functions necessary to maintain productive estuarine and nearshore marine habitats.
- B. Ensure that maintenance or restoration of the natural marine shoreline processes necessary to sustain productive nearshore Salmonid habitat are an integral part of upland and aquatic land-use planning.
- C. Promote land-use planning that allows natural marine bluff and riverine erosion, sediment, nutrient, and large woody debris transport processes to create and maintain the productive estuarine and marine habitats that salmonids depend upon.
- D. Support mitigation sequencing (similar to habitat protection hierarchy) to fully mitigate for the potential impacts of proposed in-water or overwater structures on Salmonid migratory pathways.
- E. Include in watershed plans a program to restore diked, filled, and covered estuarine and tidally influenced habitats. Develop, promote, and seek funding for estuarine and tidally influenced habitat restoration.
- F. Develop standards for aquatic lands to facilitate local planning to ensure Salmonid productivity will be maintained or increased.
- G. Develop a marine protected-areas strategy to include reserves for herring spawning habitat.
- H. Develop integrated strategies to use regulatory and non-regulatory approaches to improve stewardship of estuarine wetlands through protection and restoration efforts.
- I. Recognize the value of sediment transport to deltas and marine areas, and evaluate, condition, and limit dredging and filling operations to protect nearshore marine, estuarine, and intertidal habitats and functions that wild salmonids depend upon.

- J. Promote oil and hazardous substance spill prevention, contingency, and response planning to reduce risk, minimize exposures, remediate contaminated areas, and restore lost resource functions and services.

## **Action Strategies for Fish Access and Passage**

Physical barriers interrupt adult and juvenile salmonid migrations in many parts of the state. Persistent blockages deny access to critical spawning and rearing habitat. Loss of access to habitat reduces overall Salmonid productivity and may result in loss of salmonid populations. Fish passage is affected by and related to all the previous habitat components. Basin hydrology and stream flow are obvious fish passage parameters. Less obvious are the attributes of water quality and sediment delivery and transport, riparian areas, and lakes and marine shorelines. Fish passage, in the sense of the presence of adult salmonids, especially spawners, also affects water quality, aquatic productivity, riparian vegetation, and spawning gravel quality.

Recommended action strategies to meet the performance measures for fish access and passage include:

- A. Within three years, develop criteria, implementation processes, and compliance processes to identify, correct or remove existing human-caused fish passage problems in freshwater, floodplain and estuarine habitats. Prioritize and correct known human-caused fish passage barriers.
- B. Develop recommendations and coordinate with the U.S. Army Corps of Engineers, the Federal Energy Regulatory Commission, and federally licensed dam operators to implement, monitor, and evaluate controlled spill programs at dams, including dissolved gas abatement and other fish passage options, to maximize effectiveness for juvenile and adult salmonid passage.
- C. Establish procedures for evaluating, adopting and implementing new fish passage technologies, including:
  - 1. Automation of spillway operational facilities.
  - 2. Development, testing and construction of surface attraction flow collectors.
  - 3. Construction of gas abatement structures and operation strategies to control gas supersaturation. Expedite these and other activities to reach the goal of safe and effective in-river fish passage.
- D. Promote land-use plans that prevent the impacts of road construction on fish passage. Associated components include:
  - 1. Reducing needs for new highways and streets via land use planning and transportation planning including such things as light rail, ride-sharing, etc.
  - 2. Reducing number of individual private roads for individual residences.
  - 3. Limiting most new growth to urban areas while retaining large blocks of habitat in rural areas.
- E. Incorporate consistent state-wide criteria and guidelines for fish passage and screening into future design, construction, or alteration of instream structures, roads, and facilities.
- F. Develop and expand programs to educate people regarding fish passage issues, and when stream crossings are unavoidable, assist them in the design and construction of instream structures which

facilitate free passage.

- G Develop an equitable long-term funding mechanism and other incentives to share costs of passage restoration.
- H. Develop and implement effective monitoring and maintenance programs, and compliance processes that assure fish passage and screening structures are safe and efficient.

### **Action Strategies for Habitat Restoration**

Any strategy designed to maintain or recover salmonid populations should have as a basic underpinning meaningful protection of existing habitat. Continual restoration of unmitigated impacts to wild salmonid habitat is undesirable, often ineffective and the most costly means to achieving salmonid population recovery; in the long run salmonid populations are best protected by ensuring habitat protection.

The following action strategies are recommended in order to meet the performance measures for habitat restoration:

- A. It is the legislature's intent to minimize expense and delay due to obtaining required permits for projects that preserve or restore native fish habitat (Chapter 378, Washington Laws). The law defines watershed restoration projects and provides that projects that have been reviewed under the State Environmental Policy Act shall be processed without charge and permit decisions shall be issued within 45 days of filing a completed application. The state agencies with permitting responsibilities relevant to watershed restoration should fully implement Chapter 378. They should continue to examine opportunities to increase their efficiency in processing project permits and to enhance the design and effectiveness of restoration projects.
- B. Apply best available science and adaptive management to restoration strategies and activities:
  - 1. Where possible, use some from of watershed analysis that identifies the physical, chemical and biological processes that may affect the success of the restoration strategy.
  - 2. Employ watershed restoration mechanisms and technology to restore and maintain habitats to optimum conditions for salmonid spawning, rearing, and migration.
  - 3. Use qualified experts to analyze, design, and construct specific projects and to evaluate the success of the strategy.
  - 4. Ensure that monitoring and contingency planning is included in project design.
- C. Prioritize restoration activities. Considerations for prioritization include:
  - 1. Salmonid stock status, if available
  - 2. Harvest management plan
  - 3. Population vulnerability
  - 4. Possible positive or negative risks or consequences to wildlife or capital improvements
  - 5. Community/landowner acceptance and/or support
  - 6. Feasibility and probability of long-term success
  - 7. Compliments existing completed restoration projects
  - 8. Level of funding, opportunity for partnerships
  - 9. Ability to obtain permits in a timely, affordable basis
  - 10. Length of time before expected positive salmonid stock response
  - 11. Amount of habitat to be made available or improved

- D. Plan habitat restoration at multiple scales (subbasin, basin, watershed, state, region) to ensure efforts are consistent, coordinated, and effective.
- E. Coordinate salmonid habitat recovery plans with other planning processes such as GMA, watershed planning, flood control planning, etc.
- F. Support stable funding source(s) for salmonid habitat restoration in capitol budgets in order to provide time and predictability for planning, development, implementation and monitoring.
- G. Establish criteria for salmonid habitat restoration to be incorporated into appropriate state grant funding program selection processes.
- H. Where recovery of habitat is possible, pursue restoration measures to allow wild salmonids to recolonize areas they historically occupied.
- I. Develop an education outreach program to local communities to foster environmental stewardship.
- J. Work with local governments to assure the availability to landowners of incentive programs, such as current-use taxation, and to advocate land stewardship and recognition programs.
- K. Develop a coordinated, statewide geographic information system - including mapped and tabular data - among federal, state and local governments for cataloging habitat extent, condition, and restoration needs. Data should be organized and accessed according to watershed and made available to all entities who are conducting watershed protection and restoration projects.
- L. Use a variety of methods, including water conservation, additional storage where feasible, and water purchases to restore stream flows, consistent with this policy. This should include budget authorization to purchase water, water rights, or relinquished or abandoned water rights and transfer them to the trust water rights program.
- M Pursue federal and state flood-control funds for restoration of wild salmonid habitat that has been damaged by flooding or flood-control activities. This could include non-structural solutions to flood damage reduction such as relocation of structures; removal of dikes and levees; and reconnection of sloughs, former side channels, oxbows and wetlands.
- N. Provide technical support (engineering, biological assessments) to landowners and watershed groups.
- O. Develop dedicated funding and establish criteria for decommissioning of dams.
- P. Develop new methods and approaches for repairing, rehabilitating, or restoring salmonid habitat.

## **Continued Public Input and Science Upgrades**

### **16. Policy**

This Policy reflects Department and Tribal Parties' consideration of the best science and public input that could be agreed to and incorporated at this time. The Department and Tribal governments believe that this Policy identifies important Fish Management and Habitat parameters and frameworks that will lead to rebuilding of salmonid stocks. However, the Department and Tribal parties intend that this Policy be a living document, to be updated with improved science as it is developed.

#### **Performance Standard:**

The Department and Tribal parties will review implementation of this Policy each year to assess progress in rebuilding wild stock populations to levels that permit commercial and recreational fishing opportunities. Such review may be in coordination with other management actions and reports. Such review will periodically assess the scientific basis for policy statements, performance standards, and action strategies and propose appropriate amendments to this Policy to further achieve the mutual purposes of the Department and Tribal parties. The Department and the Northwest Indian Fisheries Commission will facilitate such review.

### **Scope, Use, and Limits of This Policy<sup>10</sup>**

1. This Policy shall guide and direct the Washington Department of Fish and Wildlife (the Department) and the signatory Western Washington Treaty Tribes (Tribal Parties) on matters of salmonid population, including harvest management and hatchery operation, and matters affecting salmonid habitat. It is issued by the Commission pursuant to authority under Titles 75 and 77 RCW, chapter 43.300 RCW, the State Environmental Policy Act (SEPA), and the Administrative Procedures Act (APA) and adopted by Tribal Parties consistent with tribal law.
2. Tribal Parties to this Policy are those Tribes with treaty reserved fishing rights whose representatives have signed this Policy and whose governments have ratified this Policy pursuant to their sovereign processes and passed an appropriate tribal resolution confirming that ratification.
3. No Tribal Party waives its immunity from suit in any Court by becoming a signatory to this Policy, save as that immunity may already have been waived within United States v. Washington.
4. This Policy is intended to be used consistent with existing law. This Policy shall guide the Department and Tribal Party actions and programs implementing existing statutes, regulations, and other legal responsibilities. If amendment of statute, regulation, court order, or applicable law is needed to implement this Policy, then this Policy is intended to be a framework for agreed Tribal Party and Department development of appropriate programs, projects, or rule changes that will implement this Policy.

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<sup>10</sup> Tribal legal staff is reviewing the adequacy of this description for the purposes of joint Policy adoption by Department and Tribal government agencies.

5. While acting consistent with statutory authorization and applicable law, the Department shall condition or deny permits or approvals within its jurisdiction by applying its legal authority to implement the policies herein. This includes the habitat action strategies and performance measures that indicate the habitat needs of salmonids. Habitat needs are often a material fact for application of statutory power to deny or condition permits and approvals. Where Department actions or programs require amendment or adoption of rules to implement this Policy, the Department will undertake rulemaking processes to consider new rules or changes.
6. This Policy does not direct the actions of other state agencies, federal agencies, tribal governments, or local governments not party to this policy. However, it is the goal of this Policy that the measures and standards contained herein be considered and used by other public and private entities where appropriate.
7. This Policy shall not be construed to grant, expand, create, or diminish any legally enforceable rights, substantive or procedural, not otherwise granted, created, or affected under existing law. Nothing in this Policy is intended to preempt or avoid SEPA, or the State Regulatory Fairness Act, or laws that may apply to Department projects, programs, or rules implementing this Policy. The Commission intends that the Department use these processes whenever they are applicable.
8. This Policy is not intended to alter, amend, or modify any Indian treaty rights reserved by federal authority or any court order that implements treaty rights to take fish and should not be interpreted as a definition of the scope or limits of Tribal Party powers or state powers. It is intended to be a framework for rebuilding wild salmonid stocks and sustaining fisheries by cooperative agreement whenever possible. The Department and Tribal Parties agree to comply with applicable court orders, processes, or other agreements, including but not limited to the 1989 Centennial Accord between Washington and Washington Indian Tribes, so that management decisions will be made by planning and agreement or be subject to applicable dispute resolution provisions..
9. This Policy does not itself amend or alter any Orders of the United States District Courts for the Western District of Washington or the District of Oregon relating to fisheries secured by Indian Treaties or any management plan, framework plan, or agreement developed under any such Orders. The governments signatory to this Policy, however, shall use it within their respective authorities to review and modify management and regulatory actions and shall in good faith consider the amendment or alteration of relevant Orders, plans, or agreements, recognizing that there may be the need for additional agreement or processes to achieve such amendment or alteration.
10. Regulation and Limitation of Treaty Harvests: Individual Tribes each have authority to regulate their fishers. Annual catch limits and seasons are developed through co-management with the Department and other agencies in international, interstate, and regional flora. By entering this Policy, Tribal parties do not agree that any particular Treaty harvests of any wild or hatchery fish shall be restricted as to time, manner or place, or reduced in amount, except as consistent with applicable court orders and the treaty rights of the Tribes and the rights of the state.
11. Failure of Agreement Does Not Waive Rights. Where this Policy contemplates agreement by the Department and affected Tribal Parties but no agreement is forthcoming despite good faith efforts and compliance with appropriate procedures, the Department and Tribal Parties retain all prior rights to seek judicial relief whatsoever, notwithstanding this Policy. This Policy shall not be construed to deny a court of any jurisdiction to hear and resolve disputes between the Department and Tribal

parties. The Department and Tribal parties waive no claims, defenses, or arguments they might make regarding tribal or state powers under applicable law, whatsoever.

12. Where resources and funding affects full implementation of this Policy, the Commission and Tribal Parties will provide additional direction or policy to prioritize use of limited resources.
13. This Policy shall not be construed to supersede, amend, or otherwise modify or affect the implementation of existing agreements, contracts, or consent decrees. Where appropriate, the Department and Tribal Parties shall use this policy as a good faith guide for agreements to modification of agreements, contracts, orders, or plans to allow Department and Tribal Parties to comply with this policy.
14. The Tribal Parties recognize that Departments other than the Washington Department of Fish and Wildlife have regulatory authority over many of the, performance standards, issues, and matters set out in this Policy. The Tribal Parties also recognize that these Departments have in many instances issued regulations which are binding on those Departments and which include numerical performance standards. By adopting this Policy, the Tribal Parties do not agree that any particular regulations, including the numerical performance standards, fully address Tribal interests or their rights. However, the Tribal parties recognize that performance standards and regulations should be strictly enforced until such measures and regulations can be made to address all tribal interests.
15. No Waiver of Tribal Environmental or Water Rights Claims. Nothing in this Wild Salmonid Policy shall limit, estop, or otherwise affect the rights of any Tribal Party to advocate actions, policies, procedures, rules of decision, or other habitat protection greater than that set out in this Policy, including any rights any Tribe may have under “Phase II” or environmental protection aspects of treaty fishing rights or other rights. Nor do Tribal Parties imply or admit that tribal water rights are limited to fisheries needs addressed in this Policy. Tribal adoption of interim performance measures under this Policy will include consideration of non-fisheries water uses as well as the water needs of fisheries.
16. Termination. The Department and Tribal Parties enter into this Policy to further a mutual interest that their actions and programs affecting wild salmonids should contribute towards rebuilding wild stocks in the manner described by this Policy. As mutual policy direction by state and tribal governmental agencies, the parties do not intend to capriciously divert from this Policy. However, the Department and signatory Tribes may, consistent with their respective governmental authorities, terminate their agreement to this Policy, or part thereof, by providing written notice to all signatory parties. However, the parties to this Policy will consider appropriate dispute resolution or mediation prior to termination. A notice shall describe the reason for termination and a statement of authorization from the appropriate governing body that adopted the Policy. Termination would not affect any Court orders, ongoing plans, agreements, actions, or programs unless such actions or programs are changed using appropriate processes and standards.

**Adopted by Motion of the Washington Fish and Wildlife  
Commission**

**December 5, 1997.**

# **Additional Policy Guidance on Deferred Issues Concerning Wild Salmonid Policy**

**Adopted by Washington Fish and  
Wildlife Commission  
December 5, 1997**

*ADDITIONAL GUIDANCE FOR WILD SALMONID POLICY - 1*

DRAFT - 12/04/97

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## Goal of Guidance on Wild Salmonid Policy

*The goal of the Washington Department of Fish and Wildlife is to protect, restore, and enhance the productivity, production, and diversity of wild salmonids and their ecosystems to sustain ceremonial, subsistence, commercial, and recreational fisheries, non-consumptive fish benefits, and other related cultural and ecological values.*

## INTRODUCTION AND SUMMARY

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1. The Wild Salmonid Policy. On December 5, 1997, the Washington Fish and Wildlife Commission adopted a Wild Salmonid Policy (WSP) that contains goals and management policies concerning wild salmonids that were agreed to by Western Washington Treaty Tribes, and additional policy guidance for Department staff. These documents address many issues, including the harvest, hatchery, genetic, and habitat priorities that are essential for protection and rebuilding of the salmonid resources of Washington State.
2. Using this additional policy guidance. The Wild Salmonid Policy provides the standards and goals to be applied in harvest, genetics, hatchery, and habitat protection programs. Where the Department and all tribes could not reach a common goal or standard, the Department and tribes deferred further agreement and discussion to the particular watersheds and tribal regions. This approach reserves to the Department and tribes the prerogative to provide additional fishery management guidance, directives, or policies that would better address the needs and situations in specific watersheds and regions. Department staff shall use the WSP throughout Washington, including this additional policy guidance where it adds, supplements, and clarifies additional fish population management goals and standards.
3. Using this guidance to work with tribal management of treaty fishing rights. Department staff should be aware that this additional guidance is not endorsed by all tribal governments, although individual tribes may use or support provisions herein. These additional management goals and standards should then be pursued if preceded by review of the relevant facts and management oversight for resolving conflicts with tribal fishery management. In doing so, staff must consider whether applicable court orders affect the Department guidance and consider how the Department can use existing court frameworks and processes to modify and improve protection of wild salmonids through agreed management with tribes. Formal dispute resolution should be instituted only when the Fish Management Program approves such actions after consideration of the WSP and all other appropriate information.
4. Involving citizens and working with other governments. Department staff shall involve public citizens in watersheds as provided herein, and work with Oregon, and interstate and international forums in the manner described.

5. Wild spawning escapement. Department staff will review management and co-management actions to ensure that harvest or hatchery programs do not prevent consistent return of the numbers of wild spawners needed to utilize available fish habitat. Department professional staff should use spawning escapement science that is crafted from the observed performance of state and tribal fish managers when they have consistently put adequate numbers of viable wild fish on the spawning grounds over the past two decades. To achieve the intent of spawning escapement policies, the Department should be conservative in proportion to the uncertainties that exist in the fish population management process.
6. Use of incidental catch limits. The Department should seek to implement a stock-specific 10% incidental catch limitation in Washington fisheries for current “primary” wild stocks when individual annual runs are projected to return at levels below prevailing (and attainable) spawning escapement requirements. The 10% will be calculated in terms of adult equivalents to make its use feasible in chinook salmon management. Past experience and the experience of others show that a specific and objective constraint on incidental catch should be used to ensure proper escapement.
7. Rebuilding wild populations in hatchery management zones. Current “secondary” wild stocks will be subject to specific rebuilding strategies. The goal for hatchery fish management areas is to transform these areas into productive wild fish production areas using harvest and habitat strategies.
8. Use of marked hatcher-v fish and selective fisheries. Mass marking and a mixture of non-selective and selective fisheries should be used in future salmon management. The Department should continue to make use of a hatchery program consistent with other elements of policy and to allow selective fisheries, where a high abundance of hatchery fish will be necessary to ensure success. However, future hatchery programs should be made consistent with the needs of wild Salmonid populations as described in the WSP.
9. Genetic review of populations. The Department should use quantified genetics-based standards to safeguard the future health of wild Salmonid populations. The long-term declines in average size and age composition of many salmon populations have reduced both their reproductive and adaptive potential and their monetary value in the commercial marketplace. The genetically-based minimum spawner abundance numbers described in this policy guidance are not a replacement for MSY escapement objectives. Instead, these minimum spawner numbers are intended only to protect the genetic material of locally adapted populations, not as a substitute for ensuring use of available habitat or for protecting small populations from risks of natural mortalities that take increased percentages of smaller populations and create risks of extinction. Stock transfers and the breeding of hatchery fish in the wild should be controlled to promote local adaptation and to maximize the productivity of wild populations.

# ADDITIONAL POLICY GUIDANCE

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## General Overview for Addressing Wild Salmonid Recovery through Fish Population Management

The Wild Salmonid Policy, including this additional policy guidance, should be used to promote recovery of wild salmon populations in Washington. This section briefly reviews five types of fish management challenges that the Department will face as it works in coordination with tribes, other governments, and citizens:

A total of 89 Pacific salmon populations are currently being overfished, or may be subject to overfishing, as a result of their harvest in what have been called hatchery management zones. Many of these practices were established in the late 1970s by the Department of Fisheries itself. To eliminate the practice, adipose fin marking of hatchery fish will be a priority, in concert with compliance with the Wild Salmonid Policy.

Salmon and steelhead populations in the upper Columbia River cannot replace themselves due mainly to the extensive series of dams and reservoirs. Drastic reduction of mortalities caused by dams remains the highest priority for addressing this problem.

Wild runs have been overfished even when the putative policy was to put adequate numbers of viable wild fish on the spawning grounds. The priority for these situations will be to review and implement the Wild Salmonid Policy that is designed to achieve appropriate escapement.

The productivity of wild salmonid populations in some locations has been reduced due to excessive ecological and genetic interactions between wild and hatchery-origin fish.

There are many case histories of successful past management with the state's salmon, steelhead, sea-run cutthroat, resident trout and char resources. These practices should be continued in the future.

When the Department addresses these five fishery management situations, the Wild Salmonid Policy should result in the following framework:

1. The Department, in cooperation with affected tribes, will conduct an assessment of each "secondary" wild stock that has a past history of being overfished and take one of the two following steps:
  - A. If a stock is too small to recover naturally, then temporary artificial production intervention will be necessary. Control of harvest will be phased in as returning adults become available.
  - B. If the existing wild population is deemed capable of effectively rebuilding itself, then a planned rebuilding schedule will be developed and implemented.Both of the above should involve a meaningful public input process and compliance with all planning and co-management obligations with affected Tribes. The terms of specific plans will supersede the more general 10% incidental harvest impact limitation.

2. The Department will continue artificial production consistent with applicable law and policies for a wild stock that is not capable of replacing itself.
3. Where a former "Primary" wild stock has been seriously overfished, the Department will manage to hold incidental catch levels in Washington fisheries to a total of 10% until the stock is rebuilt or the stock becomes subject to a specific rebuilding plan consistent with Department policies.
4. To address interactions between wild and hatchery-origin fish, the Department will seek to improve homing of adults back to release locations and reduce breeding in the wild, use differential harvest rates on wild and hatchery fish, and use the proper amount of hatchery fish to promote escapement and local adaptation by wild populations.
5. No change is required for a wild stock that has consistently had spawning escapements at or above the point estimate of MSY.

### **Description of Legal Authority for the Wild Salmonid Policy and Use of this Additional Policy Guidance**

The Department staff must use the Wild Salmonid Policy within the scope of the Department's legal authority and responsibilities. This section guides the Department on proper use of the Wild Salmonid Policy (including this guidance) on implementing the policy.

1. The Wild Salmonid Policy shall guide and direct the Washington Department of Fish and Wildlife (the Department) on matters of Salmonid population management, including harvest management, genetic protection, and hatchery operations. It is issued by the Commission pursuant to authority under Titles 75 and 77 RCW, chapter 43.300 RCW, the State Environmental Policy Act (SEPA), and the Administrative Procedure Act (APA). It will be used to guide implementation of Department legal authorities and to comply with other existing law, including federal law.
2. The Wild Salmonid Policy is intended to be consistent with existing law. This Policy shall guide the Department's implementation of existing statutes, regulations, and other legal responsibilities. If amendment of statute, regulation, court order, or applicable law is needed to implement the Policy, then staff shall use the Policy to propose appropriate changes.
3. The Wild Salmonid Policy addresses specific Department and Tribal actions and does not directly regulate actions of other state agencies, federal, tribal, or local governments, or any private parties. The Department and Tribes may use the WSP to guide their interactions with other public and private entities. Of course, existing and future Department regulations have the normal effect of law.
4. The Wild Salmonid Policy does not diminish any legally enforceable rights, substantive or procedural, granted by existing law. The Department staff should scrupulously comply with requirements of SEPA and the State Regulatory Fairness Act.

5. The Wild Salmonid Policy is not intended to alter, amend, or modify any Indian treaty rights or any court order that implements treaty rights to take fish. When this policy guides Department activities that affect (or may affect) treaty fishing rights, then the Department shall comply with all applicable court orders and processes, including but not limited to the 1989 Centennial Accord with Washington Indian Tribes and the joint Wild Salmonid Policy adopted by the Department and the Western Washington Treaty Tribes, so that management decisions are made in a cooperative manner with fair attempts to resolve or identify disputes over such management. It is a goal of this additional guidance that any necessary harvest restrictions be shared equally by treaty and non-treaty fishers within the constraints of applicable federal and state laws. Within these contexts, the Department shall pursue the Wild Salmonid Policy, together with this guidance, and seek cooperative management decisions with the tribal governments that are consistent with the spirit and purpose of the WSP and other Department authority.
6. Implementation of the Wild Salmonid Policy is subject to the powers of the Legislature to appropriate moneys and provide powers to the Department. Where Legislative action affects implementation of the WSP, the Commission may provide additional guidance.
7. The Policy is not intended to supersede or modify existing agreements, contracts, or consent decrees. However, the Department and Tribes may seek modification of agreements, contracts, or decrees by negotiation, agreement, or other appropriate means. In doing so, the Department staff should seek changes that will further implement the WSP.

### **Guidance for Implementation of Wild Salmonid Policy in Coordination with Other Governments and Citizens.**

This section addresses public involvement and how the Department should work cooperatively with other governments. The Department shall use public outreach and input in all areas of the state to address salmonid management issues. Public understanding of Department policies and cooperative efforts to chart and implement appropriate courses of action to meet these goals are essential.

The Department shall cooperate and plan with other governments to incorporate policy goals and to implement action strategies in situations where the Department shares management authorities and responsibilities. This requires co-management of salmon fisheries using a government-to-government relationship with individual Indian tribes. Other interjurisdictional relationships include: shared authorities with the State of Oregon on the Columbia River (e.g., Columbia River Compact); multi-state/tribal involvement with regard to salmon and steelhead resources originating in the Columbia River basin above Bonneville Dam; and state, tribal and federal interactions through PFMC and Pacific Salmon Treaty management.

#### ***ADDITIONAL GUIDANCE FOR WILD SALMONID POLICY - 7***

Public outreach and working with other governments create different implementation requirements that will be best addressed if Department staff approach implementation by using a spirit of cooperation and collaboration with local and statewide interests. Many of the problems that the salmonids face will require local problem solving and coordination among local, statewide, and intergovernmental efforts.

**1. Implementation shall incorporate a high level of public involvement and collaboration with constituents that have a high interest or stake in the outcome of actions guided by the policy.**

The Department also will need substantial local citizen involvement to be successful at achieving the underlying resource protection and restoration intent of the Wild Salmonid Policy and must recognize the importance of citizen volunteers and advocates. Implementing significant change will *not* be simple. The Department should place a high priority on public involvement to collaboratively communicate, educate, analyze, plan, implement, and evaluate, as well as the formal obligations of the Department such as SEPA and the State Regulator Fairness Act. We will need local problem solving with state, local, and federal agencies, tribes, and stakeholder groups at the table. WDFW would provide technical support and would represent state's interests, but they would also be at the table, working collaboratively with local citizens to achieve Wild Salmonid Policy goals consistent with local needs and conditions.

The Department will use the following procedures to ensure public involvement and input helps guide its implementation of the Wild Salmonid Policy:

- 1.1. The Department will use citizen advisory groups to provide feedback on fish management issues. These include, but are not limited to, the Commercial Fishery Advisory Group, the Anadromous and Marine Recreational Fishery Advisory Group, the Inland Fish Policy Advisory Group, the Puget Sound Recreational Fishery Enhancement Oversight Committee, and the Steelhead and Sea-Run Cutthroat Citizens Advisory Group.
- 1.2. The Department will develop annual management guidelines or reports for Commission review, and to guide annual salmon management planning through the "North of Falcon" process and subsequent in-season implementation. Such guidelines will be consistent with law and consider input from appropriate advisory groups. The Commission's normal public meeting and comment process will be used for oversight of such reports and public input.
- 1.3. The Department will review and improve annual salmon management planning processes to ensure public understanding of the process and allow meaningful input:
  - Annual North of Falcon discussions with non-Indian fishery constituents will begin earlier as appropriate to scope, discuss and plan new fishery approaches (e.g., selective fisheries for marked coho).
  - Regional fishery planning meetings held during the pre-season window will be considered to be "formal adjuncts" of the North of Falcon process and will be publicly announced to ensure that both local and non-local constituents have an opportunity to meet and share their interests together and so that input from these meetings can directly advise agency staff.

- North of Falcon meetings will be planned and scheduled to enhance open and effective communication with tribal managers *and* to serve as the annual public hearing process for inside commercial fishery rule adoption for coastal and Puget Sound salmon fisheries.
- Documentation of annual planning outcomes will be strengthened to improve process accountability.

1.4. Where needed to supplement existing advisory groups and watershed groups, the Department will develop new regional salmonid management planning groups to assist in review and definition of management strategies. This applies to both anadromous and resident species planning.

- Regional staff will take the lead in organizing and facilitating these forums, while Fish Management Program policy staff will provide policy support as appropriate to provide guidance, compliance with applicable policy and law, and consistency across regions.
- Priority planning attention will be given to those areas where management intent is most likely to change and/or where resource needs are highest.
- The Department will compare current objectives and approaches with desired outcomes to write action plans.
- The Department will use regional groups to develop options for fishery and hatchery management strategies that meet Department legal authority and policy, while achieving the resource protection policies and creating sustainable fishery benefits.

2. **Department staff shall use cooperative management that recognizes the government-to-government relationship with individual Indian tribes. This should be a central fixture in reviewing and revising, as appropriate, salmon and steelhead management objectives consistent with treaty rights to take fish as created by federal authority and implemented by relevant court orders.**

The Department shall recognize that the management of salmonid fisheries with treaty tribes or other tribal governments depends on mutual respect and cooperative management where the parties use their independent sovereign powers jointly to protect wild salmonids and generate sustainable benefits. This means that the Department must recognize both the complex legal relationship and existing court orders and frameworks that have evolved to address cooperation in management, as well as the WSP. Where the Department seeks changes to existing judicially controlled fishery management, the Department shall ensure the proper oversight and participation of policy level management, such as the Assistant Directors of the Department, program management, and the Tribal Policy Coordinator and Interjurisdictional Management Program. At all times, the Department must use good faith attempts to resolve disputes over such management and recognize that the policy goals of the Department should be demonstrated and appropriately designed to recognize treaty fishing rights. The following strategies will be used:

2.1. The **Fish and Wildlife Commission** will intermittently meet with tribal policy leaders to broadly review the status of the state/tribal cooperative management, develop joint strategic goals, and discuss policy issues and opportunities of mutual interest.

- 2.2. The **Director's Office** will maintain regular communication with Tribal governments to ensure progress toward shared strategic goals and objectives. A Tribal Policy Coordinator will report to the Director's Office to assist and facilitate this mission. The Director's Office has the authority to negotiate agreements with tribal resource managers and resolve management disputes that may occur. This authority may be delegated to resource programs to ensure timely and responsive cooperative management with the tribes.
- 2.3. The **Assistant Directors** and designees of resource programs will provide policy administration in management activities with the Tribes including:
- active participation and leadership in statewide and higher level regional management issues.
  - providing support and guidance for development of basin watershed plans to the Regions with Regional Fish Program Managers.
- 2.4. **Regions** will have the responsibility, with any appropriate policy support noted above, to develop and implement watershed plans with affected Tribes.
- appropriate planning priorities and joint work plans with affected Tribes will develop a cooperative agenda consistent with available resources.
  - management and technical work teams may be used to facilitate effective review, development, and implementation of basin management plans.
  - development of any state/tribal management plans will accommodate and incorporate appropriate involvement and contribution from other managers and interested stakeholders (see guidance on public involvement). Department staff should work with the tribes to afford opportunities for potentially affected constituents to observe state/tribal management discussions directly and to enhance their understanding of fishery management.
- 2.5. Department staff shall seek to implement the WSP cooperatively with affected Tribes by observing existing court-mandated planning processes, by following the WSP, and by seeking to jointly review, modify, or develop plans. Where potential differences in state and tribal perspectives exist, the Department will:
- seek to develop agreement on long-term management actions that are consistent with the Wild Salmonid Policy.
  - explore implementation plans and creative strategies that meet Department policies in a defined predictable manner.
  - 0 seek to resolve scientific uncertainties quickly through specific evaluation and decision making plans and frameworks.
  - jointly seek scientific peer review to assist resolution of potential differences where appropriate.
3. **Cooperative management approaches will be pursued with the Oregon Department of Fish and Wildlife (ODFW) in areas of shared authority to ensure joint adoption of management objectives and strategies. Where this shared jurisdiction includes treaty**

**Indian Tribes and Idaho, the combined implementation intent in sections 2 and 3 above apply.**

3.1. Department staff will engage ODFW counterparts to review and modify, as appropriate, basic spawner escapement and management policies, including use of hatchery production strategies, to meet policy intent. Where potential differences in WDFW and ODFW perspectives may occur, the Department will:

- seek to develop shared long-term management goals consistent with the WSP.
- explore implementation plans and creative strategies that will meet long-term objectives in a defined and predictable manner while addressing short-term issues.
- seek to resolve scientific uncertainties through specific evaluation and decision making processes.
- jointly seek scientific peer review to assist resolution of potential differences where appropriate.

3.2. Discussion and review will occur as an additional context to annual fishery and production planning. The Department will:

- review in-river management plans and agreements.
- review salmonid harvest objectives and strategies that target hatchery fish.
- develop joint work plans and management plans as appropriate.
- collaborate on management innovations that will increase resource protection effectiveness while limiting short-term disruptions to fishery benefits.
- work with ODFW to recognize and accommodate its internal planning requirements to ensure effectiveness of joint work.

**4. The Department will provide leadership within PFMC and PSC management forums to ensure effective integration of the policy's management intent and guidelines into MFCMA and international management plans and actions.**

4.1. Department staff will actively participate in formal policy and technical roles in these forums to:

- share and incorporate desired management goals and objectives.
- effectively negotiate reductions in Canadian exploitation rates on Washington-origin salmon stocks (especially chinook and coho), provided these reductions take into account and are consistent with the Pacific Salmon Treaty.
- develop joint management planning and approaches for new initiatives (e.g., mass marking and selective fisheries) to ensure domestic management success.
- recognize process timelines to develop effective workplans to effect change.

4.2. The Department will develop cooperative efforts and strategies among domestic management entities to maximize success in these forums.

- 4.3. The Department will review and shape federally proposed management objectives and strategies to achieve consistency with policy intent.

## **Additional Guidance for Spawning Escapement Policies**

The Wild Salmonid Policy for spawner escapement is broad and encompasses differing policy positions of tribes and impacts of past court decisions or plans, but provides an opportunity and direction for increasing escapement requirements in different watersheds. Within this broader context, the Department staff shall seek to implement objective and principled spawner escapement standards both in planning with affected tribes under the WSP and in all other areas of the State. The following guidance is intended to provide such additional objective standards and principles for Department spawner escapement work:

- 1 Department staff shall establish spawner abundance goals for individual, separate breeding populations (stocks) in all areas that have existing or restorable habitat capacity to support naturally reproducing, self-sustaining stocks. The intent of such goals will be to encourage local adaptation (high productivity) and maximize surplus production that sustains harvest, recreational opportunities, and ecological benefits.
- 2 Future fishery management and spawner escapement goals shall be based on the needs of individual stocks. These are the basic building blocks that constitute the state's salmonid resource. Combining individual wild populations into management units may lead to excessive harvest on the individual populations and staff shall address and avoid such impacts.
- 3 All salmonid populations shall be managed to meet or exceed MSY escapement on a consistent, predictable basis. The following guidance for application of MSY was derived from actual approaches used in the past by managers that have consistently put adequate numbers of viable wild fish on the spawning grounds. It is based upon the successful case histories where managers have fully accounted for uncertainties by being conservative in both the spawning escapement goal itself and in subsequent fishery management planning.

## A. Guidance for Application of MSY (or MSH<sup>1</sup>):

- 1 The quantitative analysis work for salmon and steelhead shall be anchored in the scientific concept of MSY. The best possible data for determining MSY comes from a long time series of accurate spawner and recruit statistics for each population. In other words, the ideal situation is where the fish themselves tell you their precise relationship with no requirement for critical assumptions that cannot be verified. In reality, two adjustments are essential for correct application. There will be varying degrees of uncertainty associated with each spawner-recruit relationship. This level of risk to the resource must be quantified and added to the point estimate of MSY. A second risk adjustment must be made for expected level of harvest management precision. The desired end result for each population is the consistent delivery of fully adequate (or greater) numbers of viable wild fish to the spawning grounds.
2. Fishery managers can change to a different, more conservative fishing strategy. This could be a different methodology for establishing a basic escapement requirement (e.g., historical production or habitat availability) or an accommodation for emerging scientific evidence of broader ecosystem benefits.
3. Only fish whose parents spawned in the wild shall be counted toward meeting the spawner abundance goals. The exception to this guidance is where a formal supplementation program has been established (or where existing law requires otherwise and has not been changed by agreement or subsequent proceedings). Further, Department staff may count locally-adapted hatchery-origin fish toward meeting natural spawning escapement objectives if there is empirical evidence that hatchery fish spawning in the wild had the same short- and long-term reproductive performance as wild fish. To count, fish must meet all of the following criteria:
  - a. distribution throughout the watershed area normally used by the wild population;
  - b. matching the genetic profile, size, age and run timing characteristics developed by the wild population in its evolutionary history; and
  - c. yielding progeny with survival rates and population dynamics comparable to the wild population.

Note: These characteristics are critical for populations limited primarily by spawning habitat as well as for populations with extended juvenile freshwater rearing that depend upon downstream dispersal of fry to seed available habitats. The above criteria are not a basis for a broad production and management **strategy**.<sup>2</sup>

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<sup>1</sup> The term Maximum Sustained Harvest (MSH) is used in the existing Puget Sound Salmon Management Plan. It is not synonymous with MSY beyond the area of single population dynamics.

<sup>2</sup> It is anticipated that only a few fish culture production projects (i.e., Lake Washington sockeye mitigation hatchery for Landsburg Dam as it is designed) will be able to meet these criteria. Projects meeting these criteria will not be expected to meet the gene flow standards until it is technically feasible to mark fish externally and then selectively fish the resultant progeny. These situations would be the exception compared to the numbers of wild stocks of that each species that do not have hatchery fish reproducing successfully in the wild.

## **B. Additional Implementation Guidance for Fishery Managers**

1. For salmon and steelhead, managers must recognize the practical realities of fishery management. In many cases, two or more co-mingled and closely-related wild stocks of the same species and run timing must be managed in the same terminal area fishery. The key expectation is that those co-mingled stocks can reasonably be anticipated to have similar freshwater and marine survival rates during each individual generation. Managers must set escapement objectives that are proportional to the existing productivities of similar stocks. The fish themselves can best provide the needed information in terms of quantitative abundance measures for each population. The human managers must be successful interpreters of these data. Failures will lead to the same practical problems that have occurred in the past; e.g., poorly-based escapement objectives that lead to impossible fishery management situations.
2. Managers must also watch carefully for real declines or increases in habitat productivity as they affect individual populations. When necessary, escapement objectives must be adjusted accordingly to reflect these changes. This would be in addition to other measures taken to reverse decreases in habitat productivity.
3. For other resident and anadromous trout and char, fishery management measures will require approaches ranging from wild fish release to slot limits to the following intent described by Wright (1992, p. 524)<sup>3</sup>: “The management approach that provides for some continued consumptive harvest is to set the minimum size limit at a level that will allow a full age-class of females to spawn at least once and thus ensure maintenance of a population’s reproductive potential. For example, if only 20% of the females spawn at age 3 but a majority (over 50%) spawns by age 4 then the minimum size limit needs to be set at the upper end of the length-frequency distribution of age-4 females. Males typically mature when they are somewhat younger, thus any regulation geared to females will also produce adequate male spawners. This size distribution needs to be that which would be projected to occur at the end of the fishing season. Trout will be continually growing during a spring-to-fall fishing season and the effect of any minimum size limit will be continually shifting. In our planning, we elected to protect a full age-class of female spawners in order to reduce the potential for selective fishing pressure.”
4. Future uses of slot limits should also consider the following guidelines, Wright (1992, p. 525)<sup>3</sup>:  
  
“The one inherent danger with a slot limit is the uncertainty about whether adequate recruitment can be consistently achieved and sustained whenever a block of immature trout is subjected to consumptive harvest. A good monitoring program would be essential with this type of fishery. It is better suited for more productive waters with those species that are harder to catch. Brown trout in Wyoming are a good example. A future expectation of only a moderate annual fishing mortality rate is also essential.”

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<sup>3</sup> Wright, S. 1992. Guidelines for selecting regulations to manage open-access fisheries for natural populations of anadromous and resident trout in stream habitats. *North American Journal of Fisheries Management* 12:517-527.

## **Additional Guidance for Conservina Genetic Diversity**

1. The joint agreement on Wild Salmonid Policy states that the selective effects of fisheries on population attributes for Pacific salmon will be carefully managed to ensure that population characteristics such as adult size, timing and distribution of population migration and spawning, and age at maturity remain similar between the fished and unfished portions of the population. While respecting the agreed policy and considering additional tribal policies, Department staff shall seek to make such population characteristics remain the same between the fished and unfished portions of the population when that is within the authority of the Department. This means that the population will not be changing over time as the result of harvest influences, and where changes have occurred in the past due to fishing pressure, the population will be changing back to a more natural pattern in response to natural adaptation. For the remaining salmonids (including steelhead) that have multiple spawning capabilities, the primary goal will be to prevent any significant shift to sexual maturity at a smaller size or age or any shift in timing and distribution of population migration and spawning.
2. The genetic criteria are one of two important policy elements that are essential to ensuring perpetuation of individual, separate breeding populations (stocks). However, the greatest danger with a small stock size occurs when predation or disease leads to a situation where the highest percent mortality occurs at low abundances of juvenile or adult salmonids (see Appendix D of FEIS).
3. Sanctuaries, or refuges, will be established where populations can be protected from most of the effects of habitat, harvest and hatchery influences. It will not be possible to protect populations from all of these influences all the time, but it will be possible for some populations to be largely protected from many of these influences. These protected populations serve two important functions: (1) they provide a comparison for measuring the changes in unprotected populations so that we can see the impacts of our actions, and (2) are a source of fish if a neighboring population is changed too much to recover naturally.

### **A. Guidance for Implementing Genetic Abundance Levels**

Department staff shall seek to have each individual stock maintain a minimum base level abundance of 3,000 fish. The 3,000 base level is for a population that spawns a single time and at a single age (e.g., pink salmon). Table 1 describes how this base level would be adjusted for other species and spawning types. Where the population at abundant habitat utilization is less than 3,000, steps to improve the amount or quality of the habitat shall be taken to bring the population up to the minimum level.

Table 1. Minimum spawning populations needed to maintain genetic diversity and local adaptation for various spawning types and life histories.

Spawning Type	Life History	Typical Species	Rule for Calculating Desired Harmonic Mean Number of Spawners
1	No repeat spawning; Spawners a single age	Pink salmon	3,000 (no calculations involved)
2	No repeat spawning; Spawners multiple ages	Chinook, coho, chum, and sockeye salmon; <b>steelhead</b> <sup>4</sup>	3,000 divided by the average age of the spawners <sup>5</sup>
3	Repeat spawning; Spawners multiple ages	Rainbow, cutthroat, Dolly Vat-den, Bull trout, and pygmy and mountain whitefish	3,000 divided by the average age of the spawners' minus 1

<sup>4</sup> Steelhead are technically repeat spawners, but repeat spawning in Washington is at a low level compared to type 3 spawners, so they are more appropriately included here.

<sup>5</sup> **Mean of the average age of the two sexes.**

For other smaller populations (less than 3,000 actual or potential), the standard shall apply to the smallest localized aggregation of similar stocks that will meet this standard in terms of actual or potential production.

## **B. Guidance Regarding Allowable Gene Flow**

Table 2. Allowable percentages of hatchery fish on the spawning grounds.

Level of Similarity of Hatchery Fish	Maximum % of the Wild Spawning Population That Is of Hatchery Origin
High	5-10%
Intermediate	1-5%
Low	0-1%

Human caused gene flow between species, major ancestral lineages, genetic diversity units, or stocks through direct transfer of fish across stock or other boundaries shall not be allowed. This will require the development of local broodstocks for many hatchery and other enhancement programs. Where there is no supplementation program in place, the allowable percentage of the total wild spawning population that is made up of fish raised in a hatchery is given in Table 2. For supplementation programs of hatchery-origin fish, proportions of hatchery fish will be decided on a case-by-case basis. These percentages of hatchery fish in Table 2 are surrogates for and are equal to allowable gene

flow. Other measures of potential gene flow may be used (e.g., migrants per generation), if they result in similar levels of potential gene flow. Where treaty fisheries are affected, the Department shall address gene flow within the brood stock planning framework with affected tribes.

This policy uses the stricter definition of similarity that compares the hatchery fish with an ideal locally adapted wild fish. This maintains a higher level of local adaptation in populations that are already locally adapted, and increases the rate at which a hatchery influenced wild population becomes locally adapted. Similarity is determined based on the geographical origin, hatchery history, and hatchery practices that have affected the hatchery fish. In a hatchery population with high similarity, the hatchery fish will be of local wild stock origin and have few generations in the hatchery. There will be regular introductions of new wild broodstock into the hatchery population and the hatchery rearing conditions will be similar to wild conditions. Time spent in the hatchery will be limited and strict spawning guidelines will be followed. A highly similar stock will need to pass all these tests. A low similarity hatchery population will have many generations in the hatchery. There may have been selection for timing or size and the population may have been at very low numbers at times. There are few introductions of wild fish or it may have been started with non-local fish. A low similarity stock will have to meet only one of these criteria. Intermediate stocks exceed all the low criteria, but fail to meet at least one of the high criteria. Most current hatchery populations will be either low or medium similarity.

Hatchery fish spawning in the wild shall be controlled and limited so that the majority of stocks in a major watershed, river basin, or GDU do not have any hatchery gene flow, and so that the higher maximum percentages of hatchery fish on the wild spawning grounds noted are exceptions (i.e., occur infrequently and not in the most abundant or most unique components of the larger population groupings).

Department staff shall emphasize use of broodstock in fish culture operations that are locally adapted and highly similar to the wild stocks in that area. In some cases, however, it is better to use broodstocks that have been selectively bred or are adapted to cultured conditions. Such existing programs are the rainbow trout strains used for the stocking of lakes and the use of early-time returning winter steelhead. Using hatchery adapted fish where gene flow and ecological interactions with wild stocks can be controlled (is essentially zero) is a recognized and valid management tool.

## **Additional Guidance for Ecological Interactions**

1. The Department and Tribes share a policy that actions will be taken to minimize risk to wild stocks from interactions with cultured production, which will be estimated for each species within individual regions. Department staff shall recognize that flexibility in using hatchery programs will be directed towards designing hatchery programs that have no significant negative impact on wild stocks.
2. Department staff shall not introduce salmonids into areas where they did not historically exist, except where an ecological risk assessment determines there will be no negative impacts from such introduction.

## **A. Guidance for Resolving Conflicts Between and Within Species and Stocks**

To resolve species and stock conflicts, guiding principles shall be stock origin, stock status, and the relative value of different stocks. Any management action directed at one stock that has the potential to affect other salmonids shall be examined using the three stock priority criteria.

### 1. Stock Origin Guiding Principles:

- The highest priority for management of wild fish is resource protection of native stocks.
- Locally adapted stocks are of a higher priority than newly introduced stocks.
- The priority for management of exotic species is primarily to provide fishery benefits, within the guidelines of sound management principles that also protect native species.

### 2. These principles result in the following stock priorities:

**Highest Priority** - Native stocks - populations that are relatively unchanged from before statehood which utilize their original habitat.

**Second Highest Priority** - Mixed origin stocks - populations originating from native and non-native stocks; or a previously native stock that may have undergone substantial genetic alteration.

**Third Highest Priority** - Non-native stocks - populations from a native species that are outside their original habitat.

**Fourth Highest Priority** - Exotic stocks - stocks originating from outside Washington of species native to Washington.

**Lowest Priority** - Exotic species - species that are not native to Washington.

### 3. Stock Status Guiding Principles:

- Critical and Endangered status stocks or species have the highest priority in terms of stock protection actions, to reduce the risk of extinction. It is also very important (especially more cost effective) to protect existing healthy stocks. Prioritization will involve balancing these two important issues.
- Depressed and Threatened status stocks or species have a high priority in terms of stock protection actions, to restore them to Healthy status. Stocks rated Unknown will be managed conservatively until their status is determined. Higher priority will be given to those stocks that provide the greatest level of benefits or value. These include the full range of economic, social, ecological, cultural, and other values. Native stocks and established indigenous stocks shall be maintained at self-sustaining levels. The recovery of Critical, Endangered, Depressed, and Threatened stocks or species shall not be jeopardized or negatively affected.

## **Additional Guidance for Harvest Management Policies**

1. Department staff shall use available management authority to limit incidental harvest impact to 10% of the Washington stock abundance. This shall be done with respect to the implementation guidance for working with tribal governments. The 10% limit allows opportunity to structure fishing opportunities on more abundant and productive stocks. This 10% allowance is a maximum and shall be adjusted downward to zero depending on how far a stock is below its spawner abundance goal.
2. This 10% limitation shall be computed in terms of adult equivalents and shall include all known sources of fishery-induced mortality. Precocious males, commonly called “jacks,” shall be excluded from the calculation.
3. This 10% limitation applies only to a current “primary” population projected to return below the desired spawner abundance level (see also *General Overview for Addressing Wild Salmonid Recovery Through Fish Population Management*).
4. Where a stock is not meeting its desired spawner abundance level, the State, as manager of the non-treaty harvest and as a co-manager, shall seek priority for those fisheries that can minimize their impacts on weak stocks and increase their harvest on healthy stocks by: (1) using gears that can selectively capture and release stocks with minimal mortality; or (2) avoid impacts by eliminating encounters with weak populations (proven time/area closures, gear types). This shall be done in a manner consistent with meeting treaty harvest rights while striving to ensure that treaty and non-treaty fishers contribute equally to necessary harvest restrictions.

## **Additional Guidance for Cultured Production/Hatcheries Policies**

1. While complying with applicable court orders, the Department shall encourage marking of all hatchery-origin juvenile chinook salmon, coho salmon, steelhead and sea-run cutthroat by removal of their adipose fins, prior to release in state waters. Specific exemptions may be provided on a case-by-case basis for (1) broodstock development or maintenance, (2) difficult treaty Indian allocation problems that cannot be resolved by other methods, or (3) valid wild stock supplementation programs.
2. In order to accommodate emerging technology, proven alternative mass marking techniques may be utilized for pink, chum and sockeye salmon.
3. Gene banking shall be used only where the natural environment cannot sustain a population, and until these factors can be corrected.
4. Supplementation shall be limited to situations where: (1) a stock is well below desired levels and it cannot rebuild itself due to some cause other than overfishing; (2) a stock is being reintroduced to an area it formerly occupied; and (3) the risks of potential stock loss through extinction are greater than the genetic risks due to gene flow or the extinction risks due to the supplementation process itself.

Supplementation will be primarily directed at efforts where the conditions causing the problem are being corrected so that the population will eventually become self-sustaining. Figure 1 explains further:

## Guidance for Implementing Selective Salmon Fishery Strategies

<b>Figure 1 Wild Salmonid Populations and Artificial Production Intervention</b>		
1. Existing wild Salmonid population has <del>demonstrated</del> the capability to replace itself on a sustainable basis.	➔	Intervention limited to harvest augmentation only. Adipose-fin mark, and no reliance for natural spawning augmentation.
2. Existing wild Salmonid population does not presently have a demonstrated ability to replace itself on a sustainable basis.	➔	Intervention has the primary objective of providing effective naturally spawning fish. May be adipose-fin marked.
3. Historic wild Salmonid population no longer exists OR is too small to recover naturally following a fishery management action or habitat capability change.	➔	Intervention is temporary only for the specific objective of re-establishing natural selection processes. Intended result is a population capable of replacing itself on a sustainable basis.

One of the most important missions of this policy is solution of a fishing rate problem for salmon. The basic dilemma confronting today's managers is a mixture of hatchery fish, which can typically support overall fishing rates of 90% or more, and wild fish, which must be limited to average fishing rates of 50-60%. The policy elements described are intended to continue and expand all status quo fisheries and techniques for targeting fishing effort on hatchery fish except for the common practice of deliberately overfishing wild salmon populations.

New strategy elements that will lead to the desired end-product of 90% harvest rates on hatchery salmon and 50-60% average harvest rates on wild salmon are as follows:

1. The selective fishery option will be provided by adipose marking most hatchery salmon. This will parallel the established practice with steelhead throughout the Pacific Northwest and British Columbia, which prevented deliberate overfishing of wild fish from being adopted as a widespread basic policy in steelhead management. Selective fishing on either salmon or steelhead is always an alternative to closures, not continued regular non-selective fisheries.

Conceptually, the ideal situation for selective fishing is to have any relatively inefficient fisheries occur first in line" in terms of fishing on the entire Salmonid population. The existing sport and troll salmon fisheries in marine waters of Washington are relatively inefficient as compared to the commercial net fisheries that occur later in time on the same salmon populations. Thus, the make-up of existing fisheries is ideal for salmon since the sport and troll fisheries will be fishing on the entire

population of salmon in Washington waters. The existing situation for steelhead is less ideal. The less efficient selective recreational fishery commonly occurs after the more efficient regular treaty Indian net fishery. It has proven to be workable in actual practice.

2. While hook-and-line gear and existing commercial gear types such as purse seines, reef nets, and beach seines are adaptable to selective fishing (wild fish release), gill net gear is not. However, fish managers have flexibility to use a mixture of regular and selective fisheries to yield the desired overall end-result of 90% versus 50-60% average fishing rates. Gill net gear will likely remain a major component of the regular category in the future (both Treaty Indian and non-treaty commercial).
3. Additional fishing opportunities can be provided to today's gill net fishermen and other user groups by two basic management techniques. First, off-site, pen-reared releases of hatchery salmon allow selectively higher hatchery fish harvests. In mixed-stock harvest areas of Alaska, fishing rates are set for wild stocks; the hatchery surpluses are harvested in carefully controlled sport, troll and net terminal fisheries at the release sites. Programs of this type have already been implemented in several Washington and Columbia River areas.
4. It is also important to develop new commercial gear capable of selectively harvesting hatchery fish while still safely releasing wild fish. Emphasis should be on types of nets that can be used by existing fishermen with existing small (gill net) boats. Fish traps and fish wheels have been proposed for decades as alternative gear types. However, these proposals have never received any serious consideration since they are correctly viewed as potentially threatening replacements for existing fisheries. The key for future success is to target fishing gear development that will work well for experienced fishermen with substantial investments in their boats.

### **For additional information:**

Washington Department of Fish and Wildlife. 1997. ***FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE WILD SALMONID POLICY.*** Washington Department of Fish and Wildlife. Olympia, Washington.

The FEIS, adopted in September 1997, provides a substantial discussion of fish management policy alternatives and cites numerous studies used to develop the fish population management sections of the Wild Salmonid Policy and this additional guidance on implementation of the WSP.