

**Decision Support Document for
Columbia River Basin Salmon Management Policy
Draft January 12, 2013**

1.0 Introduction

The Washington Fish and Wildlife Commission (Washington FWC) is considering the adoption of a Columbia River Basin Salmon Management policy. The draft Policy would be applicable to the management action taken by the Washington Department of Fish and Wildlife (Department) for Pacific salmon (spring Chinook, summer Chinook, fall Chinook, sockeye, chum, and coho) fisheries in the Columbia River and the Snake River. The draft Columbia River Basin Salmon Management policy (Policy) used as the basis for analysis in this document was provided to the Washington FWC on December 15, 2012.

The extensive public processes during the last four months on this issue have resulted in numerous presentations and the submission of hundreds of pages of documents to the Washington FWC. The intent of this document is to provide an overview of this information and help promote a deliberative process and a thoughtful and informed decision by the Washington FWC. The document is not intended and cannot serve as a replacement for the source documents, nor does it contain all information that may be used by the Washington FWC in their deliberations and decision process.

2.0 Background

Synopsis. In August 2012 Oregon Governor Kitzhaber asked the Oregon Fish and Wildlife Commission (Oregon FWC) to initiate a public rule making process to address perennial conflicts between and recreational and commercial fishers. Governor Kitzhaber requested that the Oregon FWC develop a long-term solution that prioritized selective fishing gears to minimize release mortality of ESA (Endangered Species Act)-listed and non-target fish, promoted fish recovery, honored tribal commitments, and optimized economic benefits.

Because some Columbia River fisheries are managed concurrently with the State of Oregon and there is a need to consider coordinated management, Washington State has an interest in joint policy development, taking into account the interests of the State and its citizens. Representatives of the Oregon and Washington Fish and Wildlife commissions were selected to participate on a Columbia River Fishery Management Workgroup (CWG) tasked with developing recommendations for consideration by their respective commissions. The CWG recommendations were completed and unanimously endorsed by the CWG members on November 15, 2012. The Washington FWC subsequently requested that Department staff

members incorporate the recommendations of the CWG into a draft policy for consideration by the full Washington FWC.

In a letter¹ to Bobby Levy, Chairwoman of the Oregon FWC and Roy Elicker, Director of the Oregon Department of Fish and Wildlife (ODFW), dated August 9, 2012, Oregon Governor John Kitzhaber asked the Oregon FWC to initiate a public rulemaking process to address the “perennial and divisive conflicts [that] occur between [Columbia River] recreational and commercial fishers over the allocation of harvest impacts as well as the use of gill nets in non-tribal mainstem commercial fisheries”. As explained later in this document, the Department has likewise experienced and been frustrated by these conflicts.

Governor Kitzhaber noted that a “long term solution must prioritize selective gears and fishing techniques to minimize mortality of ESA-listed and non-target fish *and* optimize recovery.” In his letter, Governor Kitzhaber listed eight “key elements that he considered essential to a solution. These elements were further clarified and elaborated on in a follow-up letter to Chairwoman Levy and Director Elicker^{2, 3}, dated August 14th and September 20, 2012, from Brett Brownscombe, Natural Resource Policy Advisor. Governor Kitzhaber provided additional guidance to the Oregon FWC in a letter to Chair Bobby Levy in a letter dated December 7, 2012.

Joint policy development by Oregon and Washington has been a consistent feature of Columbia River fishery management. While Oregon and Washington have not always maintained completely consistent regulatory and management regimes, consistency has been a desirable element that both states agree contributes to more orderly fisheries. In response to Governor Kitzhaber's proposal, Washington state fishery managers entered into a joint process with their Oregon counterparts to develop potential alternatives for managing salmon and sturgeon fisheries in the lower Columbia River. In separate meetings in early September, the Fish and Wildlife commissions of Washington and Oregon each appointed three commissioners to participate on the Columbia River Fishery Management Workgroup (CWG). Each commission also appointed citizen representatives to participate in those meetings.

¹ Letter of August 9, 2012 from Governor Kitzhaber to Bobby Levy, Chairwoman of the Oregon Fish and Wildlife Commission, and Roy Elicker, Director of the Oregon Fish and Wildlife Commission.

² Letter of August 14, 2012 from Brett Brownscombe, Natural Policy Advisor to Governor Kitzhaber to Chairwoman Levy of the Oregon Fish and Wildlife Commission, and Director Elicker of the Oregon Fish and Wildlife Commission.

³ E-mail of September 20, 2012 from Brett Brownscombe, Natural Policy Advisor to Governor Kitzhaber to Chair Levy of the Oregon Fish and Wildlife Commission.

The CWG held three meetings in 2012; September 21 in Olympia, Washington; October 18 in Portland, Oregon; and November 15 in Seaside, Oregon. The meetings were independently facilitated and provided opportunity for public testimony. During its meetings, the CWG discussed key elements of Governor Kitzhaber’s proposal and essential components identified by the Washington members of the CWG. The discussions were informed by input from Workgroup members and advisors, and by analyses requested by them. In addition, the CWG heard testimony from members of the public, representatives of local governments, sport and commercial fishing groups, processors, conservation groups, and many other organizations. Representatives of the both the Columbia River Treaty Tribes and the Northwest Indian Fisheries Commission also provided testimony to the CWG.

At its November 15, 2012 meeting, the CWG unanimously endorsed a set of recommendations to be forwarded to the Oregon and Washington Fish and Wildlife commissions for their consideration⁴. The unanimous decision reflected the extensive discussions and good-faith efforts of the CWG to find solutions to the challenging issues before them.

The Washington FWC subsequently directed Department staff members to incorporate the recommendations into a draft policy for consideration by the full Washington FWC.

3.0 Washington Department of Fish and Wildlife Statutory Mandate

Synopsis. Three key components of the Department’s mandate relevant to consideration of the draft Policy are: 1) conservation; 2) economic well being of the fishing industry; and 3) orderly fisheries. Decision making by the Department must be deliberative and consider its legal authorities, legislative policy guidelines, and the available evidence brought to bear on the subject being considered.

The provisions of RCW 77.04.12 of the Fish and Wildlife Code of the State of Washington establish important guiding principles for the Washington FWC to consider when exercising discretion in the management of state fish and wildlife resources. Three key components of the statute relevant to consideration of the draft Policy are:

- 1) Conservation. “Wildlife, fish, and shellfish are the property of the state. The commission, director, and the department shall preserve, protect, perpetuate, and manage the wildlife and food fish, game fish, and shellfish in state waters and offshore

⁴ Management Strategies for Columbia River Recreational and Commercial Fisheries: 2013 and Beyond. Recommendations of the Columbia River Fishery Management Workgroup to the Fish and Wildlife Commissions of Oregon and Washington. November 21, 2012.

waters. The department shall conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource.”

- 2) Economic Well Being of Fishing Industry. “In a manner consistent with this goal [conservation], the department shall seek to maintain the economic well-being and stability of the fishing industry in the state.”
- 3) Orderly Fisheries. “The department shall promote orderly fisheries and shall enhance and improve recreational and commercial fishing in the state.”

Conservation is the paramount objective for the establishment and implementation of management objectives for state fish and wildlife resources. Other policy objectives may be pursued where they are consistent with the conservation objective. Sometimes conservation principles will provide a clear and narrow path forward. Other times, conservation consideration will be such that multiple paths forward may be possible and greater consideration will need to be given to the additional guiding principles set forth in statute.

The commission is provided the authority to “establish hunting, trapping, and fishing season and or prescribe the time, place, manner, and methods that may be used to harvest or enjoy game fish and wildlife” and “establish provisions regulating food fish and shellfish as provided in RCW 77.12.047.” RCW 77.12.047 provides the commission the authority to adopt, amend, or repeal rules: a) “specifying the times when the taking of wildlife, fish, or shellfish is lawful or unlawful”; b) “specifying the areas and waters in which the taking and possession of wildlife, fish, or shellfish is lawful or unlawful”; and c) “specifying and defining the gear, appliances, or other equipment and methods that may be used to take wildlife, fish, or shellfish, and specifying the times, places, and manner in which the equipment may be used or possessed.”

In summary, the Washington Legislature has vested the Commission and the Director with the authority to exercise discretion in the management of state fish and wildlife resources – resources that belong to the people of the state not any individual members or segments of the state. When exercising management discretion, the Legislature has established a set of broad management guidelines, with conservation as the paramount objective and subsidiary policy guidelines that must also be considered where consistent with the conservation objective. Decision making by the Department must be deliberative and consider the agency’s legal authorities, the legislative policy guidelines and the available evidence brought to bear on the subject being considered.

4.0 Purpose of the Draft Policy

Synopsis. The draft Policy was developed to: 1) provide a long term resolution to the perennial and divisive conflicts that occur between Columbia River recreational and commercial fishers; 2) advance the conservation and recovery of wild salmon and steelhead; 3) promote orderly fisheries (particularly in water in which the states of Washington and Oregon that have concurrent jurisdiction); and 4) maintain or enhance the economic well-being and stability of the fishing industry in the state.

The Policy is intended to address Columbia River conservation objectives and address the divisive conflicts over the sharing of salmon and steelhead catch by recreational and commercial fishers.

Conservation objectives that have been identified include the recovery of ESA listed fish, primarily through the promotion of selective fisheries and the implementation of hatchery practices, including the harvest of hatchery fish that might otherwise escape harvest and present challenges to the recovery of wild stocks of fish. Impacts to ESA listed fish are largely dealt with through the ESA and the allocation of permissible impacts as between tribal fishers and components of the non-tribal harvests, both commercial and recreational. While fishery impacts are largely addressed through abundance based management regimes and the allocation of ESA impacts in mixed stock fisheries, further refinement of mark selective fishery management remains a continuing conservation objective. Similarly, the continued refinement and implementation of hatchery fish strategies is a conservation objective. These refinements of larger conservation objectives for Columbia Basin fish are embraced by this draft Policy.

The Washington FWC adopted in 2009 a statewide Hatchery and Fishery Reform policy⁵. The purpose of the Hatchery and Fishery Reform policy is to “advance the conservation and recovery of wild salmon and steelhead by promoting and guiding the implementation of hatchery reform.” In pursuit of this goal, the policy notes that “State and commercial and recreational fisheries will need to increasingly focus on the harvest of abundant hatchery fish. As a general policy, the Department shall implement mark-selective salmon and steelhead fisheries, unless the wild populations substantially affected by the fishery are meeting spawner and broodstock management objectives.” Guidelines provided by the policy include:

- 1) “The Department will prioritize and implement improved broodstock management (including selective removal of hatchery fish) to reduce the genetic and ecological impacts of hatchery fish and improve the fitness and viability of natural production

⁵ Washington Department of Fish and Wildlife Hatchery and Fishery Reform. Policy number C-3619.

working toward a goal of achieving the HSRG broodstock standard for 100% of the hatchery programs by 2015.”

- 2) “Develop, promote and implement alternative fishing gear to maximize catch of hatchery-origin fish with minimal mortality to native salmon and steelhead.”
- 3) “Define “full implementation” of state-managed mark- selective recreational and commercial fisheries and develop an implementation schedule.”

The draft Columbia River Basin Salmon Management policy is intended to provide Columbia River-specific guidance on the schedule for implementing mark-selective fisheries. Mark-selective fisheries have the potential to reduce the impacts on natural stocks associated with non-selective gear, thereby provide the opportunity to increase the harvest of abundant hatchery fish, and promote conservation and recovery of ESA-listed populations.

The Washington FWC has also repeatedly been asked to address the sharing of spring Chinook and summer Chinook by recreational and commercial fishers. After substantial concerns were raised in 2008 over the management of spring Chinook, the Oregon and Washington commissions initiated a process to address the controversy. Although new policies were subsequently approved by the Oregon and Washington Fish and Wildlife commissions, the sharing of spring Chinook catch remained a controversial issue and a frequent topic of testimony at the commission meetings. The Washington FWC also frequently heard public testimony raising concerns about the management of fisheries for summer and fall Chinook.

These tensions eventually resulted in the placing of Ballot Measure 81 before Oregon voters in November 2012. The intent of the measure was to prohibit the non-tribal commercial use of gillnets and tangle nets to take salmon, steelhead and any other fish in Oregon inland waters, including the Columbia River. Governor Kitzhaber proposed, and the Washington FWC ultimately supported, a public, commission process to develop a long term solution to address this longstanding, divisive conflict.

Finally, the development of the draft policy was also driven, in part, by the recognition that the orderly management of fisheries in the waters under the concurrent jurisdiction of Washington State and Oregon State would be extremely challenging in the absence of consistent policy to the states. In their remarks, the Washington members of the CWG noted that “Washington and Oregon have jointly managed fisheries on the lower river for nearly a century. An effective long-term management plan must be jointly developed and implemented by the two states working together. Failure to implement a shared plan threatens our ability to implement

orderly fisheries, endangers the economic well-being and stability of the fishing industry, and risks the conservation of wild stocks of salmon, steelhead, and surgeon throughout the Columbia River basin.”⁶

5.0 Strategies to Promote Achievement of Draft Policy Purpose

Synopsis. The draft Policy includes five primary strategies designed to promote the stated Purpose of the Policy: 1) Realign Fisheries; 2) Enhance Economic Benefits of Off-Channel Commercial Fisheries; 3) Develop and Implement Alternative Selective Fishing Gear; 4) Buyback Gill Net Licenses; 5) Adaptively Manage.

The CWG recommended a number of guiding principles and strategies to “enhance the economies of Oregon and Washington as a whole, ensure the long-term viability of recreational and commercial fisheries and those communities that rely on them, and contribute to fish conservation and recovery. The elements of this framework constitute a comprehensive and cohesive package and are comprised of progressive actions necessary to achieve the desired outcomes.”⁴ An initial overview⁷ of the CWG process was presented to the Washington FWC on October 6, 2012. The CWG recommendation document⁴ and a summary⁸ were presented to the Washington FWC on December 15, 2012.

The draft Policy developed from the CWG recommendations includes five primary strategies designed to promote the stated Purpose of the Policy:

- 1) Realign Fisheries. The draft policy proposes to realign fisheries by prioritizing recreational fisheries in the mainstem and commercial fisheries in the off-channel areas of the lower Columbia River. The realignment is intended to promote the use of selective fishing gear and techniques in the mainstem Columbia River and enhance recreational fishing opportunities.
- 2) Enhance Economic Benefits of Off-Channel Commercial Fisheries. To offset the loss of commercial gill net fishing opportunities in the mainstem of the Columbia River,

⁶ Columbia River Fishery Management Recommendations. Washington State Fish and Wildlife Commission Workgroup Members. October 18, 2012.

⁷ Columbia River Fishery Management. WA/OR Workgroup Discussions. Presentation to the Washington FWC on October 6, 2012

⁸ Management Strategies for Columbia River Recreational and Commercial Fisheries – 2013 and Beyond. Recommendations of the Columbia River Fish Management Workgroup. Presentation to the Washington FWC on December 15, 2012.

the draft policy proposes to enhance the economic benefits of off-channel commercial fisheries in a manner consistent with conservation and wild stock recovery objectives. Proposed enhancements include additional hatchery production, larger off-channel fishing areas, and additional off-channel fishing areas.

- 3) Develop and Implement Alternative Selective Fishing Gear. To provide commercial fishing opportunities in the mainstem of the Columbia River and increase the harvest of hatchery salmon, the draft Policy supports the development and implementation of alternative selective-fishing gear and techniques.
- 4) Buyback Gill Net Licenses. To reduce potential crowding in off-channel commercial fishing areas and promote the transition to alternative fishing gear, the draft Policy proposes a program to buyback non-tribal gill net permits for the Columbia River.
- 5) Adaptively Manage. Recognizing that there is uncertainty in the presumptive path forward, including the development and implementation of alternative selective fishing gear, and securing funding for enhanced hatchery production, the draft Policy proposes an adaptive management plan with an annual review by the Washington FWC.

Numerous questions have arisen in the public comments regarding the rationale and operational implementation of these strategies. These are discussed briefly below but substantial additional information is available in other documents and in the previous deliberations of the Washington FWC.

6.0 Realign Fisheries

Synopsis. Two objectives of the draft Policy are to “advance the conservation and recovery of wild salmon and steelhead through the implementation of selective fishing gear and hatchery reform” and “maintain or enhance the economic well-being and stability of the fishing industry in the state”. The draft policy proposes to realign fisheries by prioritizing recreational fisheries in the mainstem and commercial fisheries in the off-channel areas of the lower Columbia River. The realignment is intended to promote the use of selective fishing techniques in the mainstem Columbia River, increase the harvest of hatchery fish, reduce the number of hatchery fish in natural spawning areas, and increase recreational fishing opportunities in the mainstem of the Columbia River.

An objective of the Policy is to “advance the conservation and recovery of wild salmon and steelhead through the implementation of selective fishing gear and hatchery reform.” A similar objective was identified in Governor Kitzhaber’s initial letter requesting Oregon FWC action. Governor Kitzhaber suggested that a “long term solution must prioritize selective gears and fishing techniques to minimize mortality of ESA-listed and non-target fish *and* optimize recovery.” The prioritization of conservation is consistent with the legislative statutes that guide the Washington FWC Commission and the Director. The recognition of the importance of selective fishing gear is also emphasized in the Hatchery and Fishery Reform implemented by the Washington FWC in 2009. The Hatchery and Fishery Reform policy notes that “State and commercial and recreational fisheries will need to increasingly focus on the harvest of abundant hatchery fish. As a general policy, the Department shall implement mark-selective salmon and steelhead fisheries, unless the wild populations substantially affected by the fishery are meeting spawner and broodstock management objectives.”

Successful implementation of a mark-selective fishery requires the ability to release with minimal mortality any unmarked fish that are caught. Differences exist between fishing gears in their suitability for use in mark-selective fisheries. Recreational fisheries can selectively harvest marked hatchery fish and release, with limited mortality, unmarked wild fish. The mortality rates of salmon and steelhead caught and released from gill nets is generally higher. Fishery managers currently use, for example, a 10% mortality rate for spring Chinook caught and released from recreational fishing gear, a 14.7% mortality rate for spring Chinook caught and released from a tangle net, and a 40% mortality rate for spring Chinook released from a large-mesh gillnet⁹.

The realignment of fisheries proposed by the draft Policy is intended, in part, to increase the use of selective fishing techniques in the mainstem of the Columbia River. Wild salmon and steelhead are more likely to be encountered in the mainstem of the Columbia River than in off-channel areas that are being enhanced with artificial production. Therefore, the draft Policy prioritizes the use of recreational fishing gear, which can currently release unmarked and non-target species at a lower mortality rate, in the mainstem of the Columbia River. The draft Policy directs the Department to “Phase out the use of non-selective gill nets in non-tribal commercial fisheries in the mainstem Columbia River.” In off-channel areas, where wild salmon and steelhead are less prevalent, the draft Policy promotes enhanced gill net fisheries by increasing the production of hatchery fish.

⁹ Information Relevant to Columbia River Fisheries. Attachment 4. Provided by the Oregon and Washington Department of Fish and Wildlife Staffs for the Columbia River Fisheries Workgroup. October 18, 2012.

The use of mark-selective fishing gear allows a larger harvest of hatchery fish if there is a limit on the total impact a fishery can have on unmarked fish. This can have two positive effects: 1) an increase the length of the fishing season if mark selective gear is used rather than nonselective gear; and 2) a reduction in the number of hatchery fish in natural spawning areas.

The draft Policy is also intended to increase recreational fishing opportunities in the mainstem of the Columbia River. The proposed realignment of fisheries addresses this by increasing the use of mark-selective fishing techniques and increasing the proportion of the catch or impacts that are allotted to recreational fishers. The projected effect of the draft Policy on angling trips and the impact on local personal income is discussed in section 12.2.

7.0 Enhance Off-Channel Commercial Fishing Areas

Synopsis. The draft policy proposes to offset the loss of commercial gill net fishing opportunities in the mainstem of the Columbia River by enhancing the economic benefits of off-channel commercial fisheries. These enhancements include additional production (1.25 million juvenile spring Chinook salmon, 0.75 million juvenile Select Area Bright fall Chinook, and 1.92 million juvenile coho salmon) as well as the expansion or creation of new off-channel commercial fishing areas. Fully implementing these actions will require new operating and capital funding in both Washington and Oregon, and a concerted, coordinated, and sustained effort by the states and stakeholders to secure the necessary funding.

The CWG report⁴ includes recommendations to enhance harvest levels and opportunities for commercial fisheries at off-channel sites. The proposed increases in artificial production would use locations, species, stocks, and control mechanisms (i.e., weirs, mark-selective fisheries) in a manner that maintains the ability to meet conservation and recovery objectives for wild stocks. The planned increases in artificial production are for 1.25 million juvenile spring Chinook salmon, 0.75 million juvenile Select Area Bright fall Chinook, and 1.92 million juvenile coho salmon. Initial increases in production occurred in 2010, and additional increases would occur from 2013 through 2017 at locations in both Washington and Oregon (Table 1).

In some cases new funding will need to be secured from unidentified sources. Successful implementation of these programs will require a concerted, coordinated, and sustained effort by the states and stakeholders to identify and secure the necessary additional funding as well as maintaining existing federal funding support. Projected costs and funding status for the programs in Washington are as follows:

Spring Chinook. The Department has requested \$0.5 million of capital funds for the design, permitting, and construction of an additional off-channel production site.

Coho. The Department anticipates covering the cost of this program with existing federal funds.

Table 1. Increased artificial production of juvenile salmon in the Lower Columbia River included in the CWG report.

State and Species	Initiated in 2010	Proposed to start in 2013	Proposed to start in 2017	Total
Oregon				
Spring Chinook	250,000	500,000	250,000	1,000,000
Bright Chinook	-	500,000	250,000	750,000
Coho	120,000	600,000	1,000,000	1,720,000
Washington				
Spring Chinook	-	250,000 ^a	-	250,000
Bright Chinook	-	-	-	-
Coho	-	200,000	-	200,000
Total				
Spring Chinook	250,000	750,000	250,000	1,250,000
Bright Chinook	-	500,000	250,000	750,000
Coho	120,000	800,000	1,000,000	1,920,000

^a Releases will occur at the Deep River net pen facility in 2013. Program at Deep River discontinued due to poor performance and a reduction of funding from the Bonneville Power Administration. Releases in subsequent years would occur at another location where smolt to adult survival is projected to be higher than at the Deep River site.

The ODFW will also require additional funding to implement the proposed increases in artificial production programs. The projected operating costs for the programs to be initiated in 2013 are approximately \$378,000¹⁰. In his letter of December 7, 2012¹¹, Governor Kitzhaber stated “I am committed to supporting full implementation of measures necessary to achieving these outcomes – a commitment that is reflected in my 2013-15 recommended budget which invest \$5.2 million in Lower Columbia Fisheries Management to support several action areas, including enhancement of commercial fishing opportunities in off-channel areas and advancement of alternative gear types and related mainstem commercial fisheries.” Governor Kitzhaber also

¹⁰ Preliminary information provided by Tony Nigro, ODFW, on January 9, 2013 in file “ODFW Hatchery Supporting Documentation for POP to Enhance Off-Channel Areas.XLSX”.

¹¹ Letter of December 7, 2012 from Governor Kitzhaber to Bobby Levy, Chairwoman of the Oregon Fish and Wildlife Commission, and Roy Elicker, Director of the Oregon Fish and Wildlife Commission.

suggested in his letter that he would be working with the legislature on “an endorsement fee to be paid by Columbia River recreational fishers to cover costs of actions associated with realizing the above mentioned assumptions around economic gain.”

Increases in the production of salmon and steelhead production planned for areas upstream from Bonneville Dam may have implications to the harvest management contemplated in this plan and associated analyses. These could include changes in catch rates per day, total catch, mark rates, and or fishery characteristics. The draft Policy addresses this potentiality by including the following direction: “For production enhancements that come on-line and produce adult salmon on or after 2017, Oregon and Washington staff should evaluate the implications of the increased mainstem production on these strategies, including U.S. v. Oregon harvest agreements, and make additional recommendations to the Commission as needed, consistent with the guiding principles.”

8.0 Develop and Implement Alternative Selective Fishing Gear

Synopsis. The draft Policy supports the development and implementation of fisheries using alternative selective-fishing gear and techniques to provide commercial fishing opportunities to catch hatchery salmon in the mainstem of the Columbia River while limiting impacts to wild stocks of conservation concern. Implementation of alternative selective gears is essential to achieve the economic expectations for commercial fishers and is expected to provide conservation benefits. The Department has examined existing statutes and believes it has the authority to investigate and explore the use of such gear and techniques, including the ability to implement such fisheries on an interim basis.

The development and implementation of alternative selective fishing gear is projected to have conservation benefits (a reduction in the number of hatchery fish in natural spawning areas) and provide an additional source of revenue for commercial fishers. These topics are discussed in sections 11 (Conservation Impacts of Draft Policy) and 12 (Economic Analysis of Draft Policy).

Comments made during the public review process have raised concerns about the Department’s authority to implement fisheries using alternative selective fishery gear and techniques (e.g., seines) for salmon fisheries in the Columbia River. The Department has examined existing statutes and believes it has the authority to investigate and explore the use of such gear and techniques, including the ability to implement such fisheries on an interim basis.

9.0 Buyback Gill Net Licenses

Synopsis. The draft Policy proposes a buyback program for non-tribal gill net permits for the Columbia River as a tool to reduce potential crowding in off-channel commercial fishing areas and promote the transition to alternative fishing gear. Costs to implement the program are currently unknown and funding sources are uncertain. The conservation and economic analyses of the Policy are not dependent on implementation of the buyback program.

The draft policy directs the Department to initiate in 2013 the development (with Oregon as appropriate) of a program to buyback non-tribal gill net permits for the Columbia River. Potential costs of the program and funding mechanisms will not be known until that planning step is completed. Industry sponsorship and support will be key factors in successfully developing and implementing a buyback program.

Governor Kitzhaber, in his letter of December 7, 2012¹¹, stated “I will propose to the legislature the immediate establishment of a Transition Fund to provide direct assistance to commercial fishing interests in transitioning to off-channel locations and/or alternative mainstem gear, as well as support payments in the event the predicted economic gains are not realized due to unforeseen errors in the economic analysis that threaten otherwise viable fishing operations prior to the [Oregon] Commission’s ability to react through adaptive management.”

The conservation and economic analyses of the Policy are not dependent on implementation of the buyback program.

10.0 Adaptively Manage

Synopsis. The draft Policy includes an Adaptive Management section drawn from the CWG recommendations. Recognizing the uncertainty in the presumptive path forward, and the extended time frame for policy implementation, a more robust adaptive management section would increase the certainty of achieving the Purpose of the draft Policy. Improvements to the adaptive management components could include: 1) an annual review of the performance of the policy; 2) consideration of additional metrics for the performance of the fishing industry; 3) recognition that management actions will be evaluated and, as appropriate, implemented in a progressive manner; and 4) explicit reference to the Adaptive Management provisions in other sections of the policy.

The draft Policy envisions substantial changes in artificial production and fisheries occurring over a time frame of at least five years. Uncertainty exists in multiple aspects of this

presumptive path forward, including securing the funding necessary to enhance artificial production in off-channel areas and implementation of alternative selective fishing gear. These uncertainties were also frequently identified in public comments to the Washington FWC.

A robust adaptive management strategy is essential to achieve the policy Purpose given the uncertainty in the presumptive path forward and the extended time frame for policy implementation. Governor Kitzhaber recognized this uncertainty and stated:

“For this reason, I believe the [Oregon] Commission should undertake more vigilant monitoring of both the assumptions and the economic analysis than proposed in the recommendations of the Workgroup. I believe that this should begin immediately, with the [Oregon] Commission reviewing the status of the assumptions and the accuracy of the economic analysis at the end of one year. If the anticipated outcomes are not being realized for reasons other than annual variations in run sizes or other natural factors – despite good faith efforts by all parties – then the [Oregon] Commission should intervene through adaptive management. This should be true for subsequent years as well. Adaptive management does not mean scrapping the entire framework of the Workgroup’s recommendations, but it does mean addressing the reasons behind any failure of the key assumptions in achieving the intended outcomes around conservation as well as recreational and commercial fishery economics, including harvest allocations.”

Governor Gregoire made a similar suggestion in her letter of December 24 to Chair Wecker of the Washington FWC¹². She stated “I also want you to know that I support Governor Kitzhaber’s suggestion that the economic assumptions that underlie the alternative management framework should be reviewed at the end of the first year so that correction measures can be designed and implemented to ensure that the overall objectives of the plan can be met.”

To address these concerns, the adaptive management component of the draft Policy could be enhanced by: 1) incorporating an annual review of the performance of the policy; 2) considering additional metrics for the performance of the fishing industry; 3) recognizing that management actions will be evaluated and, as appropriate, implemented in a progressive manner; and 4) including explicit references to the Adaptive Management provisions in other sections of the policy. These enhancements are included in the attached, revised draft of the Policy.

¹² Letter of December 24, 2012 from Governor Gregoire to Miranda Wecker, Chair of the Washington Fish and Wildlife Commission.

11.0 Conservation Impacts of Draft Policy

Synopsis. An objective of the draft Policy is to “advance the conservation and recovery of wild salmon and steelhead through the implementation of selective fishing gear and hatchery reform.” The draft Policy is projected to contribute to conservation through a reduction in the number of hatchery-origin fall Chinook and coho (with the possible exception of the Grays River) in natural spawning areas. The draft Policy is not projected to reduce fishery impacts on wild salmon. Fisheries for all species of salmon in the lower Columbia River are constrained by federal Incidental Take Permits with ESA impact limits (spring Chinook, sockeye, fall Chinook, coho, and chum) or other conservation objectives (summer Chinook). For this reason, the proposed reallocation of catch in the mainstem of the Columbia River from the commercial fishery to the recreational fish is not anticipated to change the combined (recreational plus commercial) fishery impacts on wild salmon below Bonneville Dam.

11.1 Reduction in Number of Hatchery Fish in Natural Spawning Areas

The straying of hatchery fish to natural spawning areas can pose genetic, ecological, and other risks to wild salmon and steelhead.¹³ The Washington FWC Hatchery and Fishery Reform policy⁵ directs the Department to “reduce the genetic and ecological impacts of hatchery fish and improve the fitness and viability of natural production working toward a goal of achieving the HSRG broodstock standards for 100% of the hatchery programs by 2015.” Similarly, for listed species, ESA permitting of hatchery programs requires decision making by the Department that “evaluates, minimizes, and accounts for the propagation program’s genetic and ecological effects on natural populations, including disease transfer, competition, predation, and genetic introgression caused by the straying of hatchery fish.”¹⁴

As discussed previously, the draft Policy anticipates an increase in artificial production. In general, increases in production associated with the off-channel fishing areas might increase the number of hatchery strays in natural spawning areas. Conversely, an increase in the percentage of catch harvested by mark-selective fishing gear, also anticipated with the implementation of the draft Policy, might reduce the number of hatchery strays. What is the net effect of these actions?

¹³ Hatchery Scientific Review Group (HSRG). 2004. Hatchery Reform: Principles and Recommendations of the HSRG. Long Live Kings, Seattle, Washington.

¹⁴ Endangered and Threatened Species; Salmon and Steelhead; Final Rules. 50 CFR Part 223.

The draft Policy successfully balances these concerns and produces an outcome with a projected net benefit to conservation. It accomplishes this by increasing hatchery production in locations where the returning adults can be harvested at a high rate and by increasing the use of mark-selective gear.

The specific effects that implementation of the draft Policy would have upon the proportion of hatchery fish in natural spawning areas (pHOS) varies depending on the species and population. These are discussed below in greater detail for each of the species.

Lower River Coho Salmon. The Hatchery Scientific Review Group (HSRG) completed a preliminary assessment¹⁵ of the potential effects of implementing the CWG recommendations. Overall, for the categories of coho populations most important for conservation and recovery (often referred to as “Primary” and “Contributing”), the preliminary HSRG analysis projected that pHOS would be reduced for 11 populations, unchanged for 2 populations, and increase for 0 populations. The HSRG concluded:

“The proposed increases in production coupled with increased harvest rates results in pHOS level near or just above the maximum allowed for the Grays River population (Primary 5%). The Mill-Abernathy-Germany population (Contributing), Elochoman River (Primary) and Big Creek (Primary) would appear to benefit from a decrease in pHOS.

Sandy River, and Columbia Gorge Tributary Coho populations – transfer of Coho from these facilities to lower river release points that have increased harvest rates (off-channel) and increased harvest rates in mainstem fisheries (alternative gear) are expected to reduce hatchery fish on the spawning grounds in their stream of origin. At a minimum, pHOS reductions will be proportional to the reduction in programs size and additional reductions would be expected from increased harvest rates in the mainstem Columbia River fisheries.”

Chinook Salmon. The CWG report⁴ included an analysis (Appendix F) evaluating the potential reduction in the escapement of Lower River Hatchery fall Chinook associated with implementing alternative selective fishing gear. The percent reduction in the escapement of hatchery fish ranged from 18% to 53% depending on the assumptions on the size of the alternative selective gear fishery.

¹⁵ Memorandum of November 9, 2012 from the Hatchery Scientific Review Group. Additional HSRG Preliminary Analysis of Management Strategies for Columbia River Recreational and Commercial Fisheries and unpublished analyses in “CFF_ReCol_River.XLSX”.

The preliminary HSRG analysis¹⁵ also examined population specific responses for Chinook salmon. Overall, the preliminary HSRG analysis projected that pHOS would be reduced (pHOS reduced by more than 0.01) for 16 populations, unchanged for 8 populations, and increase for 0 populations.

Summer Chinook. The CWG report⁴ analyzed (Appendix F) the potential effects of alternative management scenarios on the mark ratio of summer Chinook salmon at Wells Dam. The analysis indicated that the proposed reallocation of summer Chinook to the recreational fishery would have a negligible impact (less than 1 percentage point) on the percentage of the mark rate of Summer Chinook at Wells Dam. The economic impacts of the reallocation of catch to the recreational fishery are discussed in section 12 (Economic Analysis of Draft Policy).

Spring Chinook. The CWG report⁴ also analyzed (Appendix F) the potential effects of implementing the recommendations on the number of marked and unmarked spring Chinook fish that would pass out of the lower river fishery. The projected effects of implementing the CWG recommendations had a minimal (<1%) effect on the number of marked or unmarked fish passing out of the fishery. The economic impacts of the reallocation of catch to the recreational fishery are discussed in section 12 (Economic Analysis of Draft Policy).

11.2 Fishing Mortality

Recreational and commercial fisheries for spring Chinook, fall Chinook, and coho salmon in the lower Columbia River are constrained by ESA impact limits. The summer Chinook fisheries are managed to achieve a conservation objective that varies with the size of the return to the mouth of the Columbia River. Fishery impacts included in managing the fisheries include both landed catch and fishing mortality associated with the fishery (e.g., the mortality of unmarked fish released in a mark-selective recreational fishery).

Since fisheries are already managed consistent with conservation and recovery standards, the draft Policy is not projected to reduce fishery impacts. Fishery impacts will simply be reallocated from the commercial fishery to the recreational fishery – not reduced.

12.0 Economic Analysis of Draft Policy

Synopsis. An objective of the draft policy is to “maintain or enhance the economic well-being and stability of the fishing industry in the state.” The four economic analyses that have been completed project that implementation of the draft Policy will have an economic benefit to recreational and commercial fishers:

- 1) **Ex-vessel Value of Commercial Fishery (revised from CWG report¹⁶).** The ex-vessel value of the commercial fishery in the transition period is projected to increase by ~18,805 (0.5%) in 2013 to ~ \$761,009 (~20%) in 2016. For the period 2017 through 2021, the annual ex-vessel value of commercial fisheries is projected to increase by ~\$231,755 (6%) in 2017 to ~519,022 (14%) in 2021.
- 2) **Recreational Angling Trips (from CWG report).** The total number of angler trips in the transition period (2013-2016) is projected to increase by about 13% and in the long term by about 22%.
- 3) **Local Personal Income Impact of Commercial Fishery (from ODFW Fiscal and Economic Impact Statement¹⁷).** The local personal income associated with implementation of the CWG recommendations is projected to increase by approximately \$34,000 to \$1.43 million higher during the transition period and \$435,000 to \$976,000 during the 2017 -2021 period.¹⁸
- 4) **Local Personal Income Impact of Recreational Fishery (from ODFW Fiscal and Economic Impact Statement¹⁷).** Compared to the current conditions, the total annual economic impacts are projected to increase by approximately \$4.6 million and \$6.9 million during the transition period and long term, respectively

These projections assume that CWG recommendations are implemented and include economic impacts to both Washington and Oregon. We are unable, at this time, to segregate the economic analysis and focus solely on the projected effects experienced by Washington.

¹⁶ Response to Questions from Robert Sudar. December 13, 2012. Report prepared by ODFW.

¹⁷ Fiscal and economic Impact Statement for The December 7, 2012 Hearing in the Matter of Rules Relating to Columbia River Fishery Management for 2013 and Beyond.

¹⁸ Note that these numbers differ from the Oregon Fiscal and Economic Impact Statement because of the correction in projected ex-vessel value of the commercial catch.

An analysis focused only on Washington may be difficult given the cross jurisdictional nature of Columbia River fishery management.

Although the analyses incorporate our current understanding of this complex fishery and hatchery system, the Department recognizes that significant uncertainty exists in the projections and in the economic analyses. There is uncertainty, for example, in the economic viability of alternative selective gear and, as a consequence, the extent to which commercial fishers will participate in these fisheries in the future. Conversely, there may be unanticipated economic benefits, for example, associated with the need to outfit with the alternative selective gear. Rather than incorporating all uncertainties in an economic analysis (which would be challenging), the draft Policy should include robust adaptive management provisions with an assessment of the performance of the fisheries relative to economic expectations.

Multiple types of economic analysis are available to address alternative questions. For example, the types of economic analyses previously conducted for the Washington FWC¹⁹ include:

- 1) Ex-Vessel Value. Ex-vessel value is simply the total value of the fish sold by commercial fishers to the first receiver, normally a wholesale fish buyer. When adjusted for inflation, and substantial changes in fishing gear or techniques are not occurring, it can be a relatively simple index of the relative value of a particular fishery to the harvest sector of a fishery. Ex-vessel values are useful for evaluating certain management decisions such as the timing of the fishery, competition at the market place with similar products, and gross economic revenue generated to the commercial fishers.
- 2) Net Economic Value. Net Economic Value (NEV) measures the net (or surplus) value to commercial and recreational anglers who participate in the fisheries. For recreational anglers, net economic value measures an angler's willingness to pay over and above actual out of pocket costs to fish. For commercial fishers, net economic value represents the profit (or net income) from fishing. Because NEV are monetary measures of economic welfare, they are used to evaluate the economic efficiency of policy or program changes.¹⁸
- 3) Economic Impacts. Economic Impacts, on the other hand, measure the jobs and personal income that are directly and indirectly supported by sport and commercial

¹⁹ Economic Analysis of the Non-treaty Commercial and Recreational Fisheries in Washington State. TCW Economics. December 2008.

fishing activity. They provide decision makers with information on how a policy changes affect economic activity, as measured in terms of jobs and personal income, in communities, regions, or even at the state or national level. ¹⁸

There have been several attempts to do an "apples-to-apples" comparison for recreational and commercial fishers. However, the significant differences between recreational and commercial fisheries can pose challenges for comparative economic analyses. We are not aware of any comprehensive economic impact analysis that would facilitate such a comparison of the commercial and recreational fisheries for the Columbia River recreational and commercial fisheries impacted by the decision now before the Washington FWC.

The four economic analyses that have been conducted, projected changes in the ex-vessel value of the commercial fishery, projected changes in the local personal income impact generated by the commercial fishery, the projected change in the number of recreational angler trips, and the projected changes in the local personal income impact generated by the recreational fishery are discussed below.

The projections incorporate our current understanding of this complex fishery and hatchery system, but the Department recognizes that significant uncertainty exists in the projections and in the economic analysis. There is uncertainty, for example, in the economic viability of alternative selective gear and, as a consequence, the extent to which commercial fishers will participate in these fisheries in the future. Conversely, there may be unanticipated economic benefits, for example, associated with the need to outfit with the alternative selective gear. Rather than incorporating all uncertainties in an economic analysis (which would be challenging), the draft Policy should include robust adaptive management provisions with an assessment of the performance of the fisheries relative to economic expectations. Rather than incorporating all uncertainties in an economic analysis (which would be challenging), a prudent course would be to include robust adaptive management provisions in the Policy with an assessment of the performance of the fisheries relative to economic expectations. The Adaptive Management provisions of the Policy are discussed in section 10.

12.1 Commercial Salmon Fishery in Columbia River

The CWG report⁴ included an analysis (Appendix C of the report) of the projected effect of the implementation of the CWG recommendations on the ex-vessel value of the commercial fishery. Subsequent to the release of the CWG recommendations, several errors were found in the calculations. The corrected analysis and additional explanation were provided in a response from ODFW to Robert Sudar on December 13, 2012¹⁶.

It is important to recognize that the analyses are not intended to be absolute predictions of the catch and ex-vessel value, but rather the potential magnitude of changes in harvest and ex-vessel values relative to the modeled baseline. The base-case and projections were computed using:

- 1) a fixed adult salmon return for salmon populations not effected by enhanced off-channel production (i.e., all analyses assumed an upriver spring Chinook run-size of 225,000 adult fish);
- 2) an increase in adult returns from enhanced off-channel production predicted from average survival rates (i.e., average survival rate of coho for the 1993-2007 brood years);
- 3) average weights of fish (i.e., 14.1 pounds for spring Chinook); and
- 4) average price per fish as sold by the commercial fishers (i.e., \$6.00 per pound for spring Chinook caught in March and April in mainstem fisheries).

Key assumptions include:

- 1) Alternative selective commercial fishing gear is implemented and catches are consistent with CWG expectations. For example, the CWG analysis expects a catch of 27,441 fall Chinook by alternative selective commercial fishing gear in 2017.
- 2) Off-channel artificial production programs are implemented as recommended by the CWG.

Under these assumptions, the ex-vessel value of the commercial catch is projected to increase by ~0.5% (~\$18,105 in 2013) to ~20% (\$761,009) in 2016 (Fig. 1). For the period 2017 through 2021, the annual ex-vessel value of commercial fisheries would increase by ~6% (\$231,755) in 2017 to ~14% (\$519,022) in 2021. These impacts would not necessarily be distributed equally across the commercial in-river salmon fishing fleet, as cost structures and other factors vary from fisher to fisher.¹⁷

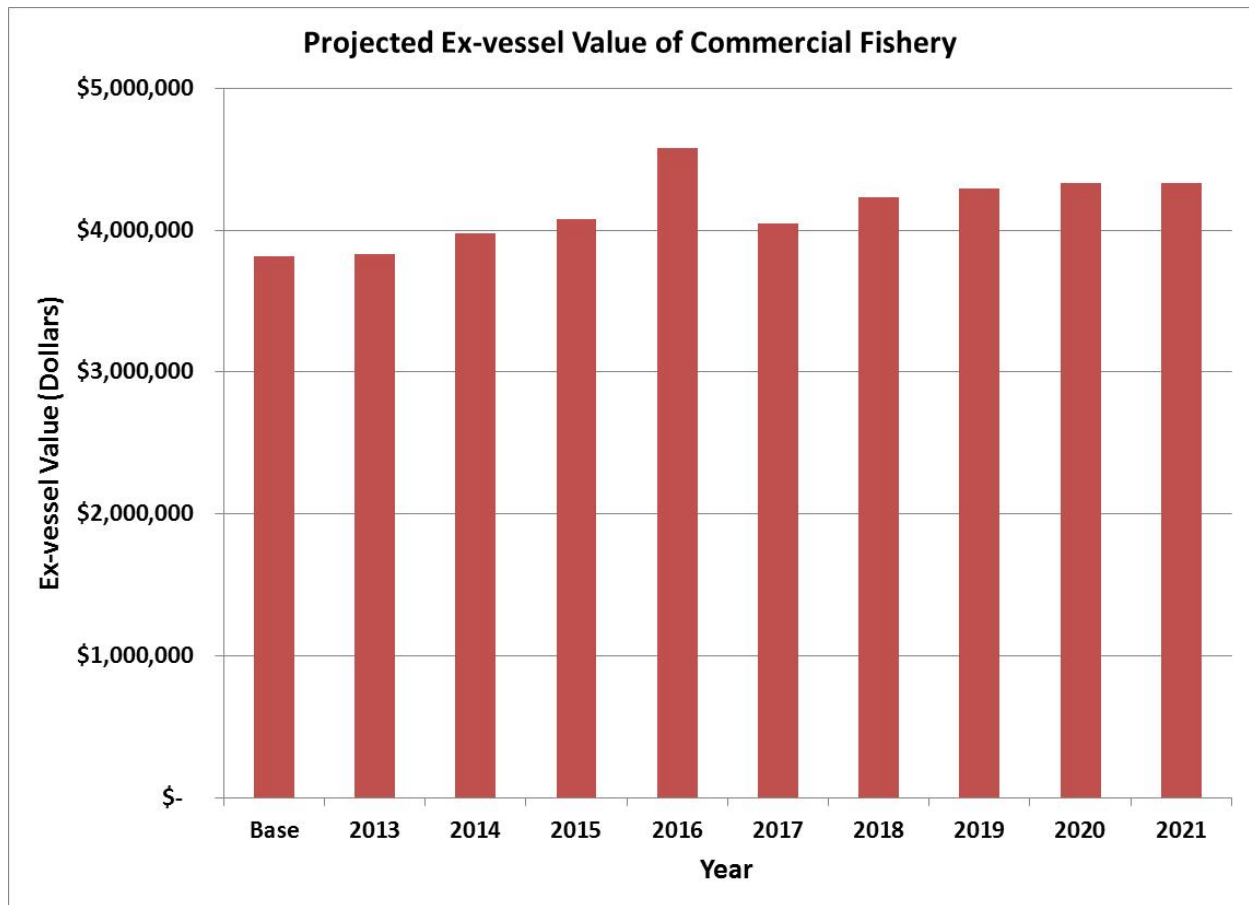


Figure 1. Projected ex-vessel value of the commercial fishery resulting from implementation of the CWG recommendations. All values are reported in 2012 dollar equivalents.

The ODFW analyzed the local personal income impacts of the projected changes in the commercial fishery. The analysis states:

“According to the PFMC’s 2011 Review of Ocean Salmon, local personal income impacts of the in-river commercial salmon fishery on Oregon Columbia River communities has averaged about \$5.2 million over 2007-2011 (in table IV-19). This equates to an average multiplier of about 1.88 with respect to the ex-vessel value of the fishery. Combining that multiplier with the estimated ex-vessel values in Table 1, it is estimated that, relative to the current levels, annual local personal income would be approximately \$373,000 to \$2.1 million [corrected numbers \$34,000 to \$1.43 million¹⁸] higher during the transition period, \$1.0 to \$1.6 [corrected numbers \$435,000 to \$976,000¹⁸] million higher during the 2017-2021 period. Economic impacts related to the commercial fisheries for white sturgeon, shad, and smelt are not included in this analysis.”¹⁷

12.2 Recreational Salmon Fishery in Columbia River

The CWG report⁴ also included an analysis (Appendix C of the report) of the projected effect of the implementation of the CWG recommendations on the number of recreational angler trips. The analysis used similar methods and assumptions as the commercial fishery analysis except that angler trips were projected based on average success rates. As with the commercial fishery analysis, the analyses are not intended to be absolute predictions of the recreational angler trips, but rather the potential magnitude of changes in angler trips relative to the modeled baseline.

Recreational angler trips in the transition period (2013-2016) are projected to increase by about 13% and in the long term by about 22% across the spring Chinook, summer Chinook, and fall Chinook fisheries. Fishery specific results varied, with the largest projected increase in the summer Chinook fishery (Fig. 2):

- 1) Spring Chinook. Implementation of the CWG recommendations are projected to result in an increase of ~9,744 angler trips (6%) in the transition period and ~15,091 angler trips (9%) in the long term.
- 2) Summer Chinook. Implementation of the CWG recommendations are projected to result in an increase of ~8,746 angler trips (35%) in 2013 and 2014, ~20,047 angler trips (80%) in 2015 and 2016, and ~45,000 (180%) in the long term.
- 3) Fall Chinook. Implementation of the CWG recommendations are projected to result in an increase of ~5,000 angler trips (9%) in the transition period and in the long term.

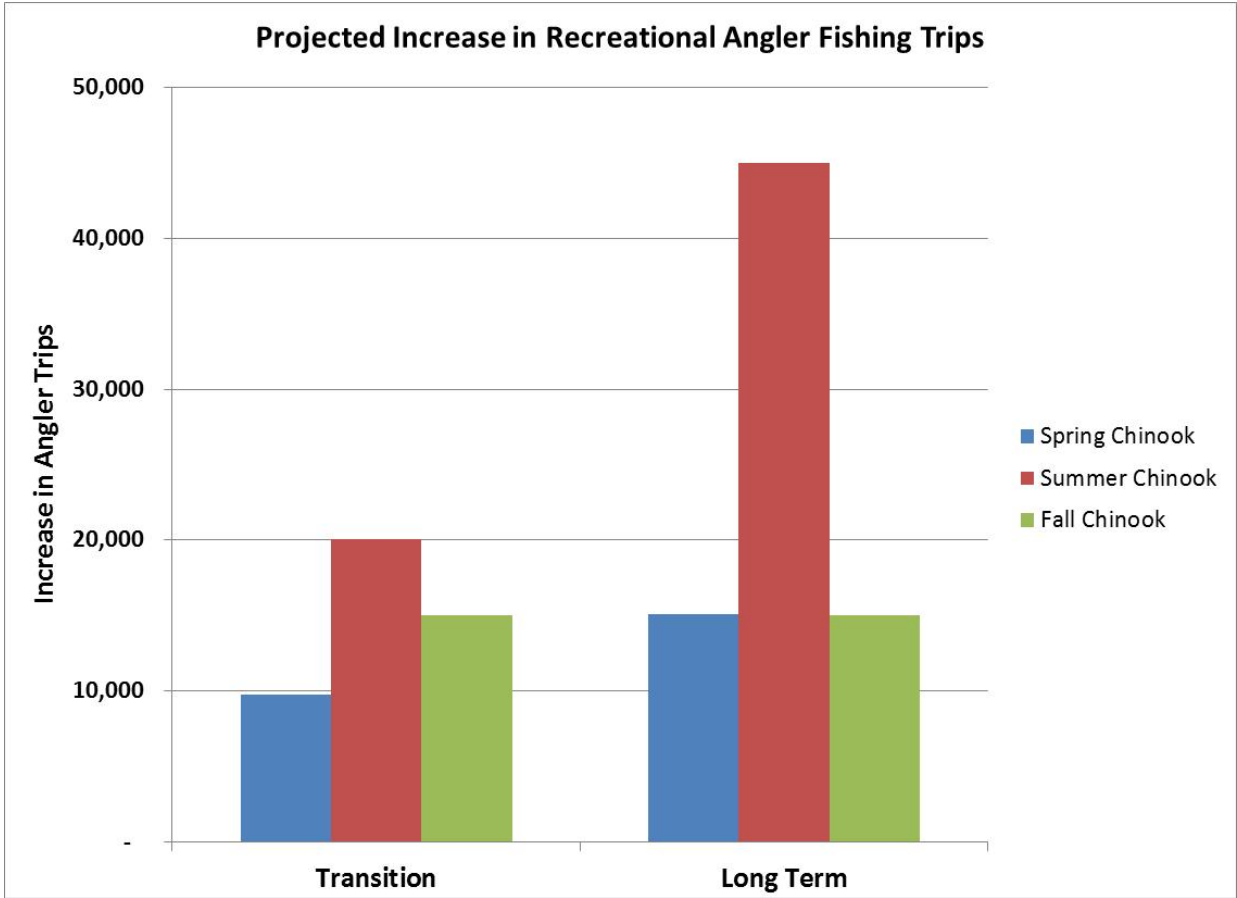


Figure 2. Projected increase in recreational angler fishing trips resulting from implementation of the CWG recommendations. Summer Chinook projection is for transition years 2015 and 2016. Summer Chinook projection for 2013 and 2014 is for an increase of 8,746 angler trips.

The ODFW analyzed the changes in local personal income impacts associated with the projected increase in recreational angler fishing trips. The analysis states:

“Economic impacts are associated with angler trips because the anglers will spend money on gas, food, lodging, guides, etc. during their trips (i.e., trip-related expenditures). Expenditures on equipment are not included because anglers would not likely increase spending on fishing equipment in response to fishing a small number of additional days. A portion of the angler trip related expenditures would be recirculated through the local economies where it was spent (multiplier effect). We use an average for expenditures per angler trip derived from Oregon specific estimates in the 2011 U.S. Fish and Wildlife Survey state overview - \$63/trip. We use an average for the personal income impact from angler expenditures drawn from PFMC’s 2011 Review of Ocean

Salmon -- \$40/trip. These values are somewhat lower than those found in Genter and Steinback (2006) and therefore could be considered conservative.

Table 2 presented the estimated changes in expenditures and local personal income impacts associated with increased angler trips forecast under the alternative management scenarios of the draft plan. Compared to the current conditions, the total annual economic impacts are estimated to be increases of about \$4.6 million and \$6.9 million during the transition period and long-term, respectively.”

13.0 Public Process

Synopsis. The draft Columbia River Basin Salmon Management policy was developed through a transparent and extensive public process that included 8 opportunities for stakeholders to provide comments to the CWG or the Washington FWC. Over 100 stakeholders provided public comment to the Washington FWC, and over 900 written comments were received. The Washington FWC has frequently received public comment on Columbia River fisheries and conducted public processes to update the Spring Chinook policy (2008) and Summer Chinook policy (2011)

The draft Policy was developed through an extended, transparent public process. The CWG held three meetings: September 21 in Olympia, Washington; October 18 in Portland, Oregon; and November 15 in Seaside, Oregon. The meetings were independently facilitated and provided opportunity for public input. In addition, the Washington FWC received public input during the CWG process on four occasions (September 5, October 6, November 8, and December 15) and is scheduled to receive public comment on the draft policy on January 12, 2013. Through January 9, 2013, the Washington FWC has received oral comment from over 100 stakeholders and has also received over 900 written comments.