Concise Explanatory Statement
Willapa Bay Commercial Salmon Regulations for 2015

Introduction

This Concise Explanatory Statement (CES) relates to rules being adopted by the Washington Department of Fish and Wildlife (WDFW or Department) to amend Washington Administrative Code (WAC) 220-40-021 and -027. The CES contains four principle sections. Section I describes the rule being adopted, the process used in adopting the rule, and the resource management objectives advanced by adoption of the rule. Section II describes the changes from the proposed rule to the adopted rule. Section III discusses comments received during rulemaking and the agency's analysis and resolution of those comments. Section IV briefly discusses other comments received during the North of Falcon process that were germane to the development of the proposed rules noticed in the CR 102.

I. The Adopted Rules, Rule-making Process and WDFW's Resource Management Objectives

Overview of the Rules Adopted

The rules being adopted provide a schedule to open the 2015 summer and fall commercial gillnet salmon fisheries (Chinook and Coho) in Willapa Bay. Without the proposed rules, fall commercial fishing for salmon would be the same as in 2014 (See WAC 220-40-027). Summer commercial gill net regulations were recently closed by emergency rule.

***Brief Summary of the Adopted Rules*:**

The rules being adopted amend existing permanent rules that opened the commercial salmon fisheries in Willapa Bay, as defined in WAC 220-22-020 and WAC 220-40-027, for the 2014 season ending November 19, 2014.

WAC 220-40-021 specifies the commercial gear and methods of harvest that must be utilized, the locations of fishing activity, and the duration of the summer commercial salmon season, for fisheries occurring between July 5 and August 15 annually. Under the 2015 regulations, commercial salmon fisheries in Willapa Bay during this time period will be closed. Further discussion of the Willapa Bay Salmon Management Policy will follow below.

WAC 220-40-027 specifies the permissible commercial gear and methods of harvest that must be utilized, the locations, and the duration of the fall commercial salmon season, for fisheries occurring between August 16 and December 31 annually. Approximately 48 days of commercial harvest is authorized for Chinook and Coho salmon during the fall period using a combination of selective (i.e., only hatchery-origin Chinook salmon with a clipped adipose fin can be retained) and non-selective fishing gear and techniques. The rule also addresses retention of chum salmon that are caught incidental to the targeted harvest of Chinook and Coho salmon.

***Fishery mandates and Commission Policy*:**

The rules are being adopted pursuant to the authorities found in RCW Title 77, including those provisions in RCW 77.04.012 that establish conservation as the paramount objective - "to conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource." Where consistent with that conservation objective, the Department must also "seek to maintain the economic well-being and stability of the fishing industry in the state"; "promote orderly fisheries"; and "enhance and improve recreational and commercial fishing in this state."

These are broad state-wide objectives and do not necessarily focus on one region, one fish species or one segment of harvesters. The term "fishing industry of the state" includes both commercial and recreational interests. While these objectives are ultimately applied on a state-wide basis, the agency considers regional interests, individual fishing sectors, and the interests of varying gear-type groups when undertaking its efforts to promote state-wide management interests.

The rules being adopted are based upon policies of the Fish and Wildlife Commission aimed at promoting the conservation and recovery of wild salmon and sustainable fisheries (Hatchery and Fishery Reform – C-3619; 2015-17 North of Falcon Policy – C-3608; Willapa Bay Salmon Management – C-3622).

The adopted rules also incorporate the recommendations from the North of Falcon (NOF)/Pacific Fishery Management Council (PFMC) process that included significant public input. WDFW's objectives for those processes are outlined in the 2015-2017 North of Falcon (NOF) policy and the Policy Guidelines for PFMC Representation adopted by the Fish and Wildlife Commission (C-3603). The NOF/PFMC process is the forum in which Washington works with the State of Oregon, tribal co-managers, federal fishery managers and stakeholder groups to plan for, and execute, fisheries of interest to state, tribal and federal entities. Through that process, the management entities identify the predicted abundance of fish, desired escapement objectives, the harvestable surplus, shares available to state and tribal harvesters, and sets the stage for subsequent development of Washington State's commercial and recreational fishing seasons, including time, manner and method regulations that will be used to implement those seasons.

Overview of WDFW's Consideration of Management Objectives

The management of salmon resources in Willapa Bay and its tributaries has changed dramatically over the last decade. Historical harvest rates on Willapa Bay Chinook salmon exceeded 90%. Hatchery-origin fish likely comprised most of the spawners in the Willapa and Naselle rivers. For many decades prior to 2000, salmon were managed with hatchery supplementation of natural-origin fish. The focus was on attaining an aggregate escapement of fish for spawning purposes without any differentiation between hatchery and natural-origin fish. In the early 2000's, the Hatchery Scientific Review Group (HSRG) reviewed all of the state's hatchery programs and practices to assure our State's salmonid resources were managed for long-term health and sustainable harvest. Increasingly, there was concern that hatchery fish and

natural-origin fish needed to be managed with greater care to ensure a healthy wild population of salmon. In 2003, a conservation objective to protect natural-origin Chinook was put into practice. However, at that time, hatchery fish were not being marked making it difficult to distinguish between natural- and hatchery-origin fish. Accordingly, the Department was limited to the identification of a harvest rate for all Chinook in the aggregate. On that basis, the conservation objective limited the overall harvest rate to no more than 30% by all fishery participants

In 2009, the WDFW Commission adopted the Hatchery and Fishery Reform policy (C-3619). That policy directs the Department to implement the principles created by the HSRG. The Hatchery and Fishery Reform policy brought about further refinement of salmon management in Willapa Bay. Working with the Willapa Bay Salmon Advisory Group, WDFW developed a draft Willapa Bay Management Plan (2010 Willapa Plan) in January of 2010.

The draft 2010 Willapa Plan provided a framework for a transition in hatchery and fishery management strategies for salmon fisheries in Willapa Bay. Where the primary objective had been the harvest of hatchery-origin Chinook salmon, the Plan described an enhanced focus on conservation consistent with the guidance of the Hatchery and Fishery Reform policy. Achieving the conservation goals of the plan was anticipated to promote sustainable fisheries and reduce the likelihood of the listing of Washington coastal Chinook under the Endangered Species Act. Key components of the plan included: Establishing the Naselle River as the Primary Chinook population requiring the highest level of protection for natural origin fish; limiting the mortality rate on Naselle River natural-origin Chinook to 30%; and reducing production of hatchery Chinook in the Naselle River yet maintaining total production of hatchery Chinook by increased production in Nemah and Willapa rivers

Prior to the 2014 season, WDFW reviewed the performance of the fishery under the draft Willapa Plan to assess whether progress was being made towards achieving its objectives. The Department's review of the performance of the Willapa Plan over the preceding four years (2010-2013), and the forecast for natural-origin Chinook returns, indicated that additional conservation actions should be implemented in 2014. These actions were directed at enhancing conservation actions for the Primary (Naselle River) and Contributing (North River and Smith Creek) populations. Therefore, WDFW proposed additional, more conservative, fishery and hatchery management actions in 2014. The primary action to address lagging natural-origin Chinook escapement was a reduction in the allowable mortality rate. Specifically, to address the declining trend in natural-origin spawners for the Naselle River Chinook population, a mortality rate of no more than 20% on the Naselle River population was employed with the intent to exceed the 2012 spawner level (> 1,050 fish). Historically the commercial fishery has comprised the vast majority of the mortalities on natural-origin Chinook. For example, pre-season planning in 2013 predicted the commercial fleet would kill 28.3% of the Naselle River natural-origin Chinook out of the combined predicted impact of 29.8%. That is, the recreational fishery comprised only a 1.5% impact. This means that the entire recreational fishery could be closed and the reduction from a 30% mortality rate to 20% would not be achieved. Because the recreational fishery has such a low impact, the commercial fishery had to absorb the majority of the reduction in mortality rate. Despite the good intentions and the reduction in the pre-season

targeted mortality rate, preliminary estimates suggest the actual mortality rate on Naselle River natural-origin was 38% in 2014.

Development and Implementation of the Willapa Bay Salmon Management Policy (C-3622)

In the fall of 2014, the Department initiated the development of a policy to advance the conservation and restoration of wild salmon. Where consistent with that objective, the policy also considered the need to maintain or enhance the economic well-being and stability of the fishing industry in the state, provide the public with outdoor recreational experiences and a fair distribution of fishing opportunities throughout the Willapa Bay Basin, and improve the technical rigor of fishery management. This policy (Willapa Bay Salmon Management Policy, C-3622) was approved and made effective June 13, 2015. The adopted policy includes substantial changes in fishery management and hatchery production that are intended to restore natural-origin Chinook and Chum salmon, while ensuring the continued health of Coho salmon.

Key components of the new policy include:

1. Establishing Willapa River as the "primary" Chinook stock instead of the Naselle River. Willapa River was choosen for two reasons. First, Chinook returning to Forks Creek Hatchery on the Willapa River have a more direct and shorter route to escape fisheries in the bay. This provides greater flexibility to conduct fisheries in the middle portion of the bay to hatchery fish returning to Nemah Hatchery while minimizing impacts on the primary stock. Second, the collection of hatchery broodstock is more difficult in the Willapa River than in the Naselle River, and therefore the potential for hatchery fish spawning in the wild is higher. Forks Creek Hatchery (~River Mile 30) is further upstream than the Naselle Hatchery (~River Mile 16) meaning that the fish have substantially more habitat to spawn in before reaching the hatchery. Also, the Naselle River has a weir at the hatchery that is used to remove many of the hatchery fish, whereas there is not a weir on the Willapa River to remove Forks Creek Hatchery fish. Instead the weir is on Forks Creek itself and does not prevent fish from migrating past the hatchery in the mainstem Willapa River. Under the 2010 draft Willapa Plan, there was only one "contributing" stock, North River. In the new policy, the Naselle River was also designated a "contributing" stock as an increased conservation measure for natural-origin Chinook.
2. Initiating a rebuilding program for Chinook Salmon intended to result in meeting spawner goals in 16-21 years. The policy recognized that 3 brood cycles would be needed to rebuild natural-origin stocks without imposing extremely severe limitations on fisheries.
3. Limiting mortality on Willapa River and Naselle River natural origin Chinook to 14% with an additional 6% allowed for 2015-2019 with specific criteria on the use of selective commercial fishing gear with low release mortality rates. The policy promotes increased use of selective commercial fishing gear with low release mortality rates to help transition the commercial fisheries from 2015 through 2019. Increased use of this fishing gear is expected to increase the commercial catch of hatchery Chinook and reduce surpluses at the hatcheries.

4. Reducing hatchery Chinook production at Forks Creek hatchery because of the difficulty of preventing hatchery Chinook from spawning in the wild as discussed in 1 above.
5. Enhancing the recreational fishery for Chinook;
6. Reducing conflict between commercial and recreational fisheries to simplify annual regulation setting process and promote orderly fisheries.
7. Prioritizing Coho salmon for the commercial sector to help offset reductions in Chinook harvest.
8. Maintaining or enhancing the economic well-being and stability of the commercial and recreational fishing industry in the state.

This policy provides a cohesive set of principles and guidance to promote the conservation of wild salmon and steelhead and improve the Department's management of salmon in the Willapa Bay Basin. The Commission recognized that management decisions must be informed by fishery monitoring (biological and economic), and that innovation and adaptive management will be necessary to achieve the stated purpose of this policy.

Rule Development Process:

The CR 101 notice of intended rule-making was filed on December 23, 2014 (WSR 14-02-113) while development of the Willapa Bay Salmon Management Policy was underway. Thereafter, the Department relied upon several forums to gather information and interact with regional fishery managers and constituent groups in order to develop a draft rule that would be presented in the CR 102 filing for formal public review and comment.

State, federal and tribal fishery managers gather each year to plan the Northwest's recreational and commercial salmon fisheries. This pre-season planning process is generally known as the "North of Falcon" (NOF) process, and includes a series of public meetings with federal, state, and tribal fishery managers, together with citizens that have an interest in these fisheries, both recreational and commercial. The NOF planning process coincides with the March and April meetings of the PMFC, the federal authority responsible for setting ocean salmon seasons 3 to 200 miles off the Pacific coast. In addition to the two PFMC meetings, the states of Washington and Oregon, and Treaty Tribes, sponsor additional meetings to discuss alternative fishing seasons that meet conservation and sharing objectives. In addition to public meetings, WDFW also solicits input from advisory groups whose representatives represent a diverse range of user group interests. For this rule making process, the Willapa Bay Advisory Group was consulted.

The Grays Harbor and Willapa Bay NOF process for 2015 began with a public meeting on February 25, 2015 at Montesano City Hall in Montesano, WA. During this meeting WDFW provided the public with information on the 2015 season planning process, discussed 2015 forecasts and resource utilization implications, engaged the public in dialog regarding fisheries, collected input on fishing season structures for the commercial and recreational fisheries, possible rule changes, and provided the public with information on the status of the 2015 planning process.

The statewide 2015 NOF process began with a public meeting on March 2, 2015 at the Natural Resources Building in Olympia, WA. WDFW presented the 2015 run forecasts for Puget Sound, Columbia River, and the Washington coastal system of rivers, bays and offshore waters. Run forecasts, together with historical data, were presented for each area and salmon species. Resource utilization implications of the 2015 forecasts were discussed broadly in a statewide context. This was followed by regional break-out sessions where WDFW staff further discussed 2015 forecasts and resource utilization implications in greater detail and solicited fishery suggestions for those in attendance.

A Willapa Bay Advisory Group meeting was held April 21, 2015 at the Raymond High School Library in Raymond, WA. The purpose of this meeting was to review the interim guidance for commercial fisheries occurring in 2015 in Willapa Bay given to the department by the Fish and Wildlife Commission on April 9th, 2015 and to receive input in the form of fishery proposals from the Willapa Bay Advisory Board. There was also discussion of the 2015 run forecasts for Willapa Bay as well as an update on the progress of the restructuring of the Willapa Bay Terminal Area Management Model (Willapa Bay TAMM).

A Willapa Bay public workshop was held March 23, 2015 at the Raymond Elks Lodge in Raymond, WA. The purpose of this meeting was to provide the public with information on the 2015 NOF process, review input from the Willapa Bay Advisory meetings, review initial Willapa Bay TAMM runs and to solicit input on fishery schedules. There was also discussion of the interim guidance received by the department in lieu of a permanent Willapa Bay Salmon Management Policy and updates to the Willapa Bay TAMM.

An additional Willapa Bay Advisory Group meeting was held on April 28, 2015 at the Raymond High School Library. WDFW held a Willapa Bay regionally focused public NOF meetings on April 30, 20145 in Raymond, WA. During these meetings WDFW provided the public with information on resource utilization implications, engaged the public in dialog regarding fisheries, collected input on fishing season structures for the commercial and recreational fisheries, possible rule changes, and provided the public with information on the status of the 2015 planning process.

Based upon all of the information and outreach generated through these forums, a draft rule was developed for consideration in the public rule-making process that follows the filing of a proposed rule. Accordingly, the CR-102, filed on June 3, 2015 and published in WSR 15-12-115, provided WDFW's initial rule-making proposals for 2015 Willapa Bay commercial salmon fisheries. Subsequently, after adoption of the Willapa Bay Salmon Management Policy (C-3622) on June 13, 2015, a supplemental CR-102 was filed on July 1, 2015 and published in WSR 15-14-124.

As proposed in the CR-102 filed on June 3, 2015, WAC 220-40-021 would close the early August commercial salmon fishery for Chinook in Willapa Bay that is directed at harvesting Columbia River and Willapa Bay Chinook salmon (referred to as the "Dip-in Fishery" as fishers harvest some Columbia River bound salmon that dip into Willapa Bay during their migration) in order to preserve Chinook mortalities for use during Coho directed fisheries and to reduce conflict between the recreational and commercial fisheries. As proposed in the supplemental

CR-102 filed on July 1, 2015, WAC 220-40-027 would open the fall commercial salmon fishery for Chinook and Coho salmon in Willapa Bay. The rules, as proposed, were partially selective in that they required the release of chum from September 8, 2015 through October 3, 2015 and natural-origin (unmarked) Chinook from September 8, 2015 through October 10, 2015. Natural-origin Chinook and chum are not target species for commercial fisheries but are taken incidental to the harvest of hatchery Chinook and Coho. The forecast of natural-origin Chinook returning to Willapa Bay indicates that there will be insufficient numbers of these fish to allow directed fisheries on natural-origin Chinook. Natural-origin Chinook are determined by the presence of an intact adipose fin (unmarked fish). Natural-origin Chinook can be conserved by either requiring the release of unmarked Chinook (taking into account release mortality) or by allowing retention of natural–origin Chinook that is incidentally harvested together with additional limits on the harvest of targeted hatchery fish so that harvest impact limits for natural-origin Chinook are met.

Fishing dates and locations were modeled to propose a meaningful commercial fishery that is consistent with conservation objectives considering that there will be non-directed harvest mortality arising from the incidental catch of non-target salmon. In addition, the season structure and areas open for fishing were shaped to reduce the interaction between sport and commercial fisheries. This furthers the objective of maintaining orderly fisheries. Sharing between commercial and recreational harvest groups was also considered to provide meaningful harvest opportunity for both groups within the context of historic sharing patterns in this area of the Washington Coast.

Following publication of the supplemental CR 102 and proposed rules, a formal rule making public hearing was held on August 4, 2015. This hearing, in conjunction with the noticed comment period, represented the formal comment period of the rule-making process as required by the Administrative Procedures Act. They provided the public with additional opportunity to comment on the proposed rules published in WSR 15-14-124. The hearing was attended by approximately 12 individuals with 10 providing testimony. The public comment period was open July 1, 2015 through August 4, 2015. WDFW received both verbal and written comment during this period. In addition to the formal rule making comments, comments received during the North of Falcon process that were substantive to the adopted rules were also considered.

WDFW carefully reviewed the information gathered during the rule development process together with all input (verbal and written) from fishing industry representatives, recreational anglers, the Willapa Bay Salmon Advisory Group, and the general public. This includes all information obtained during both the 2015 North of Falcon salmon season process and the state's formal rule making process. WDFW also considered and relied on technical and scientific expertise within the agency and as part of the PFMC planning process. This included data and information available to the state's fishery management experts, including pre-season forecast abundance of salmon stocks returning to Willapa Bay and historic harvest data from fisheries occurring in Willapa Bay and its tributaries. Important characteristics of the Willapa Bay commercial salmon fishery were considered, including:

- total number of licensed vessels potentially participating in each fishery;
- number of vessels that have actually participated in each fishery in recent years;

- outcomes in terms of target and non-target species catch in recent years;
- potential for transfer of effort from other fisheries in other areas, e.g. Grays Harbor;
- catch likely to result from the proposed rules and associated conservation impacts;
- economic value of these commercial fisheries; and
- the relationship between commercial and recreational fisheries.

The Department also considered fishing preferences of the sport fishery in terms of time, area, tidal cycles, and potential for gear or fishing sector conflict.

Overview of WDFW's Consideration of Management Objectives

As noted above, the Washington Fish and Wildlife Commission adopted a new Willapa Bay Salmon Management Policy (C-3622) in June of 2015 (effective starting June 13, 2015). Adoption of the policy followed an extensive public process with multiple public comment opportunities. The policy provides management guidance to WDFW in terms of sharing between the recreational and commercial sectors and achievement of conservation objectives. While the policy details specific objectives, it also recognizes the uncertainty inherent in fishery management and provides guidance on the utilization of adaptive management to provide appropriate flexibility in the implementation of the policy guidance.

Regulations for the 2015 Willapa Bay commercial fisheries were evaluated with respect to objectives in the policy. These objectives were shared with industry representatives, members of the Advisory Group, and the general public during the North of Falcon process. General or commercial specific pre-season planning objectives were:

1. Fisheries will be managed with the intent of achieving escapement goals in the North, Willapa and Naselle systems in 16-21 years for Fall Chinook and for achieving aggregate escapement goals for coho and chum salmon.

2. Commercial fisheries will not occur in commercial catch areas 2T and 2U prior to September 16. Commercial fisheries will not occur in commercial catch areas 2M, 2N, 2P and 2R until after Labor Day.

3. If it becomes apparent that a scheduled fishery will exceed the aggregated pre-season natural-origin Chinook mortality (impact) expectation, the Department shall implement in-season management actions in an effort to avoid cumulative mortalities of natural-origin Chinook in excess of the aggregated pre-season projection.

4. The fishery management objectives for fall Chinook salmon, in priority order, are to:

    - achieve spawner goals in North, Willapa and Naselle systems in 16-21 years;
    - provide for an enhanced recreational fishing season; and
    - provide meaningful opportunities for commercial fisheries within the remaining available fishery impacts.

5. For years 2015-2018, the maximum impact rate on Willapa and Naselle River natural-origin fall Chinook in Willapa Bay fisheries is 20%.

6. To promote the catch of hatchery-origin Chinook salmon and increase the number of natural-origin spawners, a portion of the 20% impact rate cap shall be set-aside for mark-selective commercial fishing gear types with an anticipated release mortality rate of less than 35%:

Fishing Year	Mark Selective Commercial Fishing Gear Set-Aside
2015	1%
2016	2%
2017	6%
2018	6%

7. Manage fisheries with the goal of achieving aggregate spawner goal for Willapa Bay natural-origin Coho salmon. When the pre-season forecast of natural-origin adult Coho salmon is less than the aggregate goal, or less than 10% higher than the aggregate goal, fisheries in Willapa Bay Basin will be scheduled to result in an impact of no more than 10% of the adult return.

8. Fisheries will be managed with the goal of achieving the aggregate goal for Willapa Bay naturally spawning Chum salmon. Until the spawner goal is achieved for 2 consecutive years, the maximum fishery impact will not exceed a 10% impact rate and no commercial fisheries will occur in the period from October 15-31. If the number of natural origin spawners was less than the goal in 3 out of the preceding 5 years, the Department will implement the following measures:

    - The predicted fishery impact for Chum in Willapa Bay Basin will be scheduled to result in an impact of no more than 10% of the adult return; and
    - When the Chum pre-season forecast is 85% or less of the escapement goal, the predicted fishery impact for Chum in Willapa Bay Basin will be scheduled to result in an impact of no more than 5% of the adult return.

The rule, as originally noticed in the CR-102, was proposed based upon a conclusion that it would produce fisheries consistent with the overriding conservation objectives identified above. WDFW concludes that the final adopted 2015 Willapa Bay commercial fishing regulations are consistent with these management objectives based on the following rationale:

1. <u>Fisheries will be managed with the intent of achieving escapement goals in the North, Willapa and Naselle systems in 16-21 years for Fall Chinook and for achieving aggregate escapement goals for coho and chum salmon.</u>

Fisheries modeled in Willapa Bay are expected to result in achievement of escapement goals for Willapa Bay Coho and Chum salmon (Table 1). Willapa, North and Naselle River natural-origin fall Chinook are forecast to return at a level that is below the escapement goal. The 2015 pre-

season forecast for Willapa Bay natural-origin Chinook is 3,835 compared to a spawner goal of 4,350. The scheduled fisheries in the adopted rule are expected to result in 3,100 Willapa Bay natural-origin Chinook spawners. That is, the Chinook are not expected to meet the goal regardless of whether fisheries occur or not. In these circumstances, fishery openings directed at healthy stocks are evaluated to limit the mortality impact on the stock of fish that will not attain its escapement goal. The adopted rule has a low impact on Willapa, North and Naselle rivers natural-origin fall Chinook and will meet the criteria in objective 5 below.

Table 1. Escapement goal and exploitation rate objectives for salmon fisheries in Willapa Bay in 2015.

Stock	Objective Type	Objective Criteria	Modeled Result
Willapa Bay Natural-origin Coho	Escapement Goal	13,090	26,795
Willapa Bay Naturally Spawning Chum	Escapement Goal	35,400	35,986
Willapa River Natural-origin Chinook	Exploitation Rate	≤ 20%	20%
North River Natural-origin Chinook	Exploitation Rate	≤ 20%	20%
Naselle River Natural-origin Chinook	Exploitation Rate	≤ 20%	18.8%

2. Commercial fisheries will not occur in commercial catch areas 2T and 2U prior to September 16. Commercial fisheries will not occur in commercial catch areas 2M, 2N, 2P and 2R until after Labor Day.

Commercial fisheries in the adopted rule are scheduled to begin on September 16, 2015 in commercial catch areas 2T and 2U. Commercial fisheries in the adopted rule are scheduled to begin on September 8, 2015 in commercial catch areas 2M, 2N and 2R.

3. If it becomes apparent that a scheduled fishery will exceed the aggregated pre-season natural-origin Chinook mortality (impact) expectation, the Department will implement in-season management actions in an effort to avoid cumulative mortalities of natural-origin Chinook in excess of the aggregated pre-season projection.

Commercial fisheries in the adopted rule will be monitored using a combination of on-board sampling, daily fish ticket evaluation, and sampling of the landed catch. These data will be used to evaluate actual catch versus what was projected in the Willapa Bay Terminal Area Management Model (TAMM). If commercial landings exceed expected catch and puts the attainment of conservation objectives at risk, in season management actions will be initiated.

4. The fishery management objectives for fall Chinook salmon, in priority order, are to:

- achieve spawner goals in North, Willapa and Naselle systems in 16-21 years;

Results from the Willapa Bay All-H Analyzer (Willapa Bay AHA) model indicated that a transition period of four years with a higher maximum mortality rate of 20% for Willapa River and Naselle River natural-origin Chinook would not preclude achieving the escapement goals in 16-21 years in these systems. The adopted rules do not exceed a 20% mortality rate for Willapa and Naselle rivers natural-origin Chinook and are expected to promote achievement of the goals in 16-21 years.

- provide for an enhanced recreational fishing season;

Recreational fishing opportunity is provided in a set of companion regulations (WSR 15-17-010). The adopted rules provide for enhanced fishing seasons in both the marine and freshwater areas. This is accomplished by increased bag limits in marine and freshwater areas as well as opening of areas that have historically been closed to recreational fishing in freshwater areas. Recreational fishing seasons have also been extended in freshwater areas.

- provide meaningful opportunities for commercial fisheries within the remaining available fishery impacts.

Commercial fisheries are expected to catch 5,139 hatchery Chinook in 2015. Predicted exploitation rates for commercial fisheries from the Willapa Bay TAMM are 14.5% for Willapa and North River and 16.5% for Naselle River natural-origin fall Chinook after accounting for recreational fishery seasons as discussed above. Thus commercial fisheries utilize 72 and 88% of the available Chinook mortalities for Willapa and Naselle Chinook, respectively. As noted above, the entire recreational fishery could be closed and the reduction from a 30% mortality rate to 20% would not be achieved. Because the recreational fishery has such a low impact, the commercial fishery had to absorb the reduction in mortality rate.

5. For years 2015-2018, the impact rate on Willapa and Naselle River natural-origin fall Chinook in Willapa Bay fisheries will not exceed 20%.

The predicted impact on Willapa River fall Chinook terminal fisheries is 20%. The predicted impact on Naselle River fall Chinook terminal fisheries is 18.8%

6. To promote the catch of hatchery-origin Chinook salmon and increase the number of natural-origin spawners, within the 20% impact rate cap the following impact rates shall be set-aside for mark-selective commercial fishing gear types with an anticipated release mortality rate of less than 35%:

Fishing Year	Mark Selective Commercial Fishing Gear Set-Aside
2015	1%
2016	2%
2017	6%
2018	6%

The predicted impact rate for mark-selective commercial fishing gear with an anticipated release mortality rate of less than 35% is 6.5% and 1.1% for Willapa and Naselle River fall Chinook, respectively.

7. Manage fisheries with the goal of achieving aggregate spawner goal for Willapa Bay natural-origin Coho salmon. When the pre-season forecast of natural-origin adult Coho salmon is less than the aggregate goal, or less than 10% higher than the aggregate goal, fisheries in Willapa Bay Basin will be scheduled to result in an impact of no more than 10% of the adult return.

The 2015 pre-season forecast for Willapa Bay Coho is 38,505 compared to a spawner goal of 13,090. The scheduled fisheries in the adopted rule are expected to result in 26,795 Willapa Bay Coho spawners.

8. For Willapa Bay Basin naturally spawning Chum, the predicted fishery impact will not exceed 10% of the adult return to Willapa Bay because the number of natural spawners was less than goal in 4 out of the last 5 years.

The predicted impact on Willapa Bay naturally spawning Chum is 10.0%.

WDFW has considered all the facts and circumstances surrounding the 2015 Willapa Bay commercial salmon season schedule. The adopted regulations meet the primary conservation constraints (20% mortality rate on natural-origin Chinook, 10% mortality rate on natural-origin Chum, and the Coho spawner goal is exceeded). While acknowledging that commercial catch of Chinook is more efficient in August rather than September, the adopted rules maximize the harvest of Coho and minimize the surplus of hatchery Coho by judicially using Chinook mortalities in September rather than in August. This maximization of coho catch is consistent with the policy guidance of prioritizing Coho for the commercial sector and also meets the allowable conservation constraint for natural-origin Chinook. The adopted rules reduce conflict between the recreational and commercial sectors. Finally, the adopted rules are expected to result in over $500,000 of ex-vessel value for the commercial sector, which is within the range of ex-vessel values seen from 2000-2013 (approximately $250,000 to $1,330,000). The agency carefully reviewed all input from industry representatives during the North of Falcon public meetings and the state's rule making process. The agency's 2015 Willapa Bay commercial salmon fishing regulations comply with its statutory mandate and are consistent with WDFW's management objectives for these fisheries.

II. Changes from the Proposed Rules

The adopted rule has only one change from the rule noticed in the CR 102; the opening on September 9 was changed to September 10th. The following table outlines the fishing times and locations in the original rule as noticed in the CR 102 (Table 2).

Table 2. Adopted Willapa Bay Commercial Gillnet Season.

Area	Time	Date(s)	Maximum Mesh Size
2M, 2N, 2R	6:00 a.m. through 6:00 p.m.	9/8, 9/10	6.5"
2T	6:00 a.m. through 6:00 p.m.	9/16, 9/17, 9/18, 9/19	6.5"
2M, 2N, 2R	6:00 a.m. through 6:00 p.m.	9/13, 9/14, 9/15, 9/16, 9/17, 9/18, 9/19	6.5"
2U	6:00 a.m. through 6:00 p.m.	9/16, 9/17, 9/18, 9/19	4.25"
2T	6:30 a.m. through 6:30 p.m.	9/21, 9/22, 9/23, 9/24, 9/25, 9/26,	6.5"
2U	6:30 a.m. through 6:30 p.m.	9/20, 9/21, 9/22	4.25"
2U	6:30 a.m. through 6:30 p.m.	9/24, 9/25, 9/26,	6.5"
2M, 2N, 2R	6:30 a.m. through 6:30 p.m.	9/20, 9/21, 9/22, 9/23, 9/24, 9/25, 9/26,	6.5"
2T	7:00 a.m. through 7:00 p.m.	9/28, 9/29, 9/30, 10/1, 10/2, 10/3,	6.5"
2U	7:00 a.m. through 7:00 p.m.	9/27, 9/28, 9/29,	4.25"
2U	7:00 a.m. through 7:00 p.m.	10/1, 10/2, 10/3,	6.5"
2M, 2N, 2R	7:00 a.m. through 7:00 p.m.	9/28, 9/29, 9/30, 10/1, 10/2, 10/3,	6.5"
2U	7:30 a.m. through 7:30 p.m.	10/5	6.5"
2M, 2N	7:30 a.m. through 7:30 p.m.	10/5, 10/6, 10/7, 10/8, 10/9	6.5"
2R	7:30 a.m. through 7:30 p.m.	10/5, 10/6	6.5"
2M, 2N, 2R, 2T, 2U	12:01 a.m through 11:59 p.m.	11/2, 11/3, 11/4, 11/5, 11/6	6.5"
2M, 2N, 2R, 2T, 2U	12:01 a.m through 11:59 p.m.	11/9, 11/10, 11/11, 11/12, 11/13	6.5"
2M, 2N, 2R, 2T, 2U	12:01 a.m through 11:59 p.m.	11/16, 11/17, 11/18, 11/19, 11/20	6.5"
2M, 2N, 2R, 2T, 2U	12:01 a.m through 11:59 p.m.	11/23, 11/24, 11/25, 11/26, 11/27	6.5"

Note: Those waters of 2T north of a line from Toke Point channel marker 3 easterly through Willapa Harbor channel marker 13 (green), then northeasterly to the power transmission pole located at 46°43.1907'N; 123°50.83134'W are closed through September 30.

III. Summary of Public Comments and WDFW's Response

A formal rule making public hearing was held on August 4, 2015. This hearing provided the public with an opportunity to comment on the proposed rules published in WSR 15-14-124. The hearing was attended by 12 individuals and 10 provided testimony. Public comment period for this proposed rule, WSR 15-14-124, was open from July 1, 2015 through August 4, 2015. All testimony and comment received during the formal rule-making period following issuance of the proposed rule via the CR 102 has been categorized into the following points with WDFW's response(s) below.

Mortality (or Impact) Rate

1. What is the scientific explanation for changing the mortality rate limit from the 30% that was previously used for managing Willapa Bay Chinook salmon fisheries?

Management of the Willapa Bay salmon fisheries has evolved during the last 15 years with an increasing emphasis on attaining conservation objectives for naturally produced Chinook salmon (sometimes referred to as "natural origin spawners"). This refers to salmon that are the progeny of adult salmon spawning within a river system, regardless of whether the parent was wild or originally spawned in a hatchery. While the primary fishery management objective for Willapa Bay was focused on the planting and harvest of hatchery-origin Chinook salmon, the Department has now placed an enhanced focus on conservation of natural-origin salmon consistent with the guidance of the Hatchery and Fishery Reform policy adopted by the Commission in 2009. The enhanced focus on conservation of natural-origin salmon is anticipated to promote healthy sustainable fisheries and reduce the likelihood of the listing of Washington coastal Chinook salmon under the Endangered Species Act.

The Department initiated a new analysis of the impact rate limit for Chinook salmon in Willapa Bay in the fall of 2014. The new analysis was undertaken in connection with a Commission-led public process to develop a Willapa Bay Salmon Management policy. That process was prompted, in large part, by an improved ability to distinguish hatchery- and natural-origin Chinook salmon, and a determination that there was a continued decline in the number of natural-origin Chinook salmon spawners. Our ability to assess the status of natural-origin Chinook salmon has been enhanced since 2010 as most returning adult hatchery-origin Chinook salmon can now be recognized by the absence of an adipose fin. Our improved assessments indicated that the number of natural-origin spawners was below the spawner capacity and declining.

The Department analysis addressed the question: "What harvest impact rate limit would be necessary to rebuild natural-origin Chinook salmon runs and meet the spawner capacity of the Willapa Bay river systems within each of three time periods - 11-15, 16-21, or 22-27 years?" Addressing this question is a complex and challenging technical task, with multiple interacting factors. These include the:

1) number of spawners at the start of the rebuilding period;
2) productivity of freshwater habitat and the marine environment;
3) number of hatchery-origin adults straying to natural spawning areas and the fitness of the progeny; and
4) harvest rates in fisheries outside of Willapa Bay.

The Department requested the assistance of the Congressionally established Hatchery Scientific Review Group (HSRG) to enhance an existing computer simulation model, the All H Analyzer, to facilitate the analysis of management options for Willapa Bay. As described by the HSRG:

> "The All H Analyzer (AHA) was developed by the HSRG in 2005 as part of the Columbia River Basin Hatchery Review (HSRG 2009). The tool allows managers to compare alternative management strategies for salmon and steelhead populations. AHA predicts population outcomes in terms of natural production and harvest for management policies implemented over a long period of time."

Alternative management strategies were modeled using AHA by varying harvest rates, the number of hatchery fish released, the rate at which hatchery-origin fish stray to natural spawning areas, and other model inputs.

The Department used AHA to evaluate alternative impact rates and rebuilding periods for the North, Willapa, and Naselle populations. The analysis showed that the harvest impact rate limit necessary to achieve the spawner capacity was higher with longer rebuilding periods and lower with shorter re-building periods (North, Table 3; Willapa, Table 4; Naselle, Table 5).

Table 3. Number of predicted Chinook salmon spawners in the North River with impact rates of 5% - 30% and rebuilding periods of 10-15, 16-21, and 22-27 years. Shaded area brackets range of harvest rates necessary to attain spawner capacity of 991 adult Chinook salmon.

Rebuilding Period	Fishery Impact Rate in Willapa Bay					
	5%	10%	15%	20%	25%	30%
10-15 years	809	697	592	492	404	317
16-21 years	1,241	1,086	955	801	666	531
22-27 years	1,476	1,323	1,166	1,030	884	716

Table 4. Number of predicted Chinook salmon spawners in the Willapa River with impact rates of 5% - 30% and rebuilding periods of 10-15, 16-21, and 22-27 years. Shaded area brackets range of harvest rates necessary to attain spawner capacity of 1,181 adult Chinook salmon.

Rebuilding Period	Fishery Impact Rate in Willapa Bay					
	5%	10%	15%	20%	25%	30%
10-15 years	1,261	1,162	1,065	970	877	785
16-21 years	1,500	1,494	1,258	1,151	1,038	785
22-27 years	1,461	1,333	1,211	1,095	979	868

Table 5. Number of predicted Chinook salmon spawners in the Naselle River with impact rates of 5% - 30% and rebuilding periods of 10-15, 16-21, and 22-27 years. Shaded area brackets range of harvest rates necessary to attain spawner capacity of 1,547 adult Chinook.

Rebuilding Period	Fishery Impact Rate in Willapa Bay					
	5%	10%	15%	20%	25%	30%
10-15 years	1,528	1,365	1,234	1,106	985	893
16-21 years	1,880	1,687	1,533	1,368	1,228	1,089
22-27 years	1,862	1,663	1,497	1,338	1,163	1,025

Based on the analyses completed by the Department, the Commission considered multiple factors in selecting the length of the rebuilding period, including:

1) The evolutionary nature of fishery management in Willapa Bay, moving from a focus on the harvest of hatchery-origin Chinook salmon to conservation of natural-origin Chinook salmon.
2) The relatively small number of natural-origin Chinook salmon returning to Willapa Bay relative to the spawner capacity.
3) The lack in effectiveness of previous management actions to improve the status of Willapa Bay Chinook salmon.
4) The effects of the alternative rebuilding periods on the economic well-being and stability of the fishing industry of the state.

After weighing these and other factors, the Commission chose the 16-21 year rebuilding period and a 14% harvest rate beginning in 2019. At that point in time, changes to broodstock production are anticipated to be in place that will allow the management regime to begin accruing conservation benefits at the harvest impact rate selected for the rebuilding time period.

The Department has also received comments expressing concern that the AHA analysis did not use a four to six year average harvest rate as an input value. We agree that for some applications the use of a harvest rate based upon an average of prior years is warranted. The use of an average of past activity may be viewed as a reasonable reflection of the future if no changes in fishery management are anticipated. However, in the Willapa analysis, one of the policy-making objectives was to identify future harvest rates that would enhance our ability to attain conservation objectives. Accordingly, for purposes of policy formulation, the AHA Model for Willapa Bay was utilized to identify harvest rates projected to result in the achievement of spawner objectives in 11-15, 16-21, or 22-27 years.

The use of a harvest rate that differs from an average for prior years has been recognized by the HSRG as an appropriate use of AHA. For example, for analysis in the Columbia River, the HSRG states “Harvest rates are taken from recent brood year averages or from target harvest rates described in management plans” (Columbia River Hatchery Reform Project, Final Systemwide Report – Appendix C Analytical Methods and Data Sources, page 10). As a specific example, the HSRG did not use average harvest rates or non-selective fisheries (the historical type of fishery) in analyzing Upper Columbia River Summer Chinook Salmon. The HSRG states, “The HSRG Solution harvest rates for the ocean and upper Columbia River were based on the recently signed US-Canada Treaty and the U.S. v. Oregon agreement. Rates in the ocean were decreased to 40 percent and the upper Columbia River harvest rate increased to 23 percent. The HSRG Solution recommended implementing a mark-selective fishery in the Lower Columbia River with a 2 percent rate on unmarked natural-origin adults and 9 percent on marked hatchery-origin adults. The HSRG Solution included mark-selective fisheries in the terminal areas” (Columbia River Hatchery Reform Project, Final Systemwide Report – Appendix D User Guide, page 35).

2. The impact rate limit for Willapa and Naselle River fall Chinook should be 14% and not 20%.

The enhanced conservation focus for Willapa Bay includes both improved hatchery practices and reductions in fishery harvest rates in Willapa Bay. Fall Chinook salmon hatchery production in Willapa Bay is scheduled to drop from 7.3 to 4.45 million juvenile fish beginning in 2016 and additional natural-origin adults will be used as broodstock. The majority of the adult returns from the previous, higher level of hatchery production, will return to Willapa Bay in 2015 through 2018.

As discussed above, the Department analysis projected that a 14% impact rate limit would rebuild Chinook salmon runs in 16-21 years once improved broodstock management practices had been implemented. However, this analysis did not evaluate alternative harvest rates during the 2015-2018 transitional period.

Additional analyses were conducted to evaluate transitional strategies, i.e., fishery harvest in the years 2015-2018 when adult salmon would be returning from the larger hatchery releases in previous years. For these analyses, the AHA model was further enhanced to include the ability to simulate different harvest rates and hatchery production over time. Analysis with this enhanced version of the model found that an impact rate of 20% in 2015-2018, followed by a 14% impact rate in subsequent years, would achieve rebuilding objectives, reduce the number of hatchery-origin Chinook salmon in natural spawning areas and help meet hatchery reform broodstock objectives, and increase the value of the commercial fishery during this the four-year transitional period.

The Commission considered this analysis and included guidance on the transitional strategy for years 2015-2018 in the Willapa Bay Salmon Management policy.

<u>Modeling, Monitoring, and In-Season Adjustments</u>

3. Concern was expressed that the model doesn't account for fish staging and building-up in the marine waters. The historical schedules were earlier in the season, but those fish will still be in the fishery.

The Department has similar concerns about potential for "build-up" and higher than predicted impacts to natural-origin Chinook. The Department has committed to a sampling program with the intent to achieve a 15% sample rate. The Department also requires fishers to report catches within 24 hours ("Quick Reporting") to ensure timely reporting of catches. Utilizing the Quick Reported catch data and on-board observations, the Department has developed a spreadsheet tool to track predicted versus actual mortalities in a timely manner. The Department will share results of the tracking weekly with interested parties, engage the Willapa Bay Advisors as necessary to discuss potential issues, and make adjustments as needed to ensure the actual impacts to natural-origin Chinook are not exceeded.

4. Commenters expressed concern with the Department's ability to hold natural-origin fall Chinook impacts for the Willapa and Naselle Rivers to the 20% impact rate cap adopted in the Willapa Bay Salmon Management Policy (C-3622). There were two commenters that expressed concern that the Dept. won't have the ability to monitor the commercial fishery and make in-season adjustments as needed.

As discussed in an earlier portion of this CES, adaptive management is a critical tool in attaining conservation objectives described in the Willapa Bay Salmon Management Policy (C-3622) for fall Chinook in the Willapa Bay Basin. The Department acknowledges that monitoring of both recreational and commercial fisheries is important to measuring the achievement of conservation objectives. The Department made significant progress improving monitoring of commercial fisheries in 2014 with an objective of a 15% monitoring rate. The Department was able to attain a 12.6% monitoring rate for the commercial fishery in 2014, a significant increase over the less than 1% monitoring rate in 2013. Based on those efforts, the commercial fisheries achieved an observed 97% compliance rate with regulations identified as critical to achievement of conservation goals in the selective commercial fisheries (Table 6).

In 2016, the Department has earmarked additional funds for hiring samplers to augment regional staff efforts to sample the commercial fisheries. The Department again intends to utilize an on-board observer program with the intent of achieving a 15% monitoring rate. Commercial fisheries will be monitored using a combination of on-board sampling, daily fish ticket evaluation, and sampling of the landed catch. These data will be used to evaluate actual mortalities versus what was projected in the Willapa Bay TAMM. If commercial mortalities exceed expected catch and puts the attainment of conservation objectives at risk, in season management actions will be initiated.

Table 6. Compliance with commercial regulations affecting release mortality in 2014.

Compliance Factor	Number of Observations	Number Non-Compliance	Percent Compliance	Data Derived
Soak Time	426	43	89.9%	On-board and on-water Observers
Mesh Size	61	0	100.0%	On-board Observers
Illegal Fish	1651	0	100.0%	Sampling at Buyer
Live Box	245	6	97.6%	On-board Observers
Closed Times	65	0	100.0%	On-board Observers

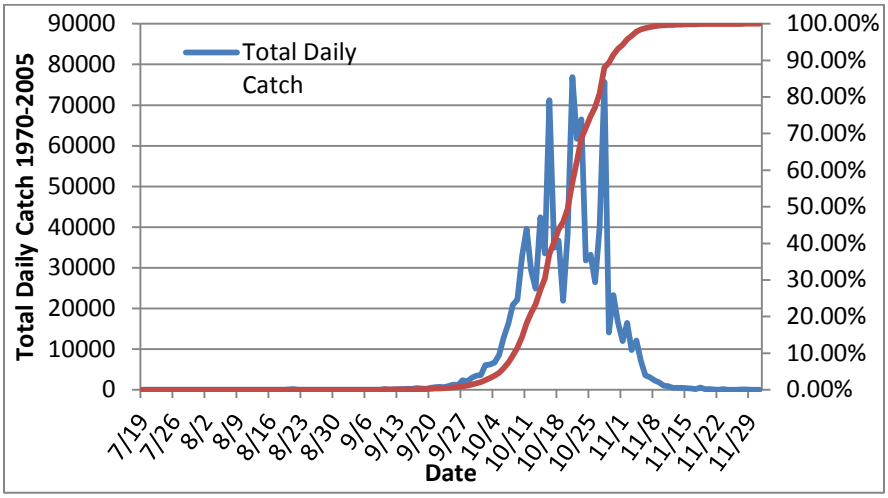
Chum Conservation

5. Commercial fisheries scheduled for November will harvest too many female Chum.

The Willapa Bay Salmon Management Policy (C-3622) presumes no commercial fisheries directed at the harvest of Chum salmon between October 15th and October 31st as well as an impact rate cap of 10% when aggregate spawner goals for naturally spawning chum have not been achieved for 2 consecutive years. The number of naturally spawning Chum in Willapa Bay

for the years 2013 and 2014 were 24,979 and 26,508, respectively compared to an aggregate spawner goal of 35,400. The adopted rules for the commercial fishing season in Willapa Bay closes all commercial fishing from October 10th to November 1st and the season as adopted has a 10% impact on Chum. While retention of chum is allowed between October 4th through October 9th and November 2nd through November 28th they are not the target species for commercial fisheries but are taken incidental to the harvest of hatchery Chinook and Coho. Commercial catch data analyzed for the years 1970 to 2005 (the last year commercial fisheries were open between October 15th and October 31st) indicates 94% of the total chum catch for these years was taken before November 1st (Figure 1). The Department concludes that not allowing commercial fisheries to occur between October 10th and November 1st as well as the 10% impact rate cap are sufficient to attain the conservation objectives for chum in Willapa Bay set forth in the Willapa Bay Salmon Management Policy.

Figure 1. Average daily Chum Salmon catch and cumulative percentage of total Chum Salmon catch in Willapa Bay commercial fisheries.



Hatchery Surpluses

6. Commenter wants to know what the Department is going to do about the surplus fish at the hatcheries. Has the Department considered low flows this year? Another commenter is opposed to the proposed rule because it doesn't adequately address hatchery surplus, and feels that the September 15 start of the Coho management period is 10 days too late.

The Department has established protocols for surplus hatchery fish. Salmon in excess of hatchery production goals are valuable for many purposes including: 1) distribution to rivers to provide marine derived nutrients; 2) sale to a salmon processor to generate revenue for the Regional Fisheries Enhancement Group (RFEG) Program (RCW 77.95.060); or 3) donation to food banks to meet high quality protein needs of economically challenged people. Since the number of fish is limited, and the needs of each potential use great, diverse perspectives often exist regarding the best use of this state resource. Willapa Bay hatcheries are state funded hatcheries so the priority for food quality carcasses is to sell them to a contract holder (American

Canadian), with the revenue then going to the Regional Fisheries Enhancement Group program to be split equally among the 14 groups. In addition, smaller numbers of fish are given to the Chinook Tribe and the Naselle Youth Camp.

There is significant uncertainty in the quantity of surplus hatchery fish that will be observed in 2015. In 2014, there was a low to moderate surplus of Chinook (approximately 4,000 total) and a very large surplus of Coho (approximately 116,000 total). Fishing with an actual rate on Naselle natural-origin Chinook of nearly 40% resulted in a surplus of nearly 1,400 Chinook at Naselle Hatchery. The 20% limit on Naselle natural-origin Chinook in 2015 would suggest that the surplus at Naselle Hatchery will increase, except that the Department adopted rules for recreational fishing that liberalized some restrictions and opened areas formally closed. Low water should improve the ability to effectively target hatchery Chinook and remove them from the system. The 20% limit on Willapa River natural-origin Chinook is much lower than actual rate from 2014 that resulted in a surplus of nearly 1,900 Chinook at Forks Creek Hatchery. The liberalized recreational regulations will reduce the potential increase, but the Department acknowledges that the surplus there will likely increase. The Department will utilize the established protocols for surplus hatchery fish.

In 2014, the hatchery Coho run greatly exceeded the forecast with a preliminary estimate of over 116,000 fish and over 63,000 surplus hatchery Coho at the hatcheries. In 2014, the Department adopted a rule that authorized fishing 5 or 6 days per week during the Coho management period. Even at that high rate of fishing, commercial fishers were only able to remove approximately 50% of the hatchery return. Commercial fishers have commented frequently during our North of Falcon meetings that, at high tide, coho migrate on the shallow tide flats and are largely unavailable to the commercial fleet (thus assuring that escapement needs are met). In order to reduce the abundance of hatchery coho even further, the Department would have to authorize fishing 7 days per week and would clearly exceed the 20% mortality limit on Chinook. Based on the 2014 season, the Department acknowledges that during years of high Coho abundance, hatchery surpluses will occur. These surpluses will be utilized as stated above.

Finally, as addressed above, during development of the Willapa Bay Salmon Management Policy, the Department conducted extensive modeling of various hatchery and fishery scenarios using the All-H-Analyzer model developed by the Hatchery Scientific Review Group. As discussion of a four-year "transition" period developed, the model was improved to provide the flexibility to examine a different harvest rate and a different level of hatchery returns during the transition period would effect broodstock management and conservation objectives. Modelling a higher mortality rate limit on natural-origin Chinook (20% versus 14%) during the first four years, and higher hatchery Chinook returns during the first four years, suggested that the increased mortality rate and increased hatchery Chinook spawning in the wild did not impede the objective of achieving escapement goals for Willapa River and Naselle River natural-origin Chinook, nor for the Bay wide natural-origin Coho. The adopted rules authorize fisheries consistent with the modeling and the subsequent Policy guidance.

7) Three commenters suggested that tangle net days in area 2U should be conducted from August 15th through Labor Day to remove excess hatchery Chinook, and that it should be a test fishery. Commenters also suggested that they don't have a tangle net or the time to get them to participate in that fishery.

The newly adopted Willapa Bay Salmon Management Policy attempts to reduce conflict between the recreational and commercial sector using both area and time restrictions as presumptive guidance to the agency. The Policy guidance also provides an additional, higher, allowable mortality rate (20%) for the first four years to help remove hatchery Chinook as long as a defined amount of the commercial fishery mortality occurs using gear with a release mortality less than 35% (1% in 2015; see Management Object 6 above). That is, the additional higher rate was provided as an incentive to move forward with the use of more selective gear. The adopted rules adhere to the guidance regarding area and time with the intention of reducing conflict. The use of tangle nets in area 2U was designed to allow the maximum harvest of Coho and hatchery Chinook while minimizing the mortality on natural-origin Chinook. The adopted rules also meet the Policy guidance with respect to overall mortality rates (20% and 18.8% for Willapa and Naselle River fall Chinook, respectively) and the percentage of the commercial mortality using gear with a release mortality less than 35% (6.5% and 1.1% for Willapa and Naselle River fall Chinook, respectively).

The Department does not agree that moving the tangle net fishery into August will help reduce hatchery surpluses. For example, 4 days of fishing in the week beginning September 13 results in the predicted harvest of 388 hatchery Chinook and 738 coho while having a mortality of 95 natural-origin Chinook. On the other hand, achieving the same conservation objective, less than 1 day of fishing could occur in the week beginning August 16th and the predicted harvest would be 429 hatchery Chinook and 3 coho while having a mortality of 93 natural-origin Chinook. That is, there is not an appreciable increase in hatchery Chinook removed from the river, yet there is a significant reduction in coho harvest and increased conflict with the recreational sector.

The Department acknowledges that some fishers may not have the proper tangle net gear to use when required. However, the Department believes the industry has had substantial notification that alternative gear, including tangle nets were coming to Willapa Bay and there the adopted rules retain the opportunity to utilize 4.25" maximum mesh tangle net gear for the following reasons:

- The 4.25" maximum mesh is the same size requirement utilized during spring Chinook fisheries on the Columbia River. Some Willapa Bay fishers also participate in the Columbia River fisheries.
- The Department had numerous discussions with the commercial sector during development of the Willapa Bay Salmon Management Policy about the need to utilize alternative gear, including tangle net gear. Commercial fishers have found the use of tangle net gear with a mesh size of 4.25" problematic in Willapa Bay. This is due to high level of floating, aquatic grasses, such as eelgrass and significant declines in salmon catchability and efficiency. Nonetheless, they indicated a willingness to try the gear in area 2U. Interim management guidance issued by the Commission on March 13, 2015 called for the use of 4.5" maximum tangle net gear "Commercial fisheries in areas 2T and

2U after Labor Day but before Sept. 16 shall use mark-selective fishing gear (6.5" maximum mesh or 4.5" maximum mesh tangle net) and recovery boxes."

Commercial Fishery Timing and Gear

8. Three commenters oppose the 6am to 6pm Sept 8th and 9th schedule and propose to change to 6pm to 6am Sept 8th and Sept 10th, and these should be big mesh. If impacts need to be adjusted to accommodate big mesh, these need to come from the tangle net time.

The Department is agreeable to the requested separation of the days and has adjusted the schedule to September 8th and 10th. However, the Department is concerned about the potential "build-up" of Chinook in the bay and the potential for the harvest rates to exceed the model predictions. The harvest rates used in the planning model to predict 2015 rates are from recent years with some commercial fishing occurring in August. Since there are not fisheries in August in 2015, the model may underestimate the harvest rates during September if Chinook are unable to migrate upstream due to low flow in the rivers. This issue is potentially exacerbated in 2015 due to the current drought and extreme low flows in the rivers. As noted in Management Objective 3 above, the Department is committed to in-season management actions in an effort to avoid cumulative mortalities of natural-origin Chinook in excess of the aggregated pre-season projection. Therefore the Department prefers to take a precautionary approach and retain the proposed 6.5" maximum mesh size and daylight fishing hours to ensure that the predicted model impacts are not exceeded and the fishery does not close early.

9. Commenter is opposed to five days fishing during Week 48, these days need to be moved to Sept. 15 through Oct 10 as the calendar allows. There is no data to substantiate this Coho fishery. This would cause a major impact on the natural Coho spawners and steelhead runs.

Commercial fishing has occurred in week 48 in many years, including 2005 through 2011. The Department acknowledges that Coho catches are low. However, the decision to fish a scheduled day is left to the fisher and their individual assessment of the benefits versus their cost. The adopted rules have accounted for all salmon mortalities and the predicted escapement of Coho salmon greatly exceeds the management objective (Table 1). The Department acknowledges that there are potential impacts to steelhead in late season fisheries. The Department utilized both on-board observations and voluntary fishing logs from commercial fishers to monitor steelhead encounters in 2014. No steelhead were reported encountered during the late season fisheries in 2014. The Department will continue with low level on-board monitoring and voluntary fishing logs to monitor steelhead encounters in 2015. Finally, the run timing of wild steelhead through Willapa Bay rivers is approximately January through June, whereas the run timing for hatchery steelhead is approximately late November through January. This run timing distribution suggests that of the handful of steelhead that may be encountered in late season fisheries, the vast majority will be of hatchery origin. Currently, there is neither a conservation nor egg take concern for either of the two hatchery steelhead programs in Willapa Bay.

10. One commenter says he deserves an opportunity for Chinook too, that he's a citizen and there's no time in August.

While the adopted rule does not provide a significant directed Chinook Salmon commercial fishing opportunity, the rule does provide two days of directed Chinook fishing during September 8th and 10th. In addition, during Coho directed fishing, the commercial fishery is expected to harvest 5,189 hatchery Chinook and kill an additional 581 natural-origin Chinook through release mortality. The adopted rules maximize the harvest of Coho and minimize the surplus of hatchery Coho by judicially using Chinook mortalities in September rather than in August. This maximization of coho catch is consistent with the policy guidance of prioritizing Coho for the commercial sector and also meets the allowable conservation constraint for natural-origin Chinook. The adopted rules also reduce conflict between the recreational and commercial sectors.

Economics

11. *Commenter expressed concern that the proposed fisheries would not achieve an ex-vessel value of $900,000.*

During the review of past practices and development of the Willapa Bay Salmon Management policy, the Department was primarily focused upon the review of prior conservation outcomes and the development of new conservation criteria in light of observed conservation trends and outcomes from prior fishery management. Secondary to the development of appropriate conservation is the need to consider and work towards the goal of maintaining the economic well-being and stability of the State's commercial and recreational fishing industry.

In order to gauge how conservation options in Willapa Bay might affect current and future fisheries in Willapa Bay that are a part of the State's overall fishing industry, the Department used available economic metrics associated with those fisheries. For the commercial fishery sector, WDFW used an inflation adjusted five-year average of the ex-vessel value of commercial fishing (2009-2013). That is roughly $900,000. The objective was to see if that value would be met, exceeded, or reduced with various conservation strategies (though ultimately the conservation dimension generally takes priority over providing fishery opportunity).

As conservation options were analyzed, it became clear that it would be difficult, if not impossible, to maintain the $900,000 average ex vessel value. While the commenter suggests that the $900,000 metric is some measuring stick for the success of the commercial fisheries, no ex-vessel objective was ever set for the 2015 fisheries, or any future fishery for that matter. Rather the direction from RCW Title 77 is "to conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource." Where consistent with that conservation objective, the Department must also "seek to maintain the economic well-being and stability of the fishing industry in the state".

Nonetheless, using available information, the Department continues to gauge likely economic values when developing new fishing seasons with a view to helping meet the objective of

maintaining the economic well-being and stability of the entire fishing industry in this state. The adopted rules and regulations for the 2015 Willapa Bay commercial fishery are designed to structure a season that contributes to this state-wide goal, provided that the fishery is undertaken in a manner consistent with the overriding conservation objectives. This management objective is challenging to address, given the conservation issue previously identified for natural-origin Chinook. In addition, the economic health and stability of these fisheries depends on many factors beyond WDFW's control, including the prices paid for salmon, the abundance of salmon, the relative size of the salmon, the proportion of vessels choosing to participate in a fishery, the catch rates of vessels that do participate, and other related factors.

Prices paid for salmon caught in these fisheries are influenced by international market conditions, which WDFW cannot control. Factors that affect the prices paid for salmon include the abundance of salmon in the fishery, the amount of salmon available from fisheries in other areas such as Alaska, the amount of product stored from previous years, competition between buyers, quality of the fish, prices of farmed salmon and many other factors outside WDFW's control. WDFW also cannot control the effort of fishers who hold limited entry Willapa Bay commercial salmon permits. While WDFW can open areas to harvest of salmon for commercial license holders, the department cannot control the number of vessels that choose to participate in full-fleet openings. Participation levels in a given opening are driven by many factors including the price of salmon, cost of fuel, weather and tidal conditions, and harvest opportunities on other species and/or in other areas. Catch rates for a given gear type will vary between years and within a single year over individual openings due to changes in salmon abundance, salmon size, migration behavior, and many other operational decisions made by vessels participating in the fishery that are not listed here. WFDW cannot control any of these factors.

To assess the short- and long-term stability and well-being of the industry as reflected in these two closely-linked fisheries, WDFW assembled and analyzed available economic information (ex-vessel landing value) for the period from 2000 through 2013. Ex-vessel landing value data were adjusted according to the Gross Domestic Product (GDP) to account for inflation and allow for comparability of the economic data between years. These data and summary statistics are presented in Table 7.

Table 7. Gross Domestic Product adjusted ex-vessel values for commercial fishers in Willapa Bay, 2000-2013.

Year	Total GDP adj ex-vessel value
2000	$250,545
2001	$271,764
2002	$386,482
2003	$622,397
2004	$396,418
2005	$812,650
2006	$852,207
2007	$302,666
2008	$494,008
2009	$1,090,668
2010	$683,723
2011	$1,332,229
2012	$815,666
2013	$647,794
avg. 2000-2013	$639,944

*GDP adjusted relative to 2nd quarter 2014 real value (per 26 Sept.

We used the 2010-2014 average ex-vessel value (GDP adjusted) per fish sold multiplied by predicted catch to calculate an ex-vessel value of $508,475. The estimated 2015 ex-vessel value is within the range seen from 2000-2013 and thus the anticipated outcome is similar to recent years 2000 through 2013. The Department concludes that the projected result of the 2015 season is consistent with promoting both stability of the fishing industry (as reflected by comparison to the historical record), is consistent with maintaining the economic well-being of the industry, and provides sustainable harvest levels by offering opportunity for commercial fishers within the constraints of run-sizes forecast for 2015.

As noted in public comments on the draft Willapa Bay Salmon Management policy, there are limitations in the use of ex-vessel value in evaluating the economics of a commercial fishery. These include:

1) The price can be up or down across years depending on market conditions. The time-to-market is important for determining commercial price.

2) Salmon ex-vessel value in one fishery is not comparable with salmon in another fishery. Salmon is delivered dressed in ocean fisheries and may be delivered round in river fisheries. River fisheries can have tenderer costs while ocean fishery deliveries are harvester direct. There can be egg take revenue in river fisheries, but not in ocean fisheries.

3) The costs for fishing depend on the effort to catch fish. It can cost a lot more or a lot less to catch different species in different areas. Ex-vessel value may not reflect the costs.

The Department partially addressed these limitations by using a long-term, GDP adjusted average for the ex-vessel value of Chinook salmon, Coho salmon, and Chum salmon caught in Willapa Bay. We recognize that prices may be higher or lower in any year, and that our adaptive management in future years will need to consider changes in market conditions. We also recognize that there may be different costs associated with commercial fishing in different areas or times in Willapa Bay. However, the Department has been unable to find reliable information on these costs. And commercial harvesters have not provided additional economic information or analysis for the Department to consider. For these reasons, the Department will continue to use ex-vessel value until a better economic metric is available for the commercial fishery.

The sport fishing sector is also a part of the State-wide fishing industry that the Department must consider in the course of establishing fishing seasons and apportioning harvest opportunity. While there is no doubt that this industry provides substantial direct and indirect economic benefit to Washington's economy, the metrics for measuring this economic dimension are even harder to find and assess.

Some commenters observed that, during the formulation of the Willapa Bay Salmon Management policy, agency staff and the Commission considered state-wide economic studies of both commercial and recreational fishing sectors. They criticized this use of these studies arguing that region specific information should be utilized. However, the availability of more refined data is limited or non-existent. Furthermore, neither the policy review, nor the formulation of 2015 recreational and commercial fishing seasons, utilized state-wide data on fisheries for any kind of precise assessment of the impact of implementing conservation objectives or allocating harvest opportunity. Instead, these studies were used to simply provide some meaningful context for policy decisions and now for the establishment of fishing seasons.

The limitations of these state-wide economic studies were disclosed and did not have a large determinative weight in either policy formulation or the establishment of fishing seasons, particularly with regard to implementation of conservation strategies which are the paramount management focus (i.e. economic concerns with providing stable and meaningful fishing opportunity are considered where such effort is consistent with the overarching conservation obligation). Furthermore, a state-wide perspective has utility because the mandate to maintain the economic well-being and stability for the state's fishing industry is a state-wide mandate not a region specific mandate.

<u>Other</u>

12. Commenter asserts that the policy says that Chinook are a priority for recreational fisheries yet most of the Chinook impacts are assigned to the commercial sectors.

The Policy places conservation as the first priority for Chinook. It places an "enhanced recreational fishing season" as the second priority for Chinook. The adopted rule includes many enhancements to the recreational fishery compared to 2014. WDFW used increased bag limits,

opened new areas for salmon fishing, extended salmon seasons, and reduced gear conflicts with the commercial fisheries to enhance recreational fisheries. Bag limits for adult salmon were increased in the adopted rule to four adults in all marine areas and most freshwater salmon fisheries. Along with the increased bag limit, retention of wild Coho is allowed in the South Fork of the Willapa River. This was not allowed in 2014. There are also additional areas open to salmon fishing that hadn't been in the past. The areas allowing the use of up to two fishing poles through the two-pole endorsement are expanded.

13. The Department should re-evaluate the spawner goal for Willapa Bay chum salmon as studies show that the goal should be less than 35,000.

While not specifically addressing the proposed rule, the Department agrees that the chum salmon spawner goal should be re-evaluated and has been directed by the Commission to complete that task by September 1, 2016. Fishery management and the commercial fishery schedule will be based on the existing spawner goal until the re-evaluation has been completed.

14. The 2014 commercial fishery schedule should be reinstated. The proposed rule is discriminatory as ocean fisheries are not subject to the same harvest rate constraints.

The commercial fishery rules for Willapa Bay are based upon the specific conditions expected for 2015 (including the projected abundance of Chinook, Coho, and chum salmon), 2015 management objectives based upon current biological data and 2015 salmon run projections, and the general guidance provided by the Willapa Bay Salmon Management policy adopted by the Commission in June 2015. The 2014 commercial fishery schedule would be inconsistent with both biological information for 2015 as well as revised conservation and other management policies.

The Department agrees that additional harvest of Willapa Bay Chinook salmon occurs in ocean fisheries in Alaska, Canada, and off the coasts of Oregon and Washington. These fisheries are managed under the international Pacific Salmon Treaty (PST) and the federal Pacific Fishery Management Council (PFMC). The current Chinook salmon management provisions of the PST cover fisheries through 2018, and has significant fishery constraints relative to historical fishing patters. The Department does not have the ability to change the provisions of this international treaty for fisheries prior to renegotiation for the 2019 fishing season. Relatively few Willapa Bay natural-origin Chinook salmon are caught in PFMC fisheries in the southern United States (i.e. Washington, Oregon and California; ~1.5% exploitation rate projected for 2015) and stocks listed under the Endangered Species Act typically constrain these fisheries.

IV. Public Comments Received during North of Falcon and WDFW's Response

The Department provided significant opportunity for the public to provide input on recreational and commercial fishing seasons in Willapa Bay. Comments were received verbally, written, and electronically. Many were carried forward to the formal rule-making period and are addressed

above. Responses to the major substantive comments that are not addressed in Section II above are provided below in this section.

1. Gillnets should be restricted in commercial catch area 2U to the Ron Craig boat launch.

Commercial catch area 2U is defined in WAC 220-22-020 as "downstream and westerly from the Hwy 101 Bridge in Raymond" as the easterly border and east "of a line projecting true north and south through Range Marker B" as the westerly border. This length of this area as measured in the thalweg is approximately 8.2 miles. Restricting gill net fishermen to a westerly border of the Ron Craig Boat Launch would shrink the length by approximately 3.4 miles, or 41% in this catch area. For the years 2011 through 2014, the average of individual fishermen reporting landings in commercial catch area 2U was 38. The Department is mandated by RCW 77.04.012 to "promote orderly fisheries"; contracting such a heavy utilized area as 2U by 41% does not "promote orderly fisheries". Commercial fisheries scheduled for 2015 are directed at abundant Coho stocks of which currently there is no conservation concern. WDFW concludes that with no conservation concerns on Coho directed commercial fisheries and with the possible disruption to an orderly fishery a change to the boundaries of commercial catch area 2U is unwarranted.

2. WAC 220-040-027 is insufficient to prevent gillnetters from deploying full sized drift nets as shallow water set nets anchored by the lead line.

As mentioned in Section I, WAC 220-040-027 defines the rules and regulation for the Willapa Bay fall fishery. Section 2(A) (i) of this WAC states "Drift gillnet gear only. It is unlawful to use set net gear", this statement sets the type of gear to be used in this fishery. The definition of drift gillnet gear is set forth in WAC 220-16-040. This WAC states "Drift gillnet or "drift net" gear shall be defined as a gillnet of single web construction, not anchored, tied, staked, placed, or weighted in such a manner that it cannot drift". The Department implemented changes similar to the commenter's request in Grays Harbor in 2014 between the filing of the CR-102 and adoption of the final rule in the CR-103. Commercial fishers expressed concern about a lack of opportunity to provide feedback regarding the adopted changes. Therefore, the Department prefers to introduce the proposed changes and have a thorough vetting during the 2016 North of Falcon process, rather than adopting them herein for 2015.

V. Relevant Comments Not Specifically Related to the Proposed Rules

1) The commenter questions the Departments ability to monitor and sample the recreational fisheries. Another commenter would like to see daily enforcement presence during the recreational fishery and accounting of mortality in rivers.

The Department acknowledges that additional resources will need to be directed at recreational fisheries to ensure that we can measure the achievement of conservation objectives. Similar to the commercial fisheries, improved monitoring will be incremental. The Department will continue to utilize catch record cards as the primary tool to estimate harvest in recreational fisheries in Willapa Bay and its tributaries. Catch record cards have been proven to be accurate and quite robust for estimating recreational harvest as demonstrated by an intensive five-year

study (Conrad, Alexandersdottir, 1993). Estimates derived from catch record cards have been compared with creel surveys designed to produce catch estimates, and proven to be accurate for estimating recreational (PSC 2015, page 37)".

To improve recreational fishery monitoring in 2015, WDFW will also use voluntary salmon angler trip reports to collect in-season recreational catch and encounter data, especially for natural-origin fish. These reports are used extensively in Ocean and Puget Sound recreational fisheries to provide information on catch composition. In addition, the Department utilizes voluntary reporting for a number of commercial fisheries, for example monitoring of steelhead in Willapa Bay as described above and logbooks in the Area 7/7A reef net fishery. Voluntary Trip Reporting (VTR) will be used for both marine area 2-1 and freshwater fisheries. Several fishing groups have expressed interest in helping WDFW distribute and recruit anglers for VTR programs. The ratio of hatchery to natural-origin fish along with the estimated catch of hatchery fish can be used to estimate natural-origin encounters, and subsequently mortalities. These methods have been extensively studied and utilized in Puget Sound (for example: "Assessment of Two Methods for Estimating Total Chinook Salmon Encounters in Puget Sound/Strait of Juan de Fuca Mark-Selective Chinook Fisheries").