

Agenda for Grays Harbor Advisory Group Meeting

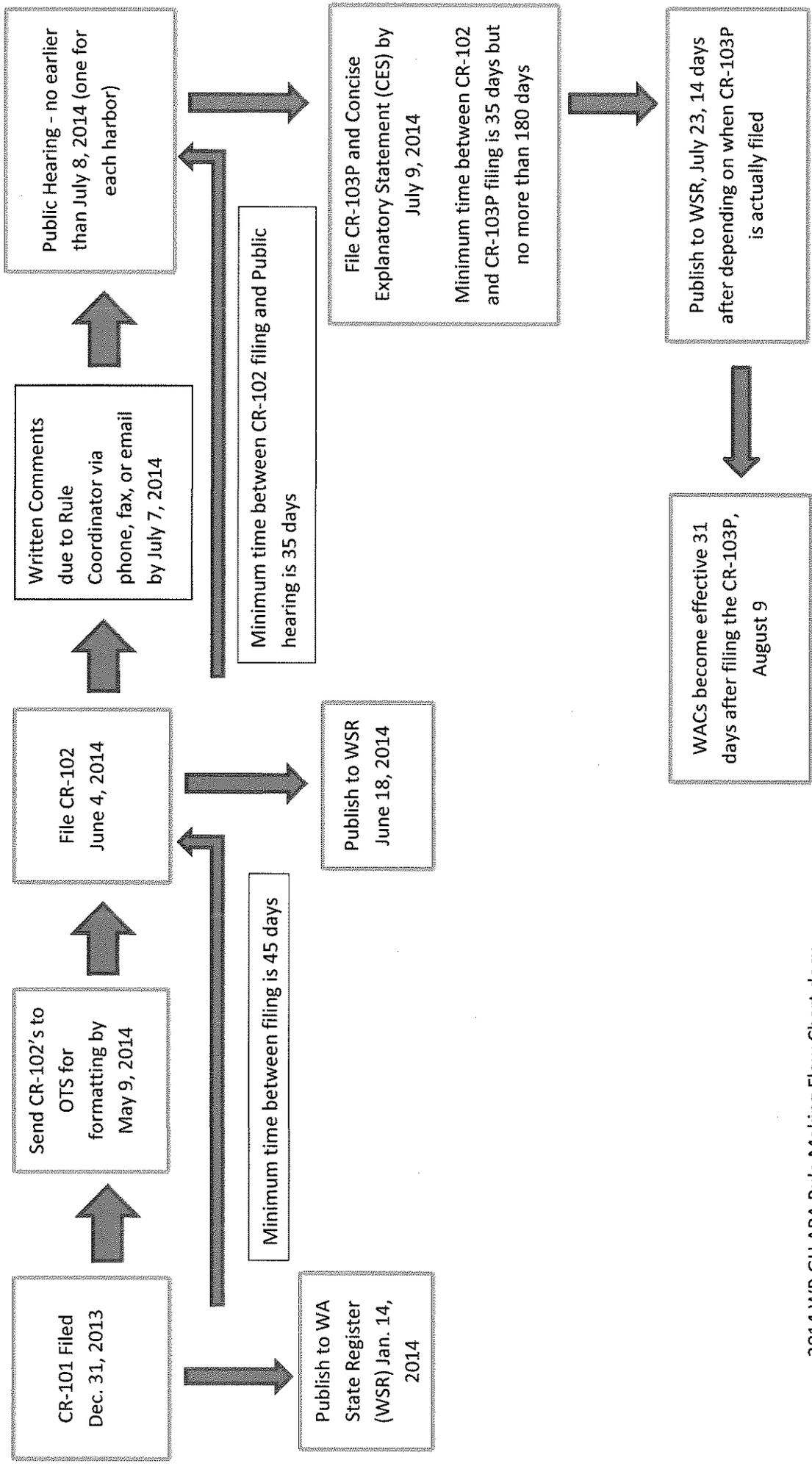
March 14, 2014

Region 6 Montesano Office

- Process
- Other Mortality Factors (e.g. drop off, hooking mortality, pinniped)
- Release mortality rates, results from Independent Fishery Science Panel
- Final Management Objectives
- Fishery Modeling
- Tribal Discussion
- PUBLIC TESTIMONY

GH ADVISORY MTG 03.14.14

2014 Willapa Bay and Grays Harbor APA Rule Making Process



FRAM/TAMM fishery-related mortality rates for Chinook salmon used for Southern U.S. fisheries, and proposed for 2014 pre-season modeling.

| Fishery: (designated by area, user group, and/or gear type) | Fishery Type | Comments | "Shaker" Release Mortality | "Adult" Release Mortality | "Other" Mortality ^a |
|--|---------------------------------|---------------|----------------------------|---------------------------|--------------------------------|
| PFMC Ocean Recreational ^e | Retention | N Point Arena | 14.0% | n.a. | 5.0% |
| | MSF | N Point Arena | 14.0% | 14.0% | 5.0% |
| | Retention | N Point Arena | 14.0% | 14.0% | 5.0% |
| | Retention | S Point Arena | 23.0% ^g | n.a. | 5.0% |
| PFMC Ocean Troll | Retention | barbless | 25.5% | n.a. | 5.0% |
| Area 5,6,7 T-Troll | Retention | barbless | 25.5% | n.a. | 5.0% |
| Puget Sound (PS) Recreational ^f | Retention | barbless | 20.0% | n.a. | 5.0% |
| | MSF | barbless | 20.0% | 10.0% | 5.0% |
| | Non-Retention | barbless | 20.0% | 10.0% ^b | 5.0% ^b |
| Buoy 10 Recreational | not modeled within FRAM | | n.a. | n.a. | n.a. |
| <u>Commercial Net</u> | | | | | |
| PS Areas 4B,5,6,6C | PT ^d GN, SN | | n.a. | n.a. | 3.0% |
| WA Coastal & Col R. Net | PT ^d GN, SN | | n.a. | n.a. | 3.0% |
| PS Areas 6A,7,7A | PT ^d GN, SN, Purse S | | n.a. | n.a. | 1.0% |
| NT PS Areas: 6B,9,12,12B,12C | PT ^d GN, SN, Purse S | | n.a. | n.a. | 1.0% |
| T PS Areas:7B,7C,7D | PT ^d GN, SN, Purse S | | n.a. | n.a. | 1.0% |
| All other PS marine net | Terminal GN, SN | | n.a. | n.a. | 2.0% |
| PS Purse Seine | Non-Retention | immature | n.a. | 45.0% ^b | 0.0% |
| | Non-Retention | mature | n.a. | 33.0% ^b | 0.0% |
| PS Reef Net, Beach Seine | Non-Retention | | n.a. | 5% ^h | n.a. |
| Freshwater Net | | | n.a. | n.a. | n.a. |
| Tangle Net | MSF | mature | n.a. | 40 to 52% ⁱ | n.a. |
| Freshwater Recreational | Retention | | n.a. | n.a. | n.a. |
| | MSF | TAMM | n.a. | 10.0% ^b | n.a. |
| | Non-Retention | TAMM | n.a. | 10.0% ^b | n.a. |

^a The "other" mortality rates (which include drop-out and drop-off) are applied to landed fish (retention fisheries), thus FRAM does not assess "drop-off" in non-retention fisheries. Drop-off (and release mortality) associated with CNR fisheries are estimated outside the model and used as inputs to the model. For mark-selective fisheries (MSF), "other" mortality rates are applied to legal sized encounters of marked and unmarked fish.

^b Rate assessed externally to FRAM.

^c None assessed.

^d PT = Pre-terminal.

^e Source: Salmon Technical Team (2000).

^f Source: WDF et al. (1993).

^g Release Mortality rate variable between years, dependent upon gear regulations

^h Nisqually Beach Seine release mortality rate

ⁱ Tangle Net release mortality rate range from 40% Bellingham Bay to 51% Nisqually River

FRAM/TAMM fishery-related mortality rates for coho salmon used for Southern U.S. fisheries, and proposed for 2014 pre-season modeling.

| Fishery: (designated by area, user group, and/or gear type) | Fishery Type | Comments | Release Mortality | "Other" Mortality ^a |
|--|---------------|---------------------------|--------------------|--------------------------------|
| PFMC Ocean Recreational ^d | Retention | | n.a. ^c | 5.0% |
| | MSF | Barbless | 14.0% | 5.0% |
| | Non-Retention | N. Pt. Arena | 14.0% ^b | 5.0% ^b |
| | Non-Retention | S. Pt. Arena ^f | 23.0% ^b | 5.0% ^b |
| PFMC Ocean T-Troll | Retention | | n.a. ^c | 5.0% |
| PFMC Ocean NT-Troll | Non-Retention | | 26.0% ^b | 5.0% ^b |
| | MSF | barbless | 26.0% | 5.0% |
| Area 5, 6C Troll | Retention | | n.a. | 5.0% |
| Puget Sound Recreational ^e | Retention | | n.a. ^c | 5.0% |
| | Non-Retention | | 7.0% ^b | 5.0% |
| | MSF | barbless | 7.0% | 5.0% |
| WA Coastal Recreational | Retention | | n.a. | 5.0% |
| Buoy 10 Recreational | MSF | barbed | 16.0% | 5.0% |
| | MSF | barbless | 14.0% | 5.0% |
| Gillnet and Setnet | | | 100% | 2.0% |
| PS Purse Seine | | | 26.0% ^b | 2.0% |
| PS Reef Net | | | 0.0% | 0.0% |
| Beach Seine | | | ??? | n.a. |
| Round Haul | | | 26.0% ^b | 2.0% |
| Freshwater Net | | | ??? | 2.0% |
| Freshwater Recreational | Retention | | n.a. | 5.0% |
| | Non-Retention | | 10.0% ^b | 5.0% ^b |
| | MSF | | 10.0% ^b | 5.0% ^b |

^a The "other" mortality rates (which include drop-out and drop-off) are applied to landed fish (retention fisheries), thus FRAM does not assess "drop-off" in non-retention fisheries. Drop-off (and release mortality) associated with CNR fisheries are estimated outside the model and used as inputs to the model. For mark-selective fisheries (MSF), "other" mortality rates are applied to encounters of marked and unmarked fish.

^b Rate assessed externally to FRAM.

^c None assessed.

^d Source: Salmon Technical Team (2000).

^e Source: WDF et al. (1993).

^f Release Mortality rate variable between years, dependent upon gear regulations

Review of Release Mortality – Preliminary Finding of the IFSP

Question 1.

Table 1. ISFP recommended release mortality rates, "Fish Friendly" scenario.

| | TANGLE NET 4 1/4" | GILLNET large mesh 6.5" | GILLNET small mesh 9" | |
|-------------------------|----------------------|----------------------------------|--------------------------------|--|
| <u>Columbia studies</u> | | | | |
| Immediate survival | 99% | 99% | 99% | |
| Long-term survival | 80% | 53% | 57% | |
| Post release survival | 81% | 53% | 58% | |

Willapa (and Grays Harbor by inference) all time periods; all locations

| | | | |
|---------------------------------------|------------|------------------|------------------|
| Immediate survival | 95% | 84% ¹ | 84% |
| "Actual Practice" survival adjustment | 100% | 100% | 100% |
| Post release survival | 81% | 53% ² | 58% ² |
| Long-term survival | 77% | 45% | 50% |
| Long-term mortality | 22% | 55% | 51% |

Assumptions and conclusions:

1. Weighted averages for immediate and long-term survival rates were calculated using 1/SE as the weighting factor (1/SE) for each estimate.
2. We assumed that post release mortalities in the Willapa Bay/Grays Harbor fisheries are the same as those estimated for the Columbia River studies. Data were insufficient to conclude otherwise.
3. We found no significant difference in immediate mortality between small and large mesh studies due to lack of data.
4. Estimates in Table 1 are likely to be minimum estimates of mortality rates in the actual fisheries. They are based on mortality rates associated with researchers utilizing short soak times, gentle handling, and appropriate use of recovery boxes; thus they assume perfect compliance with "fish-friendly" techniques.
5. These estimates are based on immediate and delayed mortality studies for Chinook salmon. We are still considering how these rates should be applied to non-retention of chum salmon.

¹Assumes large and small mesh are the same for gillnets

²Assumed to be the same as in the Columbia River studies

Question 2.

Evidence presented to the panels indicate that Fish Friendly handling procedures may, or perhaps cannot, always be followed; consequently release mortalities will be higher in actual practice. The “Actual Practices” factor in Table 2 below is used to capture a) evidence of deviations from techniques used in research studies, and b) qualitative information regarding the possible impacts of different environmental conditions in Willapa Bay and Grays Harbor relative to Columbia River conditions.

The adjustments used in Table 2 are the Panel’s preliminary recommendations for these rates, but are under continuing evaluation.

Table 2. IFSP recommendations for actual practice scenario.

| | TANGLE NET | GILLNET large mesh | GILLNET small mesh |
|---|------------|--------------------------|--------------------------|
| <u>Columbia studies</u> | | | |
| <i>Immediate survival</i> | 99% | 99% | 99% |
| <i>Long-term survival</i> | 80% | 52% | 57% |
| <i>Post release survival</i> | 81% | 53% | 58% |
| <u>Willapa (and Grays Harbor by inference) all time periods</u> | | | |
| <i>Immediate survival</i> | 95% | 84% ³ | 84% |
| <i>“Actual Practice survival adjustment”</i> | 90% | 80% | 80% |
| <i>Post release survival</i> | 81% | 53% ⁴ | 58% ² |
| <i>Long-term survival</i> | 70% | 36% | 39% |
| <i>Long-term mortality</i> | 30% | 64% | 61% |

³ Assumes large and small mesh are the same for gillnets

⁴ Assumed to be the same as in the Columbia River studies

Question 3.

Factors contributing to differences between study conditions and actual practice.

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1. Evidence was presented to the Panel that at least in some instances, fishery operations do not fully comply with the fish-friendly prescriptions for non-retention mortality. This evidence included submitted statements, video documentation, and testimony at the workshop. Reported deviations from fish-friendly operations included longer soak times, rough handling and handling fish by gills, non-functioning recovery tanks, and underuse of recovery tanks.
2. Enforcement personnel have issued citations for non-compliance.
3. At high catch rates of target species, soak times will increase due to the time it takes to work the net; as soak time increases, so does mortality (Buchanan et al. 2002). The Panel also understands that soak times can increase when fishers need to remove grass from their nets.
4. Recovery tanks will become over-crowded if encounter rates of salmon that must be released, e.g. wild Chinook and chum salmon, are high.
5. Testimony and presentations from commercial fishermen asserted high compliance by a large majority of the fleet and an understanding of the necessity and value of compliance.
6. Observer data indicate that soak times are shorter than those that were used historically or required by regulation (45 minutes) and that mandated recovery tanks are utilized by the fleet, indicating that there is some degree of compliance with the regulations.

2014 GRAYS HARBOR FISHERY MANAGEMENT OBJECTIVES

GRAYS HARBOR BASIN SALMON MANAGEMENT POLICY KEY ELEMENTS

- Fisheries will be managed with the intent of achieving escapement goals for natural origin salmon.
- WDFW-managed commercial gillnet fisheries in a fishing area or aggregate area (i.e., Area 2A/2B/2D; or Area 2C) shall be scheduled, if possible, so that in any given calendar week there are a minimum of three consecutive days when no treaty or state-managed commercial fisheries occur.
- If it becomes apparent that a scheduled fishery will exceed its preseason catch expectation, and the overage will put at risk the attainment of conservation objectives, the Department shall implement in-season management actions that are projected to enhance the effectiveness of fishery management relative to the attainment of the conservation objectives and impact sharing in the preseason fishery plan.

Spring Chinook Salmon

- Prioritize freshwater recreational fisheries, with an objective of opening freshwater areas no later than May 1.

Fall Chinook Salmon

- The fishery management objectives for fall Chinook salmon, in priority order, are to:
 - achieve spawner goals;
 - provide meaningful recreational fishing opportunities; and
 - limit commercial fishery impacts to the incidental harvest of fall Chinook during fisheries directed at other species
- For Chehalis natural-origin Chinook, the predicted fishery impact in WDFW-managed fisheries will not exceed 5% of the adult return to Grays Harbor because the number of natural-origin spawners was less than the goal in 3 out of the last 5 years.
- WDFW-managed commercial fisheries in the Grays Harbor Basin shall have the following impact limits:
 - Areas 2A, 2B, 2D: the impact rate of the state-managed commercial fishery shall be 0.8% or less on natural-origin Chehalis fall Chinook
 - Area 2C: the impact rate of the state-managed commercial fishery shall be 5.4% or less on natural-origin Humptulips fall Chinook.
- Grays Harbor control zone off of the mouth of Grays Harbor will be implemented no later than the second Monday in August and continue until the end of September.
- **Chehalis Fall Chinook.** Recreational fishing sector impacts allocated to Area 2.2 will be between 27 and 48% of the total recreational impacts.
- **Humptulips Fall Chinook.** Recreational fishing sector impacts allocated to Area 2.2 will be 37% of the total recreational impacts.

Coho Salmon

- **Chehalis Coho.** Recreational fishing sector impacts allocated to Area 2.2 will be 45% of the total recreational impacts.
- **Humptulips Coho.**

- For Humptulips natural-origin coho, the predicted fishery impact in WDFW-managed fisheries will not exceed 5% of the adult return to Grays Harbor because the number of natural-origin spawners was less than the goal in 3 out of the last 5 years.
- Recreational fishing sector impacts allocated to Area 2.2 will be between 18 and 34% of the total recreational impacts.

Chum Salmon

- No fisheries directed at chum salmon shall occur unless the adult coho salmon return exceeds spawner objectives, or if coho salmon impacts remain after coho and Chinook salmon fisheries.
- Recreational fishing sector impacts allocated to Area 2.2 will be 2% or less of the total recreational impacts.

PAST PERFORMANCE

| Year | Natural Origin Escapement (Preliminary and subject to revision) | | | | |
|-----------------|---|--------------------|---------------|-----------------|-------------------|
| | Chehalis Chinook | Humptulips Chinook | Chehalis Coho | Humptulips Coho | Grays Harbor Chum |
| 2008 | -- | -- | 30,968 | 192 | |
| 2009 | 6,655 | 2,187 | 63,543 | 1,703 | 15,216 |
| 2010 | 10,925 | 5,418 | 83,412 | 4,410 | 34,644 |
| 2011 | 14,533 | 4,174 | 58,102 | 4,460 | 30,101 |
| 2012 | 9,293 | 3,753 | 63,869 | 1,220 | 27,876 |
| 2013 | 8,771 | 2,641 | | | 22,519 |
| Goal | 12,364 | 2,236 | 28,506 | 6,894 | 21,000 |
| Exceeded 3 of 5 | NO | YES | YES | NO | YES |

Shaded values exceed Goal

HATCHERY SALMON ESCAPEMENT OBJECTIVES:

- Manage fisheries to achieve hatchery broodstock collection goals, as identified in the Future Brood Document.
 - Hatchery Chinook;
 - Satsop Springs – an estimated 425 adults to achieve a release goal of 500,000 juveniles
 - Humptulips River – an estimated 425 adults to achieve a release goal of 500,000 juveniles
 - Hatchery Coho;
 - Chehalis River – an estimated 1,540 adults to achieve a release goal of 1,400,000 yearlings
 - Humptulips River – an estimated 550 adults to achieve a release goal of 500,000 of yearlings
 - Hatchery Chum;
 - Bingham, Satsop Springs, and Mayor Brother (Wishkah) facilities – an estimated 500 adults to achieve a release goal of 500,000 juveniles for on-station release.

STURGEON: Closed due to conservation concerns.

FORECASTS:

Forecast for salmon returning to Grays Harbor during 2014-15 season:

2014 Forecast

| | Natural origin | Hatchery |
|------------|----------------|----------|
| Chinook | | |
| Chehalis | 16,876 | 744 |
| Humptulips | 6,959 | 1,479 |
| Coho | | |
| Chehalis | 93,145 | 46,405 |
| Humptulips | 7,413 | 15,679 |
| Chum | 44,670 | 3,003 |

