

SOUTHERN RESIDENT KILLER WHALE WORKGROUP REPORT 2:
UPDATED LIST OF POTENTIAL RESPONSES

At the September 2020 Pacific Fishery Management Council (Council) meeting, the Southern Resident Killer Whale (SRKW) Workgroup (Workgroup) provided a [draft range of alternatives and recommendations](#) for Council consideration. The Council directed the Workgroup to provide additional information at the November 2020 Council meeting. The following is an update to Section 3.1.2.e of that report which described a list of potential responses if a Chinook abundance fell below a certain threshold. The updates in this report provide clarity on implementing the responses.

The Workgroup recommends replacing language that is struck in Agenda Item F.2.a SRKW Workgroup Report 1, currently beginning on page 11 and ending on page 14 with the following:

3.1.2.e – List of potential responses if a year’s preseason projection fall below a threshold:

The goal of management response(s) would be to benefit SRKWs while still providing some fishing opportunity in years when Chinook abundance is deemed low by surpassing a defined threshold (see 3.1.2).

During year(s) when Chinook abundance fall below a defined threshold, the following measures would apply, and override prior language in the FMP where differences may occur:

1. **Option 1A:** In the area north of Cape Falcon, Oregon (NOF) for all non-treaty ocean salmon fisheries: Reduce Chinook quotas as needed to not exceed the point estimate of catch generated by a regression analysis given pre-season modeled abundance and based on the historical relationship between time-step 1 NOF abundance Chinook and non-treaty Chinook quotas. At abundances that project quota values of less than zero based on that regression, the quota will be zero.

Discussion: Pertains to both commercial and recreational ocean salmon fisheries. See fitted line in Figure 1 (the equation used to calculate the limit utilizing current data, where y is the quota, and x is the year specific NOF-weighted time-step 1 (TS1) forecasted ocean abundance of Chinook is: $y = 0.0707x - 39,413$). The regression equation will be recalculated if historical NOF TS1 abundance estimates change in the future and is currently based on data from 1992-2016. The recalculation of the regression equation is intended to ensure that in years of low abundance fisheries could not have disproportionately high removals from the aggregate abundance relative to other years in the data series.

2. In the area NOF: Attain the non-treaty commercial troll quota incrementally over time (spring/summer split).
 - **Option 2A:** No more than 50 percent of the commercial troll Chinook salmon quota for the spring (May-June) and summer (July through September) period will be assigned to the spring period (50 percent cap).

- **Option 2B:** No more than 61 percent of the commercial troll Chinook salmon quota for the spring (May-June) and summer (July through September) period will be assigned to the spring (61 percent cap). This percentage represents the recent 10-year arithmetic mean of the proportions of the annual quotas assigned to the spring period.
- **Option 2C:** During the spring period, implement additional subarea quotas (caps) north of Leadbetter Point.

Discussion: NOF troll fisheries occur during spring/summer seasons with specified split of quota, which is typically two-thirds (66 percent) of the quota allocation going to the spring (May-June) period. It is likely that fishery structure changes in May and June would provide a greater benefit to SRKW than later months as the likelihood of usage in the NOF area is higher in the winter and spring than the summer months. Table 1 provides a historic comparison of the spring quota and how that quota may differ if a 50 percent cap on the spring quota is adopted (option 2A). Additionally, Table 1 also shows the values used to calculate the 10-year arithmetic mean proportion of the annual quota allocated to the spring period (derivation of option 2B).

Option 2C would intend to reduce the sub-area Chinook salmon quotas for times and areas where temporal and spatial overlap with SRKW is likely to occur. As with other potential actions discussed, this would likely be of most benefit early in the season (May-June). This would focus the reduction of sub-area quotas more in the northern part of the Washington coast, rather than all of NOF. Sub-area quota caps have been in place for areas north of the Queets River and south of Leadbetter for about the last decade.

3. In the area NOF adjust the time and/or area of control zones (CZ) used in non-treaty ocean salmon fisheries

- **Option 3A:** Increase the area of the Columbia River CZ from the start of non-treaty ocean salmon fisheries until June 15. The extended area is described as a line running northeast/southwest between Lighted Bell Buoy#1 (46-13-23.933N, 124-10-59.921W) and Lighted Whistle Buoy #2 (46-12-45.840N 124-08-03.462W).
- **Option 3B:** Close the Grays Harbor CZ to salmon retention from the start of non-treaty ocean salmon fisheries until -June 15.

Discussion: Pertains to commercial and recreational ocean salmon fisheries. See maps in Figures 2 and 3.

The Columbia River CZ (3A) would increase in area. The existing area of this CZ is approximately 6.4 square miles. The proposed expanded area is an additional 4.5 square miles, for an estimated total of 10.9 square miles.

The Grays Harbor CZ (3B) would increase in time. In recent years, the Grays Harbor CZ (3B) was closed beginning on the second Monday in August due to poor returns of Grays Harbor Fall Chinook. Fishing effort in this area is very light for both commercial and recreational fisheries. The closed area is offshore to a line extending north to south from Buoy 2 to Buoy 3. This area coincides with a known SRKW ‘hotspot’ (in winter months) so closing this area until June 15 in years when abundance threshold responses are triggered may provide support for SRKW if present in spring months.

The Cape Flattery CZ is always closed for non-treaty troll fisheries.

4. NOF non-treaty start/end time adjustments.

- **Option 4A:** In the area North of Cape Falcon, the start of non-treaty ocean salmon fisheries will be delayed until June 1.
- **Option 4B:** In the area North of Cape Falcon, the start of non-treaty ocean salmon fisheries will be delayed until June 15.

Discussion: Pertains to commercial troll ocean salmon fisheries since recreational fisheries typically do not start until late June in this area.

The National Marine Fisheries Service (NMFS)' draft SRKW critical habitat designation identifies two areas in Washington and Oregon north of Cape Meares as being of importance with prey as an essential feature for both areas. SRKW usage of Area 1 (between the 6.1- and 50-meter isobaths, Figure 4) is recognized to occur at a higher frequency than usage of Area 2 (between the 50- and 200-meter isobaths). The Workgroup discussed delaying the fishery start in Area 1; however, in areas NOF the seaward boundary of Area 1 is relatively far from shore, and there was concern that an Area 1 closure would effectively make the fishery inaccessible for some vessels and create safety concerns for all vessels, particularly early in the season. As a result, the Workgroup felt that a delayed opening of the entire fishery might be preferable to closure of the fishery in Area 1. Because SRKW use of ocean waters is believed to be more prevalent earlier in the season, delaying fishery openings until June 1 (4A) and June 15 (4B) were considered.

5. South of Cape Falcon (SOF) in Oregon coastal waters,

- **Option 5A:** In the area between Cape Falcon and the Oregon/California border delay the start of the commercial salmon troll fishery until April 1.
- **Option 5B:** In the Oregon waters of the Klamath Management Zone (KMZ) close commercial and recreational fisheries beginning October 1 through March 31 of the following year, only when the California (CA) KMZ is concurrently closed (see Option 6B)
- **Option 5C:** In the area between Cape Falcon and Cape Meares consistent with the proposed SRKW Critical Habitat Area 1 (see Figure 4, SRKW Area 1) delay ocean salmon fisheries until June 1. This management response is intended to be implemented in concert with option 4A.
- **Option 5D:** In the area between Cape Falcon and Cape Meares consistent with the proposed SRKW Critical Habitat Area 1 (see Figure 4, SRKW Area 1) delay ocean salmon fisheries until June 15. This management response is intended to be implemented in concert with option 4B.

Discussion: Pertains to commercial and recreational ocean salmon fisheries.

The area SOF in Oregon waters can open as early as March 15, dependent on the stock composition of a given year (5A).

Although the OR KMZ is not recognized as primary for foraging in NMFS' draft SRKW Critical Habitat, closing the Oregon waters of the KMZ would provide consistency between adjacent fishing areas if both 5B and 6B were both adopted.

The delayed start dates (5C, 5D) would be intended to match those for NOF areas; however, because the offshore boundary for SRKW Area 1 is closer to the shoreline between Cape Falcon and Cape Meares, there is less concern for safety issues for fishing in SRKW Area 2 that might occur during these timeframes. A delay of fisheries in the entire area between Cape Falcon and Cape Meares may ultimately be easier for compliance and enforcement. This option was not included in the original range of Alternatives adopted by the Council in September but was discussed at the Workgroup meeting on September 29, 2020. The Workgroup agreed the option warranted Council consideration.

6. In California coastal waters,

- **Option 6A:** Beginning October 1 through March 31 of the following year close commercial and recreational fisheries in the Monterey fishing area.
- **Option 6B:** Beginning October 1 through March 31 of the following year close commercial and recreational fisheries in the California waters of the KMZ.
- **Option 6C:** increase the duration of the Klamath Control Zone (CZ) area expansion beginning September 1 through March 31 the following year.
- **Option 6D:** Maintain 2020 status quo for control zones in California state waters

Discussion: Pertains to commercial and recreational ocean salmon fisheries.

See map in Figure 2. The Klamath CZ (6C) is closed year-round. The CZ is 3-miles north to south and 3-miles seaward. During August 1-31, the area is expanded to 6 miles N/S and 12 miles seaward. California CZs in state waters are in effect year-round (Smith, Eel, Klamath rivers) and may coincide with light hotspot for foraging (6D). Adopting status quo for the control zones in California waters would put the rules into both state and federal regulations.

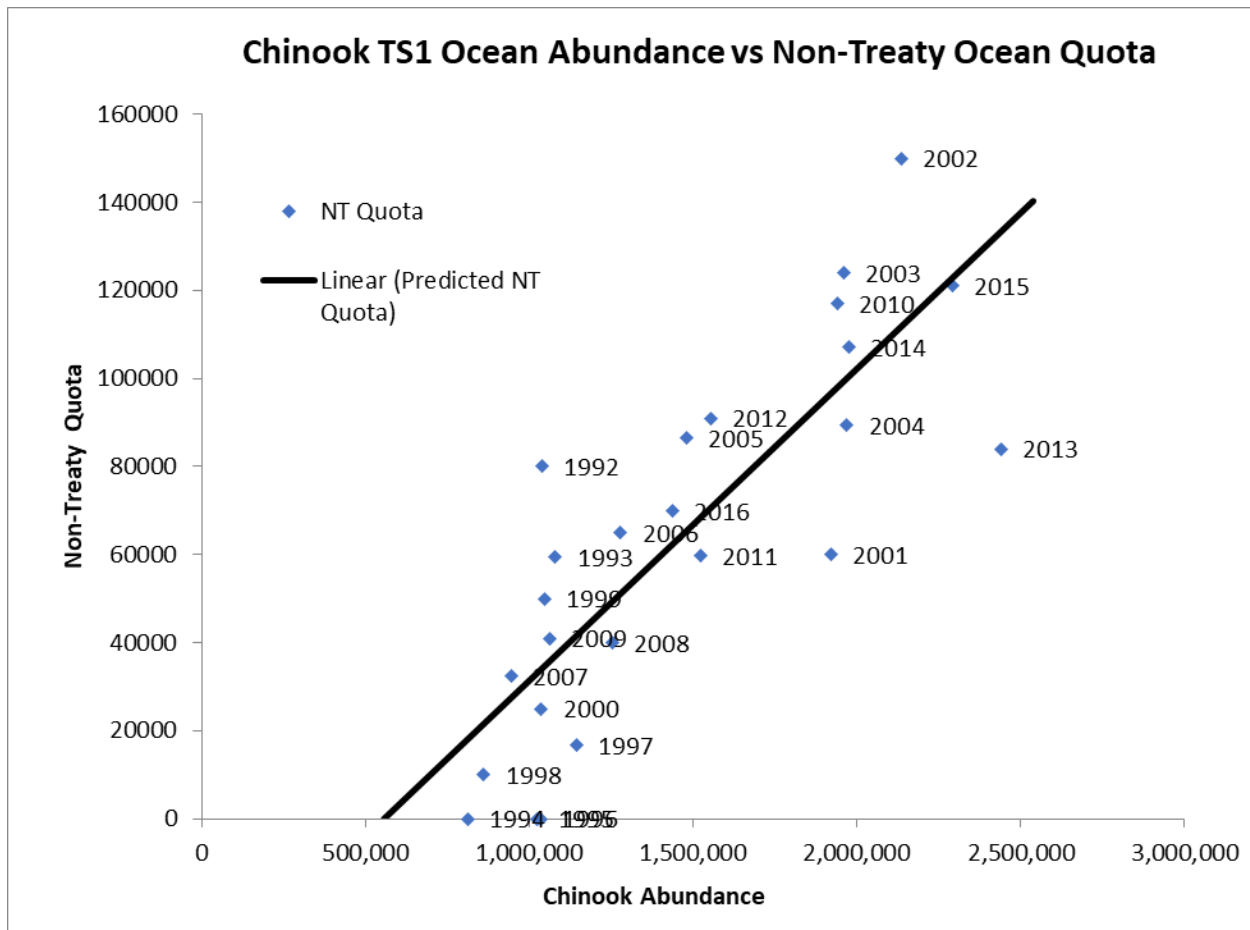


Figure 1: Chinook abundance and non-Treaty Chinook quota regression output. The fitted line intercepts zero at an abundance of 557,128 Chinook.

Table 1. NOF spring quotas and how those quotas would change if Option 2A were adopted. Values used to derive Option 2B are additionally included below.

| Year | Spring Quota | Percent of Total Annual Quota | Spring Quota if limited by proposed 50 percent cap |
|-------------------|---------------|-------------------------------|--|
| 2010 | 42,000 | 75% | 28,000 |
| 2011 | 20,600 | 67% | 15,450 |
| 2012 | 31,700 | 67% | 23,750 |
| 2013 | 29,300 | 67% | 22,000 |
| 2014 | 37,900 | 67% | 28,450 |
| 2015 | 40,200 | 60% | 33,500 |
| 2016 | 14,000 | 40% | 17,500 |
| 2017 | 27,000 | 60% | 22,500 |
| 2018 | 16,500 | 60% | 13,750 |
| 2019 | 13,200 | 50% | 13,125 |
| 10-yr Mean | 27,240 | 61% | |

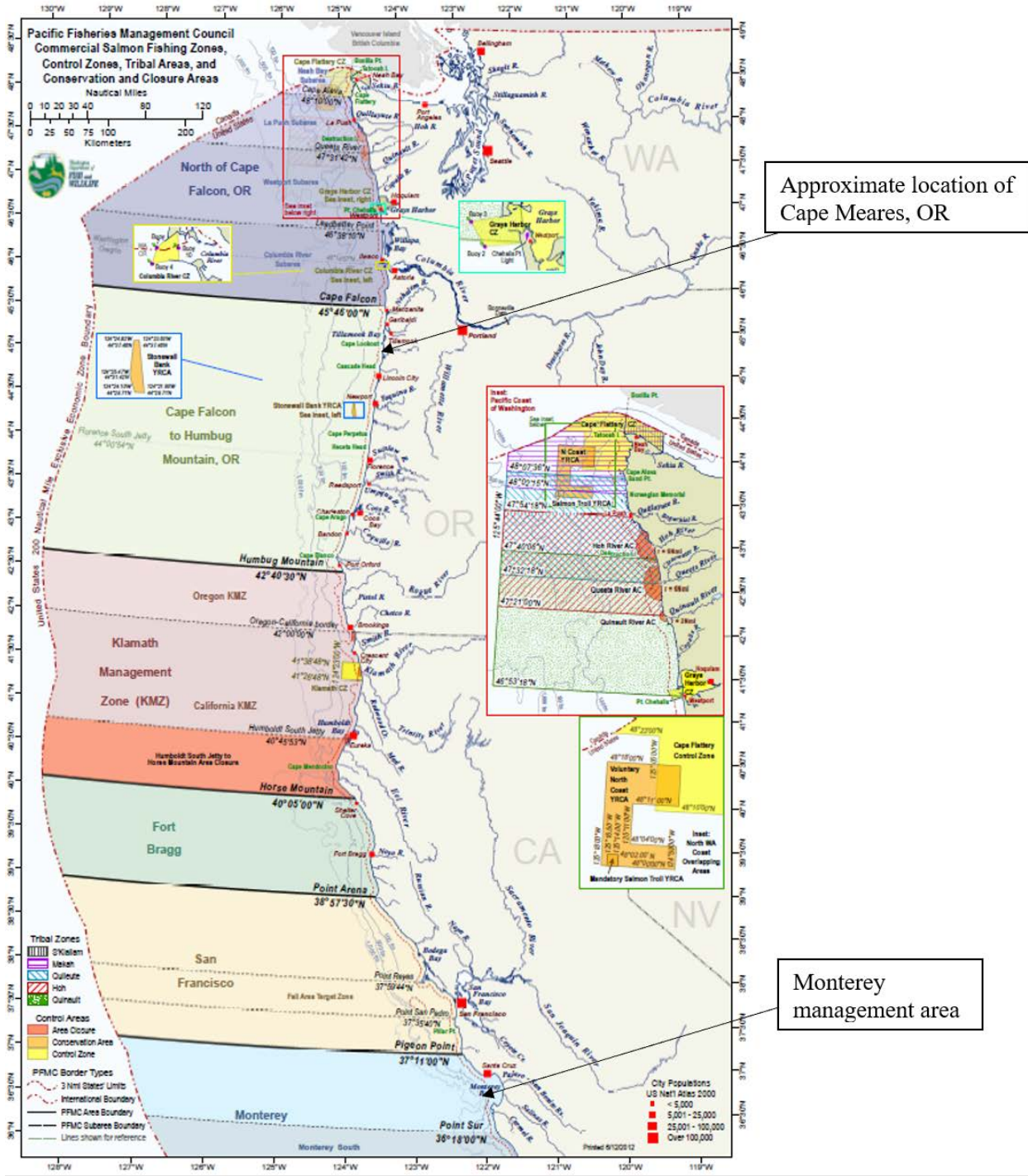


Figure 2. Map of Pacific Coast showing major salmon management areas and conservation zones. Map does not reflect the recent Council-adopted new southern boundary of the KMZ at latitude 40.10 N (previously Horse Mt.)

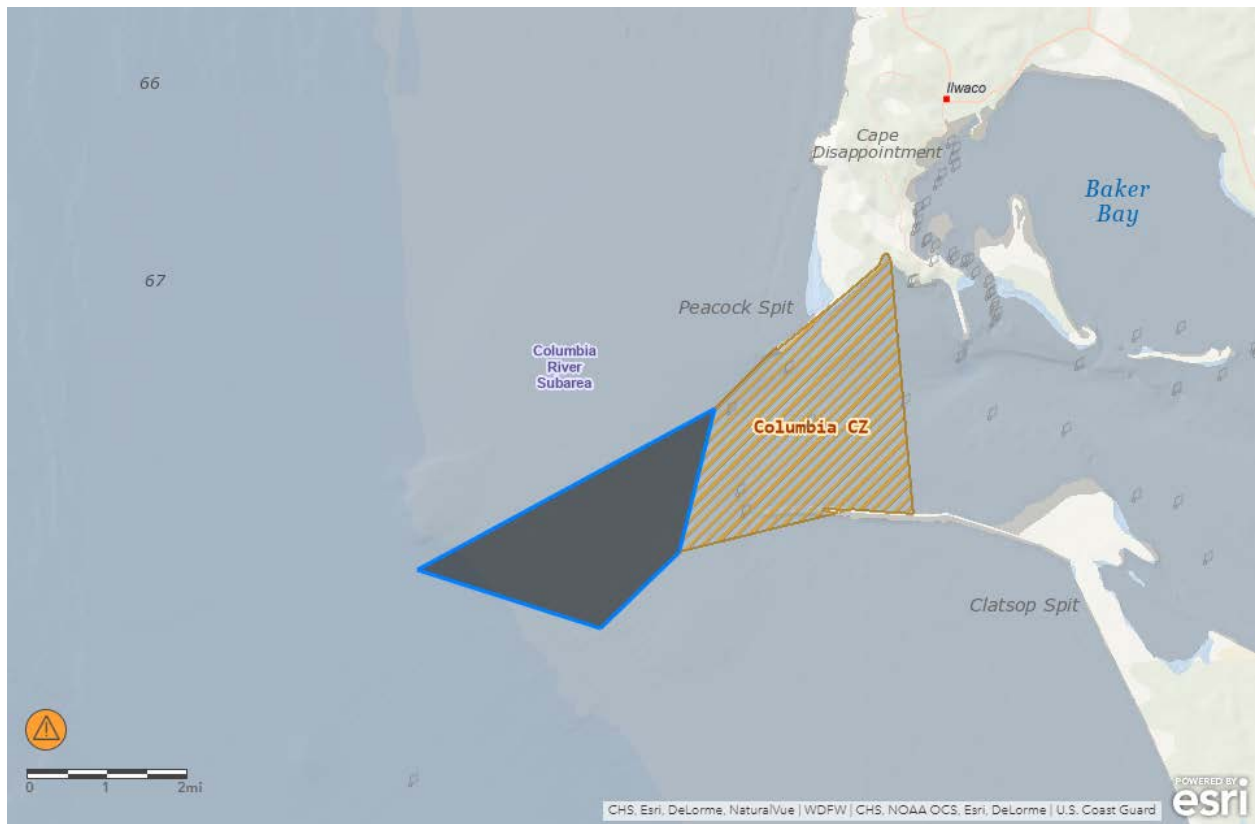


Figure 3. Detailed map of the Columbia River Control Zone with proposed change under Option 3A. The diagonally shaded area represents the current Control zone, and the solid dark shaded area represents the proposed expanded area.

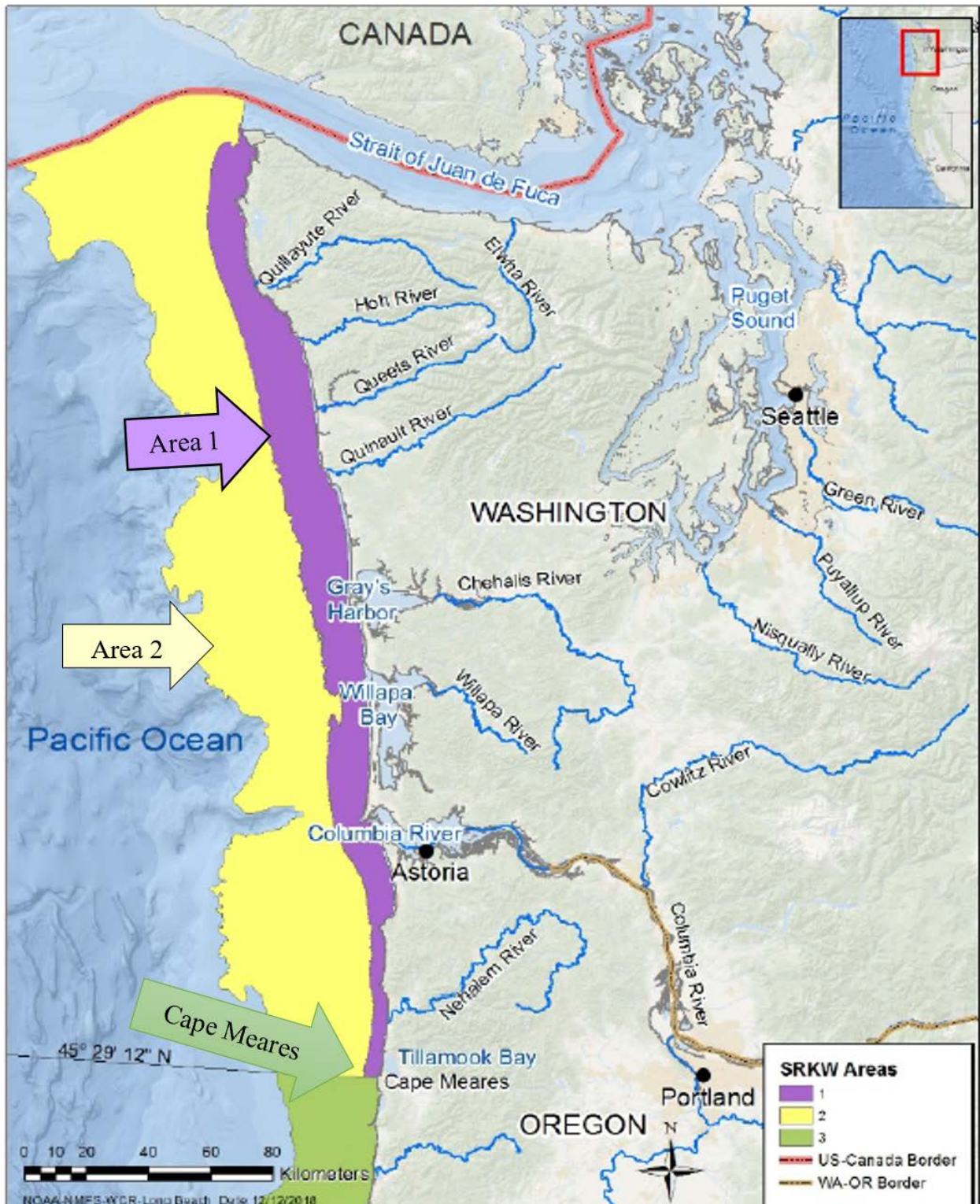


Figure 4. Derived from NMFS Critical habitat designation biological report [Sept 2019](#).