



## Discussion Paper: February 15, 2018

# Proposed 2018 Salmon Fishery Management Measures to Support Chinook Salmon Prey Availability for Southern Resident Killer Whales

---

### Contents

1. Purpose .....	2
1.0 Background .....	2
1.1 Status of Resident Killer Whales .....	2
1.2 SRKW Prey Requirements .....	3
1.3 Chinook Salmon Status and Trends .....	4
1.4 Current Fisheries Management Measures .....	6
2. Proposed 2018 Management Measures.....	6
3. Rationale for Proposed Management Measures.....	7
4. Proposed Management Measures and Areas.....	8
1. Strait of Juan De Fuca.....	8
2. Pender Island .....	9
3. Saturna Island .....	10
4. Mouth of the Fraser River (Area 29).....	11
5. Monitoring and Evaluation Plans.....	12
6. Other Suggested Management Measures .....	12
7. How to Provide Feedback .....	13
8. Appendix 1: SARA requirements for SRKW Recovery .....	14
9. Appendix 2: Recreational Fishing Regulations Map and Table.....	16
10. Appendix 3: SRKW and IFMP Timelines .....	18



## 1. Purpose

**The purpose of this discussion paper, is to identify potential salmon fishery management measures aimed at mitigating the threat of reduced chinook prey availability for Southern Resident Killer Whales (SRKW; *Orcinus orca*) in 2018.**

Chinook availability in the context of this paper refers to the combination of both the abundance (i.e. amount) of Chinook in local areas and their accessibility to SRKW. Accessibility, relates to the ease of obtaining prey and can be affected by physical or acoustic disturbance that impacts SRKW foraging success. Proposed fishery management measures for 2018 are outlined in Section 3.

As noted in the January 9, 2018 Integrated Fisheries Management Plan (IFMP) letter, this work will be informed by discussions with First Nations and stakeholders in considering possible fishery management measures that are consistent with science advice, DFO policy guidance and other considerations. The views received during consultations will ultimately inform decisions on fishery management measures to be included in the Northern and/or Southern BC IFMPs for the 2018 fishing season, and will be considered along with other actions that are underway in the development of long-term management measures to support recovery of Southern Resident Killer Whales (SRKW).

The Department intends to implement measures on a trial basis in 2018 with additional monitoring (see Section 4) designed to assess the effectiveness of management measures with post-season review and future adjustments as required.

The management measures proposed here are focused on improving Chinook Salmon prey availability for SRKW. As a result, the focus of this discussion paper is on salmon fisheries contained in the Salmon Integrated Fisheries Management Plans (IFMP). However, the effectiveness of the proposed salmon fishery measures will also depend on broad efforts designed to reduce the physical and acoustic disturbance in key foraging areas to the extent possible. The Department is working to coordinate these measures with other government agencies and user groups.

### 1.0 Background

#### 1.1 Status of Resident Killer Whales

Two distinct populations of Resident Killer Whales (RKW), the Northern Resident Killer Whales (NRKW) and the Southern Resident Killer Whales (SRKW), occupy the waters off the west coast of British Columbia. Both RKW populations are presently considered to be at risk because of their small population size, low reproductive rate, narrow prey selection, and the existence of a variety of anthropogenic threats that have the potential to prevent their recovery or to cause further declines. The SRKW population was listed as Endangered under the *Species at Risk Act* (SARA) and the NRKW population was listed as Threatened. While the NRKW population is showing a positive population trend the SRKW population is in decline. The SRKW population has experienced a decline of 3% per year between 1995 and 2001, and since then has shown little recovery, with 76 individuals currently in the wild. Due to this small population size and low



birth rate, threats affecting only a few individuals have the potential to impact their recovery<sup>1</sup>. Even under the most optimistic scenario (human activities do not increase mortality or decrease reproduction), the species' low intrinsic growth rate means that the time frame for recovery will be more than one generation (25 years). The higher risk status, population decline, and more southern distribution in waters heavily used by humans has placed management focus on SRKW; however, it is acknowledged that measures undertaken to benefit SRKW may also benefit NRKW.

## 1.2 SRKW Prey Requirements

During the summer and fall, SRKW are primarily found in the transboundary waters of Haro Strait, Boundary Pass, Juan de Fuca Strait, and southern portions of the Strait of Georgia (also referred to as the Salish Sea). This area is identified as Critical Habitat (the habitat required for survival and recovery of the species) in the SARA RKW Recovery Strategy, and is protected via a Ministerial Order issued in 2009. Identification of Critical Habitat is informed by the best available science, and based on consistent and prolonged seasonal occupancy and use of the area by SRKW. Additional habitat of special importance for SRKW off southwestern Vancouver Island was identified by DFO Science in 2017, and is an extension of the existing identified Critical Habitat for SRKW. Work is underway to amend the Recovery Strategy to include this area as Critical Habitat, and subsequently protect it. Consultations will be undertaken for both the amendment and the Ministerial Order to protect this proposed Critical Habitat.

SRKWs are highly specialized predators and forage primarily on Chinook Salmon and secondarily on Chum Salmon. The survival and recovery of SRKW appears to be strongly linked to Chinook Salmon abundance. In particular, a sharp decline in coast-wide Chinook Salmon abundance that persisted for four years during the late 1990s was associated with mortality rates up to 2-3 times greater than expected ([Ford et al. 2010](#)). Lack of prey availability is one of the key threats to the recovery of the population.

The distribution and range of the SRKW population overlays the coastal distribution of Chinook spawning runs from southern California through to the Salish Sea. The seasonal distribution and movement patterns of SRKWs are strongly associated with the availability of their preferred prey, Chinook Salmon. This selectivity is particularly evident during the months of May through September in the southern Salish Sea where observations indicate SRKW spend time foraging within Critical Habitat as well as within identified proposed Critical Habitat (see Figure 1). Genetic analysis of prey fragments from SRKW foraging events shows that from May to September, the diet is comprised of about 90% Chinook Salmon, despite this species being far less abundant than Sockeye and Pink Salmon. Age determination of the prey indicates that the majority of Chinook are from the 4 and 5 year age class. In early fall, Coho Salmon appear in the diet and increase in prevalence, and for the fall/early winter period, the primary species in the diet shifts to Chum salmon. By December, most of the SRKW population have left the Critical Habitat areas in the Salish Sea. While less is known about the winter distribution of SRKW and their winter and spring diet, Chinook are identified as the primary dietary species, although a greater diversity of prey is observed in winter sampling, and some non-salmonids appear in both the prey fragment collections and the fecal data set.

---

<sup>1</sup> Recovery is defined as achieving and maintaining demographic conditions that preserve their reproductive potential, genetic variation, and cultural continuity.

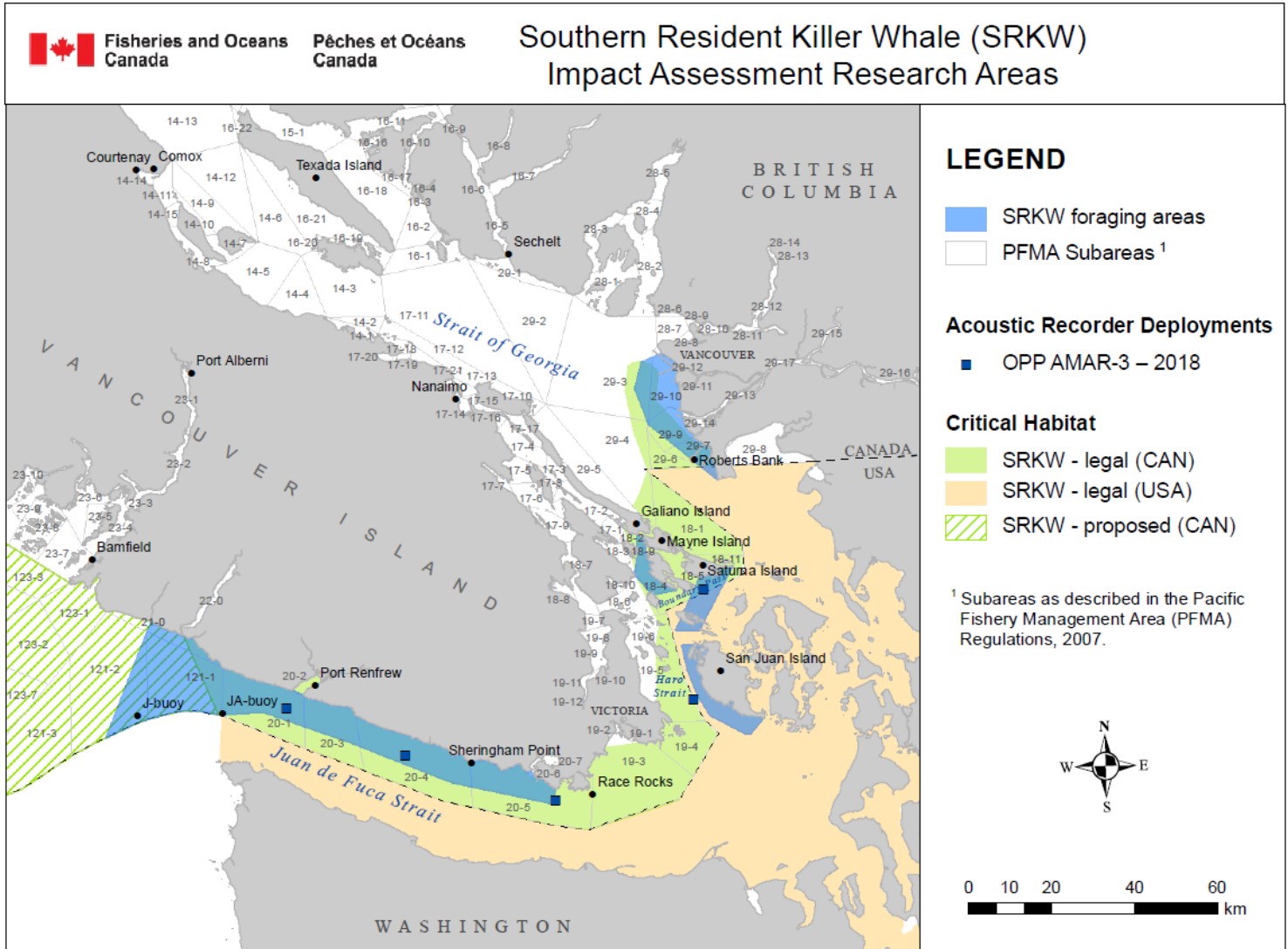


Figure 1: Southern Resident Killer Whale habitat and areas with frequent observations of foraging behaviour. (Source: S. Thornton Pers. Comm.)

### 1.3 Chinook Salmon Status and Trends

Southern B.C. Chinook Salmon spawner abundances have decreased or are currently decreasing for many of the Conservation Units (CUs). Fraser and Thompson River stocks with stream-type juvenile life-history (i.e. juveniles that overwinter in rivers and go to sea as yearlings) represent the majority of those cases with decreasing spawner abundance and poor status. The integrated biological status of Southern BC Chinook CUs has been assessed by CSAS. The Science Advisory Report is available at:

[http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2016/2016\\_042-eng.html](http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2016/2016_042-eng.html)

Riddell *et al.* (2013) provided a coast-wide analysis of marine survival rates and S-R analysis for a range of Chinook populations from Oregon, Washington, BC and Alaska. Four of the five Chinook Salmon model stock groupings found in southern BC (Fraser River Late, Lower and Upper Strait of Georgia, and West Coast of Vancouver Island) indicate marine survival rates have decreased substantially from their highs in



the 1970s or 1980s to lows in the 1990s and 2000s. Overall, southern BC Chinook Salmon stocks exhibit temporal patterns in spawner abundance, life-cycle productivity, and to a lesser extent age-2 cohort survival rates, that are shared (to varying degrees) across a large spatial area from Oregon north through to western Alaska. Therefore, while it seems likely that there are large-scale processes influencing Chinook Salmon productivity, no single predominant factor can be readily identified at this time to fully account for the recent patterns and trends observed for southern BC Chinook Salmon.

The Department is working with First Nations and stakeholders to develop an integrated Strategic Plan for Southern BC Chinook Salmon to restore and maintain the abundance, distribution and diversity of southern BC Chinook salmon for all that rely on them. The draft report may be obtained from:

[http://frafs.ca/sites/default/files2/SBC%20Chinook%20Strat%20Plan%20DRAFT%20for%20dist%20Sept%2021\\_v2%20%28updated%20List%29.pdf](http://frafs.ca/sites/default/files2/SBC%20Chinook%20Strat%20Plan%20DRAFT%20for%20dist%20Sept%2021_v2%20%28updated%20List%29.pdf)

Genetic sampling of Chinook from the recreational fishery catch in the Strait of Juan de Fuca (Figure 2) illustrate that SRKW seasonal distribution in the southern Salish Sea is overlapped with the timing of Fraser and Puget Sound Chinook through this area. During the May to September period, the proportion of US origin Chinook Salmon declines and proportions of Fraser-origin Chinook Salmon increases as these populations pass through the area on their return migrations to the Fraser River. These Chinook Salmon are an important contribution to SRKW foraging in this area in the May to September period.

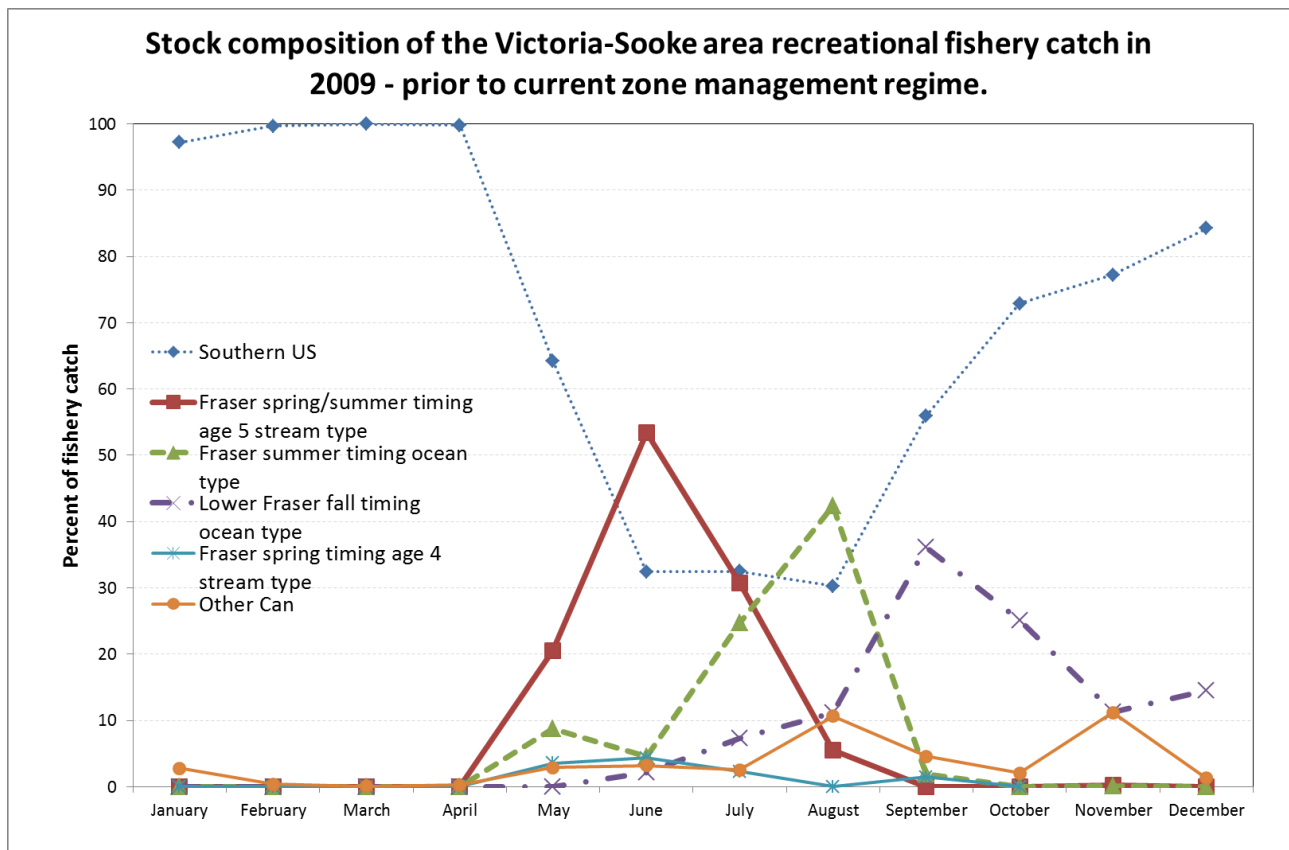


Figure 2: Stock composition from DNA of the recreational fishery catch in the Victoria to Sooke area of Juan de Fuca, in 2009. The figure shows the relative abundance of various Fraser River Chinook run timing groups as they migrate through the area.



## 1.4 Current Fisheries Management Measures

A range of fisheries management measures have been implemented over the past decade to substantially reduce harvest pressure on Chinook Salmon stocks. As an example, the renegotiated Pacific Salmon Treaty terms were put into effect January 1, 2009, and included the implementation of a 30% reduction in the Total Allowable Catch (TAC) for the West Coast Vancouver Island Aggregate Abundance Based Management (AABM) fisheries, with a 15% reduction in the Southeast Alaska AAMB fishery. Additional measures have also been implemented annually in Canada to reduce harvest pressure on important Chinook Salmon populations with specific measures identified in the Salmon IFMPs.

In particular, a range of management measures have been implemented to address conservation objectives for Fraser River origin chinook may also benefit SRKW diets in the Strait of Juan de Fuca. Conservation measures for these populations over the last 10 years have included substantially reduced exploitation rates on Fraser Spring (age-4) and Spring/Summer (age-5) chinook designed to allow more wild Chinook to reach spawning areas. While these measures have decreased exploitation rates to well below historic sustainable levels, there has not been rapid recovery for many Chinook Salmon populations, suggesting that other factors are also contributing to on-going low productivity. These populations exhibit an offshore migration pattern and appear to return to Fraser primarily through the Strait of Juan de Fuca in spring and early summer months.

Fraser Summer (age-4 ocean type) have been at high relative abundance for over a decade and have a far north distribution with return migration to the Fraser in August through Johnstone Strait and Strait of Juan de Fuca. Lower Fraser Fall (Harrison/Chilliwack) Chinook are locally distributed in southern BC waters and are present year round. Harrison Chinook have declined in recent years and have not achieved the PST escapement goal in 5 of the last 6 years. Further measures are under consideration in 2018 to improve terminal returns of Harrison Chinook.

For 2018 fisheries, the Department is planning to continue to implement management measures for First Nations, recreational and commercial fisheries to protect and rebuild these populations. In addition, further fishery restrictions may be considered to address conservation concerns for Chinook Salmon. Actions will likely be informed by forecast or inseason returns, additional measures to achieve escapement objectives and/or the results of the Fraser River Chinook 5 year technical review which are expected in Spring 2018. Consideration of any additional fishery management actions to support Chinook Salmon conservation will be coordinated where possible to support increased availability of larger, wild chinook in SRKW foraging areas. However, the potential to increase low Chinook Salmon abundance in SRKW foraging areas may be limited given existing fishery actions, low exploitation rates in fisheries seaward of SRKW foraging areas and current low returns expected for many Fraser chinook populations.

## 2. Proposed 2018 Management Measures

For the 2018 salmon fishing season, the Department is focusing attention on ways to support increased Chinook Salmon prey availability in key foraging areas within the SRKW Critical Habitat (identified and proposed). **The primary objective of the proposed measures is to improve Chinook Salmon availability for SRKW by decreasing potential fishery competition, as well as, minimizing physical and acoustic disturbance in key foraging areas to the extent possible.**





The proposed management measures are focused on four key foraging areas within the Canadian portion of the SRKW Critical Habitat (identified and proposed) including:

1. **Mouth of the Fraser River (Area 29)**
2. **West side of Pender Island (Subarea 18-4)**
3. **South side of Saturna Island (Subarea 18-5)**
4. **Strait of Juan de Fuca (Area 20)**

Management measures are proposed to increase Chinook Salmon prey availability in these areas by implementing salmon fishing or fin fish closures to reduce competition for Chinook Salmon present in these areas, as well as reducing the disruption of SRKW foraging activities that is associated with the physical presence of vessels (physical disturbance) and acoustic disturbance. The measures are proposed for May to September of 2018, to correspond with timing of previous SRKW foraging observations from the area.

### **3. Rationale for Proposed Management Measures**

In 2011 and 2012, DFO collaborated with the National Oceanic and Atmospheric Administration (NOAA) in a series of three scientific workshops that rigorously reviewed the available information on SRKW, their feeding habits, and the potential effects of salmon fisheries on SRKW through reductions in prey abundance. A panel of independent scientists was selected to oversee and participate in the process and produce a report documenting its findings ([Hilborn et al. 2012](#)). The report noted that reductions in coast-wide Chinook harvest many not necessarily translate into a greater Chinook Salmon availability for SRKWs due to a range of factors.

Since this time, the SARA RKW Action Plan has been developed and released, a Whale Science Review has been completed along with the Whale Symposium. A follow-up joint DFO-NOAA Prey Availability technical workshop was held in November 2017 at the University of British Columbia (UBC) and a summary of the proceedings will be available February 16<sup>th</sup> at <http://www.marinemammal.org/marine-mammal-research-unit-publications-2/>. This workshop was attended by RKW and Salmon research scientists, and salmon fishery managers from Canada and the US. The focus of the UBC workshop was to identify short-term management actions that might be taken to increase the immediate abundance and accessibility of Chinook Salmon for SRKW, given the current size of Chinook stocks. At the workshop there was broad recognition that targeted, area-based fishery management measures designed to improve Chinook Salmon availability for SRKW in key foraging areas should be a high priority. These measures could assist SRKW by decreasing potential fishery competition for Chinook Salmon, as well as, minimizing physical and acoustic disturbance in key foraging areas.

A subsequent joint (DFO-NOAA) science-based workshop is planned for 2018, which will bring together the best available science to inform fisheries management options related to overall prey abundance. Scientific advice from both these workshops will be peer-reviewed through the Canadian Science Advisory Secretariat process. The output from this process will help identify and prioritize fisheries management measures and inform the development of future integrated fisheries management plans.



## 4. Proposed Management Measures and Areas

### 1. Strait of Juan De Fuca

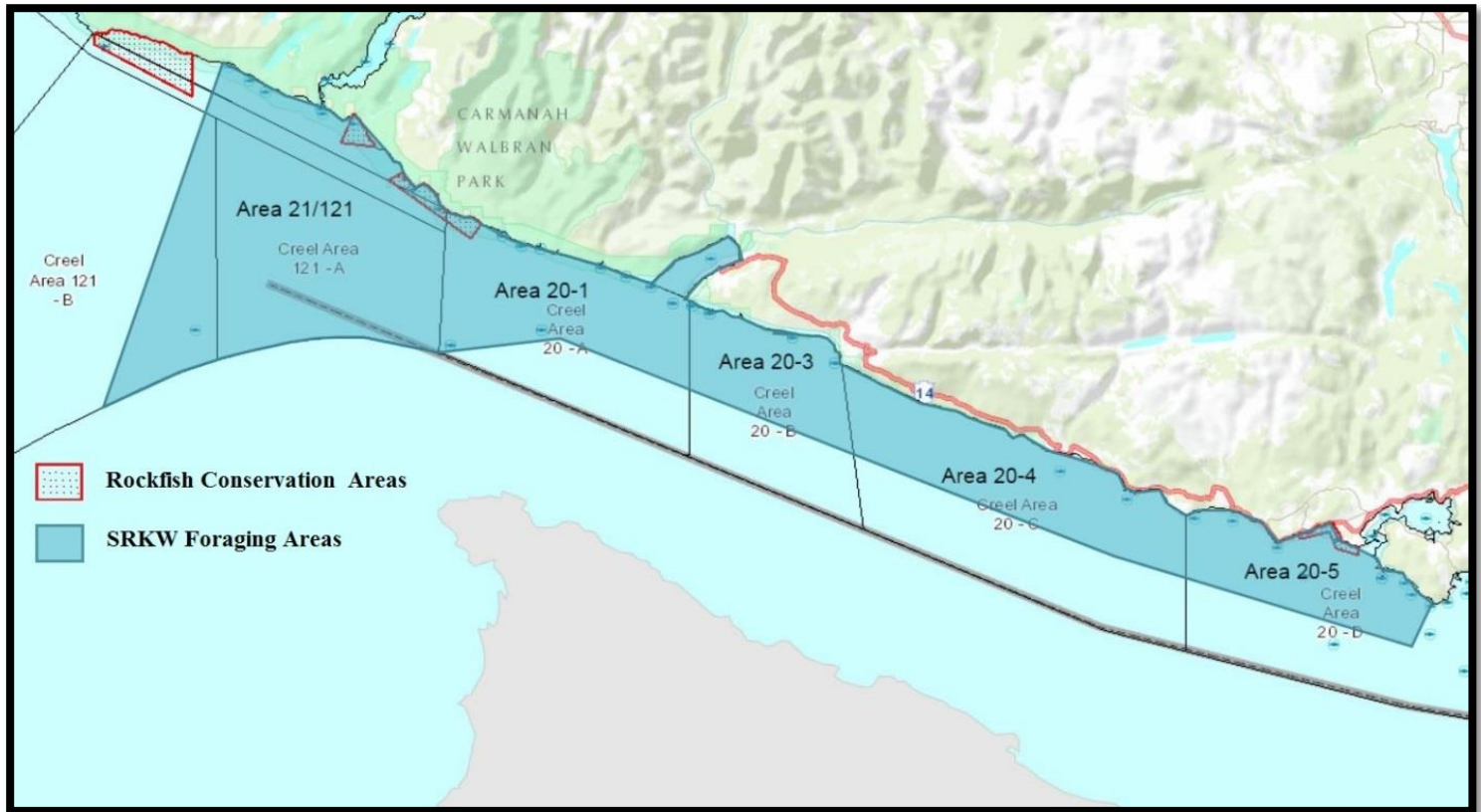


Figure 2: Juan De Fuca Map showing SRKW Foraging areas and Rockfish Conservation Areas (RCAs).

**Proposed Management Measures:** For this area, an experimental approach is proposed with salmon fishing or fin fish closures proposed for Subareas 20-3 and 20-4 from May 1 to September 30. Monitoring is planned to compare SRKW foraging behaviour in these areas with the adjacent Subareas 20-1 and 20-5, which will remain open to fin fish.

**Questions to Consider:**

- *What is your perspective on the on the proposed management measures?*
- *How might the proposed measures impact on your fishery?*
- *What could be considered to improve the measures or mitigate impacts on your fishery?*





## 2. Pender Island

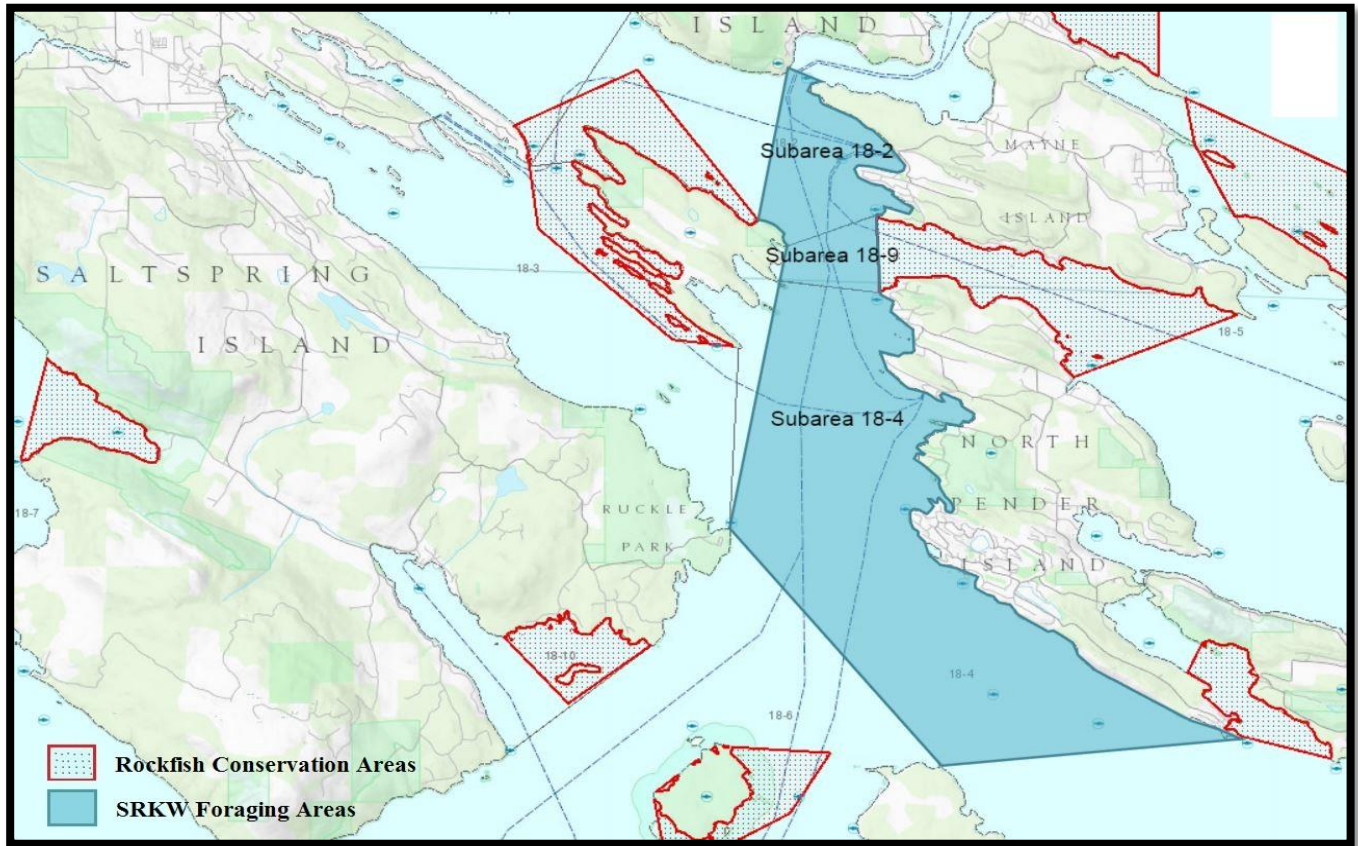


Figure 3: Pender Island Map showing SRKW Foraging areas and RCA's.

**Proposed Management Measures:** Proposed salmon fishing or fin fish closure in Subareas 18-2, 18-4 and 18-9 from May 1 to September 30.

### Questions to Consider:

- *What is your perspective on the on the proposed management measures?*
- *How might the proposed measures impact on your fishery?*
- *What could be considered to improve the measures or mitigate impacts on your fishery?*



### 3. Saturna Island

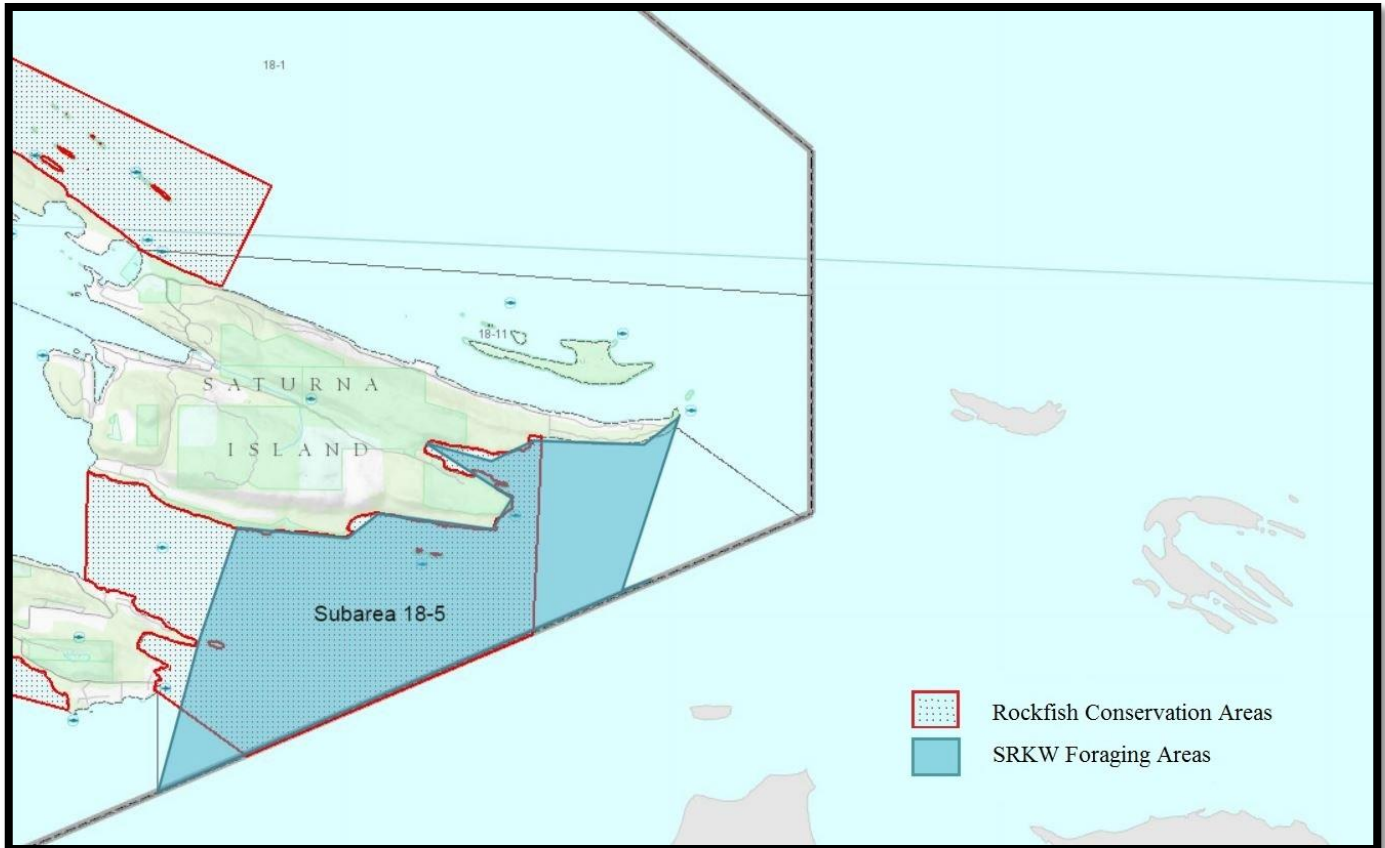


Figure 4: Saturna Island Map showing SRKW Foraging areas and RCA's.

**Proposed Management Measures:** Proposed salmon fishing or fin fish closure in Subarea 18-5 from May 1 to September 30.

**Questions to Consider:**

- *What is your perspective on the on the proposed management measures?*
- *How might the proposed measures impact on your fishery?*
- *What could be considered to improve the measures or mitigate impacts on your fishery?*



#### 4. Mouth of the Fraser River (Area 29)

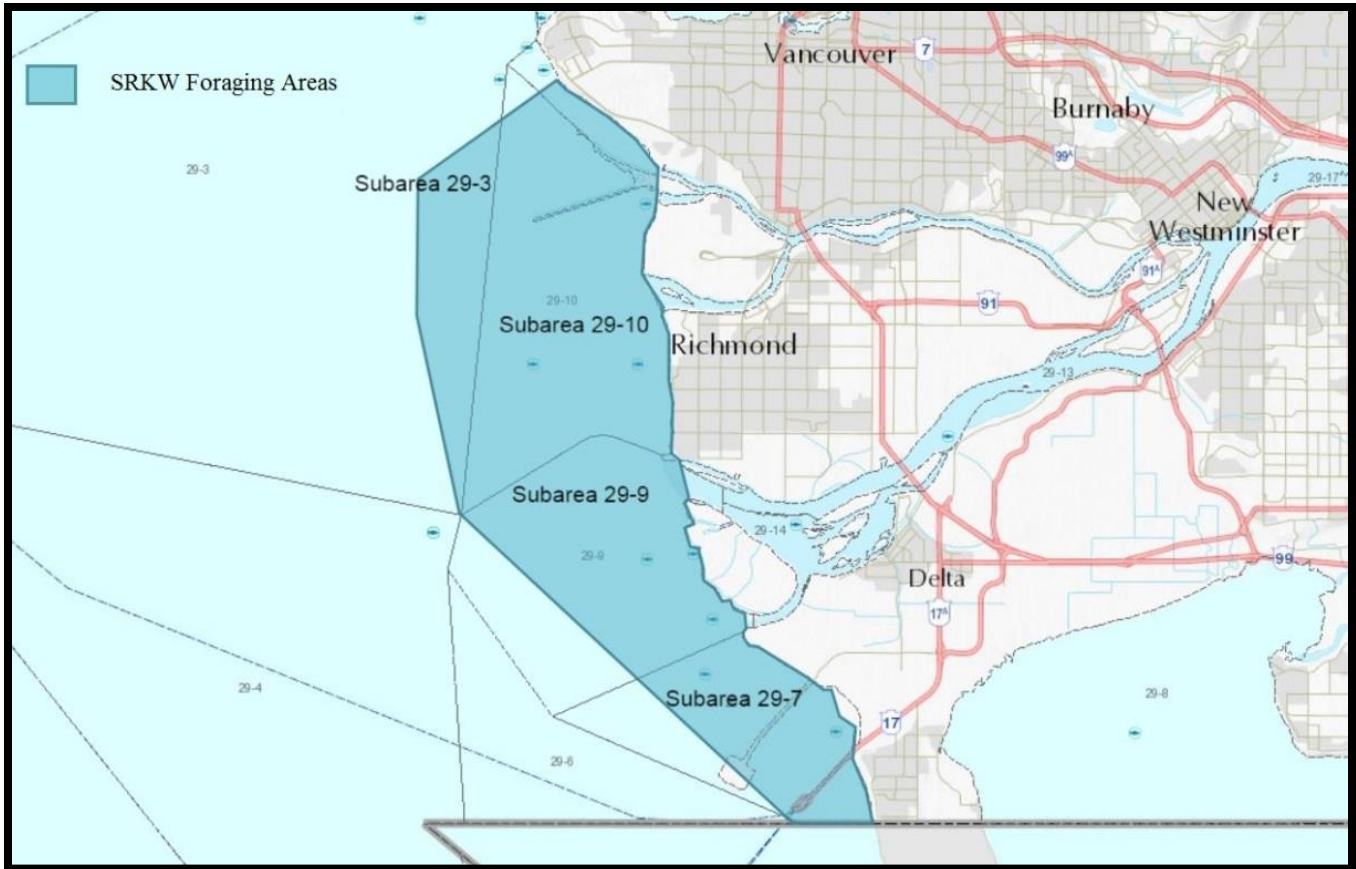


Figure 5: Mouth of Fraser (Area 29) Map showing SRKW Foraging areas and RCA's.

**Proposed Management Measures:** For this area, salmon fishing or fin fish closures are proposed for Subareas 29-6, 29-7, 29-9, 29-10 and 29-12 from May 1 to Sept. 30.

**Questions to Consider:**

- *What is your perspective on the on the proposed management measures?*
- *How might the proposed measures impact on your fishery?*
- *What could be considered to improve the measures or mitigate impacts on your fishery?*



## 5. Monitoring and Evaluation Plans

The Department intends to implement measures on a trial basis in 2018 with additional monitoring designed to assess the effectiveness of management measures over time. Annual post-season review meetings will provide an opportunity to review relevant performance measures and consider future adjustments to management measures as required.

A range of information will be collected to assist with evaluating the performance of any management measures implemented in 2018. Potential performance metrics could include SRKW body condition, area use and foraging success for SRKW, acoustic monitoring and available assessment information for chinook salmon. DFO Science will be collecting field data on SRKW foraging behavior. These studies will occur at various times throughout the identified foraging locations, and will form part of a greater data set on vessel-related impacts to SRKW.

DFO Science also works closely with National Oceanic and Atmospheric Administration (NOAA) scientists, who together will continue to evaluate SRKW body condition through photogrammetric assessment in the spring and fall. In addition, a research program to more effectively evaluate the nutritional status of SRKW is being developed.

Additional options for reporting SRKW interactions are being explored to assist DFO in further understanding the behavior of SRKW in the foraging areas, including reporting options through creel surveys, the [FishingBC app](#), and increased awareness of the [BC Cetacean Sightings Network WhaleReport app](#).

- ***Do you have suggestions for information that your organization could provide and/or assist in collecting?***

## 6. Other Suggested Management Measures

While this discussion paper focuses on management measures to address Chinook prey availability for SRKW and specific measures for inclusion in salmon IFMPs, these measures are being taken in consideration of broader efforts in support of Southern Resident Killer Whale recovery. However, we are interested in your views on additional measures that should be considered.

- ***What other fisheries management measures should be considered to support prey availability for SRKW in the short term? Longer term?***
- ***Are there voluntary measures that should be considered to support chinook availability for SRKW's?***

You may wish to provide feedback on other approaches to support Chinook prey availability for SRKW including (but not limited to):

- Other fisheries management measures





- Ways to increase overall natural production of Chinook Salmon (e.g., habitat enhancement/restoration)
- Adjustments to production of enhanced chinook. DFO has a comprehensive coast-wide Chinook production program delivered through its Salmonid Enhancement Program. Current hatchery production increases the abundance of adult Chinook in many marine areas, including those areas where SRKWs forage, and as such may be beneficial to SRKWs. This production directly benefits fisheries and provides key assessment information used to manage Chinook stocks, as well as increasing abundance of chinook as a potential SRKW prey item. It may be possible to modify hatchery Chinook production to benefit SRKWs but more information is required to assess this relationship. Increasing hatchery production to benefit SRKWs would be dependent on DFO hatchery capacities (e.g. facility capacity, facility location), knowledge of which stocks would best benefit SRKWs, and careful management of wild stock status and hatchery-wild interactions.
- Manage impacts of other consumers of Chinook Salmon (e.g., seals, sea lions, seabirds, etc.)
- Increase abundance of forage fish consumed by Chinook Salmon (e.g., habitat restoration/protection, adjust harvest removals, etc.)
- or, other measures.

## 7. How to Provide Feedback

The Department requests your feedback on the discussion questions in this document by **March 15, 2018**.

Feedback on these questions can be directed to Ashley Dobko at: [Ashley.Dobko@dfo-mpo.gc.ca](mailto:Ashley.Dobko@dfo-mpo.gc.ca).

Final decisions on any management measures implemented for the 2018 fishery will be made as part of the Department's process to develop the salmon IFMPs for Northern and Southern BC. As part of the decision making process, the Department will consider feedback on the proposed measures for addressing Chinook Salmon prey availability for SRKW in 2018 fisheries. Feedback may be provided in writing or during discussions that occur during the normal advisory processes to develop Salmon Integrated Fisheries Management Plan and additional meetings as required. A summary of important IFMP planning dates is provided in Appendix 3.

The Department is also planning on forming a SRKW-Chinook committee with participants from the Department, First Nations, Sport Fishing Advisory Board (SFAB), Commercial Salmon Advisory Board (CSAB), Marine Conservation Caucus (MCC) and Province of BC to review and discuss feedback on the proposed management measures, discuss other management measures, information required to support discussion and opportunities to coordinate salmon fishery activities with other SRKW recovery measures. This committee is intended to assist the Department by supporting discussions on potential management measures that could be implemented and will not be a decision making body. Specific measures that may be considered by the Department will be consulted on with First Nations and stakeholders through the existing salmon IFMP development process.



## 8. Appendix 1: SARA requirements for SRKW Recovery

Key threats to recovery identified in the SARA [Recovery Strategy for Northern and Southern Resident Killer Whale \(\*Orcinus orca\*\) in Canada](#) (DFO 2008, 2011), include decreased availability and quality of prey, environmental contamination, and both physical and acoustic disturbance. This SARA Recovery Strategy describes these key threats, the broad strategies for recovery and defines the recovery goal for the Northern and Southern Resident Killer Whales as:

***Ensure the long-term viability of Resident Killer Whale populations by achieving and maintaining demographic conditions that preserve their reproductive potential, genetic variation, and cultural continuity.***

It is important to note that the recovery goal does not identify a numerical target for recovery (e.g. number of individuals) but is defined in terms of the demographic conditions (e.g. gender ratio, age distribution etc.) fundamental to these populations recovering. While the SRKW population will likely always be considered to be at risk based on the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) criteria, actions to support the growth of the population are required to ensure the long-term viability of the population. The SARA [Action Plan for Northern and Southern Resident Killer Whale \(\*Orcinus orca\*\) in Canada](#) (DFO 2017) identifies 98 recovery measures required to implement the broad strategies within a five year time frame, including the measures to be taken to address the threats and monitor the recovery of the species. Measures to be taken are identified under the following five broad strategies:

1. *Monitor and refine knowledge of Resident Killer Whale population and distribution in Canadian Pacific waters*
2. *Ensure that Resident Killer Whales have an adequate and accessible food supply to allow recovery*
3. *Ensure that disturbance from human activities does not prevent the recovery of Resident Killer Whales*
4. *Ensure that chemical and biological pollutants do not prevent the recovery of Resident Killer Whale populations*
5. *Protect Critical Habitat for Resident Killer Whales and identify additional areas for Critical Habitat designation and protection*

From the SARA RKW Action Plan and [Whale Science Review](#) (DFO 2017), there are a number of high priority management-based Recovery Measures that address the threat of reduced prey availability (Strategy 2), some of which also address the threat of acoustic and physical disturbance (Strategy 3). The focus of this discussion document is to further develop potential fishery management options to mitigate the threat of reduced prey availability for SRKW.

Furthermore, this work is intended to align with the following recovery measures identified in the SARA Action Plan (AP) and Whale Science Review (WSR):

- AP-Recovery Measure 6: Take into account both (SRKW & NRKW) the seasonal (acute) as well as the cumulative (chronic) effects of poor returns for Chinook and other important prey species on Resident Killer Whales when managing fisheries.





- WSR: During years of poor Chinook returns, implement a more conservative management approach than would be used in typical years to further reduce or eliminate anthropogenic competition for Chinook and other important prey in key SRKW foraging areas during key times
- AP- Recovery Measure 7: Investigate the benefits of strategic salmon fishery planning approaches and management actions to reduce Resident Killer Whale prey competition in specific feeding areas (e.g. modeling, retention limits, fishery area boundary adjustments or closures), and implement where appropriate.
  - WSR: Plan and manage salmon fisheries in ways that will reduce anthropogenic competition for SRKW prey in important foraging areas during key times (e.g., create protected areas; implement fishery area boundary adjustments and/or closures) or when there are indications of population nutritional stress. Among other things, this will require the formation and formalization of a transboundary working group of science and management representatives from DFO, NOAA, and other technical experts to ensure that SRKW prey needs are incorporated consistently in the management of salmon fisheries for transboundary stocks (e.g. Canada's Policy for Conservation of Wild Salmon, Pacific Salmon Treaty).
- AP - Recovery Measure 10: Investigate the benefits of management actions (e.g. protected areas, fishery area boundary adjustments or closures) to protect important foraging and beach rubbing locations such as Robson Bight and other identified areas, and implement where appropriate.

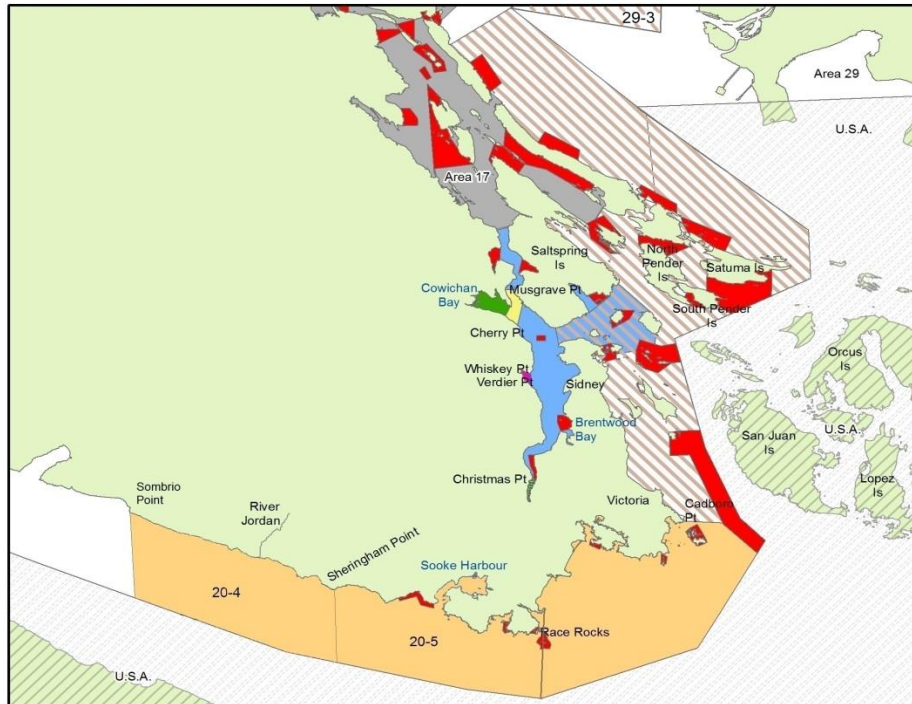
Many of the recovery measures identified in the RKW Action Plan have been ongoing for many years and/or are currently underway. The Department is currently working towards implementation of all the identified recovery measures in the Action Plan and in the WSR, including both longer term, as well as shorter duration measures, to abate the identified threats.



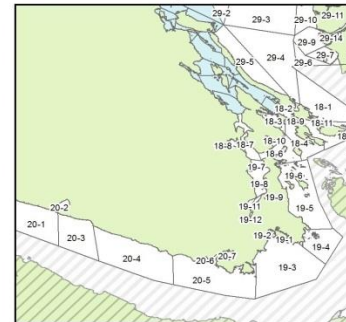
## 9. Appendix 2: Recreational Fishing Regulations Map and Table



### Areas 18, 19 and Subareas 20-5, 29-3 to 29-5 Cowichan to Victoria 2017 CHINOOK OPENINGS AND OTHER CLOSURES



PFMA Overview Map



	Apr 1 - Mar 31	Finfish Closure (Rockfish Conservation Areas)
	Aug 1 - Oct 31	Finfish Closure
	Aug 1 - Oct 15	Finfish Closure
	Aug 1 - Oct 15	Chinook Non-Retention
	Sept 15 - Nov 30	Finfish Closure
	March 1 - June 16	Two (2) chinook per day, wild or hatchery between 45-67 cm hatchery > 67 cm.
	June 17 - July 14	Two (2) chinook per day wild or hatchery between 45-85 cm hatchery > 85 cm.
	May 8 - June 16	Two (2) chinook per day, of which only (1) may be >67 cm. Minimum size limit is 62 cm.
	June 17 - July 14	Two (2) chinook per day, wild or hatchery between 62-85 cm
	Sept 1 - Nov 30	Finfish Closure



## **Current Chinook Salmon Recreational Regulations By Pacific Fishery Management Area (PFMA):**

### **Areas 20-1, 20-3**

- All year, 2/day, minimum size limit of 45 cm.

### **Area 20-4 to 20-5**

- Mar 1 - Jun 16, 2 chinook/day, wild or hatchery 45-67 cm, hatchery >67 cm.
- Jun 17 - July 15 Fraser Chinook ZONE 1 or 2.
  - Zone 1: 2 Chinook Salmon/day which may be wild or hatchery marked between 45 and 85 cm or hatchery marked > 85 cm.
  - Zone 2: 2 Chinook Salmon/day of which only one may be >67 cm.
- Remainder of year 2/day, minimum size limit of 45 cm.

### **Areas 18-2, 18-4 and 18-9**

- May 7- June 16
  - Zone 1: 2 Chinook Salmon/day of which only one may be >67 cm. The minimum size limit is 62 cm.
- June 17th to July 15<sup>th</sup>
  - Zone 1: 2 Chinook Salmon/day between 62 cm and 85 cm.
  - Zone 2: 2 Chinook Salmon/day of which only one may be >67 cm. The minimum size limit is 62 cm.

### **Subarea 18-5**

- May 7- June 15
  - Zone 1: 2 Chinook/day of which only one may be >67 cm. The minimum size limit is 62 cm.
- June 17th to July 15<sup>th</sup>
  - Zone 1: 2 Chinook Salmon/day between 62 cm and 85 cm.
  - Zone 2: 2 Chinook Salmon/day of which only one may be >67 cm. The minimum size limit is 62 cm.

### **Areas 29-6, 29-7, 29-9 and 29-10**

- Effective January 1 until July 31, there is no fishing for Chinook Salmon.

### **Areas 29-12**

- Effective January 1 until July 31 there is no fishing for salmon in the above noted areas.



## 10. Appendix 3: SRKW and IFMP Timelines

Activity	2017/2018 Proposed Timeline	SRKW Consultation Schedule-Details
Deadline for written submissions from First Nations and advisory groups on issues identified by the Department. Proposals for demonstration fisheries and any additional discussion items for the 2017/2018 Salmon IFMPs are also requested.	February 5, 2018	SRKW First Nation and advisory groups written submissions will be submitted and the review process will start
Integrated Harvest Planning Committee Meetings to review and discuss potential changes to IFMPs and opportunity for focussed discussion on key IFMP issues.  Additional meetings with First Nations organizations and advisory groups are also identified in the attached calendar.	Southern IHPC – Vancouver (February 8, 2018) meetings	Consultation on where we are at with SRKW options
WebEx to review and answer questions on the SRKW Discussion Document	February 22' 2018	Will include a presentation of science advice supporting proposed measures, summary of proposed measures and next steps
Release draft IFMPs for public review & comment	Approx. February 23, 2018	The IFMP will include either draft management options or a draft management plan that DFO is seriously considering.
IHPC meetings to review draft IFMP	Southern IHPC – Vancouver (March 8, 2018)	Consultation and hearing thoughts on the draft IFMP SRKW options.
Deadline to submit comments on draft IFMP (30 day public comment period).	April 6, 2018	
Final IHPC Meeting – Opportunity for final discussion on IFMP feedback.	April 25-26, 2018 Vancouver	Report out on the final SRKW comments and any progress
Target for public release of 2018/19 salmon IFMP	June 2018	SRKW changes to be included in the approved IFMP for release