



## **SFAB 2020\2021 Chinook Retention Proposals During Fraser River Stream-Type Chinook Conservation Measures**

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### **Introduction:**

The SFAB is pleased to provide the following advice to Fisheries & Oceans Canada regarding fishery management measures that would apply to the southern BC public Chinook fishery. The SFAB Chinook\Coho working group, with data and technical support from DFO south coast area stock assessment staff, has produced this suite of proposed options in an inclusive and transparent manner ensuring that advice was received from all relevant local committees through their chairs. All participants at the table were heard and their advice considered and the options presented below represent consensus amongst SC SFAC's.

These options are intended to build upon and are in addition to measures that were approved by the minister in 2019. They are not intended to replace those measures except in areas where specifically identified. We are not only requesting proposals be implemented in the 2020\2021 IFMP timeline but, where identified, proposals be implemented in April\May 2020.

### Chinook Mass Marking and Mark Selective Fishery Management

#### Key Elements:

- **Conserving wild chinook and sustaining chinook fisheries as indicated by the Prime Minister of Canada in his mandate letter to Min. Bernadette Jordan: “...sustain and rebuild the fisheries, and ensure that they remain healthy for future generations, while providing important economic opportunities to Canadians and coastal communities.”**
- **An immediate policy decision to implement Mass Marking for current hatchery production of chinook in BC.**
- **Implementation of Mark Selective Fisheries in 2020 and subsequent years to more fully exploit hatchery production and assist in managing hatchery/wild interactions.**
- **Develop complimentary monitoring and assessment methods to CWT’s to estimate exploitation rates that addresses the complications mark selective fisheries have on existing CWT sampling protocols.**

The SFAB has reached the conclusion that 2020 will need to be a transition year in the history of recreational chinook management around southern BC. It is clear that the fishery management measures required to rebuild Fraser stream-type chinook will result in the collapse of the recreational fishery infrastructure unless mark selective fishery management for chinook is applied more broadly in the years ahead. Based on the 2019 experience a change to MSF management is critically necessary if the public fishery in southern BC is to continue, and we trust the limited time and area proposals described here will be precedent for a more expansive application of MSF management as soon as possible.

We note that MSF for chinook have already been implemented at times in Juan de Fuca Strait, and are currently implemented all around southern BC to avoid coho stocks of concern. Given the critical importance to the recreational fishery of moving to MSF management for chinook in southern BC, the SFAB urges DFO to make the decision as soon as possible to implement mass marking of chinook production in BC hatcheries beginning with the 2020 broodyear.

We also note that in parts of the Strait of Georgia and Juan de Fuca Strait the mark rates are high enough and the prevalence of stocks of concern is low enough in April and May that it is clear that implementation of MSF in these areas **in 2020** will achieve the necessary balance between conservation and socioeconomic objectives. It has been, and will continue to be, our strong request that DFO implement MSF in these and other times and areas where the combination of mark rate and low prevalence of stocks of concern achieve the balance between providing socioeconomic and cultural opportunity while at the same time minimizing impact on the recovery potential of stocks of concern.

The SFAB strongly believes that a future that includes both sustainable fisheries and the rebuilding of stocks of concern is an important part of DFO achieving its mandate. We also strongly believe that an immediate transition to MSF in southern BC, the most populated area in our province, is the key to achieving this rebuilding of an already damaged fishery.

The SFAB looks forward to working collaboratively with DFO and others to implement the necessary monitoring, assessment, fishery management tools and best fishing practices required to ensure that both stocks of concern and fisheries that are dependent on more abundant stocks are protected, rebuilt and sustained.

## **Covid 19:**

Due to current challenges regarding the Covid-19 pandemic there is uncertainty regarding its impact on effort and catch monitoring activities in the fishery. It is unclear at this time as to exactly how long those impacts may persist, so this proposal will focus on the IFMP development as presented in the March 2<sup>nd</sup> letter (re: Fraser River Chinook Conservation Measures) with an understanding the Covid-19 impacts are difficult to predict. However, the SFAB stands by to work closely with DFO to address what we hope are the short-term impacts of Covid-19 to the recreational fishery.

## **Retention Proposal Categories**

The proposals described below fall into two categories, Mark Selective Fisheries and Hybrid Fisheries, developed using data specific to geographic areas where it was determined that there is an absence or extremely low incidence of stocks of concern in the time and areas identified. This is based on the analysis of observed CWT and/or DNA recoveries of Fraser stream-type chinook in fishery samples. Data supported fisheries in the mainland inlets will also limit encounters with migrating local summer-run chinook stocks by avoiding terminal areas and by the application of Hybrid Fisheries (see below). The SFAB considers that the risk associated with data supported fisheries to be extremely low as these areas have been specifically identified using both CWT and GSI data to avoid Fraser stream-type Chinook to the greatest extent possible. Data used for each specific proposal are included in this Dropbox:

<https://www.dropbox.com/sh/yldkrtp3uaukd/AAA1nykQe2wN1OnJJsInfAgTa?dl=0>

1. **Mark Selective Fisheries** will allow for the retention of marked hatchery chinook in the times and areas identified. These fisheries are based on available fishery mark rate data from creel observers, logbooks, iREC, and the Avid Angler program.
2. **Hybrid fisheries** are data supported fishing areas away from the main migration routes of Fraser stream-type chinook and incorporate the use of MSF or maximum size restrictions for unmarked fish to adopt a higher level of protection to larger mature chinook returning to spawn this year.

During the development of these proposals some overarching guiding principles were adopted:

- The 2020/21 management regime will reflect a highly precautionary approach towards Fraser stream-type Chinook.
- First Nations priority towards FSC opportunities will be respected. It is the advice of the SFAB that First Nations FSC opportunity for chinook should be provided in all mixed stock marine areas of the south coast except where conservation concerns preclude that opportunity.
- DFO has a responsibility to represent the interests of all Canadians in the management of fisheries.
- The Department's overarching goal is to protect Canada's three oceans, its coasts, waterways and fisheries, and to ensure these remain healthy for future generations. To this end DFO has identified achieving sustainable social and economic benefits as one of its priorities for evaluating fishery proposals in 2020.
- The SFAB has a responsibility to identify sustainable and precautionary opportunity for harvest of chinook in 2020. The 2019 non-retention management regime was harmful to small rural communities along the BC south coast and continued application of non-retention in the broad manner it was applied in 2019 will cause irreparable damage to these rural economies as well as to the cultural, food security and other social benefits associated with the public fishery.

The starting point for developing these options was the 2019 regulation of non-retention of chinook for all areas of the south coast between April and varying dates in July, with the exception of inside 1nm offshore on the WCVI, where normal limits currently apply. By identifying additional areas that are away from the main migration routes, and therefore where prevalence of stocks of concern are extremely low, we anticipate that **the Data Supported Fisheries, while providing additional opportunity for the public fishery, will produce minimal impact on stocks of concern.** Mark selective fishing opportunities in April and May 2020 will provide additional opportunity during a time period when stocks of concern are potentially present, but in extremely low numbers.

As discussed at both the IHPC and SBC Chinook Steering Committee tables, the SFAB is urging DFO to undertake the necessary analysis to help the fishing community understand the impact to the recovery time for stocks of concern by implementing fisheries in all sectors that may marginally increase the overall exploitation rate vs the benefits to communities that will be derived from the additional fishing activity by all sectors. As the SFAB, we acknowledge the principle of conservation being the highest priority but we also define conservation as the wise use of resources. It is our desire, and urgent request, that DFO work toward a greater understanding of how we may achieve this balance in a reasonable and prudent manner before irreparable harm is caused to the recreational fishing infrastructure in southern BC.

**It is important to note that it is the expectation of the SFAB that each proposal be evaluated independently and based on its own individual benefits and risk. If any given proposal is not considered acceptable to DFO, it is the request of the SFAB that DFO will not consider this a reason to reject all proposals in that PFMA. If DFO determines that adjustment to any proposal will make it more acceptable, it is the request of the SFAB that DFO inform the SFAB of this, and that we work collaboratively to make the necessary adjustment.** The proposals and supporting data are included in the Dropbox.

### **Monitoring and Assessment**

In support of these retention proposals and to achieve best possible understanding of which chinook stocks are encountered (both retained and released) in these described times/areas, the SFAB is an advocate for the best possible catch monitoring regime in them. The SFAB has been consistent in its support and advocacy to DFO regarding the development of tools that can enhance, supplement or even replace creel surveys depending on the risk presented by the fishery. These tools include the FishingBC app, Guide Catch Log Program, Avid Angler Program and iREC catch survey. In low to medium risk fisheries, we believe that these tools combined with proxy catch per unit effort data from previous years will provide the appropriate level of catch data, and can certainly provide bio-samples and head recovery information to determine stock composition in the catch. The SFAB urges DFO to implement catch monitoring at a level that allows CWT recovery from recreational fisheries sufficient to satisfy assessment requirements.

The SFAB and groups that represent guides, lodges and charter operators have already confirmed their support for enforced mandatory catch log compliance by guides, and have also strongly supported completing the internal work that needs to be done by DFO to enable full functionality of the Fishing BC app. The appropriate platforms already exist within the Fishing BC app to provide detailed catch data from both individual anglers and guides to DFO in real time, and the SFAB urges DFO to enable the use of this important tool in 2020.

**Catch reporting and compliance with creel surveys and iREC are a mandatory requirement under section 61.5 of the Fishery Act for all licensed anglers.**

The SFAB considers that the risk associated with data supported fisheries to be extremely low. These areas have been specifically identified using both CWT and GSI data to avoid Fraser stream-type Chinook, and have also been shaped

through location, timing and size limit restrictions to minimize impacts on any stocks that may be returning to spawn in local rivers.

Until March 31<sup>st</sup>, 2020 MSF have been implemented in Juan De Fuca Strait for chinook, and are currently implemented all around southern BC to avoid coho stocks of concern. The SFAB urges DFO to implement catch monitoring at a level that allows CWT recovery from recreational fisheries sufficient to satisfy assessment requirements.

### **Best Fishing Practices**

Over the past few months, the SFAB has engaged its membership in reviewing and updating Best Fishing Practices protocols regarding the safe release of fish. These protocols are not salmon specific, and cover all species. The objective of this review is to ensure that the protocols capture the significant advances in knowledge, techniques and equipment that are available to the fishery in 2020.

It is recognized by the SFAB that the ability to safely release fish back to the water is a cornerstone of Selective Fishing and therefore that minimizing release mortality must be a priority for all harvest sectors. It is also recognized by the SFAB that the public fishery represents a highly selective method of capture due to the fact that fish are caught one at a time, and are easily identified.

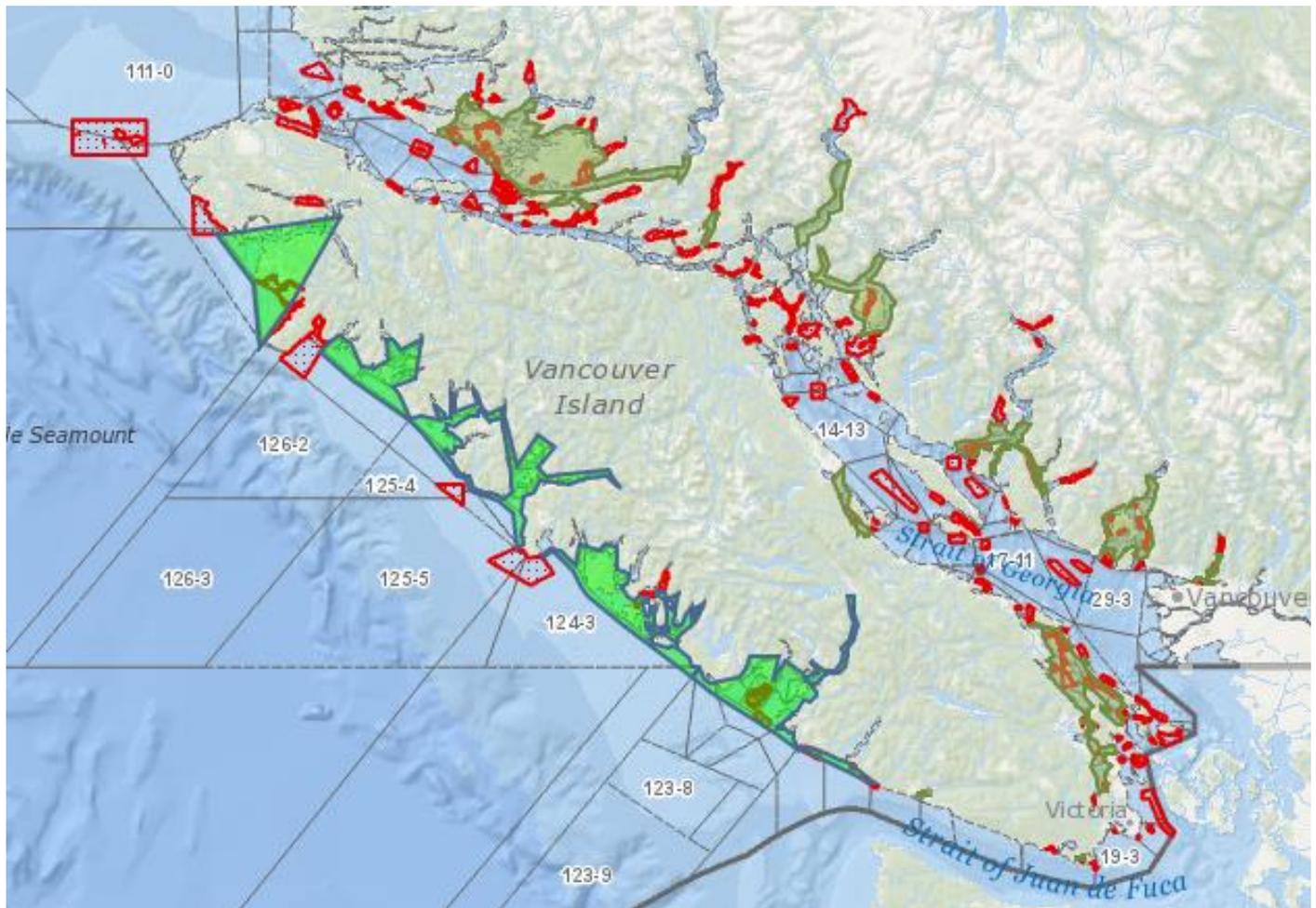
The SFAB acknowledges that Fishing Related Incidental Mortality (FRIM) is an important parameter that needs to be incorporated in the estimation of total mortality for all fisheries, and look forward to working with DFO to do our part to ensure that FRIM estimates are provided for all chinook fisheries by all sectors. It is important that those estimates provide a high degree of confidence in their accuracy by incorporating the knowledge of fishery participants in a comprehensive manner.

Thank you for the opportunity to discuss these proposals with the DFO Salmon Team. We look forward to a productive discussion and hope that DFO can provide, where appropriate, advice as to how the SFAB may address any concerns DFO has with them moving forward.

**Summary:**

Proposed areas for data supported fishery Chinook retention April through various dates in July 2020 and April to May 31st 2021 for the inside waters of southern BC, including Juan de Fuca Strait, are shaded in forest green. Existing Chinook retention areas in the nearshore WCVI are shaded bright green. Red zones are Rockfish Conservation Areas which are closed to hook and line fishing. It is the intent of this proposal that all existing boundaries regarding RCA's remain intact. There are also existing management measures in place in terminal areas intended to protect returning local stocks. It is the intent of this proposal that these also remain unchanged.

The proposals for the inside waters and Juan de Fuca avoid the main timing on the migration route for Fraser stream-type Chinook as determined from CWT and DNA incidence in fisheries since 1980 (CWT) and since 2014 (DNA). The details follow. The offshore WCVI MSF proposals for April/May 2021 is not highlighted on the map to avoid confusion with current retention zones but are documented below.

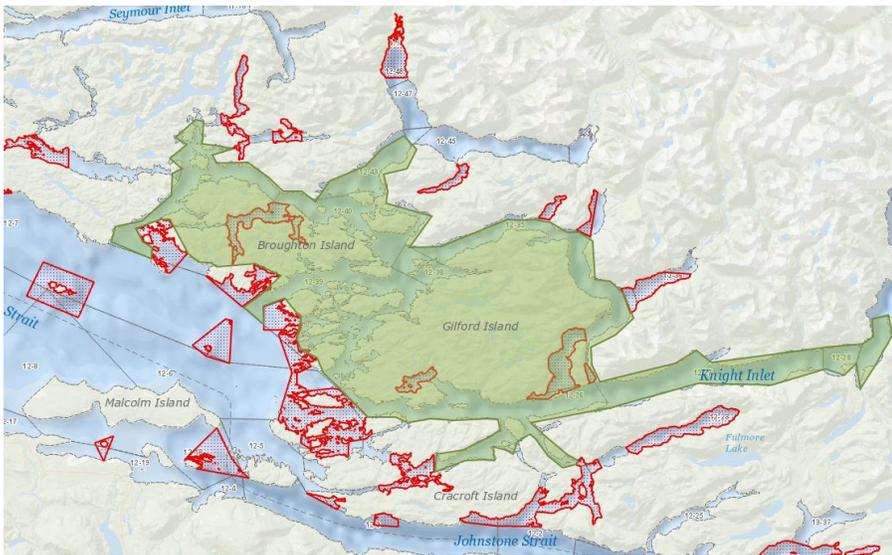


Area 12. Proposed Hybrid Data Supported Fishery Chinook Retention in portions of mainland inlets as shown in the following map.

**Proposed 2020 – Hybrid Fishery.** In the shaded green area shown, April to mid-July, 1 chinook per day, either a wild with a maximum size 80 cm or hatchery any size over the minimum size limit, 2 in possession. The rest of the PFMA is chinook non-retention April to mid-July. Finfish or salmon closures around any rivers with spring / summer run Chinook.

**Hybrid fisheries** are data supported fishing areas which avoid Fraser stream-type migrants and incorporate the use of MSF and/or maximum size restrictions to adopt a higher level of protection to larger mature chinook returning to spawn this year.

The SFAB and SFI will work with DFO, guides, lodges, charters and individual anglers through the Guide Catch Log Program and Avid Angler program to ensure that CWT and DNA samples are provided to ensure an appropriate level of catch and stock composition data is collected.



CWT, DNA, and mark rate data in drop box

<https://www.dropbox.com/sh/yldfkrtp3uaukd/AAA1nykQe2wN1OnJJsINfAgTa?dl=0>

Effort (boat trips) in PFMA 12 to show the importance of the fishery prior to July 15.

| MONTH              | 2014          | 2015          | 2016          | 2017          | 2018          | 2019          | May-July total |             |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|-------------|
| May                |               |               |               | 640           | 854           | 188           | <b>2018</b>    | <b>2019</b> |
| June               | 2,181         | 1,690         | 2,847         | 2,528         | 2,883         | 1,382         | 9,416          | 5,415       |
| July               | 4,948         | 4,830         | 5,507         | 4,406         | 5,679         | 3,845         | difference=    | -4,001      |
| August             | 5,906         | 5,637         | 5,246         | 5,419         | 5,876         | 5,027         | % difference=  | -42%        |
| September          |               |               |               | 742           | 1,384         | 764           |                |             |
| <b>Grand Total</b> | <b>13,035</b> | <b>12,157</b> | <b>13,600</b> | <b>13,735</b> | <b>16,676</b> | <b>11,206</b> |                |             |

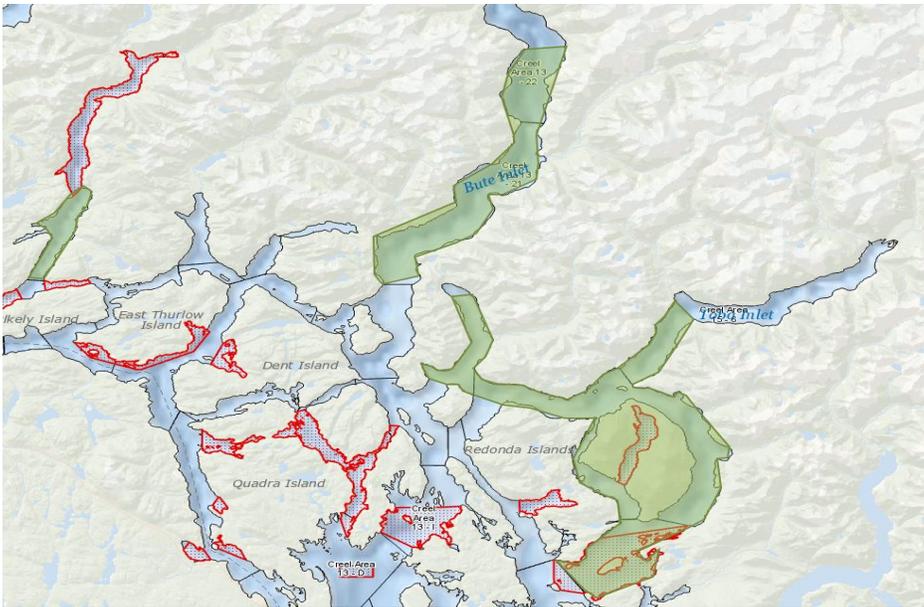
Catch of Chinook (marked or unmarked)

| MONTH              | 2014         | 2015         | 2016         | 2017         | 2018         | 2019         | May-July total |             |
|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|-------------|
| May                |              |              |              | 127          | 365          |              | <b>2018</b>    | <b>2019</b> |
| June               | 1,647        | 1,296        | 1,137        | 1,931        | 2,180        | 2            | 6,750          | 1,276       |
| July               | 2,431        | 4,378        | 1,674        | 2,834        | 4,205        | 1,274        | difference=    | -5,474      |
| August             | 1,898        | 3,922        | 1,892        | 4,225        | 2,160        | 2,697        | % difference=  | -81%        |
| September          |              |              |              | 220          | 108          | 166          |                |             |
| <b>Grand Total</b> | <b>5,976</b> | <b>9,596</b> | <b>4,703</b> | <b>9,337</b> | <b>9,018</b> | <b>4,139</b> |                |             |

Areas 13 and 15. Proposed Hybrid Data Supported Fishery Chinook retention areas in mainland inlets as shown in the following map.

**Proposed 2020 – Hybrid Fishery.** In the shaded green area shown, April to mid-July, 1 per day wild maximum size 80 cm or hatchery any size over the minimum size limit, 2 in possession. The rest of the PFMA is chinook non-retention April to mid-July. Finfish or salmon closures around any rivers with spring / summer run Chinook.

**Hybrid fisheries** are data supported fishing areas which avoid Fraser stream-type migrants and incorporate the use of MSF and/or maximum size restrictions to adopt a higher level of protection to larger mature chinook returning to spawn this year.



CWT, DNA, and mark rate data in <https://www.dropbox.com/sh/y1fdkrtp3uaukd/AAA1nykQe2wN1OnJJsINfAgTa?dl=0>

Effort (boat trips) in PFMA 13 to show the importance of the fishery prior to July 15.

| MONTH              | 2014          | 2015          | 2016          | 2017          | 2018          | 2019          | May-July total |             |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|-------------|
| May                | 1,463         | 3,514         | 2,739         | 1,343         | 1,363         | 867           | <b>2018</b>    | <b>2019</b> |
| June               | 4,816         | 6,766         | 4,011         | 4,970         | 5,673         | 1,969         | 16,399         | 9,619       |
| July               | 8,063         | 8,937         | 6,733         | 8,000         | 9,363         | 6,783         | difference=    | -6,780      |
| August             | 12,663        | 9,671         | 7,825         | 8,816         | 11,230        | 7,869         | % difference=  | -41%        |
| September          | 3,886         | 5,602         | 4,880         | 6,196         | 3,288         | 2,845         |                |             |
| October            | 789           |               |               | 1,241         | 1,434         | 376           |                |             |
| <b>Grand Total</b> | <b>31,680</b> | <b>34,490</b> | <b>26,188</b> | <b>30,566</b> | <b>32,351</b> | <b>20,709</b> |                |             |

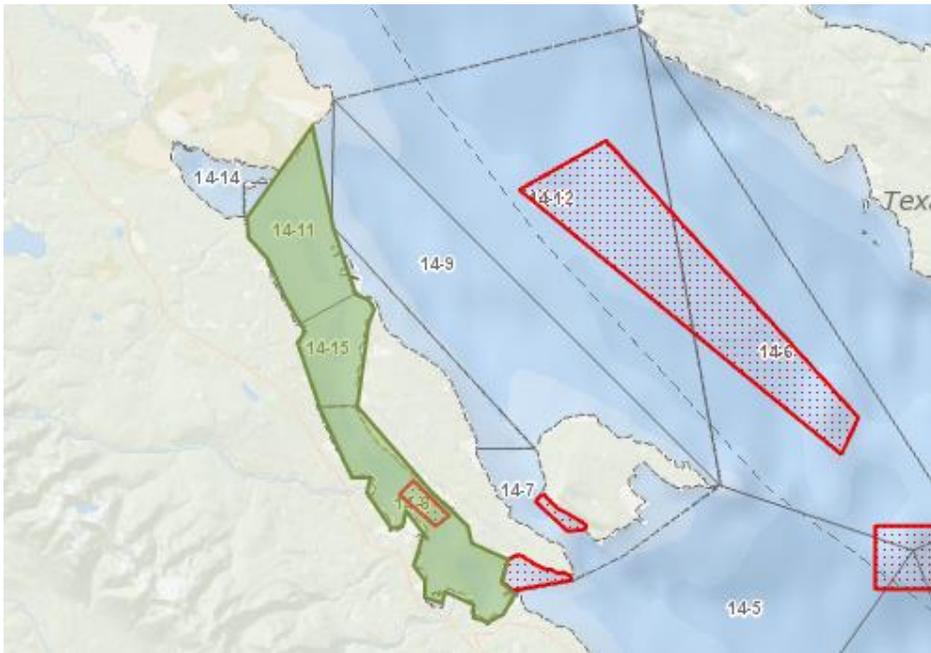
Catch of Chinook (marked or unmarked)

| MONTH              | 2014          | 2015          | 2016          | 2017          | 2018          | 2019          | May-July total |             |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|-------------|
| May                | 298           | 4,545         | 1,088         | 537           | 1,032         | 0             | <b>2018</b>    | <b>2019</b> |
| June               | 6,739         | 7,591         | 3,378         | 4,876         | 6,116         | 3             | 15,038         | 6,028       |
| July               | 9,521         | 7,595         | 4,911         | 6,111         | 7,890         | 6,025         | difference=    | -9,010      |
| August             | 4,744         | 13,836        | 8,571         | 9,319         | 9,018         | 9,527         | % difference=  | -60%        |
| September          | 2,484         | 6,147         | 1,288         | 2,208         | 1,190         | 2,476         |                |             |
| October            | 72            |               |               | 18            | 76            | 19            |                |             |
| <b>Grand Total</b> | <b>23,858</b> | <b>39,714</b> | <b>19,236</b> | <b>23,069</b> | <b>25,322</b> | <b>18,050</b> |                |             |

Area 14. Proposed Hybrid Data Supported Fishery Chinook retention in Baynes Sound area as shown in the following map.

**Proposed 2020 – Hybrid Fishery.** In the shaded green area shown, April to mid-July, 1 per day wild maximum size 80 cm or hatchery any size over the minimum size limit, 2 in possession. The rest of the PFMA is chinook non-retention April to mid-July. Finfish or salmon closures around any rivers with spring / summer run Chinook.

**Hybrid fisheries** are data supported fishing areas which avoid Fraser stream-type migrants and incorporate the use of MSF and/or maximum size restrictions to adopt a higher level of protection to larger mature chinook returning to spawn this year.



CWT, DNA, and mark rate data in <https://www.dropbox.com/sh/ylfdkrpt3uaukd/AAA1nykQe2wN1OnJJsINfAgTa?dl=0>

Effort (boat trips) in PFMA 14 to show the importance of the fishery prior to July 15.

| MONTH              | 2014          | 2015          | 2016          | 2017          | 2018          | 2019          | May-July total |             |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|-------------|
| May                | 1,823         | 2,765         | 3,169         | 2,503         | 2,263         | 747           | <b>2018</b>    | <b>2019</b> |
| June               | 1,868         | 3,547         | 2,838         | 4,322         | 3,099         | 1,266         | 10,243         | 7,430       |
| July               | 3,133         | 3,758         | 4,342         | 7,169         | 4,881         | 5,417         | difference=    | -2,813      |
| August             | 6,467         | 7,246         | 3,084         | 6,440         | 6,968         | 7,607         | % difference=  | -27%        |
| September          | 3,444         | 1,323         | 3,327         | 2,907         | 1,640         | 2,060         |                |             |
| October            | 383           |               |               | 152           | 720           | 548           |                |             |
| <b>Grand Total</b> | <b>17,118</b> | <b>18,639</b> | <b>16,760</b> | <b>23,493</b> | <b>19,571</b> | <b>17,645</b> |                |             |

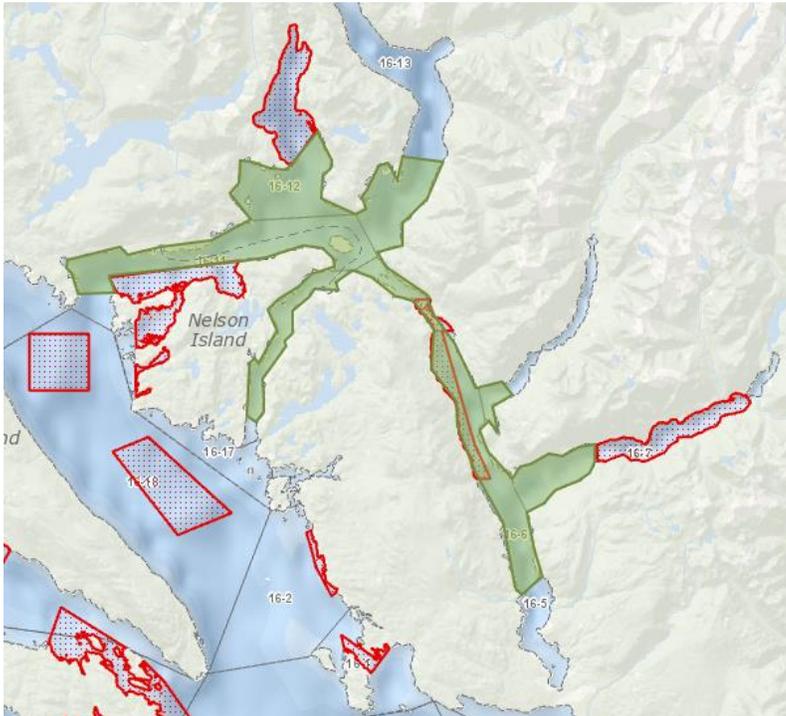
Catch of Chinook (marked or unmarked)

| MONTH              | 2014         | 2015         | 2016         | 2017          | 2018          | 2019         | May-July total |             |
|--------------------|--------------|--------------|--------------|---------------|---------------|--------------|----------------|-------------|
| May                | 943          | 2,462        | 1,329        | 1,728         | 3,334         | 4            | <b>2018</b>    | <b>2019</b> |
| June               | 1,209        | 1,039        | 1,359        | 3,365         | 3,031         | 3            | 8,533          | 3,600       |
| July               | 1,150        | 1,216        | 881          | 1,897         | 2,168         | 3,593        | difference=    | -4,933      |
| August             | 4,707        | 971          | 1,032        | 3,663         | 2,670         | 3,651        | % difference=  | -58%        |
| September          | 1,638        | 692          | 931          | 1,182         | 289           | 1,230        |                |             |
| October            | 36           |              |              | 4             | 264           | 104          |                |             |
| <b>Grand Total</b> | <b>9,683</b> | <b>6,380</b> | <b>5,532</b> | <b>11,839</b> | <b>11,756</b> | <b>8,585</b> |                |             |

Area 16. Proposed Hybrid Data Supported Fishery Chinook retention in mainland inlets as shown in the following map.

**Proposed 2020 – Hybrid Fishery** In the shaded green area shown, April to mid-July, 1 per day wild maximum size 80 cm or hatchery any size over the minimum size limit, 2 in possession. The rest of the PFMA is chinook non-retention April to mid-July. Finfish or salmon closures around any rivers with spring / summer run Chinook.

**Hybrid fisheries** are data supported fishing areas which avoid Fraser stream-type migrants and incorporate the use of MSF and/or maximum size restrictions to adopt a higher level of protection to larger mature chinook returning to spawn this year.



CWT, DNA, and mark rate data in drop box

<https://www.dropbox.com/sh/yldkrtpt3uaukd/AAA1nykQe2wN1OnJJsINfAgTa?dl=0>

Effort (boat trips) in PFMA 16 to show the importance of the fishery prior to July 15.

| MONTH              | 2014         | 2015          | 2016          | 2017          | 2018          | 2019          | May-July total |             |
|--------------------|--------------|---------------|---------------|---------------|---------------|---------------|----------------|-------------|
| May                | 788          | 3,701         | 1,965         | 1,901         | 2,682         | 1,075         | <b>2018</b>    | <b>2019</b> |
| June               | 714          | 2,294         | 2,699         | 3,026         | 2,310         | 1,193         | 10,432         | 6,708       |
| July               | 2,523        | 4,887         | 5,383         | 8,978         | 5,440         | 4,440         | difference=    | -3,724      |
| August             | 2,305        | 6,140         | 4,279         | 6,343         | 6,926         | 4,977         | % difference=  | -36%        |
| September          | 1,607        | 2,038         | 3,060         | 1,700         | 1,572         | 1,599         |                |             |
| <b>Grand Total</b> | <b>7,937</b> | <b>19,060</b> | <b>17,386</b> | <b>21,948</b> | <b>18,930</b> | <b>13,284</b> |                |             |

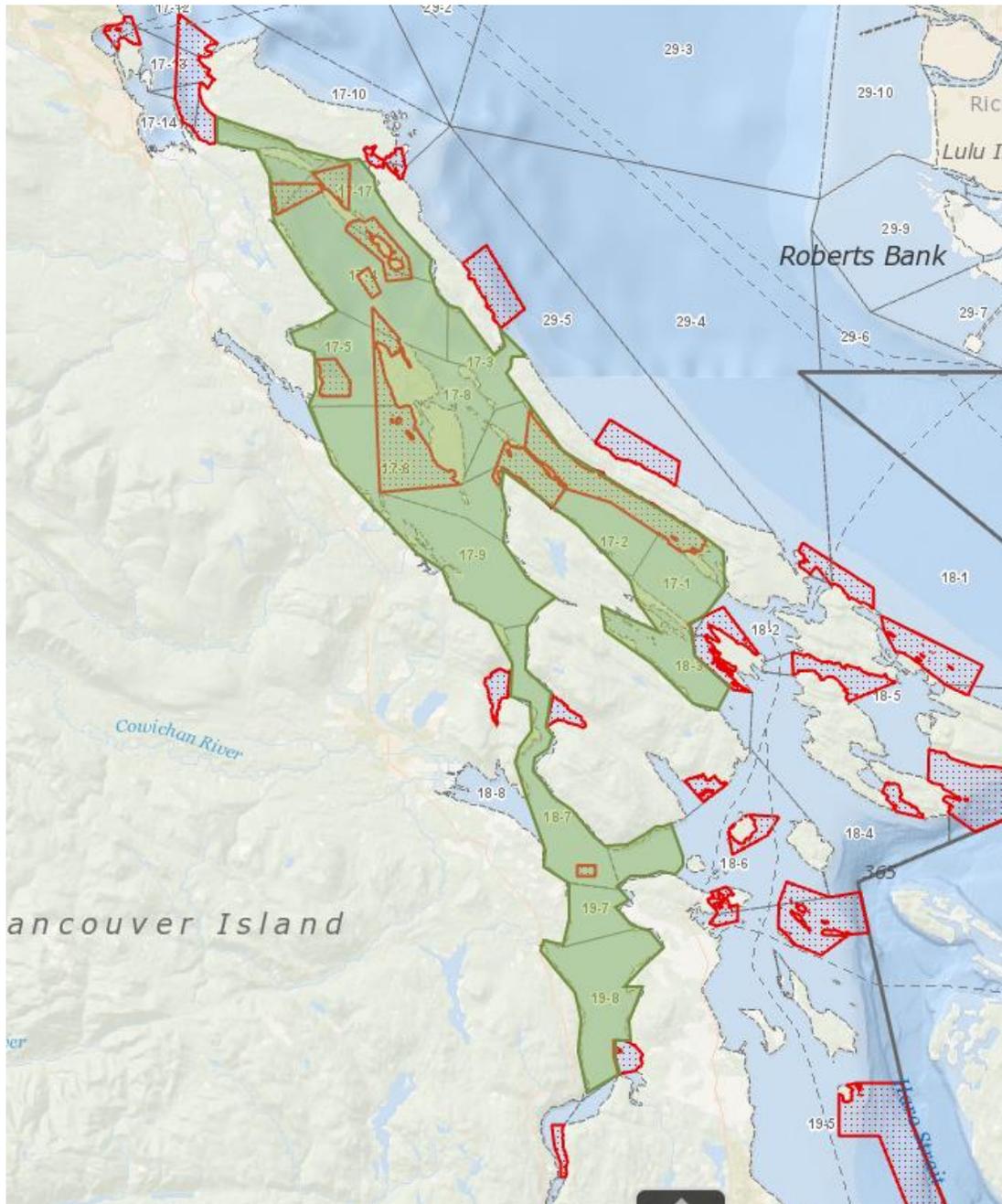
Catch of Chinook (marked or unmarked)

| MONTH              | 2014         | 2015         | 2016         | 2017         | 2018          | 2019         | May-July total |             |
|--------------------|--------------|--------------|--------------|--------------|---------------|--------------|----------------|-------------|
| May                | 228          | 3,001        | 1,562        | 714          | 3,790         |              | <b>2018</b>    | <b>2019</b> |
| June               | 180          | 767          | 1,713        | 2,279        | 1,767         | 9            | 9,003          | 2,665       |
| July               | 359          | 2,625        | 2,229        | 1,762        | 3,446         | 2,656        | difference=    | -6,338      |
| August             | 496          | 1,799        | 1,076        | 2,225        | 3,327         | 1,934        | % difference=  | -70%        |
| September          | 296          | 404          | 1,623        | 289          | 117           | 785          |                |             |
| <b>Grand Total</b> | <b>1,559</b> | <b>8,596</b> | <b>8,203</b> | <b>7,269</b> | <b>12,447</b> | <b>5,384</b> |                |             |

Area 17, 18, and Saanich Inlet. Proposed Mark Selective Fishery Chinook retention as shown in the following map.

**Proposed 2020 – Mark Selective Fishery** In the shaded green area shown, April to mid-July, 1 chinook per day hatchery any size over the minimum size limit, 2 in possession. The rest of the PFMA is chinook non-retention April to mid-July. Finfish or salmon closures around any rivers with spring / summer run Chinook.

**Mark Selective Fisheries** will allow for the retention of marked hatchery chinook in the times and areas identified. These fisheries are based on available fishery mark rate data (from creel observers, logbooks, and iREC) to establish the mark rate by time and area.



CWT, DNA, and mark rate data drop box at <https://www.dropbox.com/sh/yldkrpt3uaukd/AAA1nykQe2wN1OnJJsINfAgTa?dl=0>

## Area 17, 18 and Saanich Inlet (Cont'd)

### Proposed April – May 2021 PFMA 17.

MSF management in additional times and sub-areas TBD based on:

- Catch estimates from 2019 and 2020 fisheries.
- Run Reconstruction and forecast information for 2020 and 2021.
- Extremely low encounter rate of Fraser stream-type chinook stocks of concern.

Effort (boat trips) in PFMA 17 and 18 to show the importance of the fishery prior to July 15.

| MONTH              | 2014          | 2015          | 2016          | 2017          | 2018          | 2019          | May-July total |             |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|-------------|
| May                | 4,275         | 6,945         | 5,660         | 4,089         | 5,657         | 1,820         | <b>2018</b>    | <b>2019</b> |
| June               | 2,866         | 2,611         | 2,355         | 3,556         | 2,637         | 1,510         | 12,225         | 6,248       |
| July               | 4,085         | 5,573         | 4,359         | 4,804         | 3,931         | 2,918         | difference=    | -5,977      |
| August             | 6,126         | 6,878         | 4,636         | 10,230        | 3,907         | 4,340         | % difference=  | -49%        |
| September          | 1,263         | 2,367         | 2,998         | 3,691         | 1,189         | 1,565         |                |             |
| <b>Grand Total</b> | <b>18,615</b> | <b>24,374</b> | <b>20,008</b> | <b>26,370</b> | <b>17,321</b> | <b>12,153</b> |                |             |

Catch of Chinook (marked or unmarked) in this PFMA

| MONTH              | 2014         | 2015         | 2016         | 2017         | 2018         | 2019         | May-July total |             |
|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|-------------|
| May                | 4,141        | 4,046        | 3,214        | 1,768        | 5,682        | 0            | <b>2018</b>    | <b>2019</b> |
| June               | 1,710        | 595          | 788          | 641          | 859          | 16           | 7,507          | 877         |
| July               | 1,022        | 1,055        | 550          | 797          | 966          | 861          | difference=    | -6,630      |
| August             | 1,100        | 1,492        | 944          | 1,581        | 605          | 1,057        | % difference=  | -88%        |
| September          | 220          | 689          | 969          | 1,036        | 181          | 460          |                |             |
| <b>Grand Total</b> | <b>8,193</b> | <b>7,877</b> | <b>6,465</b> | <b>5,823</b> | <b>8,293</b> | <b>2,394</b> |                |             |

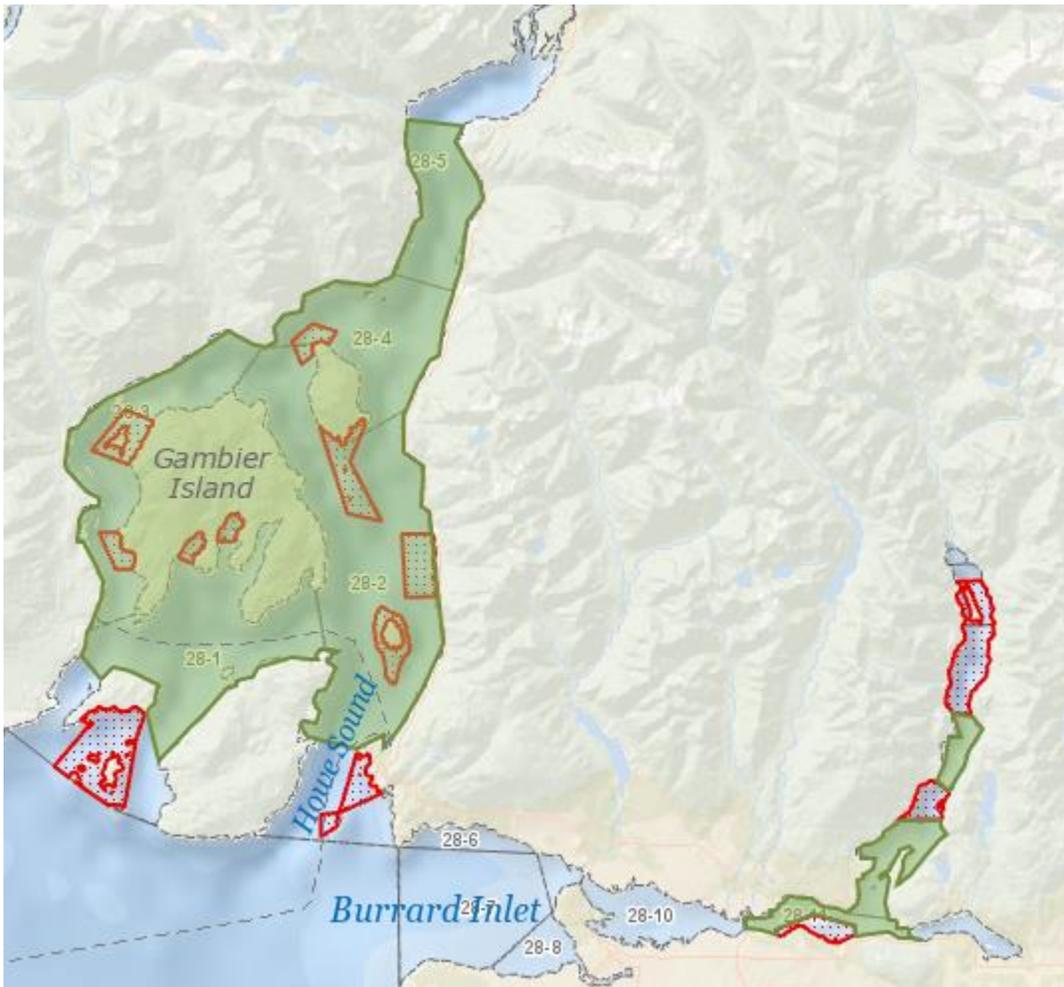
Area 28. Proposed Mark Selective data supported fishery Chinook retention in Howe Sound area as shown in the following map. For Sub-areas 28-11 and 12 (Indian Arm) a Hybrid fishery is proposed.

**Proposed 2020 – Mark Selective Fishery** In the shaded green area of Howe Sound shown, April to mid-July, 1 chinook per day hatchery any size over the minimum size limit, 2 in possession.

**Proposed 2020 – Hybrid Fishery** In the shaded green area of Indian Arm April to mid-July, 1 chinook per day, either a wild with a maximum size 80 cm or hatchery any size over the minimum size limit, 2 in possession. The rest of the PFMA is chinook non-retention April to mid-July. Finfish or salmon closures around any rivers with spring / summer run Chinook.

**Mark Selective Fisheries** will allow for the retention of marked hatchery chinook in the times and areas identified. These fisheries are based on available fishery mark rate data (from creel observers, logbooks, and iREC) to establish the mark rate by time and area.

**Hybrid fisheries** are data supported fishing areas which avoid Fraser stream-type migrants and incorporate the use of MSF and/or maximum size restrictions to adopt a higher level of protection to larger mature chinook returning to spawn this year.



CWT, DNA, and mark rate data in drop box

<https://www.dropbox.com/sh/yldkrpt3uaukd/AAA1nykQe2wN1OnJJsINfAgTa?dl=0>

## Area 28,29 (Cont'd)

In recent years Tenderfoot hatchery has increased the mark rate of its chinook production in order to evaluate a change in release strategy. 2019 was the first return year of chinook resulting from the higher mark rate program and anglers reported releasing many adult-sized adipose fin-clipped chinook last season in the timeframe the SFAB is proposing this MSF opportunity.

### Proposed April – May 2021 PFMA 28 & 29 – MSF Fisheries in additional times and sub-areas TBD based on:

- Catch estimates from 2019 and 2020 fisheries.
- Run Reconstruction and forecast information for 2020 and 2021.
- Extremely low encounter rate of Fraser stream-type stocks of concern.

Effort (boat trips) in PFMA 28 plus 29 to show the importance of the fishery prior to July 15.

| MONTH              | 2014          | 2015          | 2016          | 2017          | 2018          | 2019          | May-July total |             |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|-------------|
| May                | 1,692         | 2,896         | 2,898         | 5,727         | 5,102         | 1,351         | <b>2018</b>    | <b>2019</b> |
| June               | 1,661         | 3,523         | 3,688         | 2,774         | 2,407         | 1,464         | 11,155         | 5,499       |
| July               | 3,839         | 4,008         | 5,928         | 4,436         | 3,646         | 2,684         | difference=    | -5,656      |
| August             | 16,466        | 6,947         | 5,896         | 5,079         | 11,454        | 8,420         | % difference=  | -51%        |
| September          | 7,434         | 3,596         | 4,995         | 7,991         | 11,708        | 5,149         |                |             |
| October            |               | 1,731         |               | 529           |               |               |                |             |
| <b>Grand Total</b> | <b>31,092</b> | <b>22,701</b> | <b>23,405</b> | <b>26,536</b> | <b>34,317</b> | <b>19,068</b> |                |             |

Catch of Chinook (marked or unmarked) in PFMA 28 plus 29

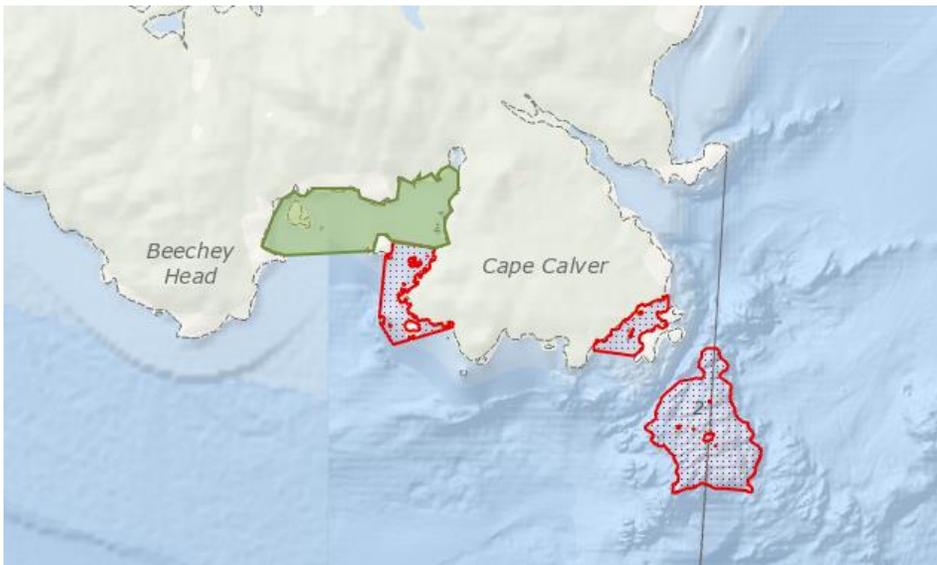
| MONTH              | 2014         | 2015         | 2016         | 2017          | 2018         | 2019          | May-July total |             |
|--------------------|--------------|--------------|--------------|---------------|--------------|---------------|----------------|-------------|
| May                | 638          | 1,081        | 1,220        | 2,416         | 4,510        | 30            | <b>2018</b>    | <b>2019</b> |
| June               | 193          | 698          | 943          | 681           | 465          | 8             | 5,222          | 370         |
| July               | 225          | 371          | 669          | 498           | 247          | 332           | difference=    | -4,852      |
| August             | 880          | 3,637        | 700          | 2,710         | 2,144        | 8,035         | % difference=  | -93%        |
| September          | 1,016        | 2,548        | 1,587        | 4,318         | 806          | 2,872         |                |             |
| October            |              | 304          |              | 51            |              |               |                |             |
| <b>Grand Total</b> | <b>2,952</b> | <b>8,639</b> | <b>5,119</b> | <b>10,674</b> | <b>8,172</b> | <b>11,277</b> |                |             |

Area 19 & 20 Juan de Fuca. Proposed Mark Selective Fishery in Becher Bay and San Juan Bay. Chinook retention in areas as shown in the following maps.

**Proposed 2020.** Mark Selective Fishery Becher Bay

In the shaded green area shown, April to end of July, 1 per day hatchery any size over the minimum size limit, 2 in possession. The rest of the PFMA is chinook non-retention April to end of July.

**Mark Selective Fisheries** will allow for the retention of marked hatchery chinook in the times and areas identified. These fisheries are based on available fishery mark rate data derived from creel observers, logbooks, and iREC.



CWT, DNA, and mark rate data in drop box

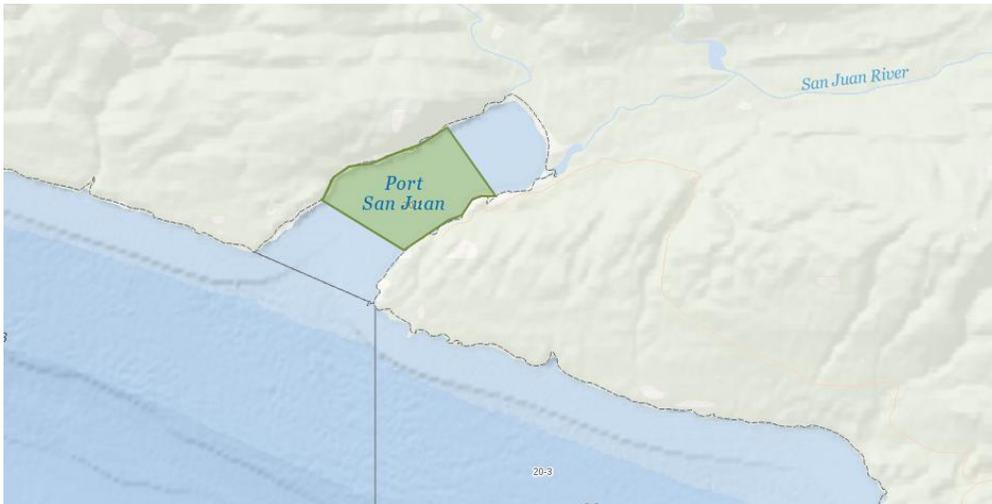
<https://www.dropbox.com/sh/ylfdkrtpt3uaukd/AAA1nykQe2wN1OnJJsINfAgTa?dl=0>

**Proposed 2020.** Mark Selective Fishery San Juan Bay.

In the shaded green area shown, April to end of July, 1 per day hatchery any size over the minimum size limit, 2 in possession. The rest of the PFMA is chinook non-retention April to end of July.

**Mark Selective Fisheries** will allow for the retention of marked hatchery chinook in the times and areas identified. These fisheries are based on available fishery mark rate data derived from creel observers, logbooks, and iREC.

## Area 20 (Cont'd)



CWT, DNA, and mark rate data in drop box

<https://www.dropbox.com/sh/ylfdkrpt3uaukd/AAA1nykQe2wN1OnJJsINfAgTa?dl=0>

**Proposed April 1 to May 31, 2021:** 1 per day, 2 in possession **MSF** for PFMA 19 West of Cadboro Point and PFMA 20-1 to 20-5 based on high mark rates and low incidence of Fraser River Stocks of concern.

Effort (boat trips) in PFMA 19-20 to show the importance of the fishery prior to end July.

| MONTH              | 2014          | 2015          | 2016          | 2017          | 2018          | 2019          | May-July total |             |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|-------------|
| April              | 1,965         | 4,311         | 3,343         | 2,340         | 1,691         | 1,709         | <b>2018</b>    | <b>2019</b> |
| May                | 4,748         | 4,117         | 5,040         | 2,818         | 4,216         | 3,170         | 13,870         | 7,373       |
| June               | 7,122         | 6,834         | 6,229         | 4,360         | 7,963         | 2,494         | difference=    | -6,497      |
| July               | 9,980         | 13,720        | 9,034         | 7,241         | 11,801        | 6,395         | % difference=  | -47%        |
| August             | 15,003        | 15,295        | 14,810        | 16,089        | 15,755        | 18,205        |                |             |
| September          | 7,699         | 8,271         | 8,714         | 12,098        | 9,515         | 11,659        |                |             |
| October            | 3,361         | 3,083         |               | 1,445         | 4,442         | 2,169         |                |             |
| <b>Grand Total</b> | <b>49,878</b> | <b>55,631</b> | <b>47,170</b> | <b>46,391</b> | <b>55,383</b> | <b>45,801</b> |                |             |

Catch of Chinook (marked or unmarked) in PFMA 19-20.

| MONTH              | 2014          | 2015          | 2016          | 2017          | 2018          | 2019          | May-July total |             |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|-------------|
| April              | 457           | 793           | 944           | 838           | 569           | 107           | <b>2018</b>    | <b>2019</b> |
| May                | 2,445         | 2,084         | 1,611         | 840           | 1,693         | 0             | 5,178          | 109         |
| June               | 3,524         | 4,541         | 1,668         | 1,974         | 2,916         | 2             | difference=    | -5,069      |
| July               | 5,051         | 9,357         | 4,231         | 4,358         | 7,433         | 870           | % difference=  | -98%        |
| August             | 6,471         | 17,335        | 10,605        | 15,328        | 13,276        | 17,135        |                |             |
| September          | 1,536         | 6,067         | 3,567         | 4,900         | 2,799         | 2,966         |                |             |
| October            | 51            | 74            |               | 373           | 1,312         | 114           |                |             |
| <b>Grand Total</b> | <b>19,535</b> | <b>40,251</b> | <b>22,626</b> | <b>28,611</b> | <b>29,998</b> | <b>21,194</b> |                |             |

Area 121. 2021 April – May Proposed Mark Selective Fishery.

Proposed April – May 2021 Area 121. MSF, 2 per day based on:

- CWT 1996-2019 data analysis for April and May from recreational fishery
- Lack of stocks of concern in the fishery time and area
- Chinook Hatchery Mark rates as high as 77%
- NTC First Nations advice to IFMP supporting Marked Selective Fisheries
- **Mark Selective Fisheries** will allow for the retention of marked hatchery chinook in the times and areas identified. These fisheries are based on available fishery mark rate data derived from creel observers, logbooks, and iREC.

| AREA 121 APRIL AND MAY               |                       |                     |                            |                      |   |
|--------------------------------------|-----------------------|---------------------|----------------------------|----------------------|---|
| (RC) Recovery Year                   | (All)                 | ▼                   |                            |                      |   |
| (RC) Catch Region Name               | (Multiple Items)      | ▼                   |                            |                      |   |
| (RC) MRP Area Name                   | PFMA 121 - Open water | ▼                   | Southwest of Pachena Point |                      |   |
| <b>Count of (RC) Observed Number</b> |                       |                     |                            | (RL) Harvest         | ▼ |
| (RC) PFMA SubArea Code               | ▼                     | (RC) Recovery Month | ▼                          | (RC) Sport Site Name | ▼ |
| <b>Grand Total</b>                   |                       |                     |                            | (RL) Stock Site No.  | ▼ |
| <b>Grand Total</b>                   |                       |                     |                            |                      |   |

Area 123. 2021 April – May Proposed Mark Selective Fishery.

Proposed April – May 2021 Area 123. MSF, 2 per day based on:

- CWT 1996-2019 data analysis for April and May from recreational fishery
- Lack of stocks of concern in the fishery time and area
- Chinook Hatchery Mark rates greater than 50%
- NTC First Nations advice to IFMP supporting Marked Selective Fisheries
- **Mark Selective Fisheries** will allow for the retention of marked hatchery chinook in the times and areas identified. These fisheries are based on available fishery mark rate data derived from creel observers, logbooks, and iREC.

| AREA 123 APRIL AND MAY        |                       |                      |                      |               |             |  |
|-------------------------------|-----------------------|----------------------|----------------------|---------------|-------------|--|
| (RC) Recovery Year            | (All)                 |                      |                      |               |             |  |
| (RC) Catch Region Name        | West Coast Vancouver  | Sport                |                      |               |             |  |
| (RC) MRP Area Name            | PFMA 123 - Open water | Southwest of Uduelet |                      |               |             |  |
| Count of (RC) Observed Number |                       |                      |                      | (RL) Hatchery |             |  |
| (RC) PFMA SubArea Code        | (RC) Recovery Month   | (RC) Sport Site Name | (RL) Stock Site Name | LWFR          | Grand Total |  |
| 123-5                         | 5                     | SOUTH BANK           | Chilliwack R         | 1             | 1           |  |
| 5 Total                       |                       |                      |                      | 1             | 1           |  |
| 123-8                         | 5                     | BIG BANK             | Harrison R           | 1             | 1           |  |
|                               |                       |                      |                      | Stave R       | 1           |  |
| 5 Total                       |                       |                      |                      | 2             | 2           |  |
| (blank)                       | 5                     | (blank)              | Stave R              | 2             | 2           |  |
| 5 Total                       |                       |                      |                      | 2             | 2           |  |
| <b>Grand Total</b>            |                       |                      |                      | <b>5</b>      | <b>5</b>    |  |

Area 124. 2021 April – May Proposed Mark Selective Fishery.

Proposed April – May 2021 Area 124. MSF, 2 per day based on:

- CWT 1996-2019 data analysis from recreational fishery
- Lack of stocks of concern in the fishery time and area
- Chinook Hatchery Mark rates greater than 40%
- NTC First Nations advice to IFMP supporting Marked Selective Fisheries
- **Mark Selective Fisheries** will allow for the retention of marked hatchery chinook in the times and areas identified. These fisheries are based on available fishery mark rate data derived from creel observers, logbooks, and iREC.

| AREA 124 APRIL AND MAY        |                       |                              |                      |               |             |  |
|-------------------------------|-----------------------|------------------------------|----------------------|---------------|-------------|--|
| (RC) Recovery Year            | (All)                 |                              |                      |               |             |  |
| (RC) Catch Region Name        | West Coast Vancouver  | Sport                        |                      |               |             |  |
| (RC) MRP Area Name            | PFMA 124 - Open water | southwest of Clayoquot Sound |                      |               |             |  |
| Count of (RC) Observed Number |                       |                              |                      | (RL) Hatchery |             |  |
| (RC) PFMA SubArea Code        | (RC) Recovery Month   | (RC) Sport Site Name         | (RL) Stock Site Name | LWFR          | Grand Total |  |
| 124-3                         | 5                     | LONG BEACH                   | Chilliwack R         | 1             | 1           |  |
|                               | 5 Total               |                              |                      | 1             | 1           |  |
| (blank)                       | 5                     | (blank)                      | Stave R              | 1             | 1           |  |
|                               | 5 Total               |                              |                      | 1             | 1           |  |
| <b>Grand Total</b>            |                       |                              |                      | <b>2</b>      | <b>2</b>    |  |

Area 125-127 (NWVI). 2021 April – May Proposed Mark Selective Fishery.

Proposed April – May 2021 MSF, 2 per day based on:

- CWT 1996-2019 data analysis from recreational fishery
- Lack of stocks of concern in the fishery time and area
- Chinook mark rates greater than 40% as supported by Area G troll fishery data.
- NTC First Nations advice to IFMP supporting Marked Selective Fisheries
- **Mark Selective Fisheries** will allow for the retention of marked hatchery chinook in the times and areas identified.

| AREA 125 126 127 (NWVI) APRIL AND MAY |                                  |                                  |                                  |
|---------------------------------------|----------------------------------|----------------------------------|----------------------------------|
| (RC) Recovery Year                    | (All)                            | <input type="button" value="v"/> |                                  |
| (RC) Catch Region Name                | West Coast Vancouver             | <input type="button" value="v"/> | Sport                            |
| (RC) MRP Area Name                    | (Multiple Items)                 | <input type="button" value="v"/> | Area 125 126 127 (NWVI)          |
| <b>Count of (RC) Observed Number</b>  |                                  |                                  | <b>(RL)</b>                      |
| (RC) PFMA SubArea Code                | <input type="button" value="v"/> | (RC) Recovery Month              | <input type="button" value="v"/> |
|                                       |                                  | (RC) Sport Site Name             | <input type="button" value="v"/> |
|                                       |                                  | (RL) Stock Site N                | <input type="button" value="v"/> |
| <b>Grand Total</b>                    |                                  |                                  |                                  |
|                                       |                                  |                                  |                                  |