

## Management Plan for Section 17 *Land Act* Reserve for 10 Key White Sturgeon Spawning Areas on the Fraser River between Chilliwack and Hope.

### Section 1. Rationale for Proposal

The purpose of this proposal is the establishment of a Section 17 reserve under the *Land Act* for 10 areas of the lower Fraser River identified as critical White Sturgeon spawning habitat. These 10 areas are presented in Table 1 and in the accompanying map(s), and are proposed to include all areas unalienated, unencumbered and unsurveyed foreshore or land covered by water being part of the bed of the Fraser River, containing a total area of 867.5 hectares.

**Table 1 Lower Fraser River critical White Sturgeon spawning habitat locations, 2018.**

Site Name	Municipality	River Km (downstream)	River Km (upstream)	Area (ha.)
Jesperson's Side Channel and Gill Bar	Chilliwack	115.0	119.0	82.2
Hamilton Bar	Kent	116.0	120.0	108.0
Herring Island Side Channel		127.5	133.0	99.0
Seabird Island Side Channel	Kent	136.0	138.0	80.9
Ruby Creek Side Channel		145.5	146.5	14.7
Hunter Creek Main Stem		146.5	148.0	34.9
Floods Bar Main Stem	Hope	150.0	152.5	119.0
Bristol Island Side Channel and Landstrom Bar Main Stem	Hope	154.5	156.5	110.0
Coquihalla Fan Main Stem and Side Channel	Hope	159.0	162.5	143.0
Bar 289 Main Stem	Hope	162.5	164.5	75.8

Lower Fraser River White Sturgeon (LFRWS) face a multitude of threats and stressors including fishing-related mortalities and impacts to critical habitat from land development, bank stabilization, dredging and gravel mining operations that continue to put downward pressure on the population. Although annual adult abundance estimates of LFRWS have been relatively stable over the past 10 years, the abundance of juvenile White Sturgeon has decreased dramatically (Nelson et al. 2017). In addition, low spawning success and high juvenile mortality indicates the LFRWS population has been experiencing a significant decline in juvenile recruitment since 2004 (Nelson et al. 2017; Challenger et al. 2017). As such, the protection of sturgeon spawning habitat has been identified as critical to the recovery of the LFRWS population, and it is essential these limiting habitats are protected to help reverse recent recruitment failures and ensure the long-term survival and recovery of the population continues (Fisheries and Oceans Canada 2014; FFRWS 2004; Hatfield 2004; Leibe and Sykes 2011; Paradis et al. 2012).

Since the late 1990's a number of studies have been conducted in the lower Fraser River to identify and monitor LFRWS spawning habitat (Perrin et al. 1999, 2000; Phelps et al. 2013; English et al. 2014; Stoddard E. 2014, 2017). A summary of these studies including a comprehensive list of confirmed LFRWS spawning locations (i.e., Table 1) is presented in the Lower Fraser White Sturgeon Spawning Habitat Confirmation Project, Interim Report (Stoddard, E. 2017). Together, these studies have identified

that White Sturgeon spawning habitat requires specific geomorphic and hydrologic characteristics to be successful and, more importantly, that spawning habitat is limited in the lower Fraser River. The LFRWS spawning areas identified in these studies were found to contain many of the important spawning habitat characteristics including the presence of unembedded gravel/cobble substrates free from the effects of bank erosion and sedimentation, water depths typically between 1-5 m, higher water velocities, the presence of a natural structure to divert flow and debris away from the area, and were in relative close proximity to suitable staging/holding habitat. In addition, successful spawning was confirmed at all sites through the collection of sturgeon eggs and/or larvae.

In 2017, FLNRORD engaged in consultation with the Lower Fraser Fisheries Alliance (LFFA) and with local angling associations on the importance of protecting these 10 key spawning areas to ensure the long-term spawning and recruitment success of the LFRWS. Protection of these areas was broadly supported by these groups; however, concerns were raised about how protection measures would impact fishing opportunities. Although a Section 17 reserve is currently in place for the gravel reach section of the lower Fraser River, between Mission and Hope, this reserve is focussed on the cumulative impacts of gravel extraction projects on the broader ecological values of the lower Fraser River. A Section 17 reserve on specific LFRWS spawning habitats will ensure these critical, small-scale habitats are specifically identified regarding their high conservation value for LFRWS recruitment. In addition, creating a reserve around these specific areas will be in alignment with current FLNRORD management priorities and objectives, and will maintain a high quality natural environment.

## **Section 2. Conditions for proposed Section 17 reserve**

Given the above described threats and pressures facing LFRWS and the risks associated with the lack of specific tools to ensure protection critical spawning habitats under the *Land Act* or *Water Act*, it is proposed to establish a Section 17 reserve under the *Land Act* for the 10 key LFRWS spawning areas described in Table 1. These areas are defined as the area below the high water mark (HWM) of the river and include all foreshore or land covered by water being part of the bed of the Fraser River.

### **Applicant:**

Fish and Aquatic Wildlife, South Coast Natural Resource Region.

### **Proposed Excluded and/or Limited Land Use:**

The intent of this Section 17 reserve is to exclude and/or limit all proposed projects that could result in direct or cumulative impacts to critical LFRWS spawning habitat in the Fraser River. Specifically, these types of projects include, but are not limited to:

- Sediment extraction (e.g., mining and/or dredging);
- Bank alteration and/or stabilization (e.g., placement of riprap below the HWM);
- Culvert and/or bridge construction that requires alteration of the banks or river bed and/or placement of pillars below the HWM that may alter flow patterns; and
- Removal of riparian vegetation.

### **Application:**

All new applications and tenures up for renewal

### **Term:**

The proposed term for this reserve is 10 years. During this time, spawning and juvenile monitoring will continue at a few key indicator sites within the proposed reserve. In addition, consultation will continue with local stakeholders to ensure the reserve receives adequate protection from fishing related mortalities. An extension of the term will depend on juvenile population recruitment and future spawning monitoring.

### **Conditions for accepting applications:**

As a Section 17 reserve does not exclude applications from being accepted, applications may be considered for approval where the proponent can provide sufficient documentation prepared and signed by a Qualified Professional that their project will not adversely impact sturgeon spawning habitat or increase the risk for cumulative impacts to sturgeon in general.

### **Referrals:**

As discussed above, informal consultation with First Nations (i.e., LFFA) and local stakeholders (FVAGA and SCAAT) and will continue throughout 2018. However, as the reserve does not include activities above the HWM (i.e., land-based), the Province is not obliged to consult with First Nations. Consultation with other relevant departments within FLNRORD (i.e., Water, Lands, Flood etc.) is ongoing. Consequently, there is no additional benefit of sending any referrals on this application.

## **Section 3. Impact to existing and proposed land use**

### **Impact to existing land use**

This reserve will impact current tenure holders that have ongoing and/or annual requirements to install culverts and/or pillars below HWM to facilitate access to islands within the reserve. This reserve will also impact current tenure holders for sediment extraction if their tenure is up for renewal and they are unable to provide sufficient information to ensure their project will not adversely impact sturgeon spawning habitat in order to renew their tenure.

### **Impact to proposed land use**

This reserve will create additional application criteria (i.e., protection measures) for any new application that may lead to adverse impacts, either direct or cumulative, to sturgeon spawning habitat within the reserve boundaries, but does not exclude any new application from being accepted and tenures being issued. Recently, several applications have been submitted that may result in direct or cumulative impacts to sturgeon spawning habitat within the proposed reserve or may facilitate future projects that may adversely impact these areas. As indicated above, this reserve will provide additional, site-specific protection measures, encourage future applications to consider alternative locations and/or designs to reduce impacts and will allow FLNRORD to meet key species management objectives.

## **Section 4. Review process**

When new applications for proposed projects within the reserve are submitted or existing projects are up for renewal they should be referred to the Fish and Aquatic Wildlife Resource team to determine if the application contains adequate information to confirm the project will not result in direct or indirect adverse impacts to sturgeon spawning habitat. Upon confirmation of no adverse impacts, the project can be considered for approval.