

FRSCS Lower Fraser River White Sturgeon Monitoring and Assessment Program Program Summary 2016

This brief program summary, prepared by the Fraser River Sturgeon Conservation Society (FRSCS), provides an update regarding the Society's Lower Fraser River White Sturgeon Monitoring and Assessment Program. The FRSCS, a not-for-profit charitable organization founded in 1997, has a mandate to conserve and restore the population of wild White Sturgeon in the Fraser River. This mandate is addressed through the development and implementation of credible science-based research, monitoring, assessment, and education programs. Results of these initiatives are distributed to both the public and the authorities that manage White Sturgeon and their habitat. The award-winning, stewardship-based monitoring and assessment program is supported through significant in-kind contributions from program volunteers, with major funding provided by the Habitat Conservation Trust Foundation.

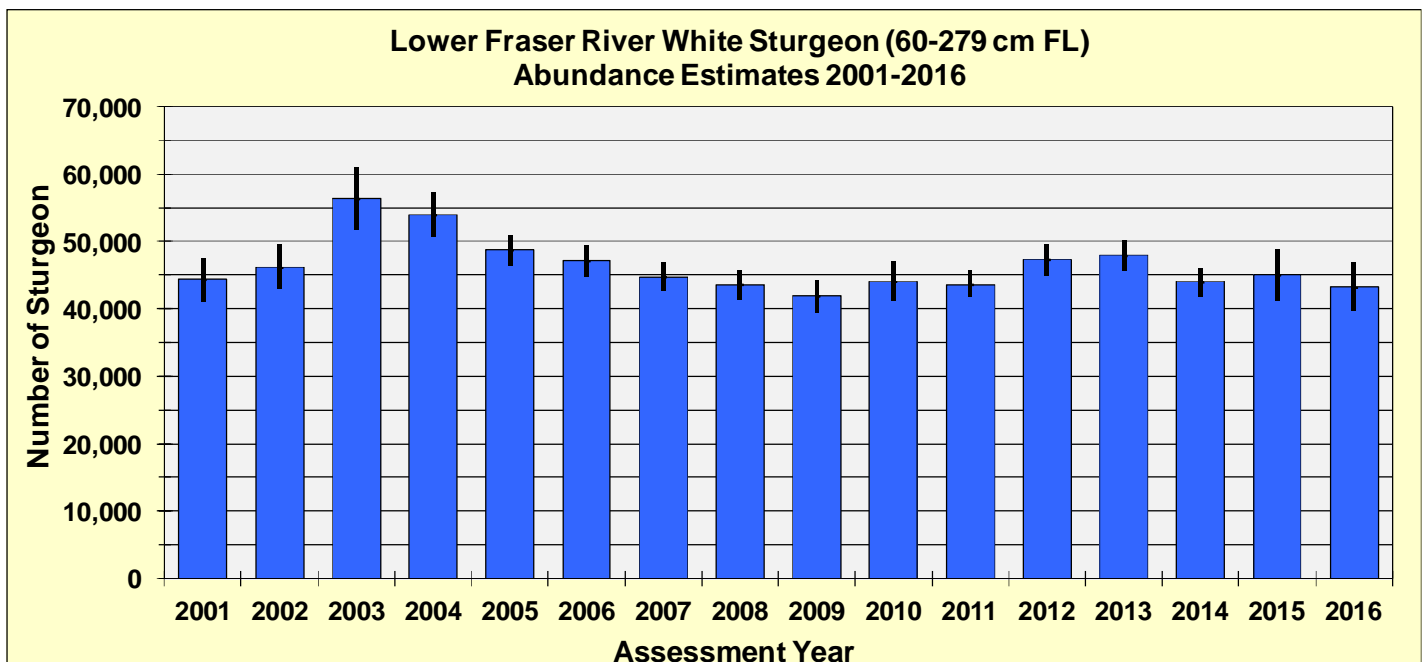


Since April 2000, the FRSCS Lower Fraser River White Sturgeon Monitoring and Assessment Program has relied on trained volunteers to collect and transfer sturgeon sampling data. FRSCS volunteers include angling guides, recreational, commercial, and Aboriginal fishermen, test fishery and enforcement personnel, academics, post-secondary students, and various fishery monitors. The monitoring and assessment program produces annual estimates of the numbers of White Sturgeon in the lower Fraser River using a mark-recapture approach. Each year, FRSCS volunteers sample several thousand live sturgeon for the presence of uniquely numbered "PIT" tags. During sampling, volunteers record the tag numbers from any recaptured sturgeon, and apply tags ("marks") to previously untagged sturgeon. Volunteers also collect measurements for fork length (FL) and girth, take note of any wounds or deformities, and assess the overall condition of each sturgeon prior to release.

Lower Fraser River White Sturgeon Abundance Estimates 2016

As of January 2016, the mean abundance estimate for White Sturgeon from 60-279 cm FL in the lower Fraser River was 43,196 (95% CLs \pm 8.5% of the estimate). Annual abundance estimates represent the mean number of White Sturgeon 60-279 cm fork length (FL) present within the lower Fraser River core study area during the respective assessment year. The 2016 abundance estimate is 23.4% lower than the 2003 estimate (Figure 1).

Figure 1. Comparison of mean annual estimates of Lower Fraser River White Sturgeon (60-279 cm FL), 2001-2016. The vertical lines at the top of each bar show the 95% confidence limits.



The observed decline in the total abundance of White Sturgeon in the lower Fraser River since 2003 was likely driven mostly by declines in juvenile recruitment into the population. Since 2004 there has been a significant decline (68.8%) in the abundance of 60-99 cm FL fish (green line on Figure 2). During this same time period increases in abundance have occurred for sturgeon larger than 160 cm FL (red line on Figure 2). While an increasing number of larger-sized sturgeon provides potential security for population rebuilding and recovery, this can only be realized if juvenile recruitment occurs at a level sufficient to maintain and grow the population over time.

The number of sturgeon examined for the presence of a PIT tag each year has exceeded 7500 since 2005. The annual mark rate has increased in most years since 2000. In 2016 the overall mark rate was 71.4% (Figure 3).

Figure 2. Estimates of the numbers of three size groups of White Sturgeon in the lower Fraser River, 2004-2016.

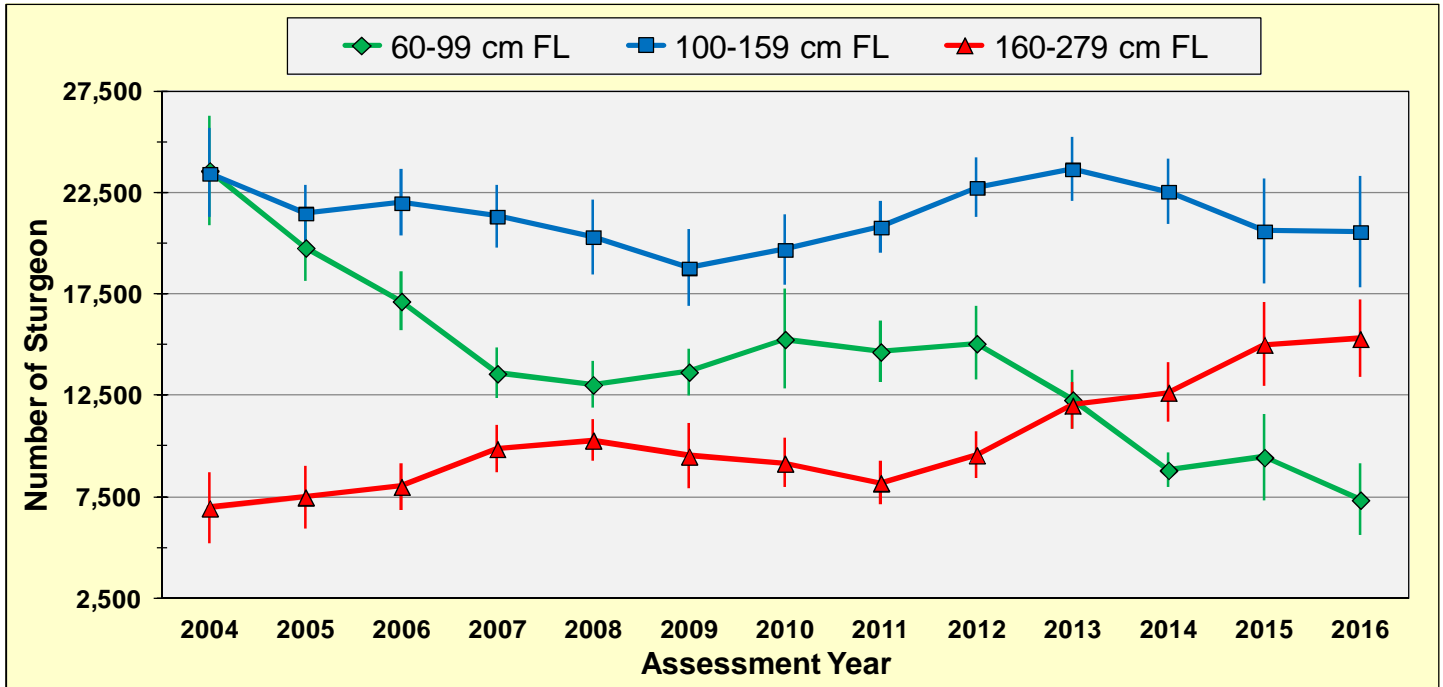


Figure 3. Number of sturgeon examined for the presence of a PIT tag and the annual mark rate, 2000-2016.

