

FRSCS Lower Fraser River White Sturgeon Monitoring and Assessment Program Program Summary 2015

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.

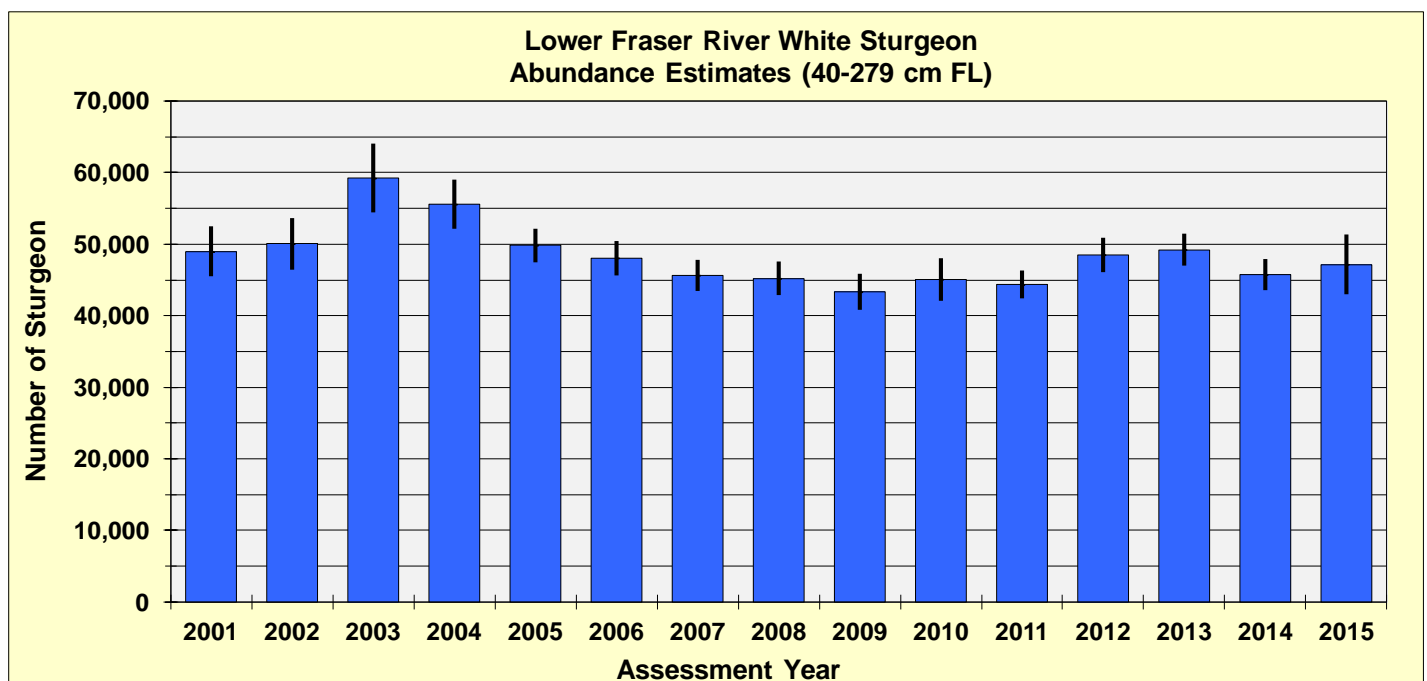


Since April 2000, the FRSCS Lower Fraser River White Sturgeon Monitoring and Assessment Program has relied on trained volunteers to collect and transfer sturgeon sampling data. FRSCS volunteers include angling guides, recreational, commercial, and Aboriginal fishermen, test fishery and enforcement personnel, 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 apply tags ("marks") to untagged sturgeon, and record the tag numbers from tagged sturgeon (recaptures). 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 2015

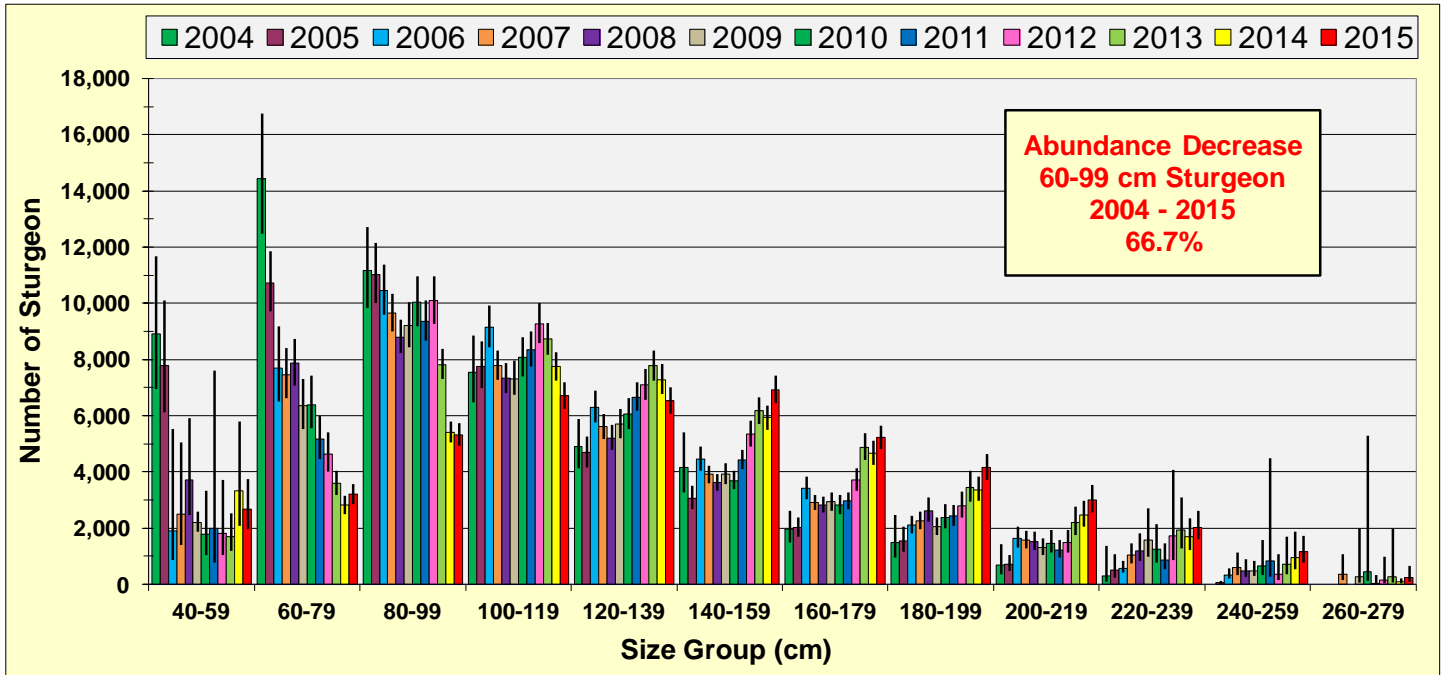
As of January 2015, the mean abundance estimate for White Sturgeon from 40-279 cm FL in the lower Fraser River was 47,166 (95% CLs +/- 8.8% of the estimate). Annual abundance estimates represent the mean number of White Sturgeon 40-279 cm FL present within the lower Fraser River core study area during the respective assessment year. The 2015 abundance estimate is 20.4% lower than the 2003 estimate (Figure 1).

Figure 1. Comparison of mean annual estimates of lower Fraser River White Sturgeon (40-279 cm FL), 2001-2015. The ends of the vertical lines at the top of each bar represent the 95% confidence limits.



Each year, abundance estimates of White Sturgeon by 20-cm size group are produced to monitor changes within the total population (Figure 2). Comparable estimates by size group indicate that the greatest decline has been for sturgeon less than 100 cm FL. While there is greater uncertainty associated with the abundance estimates for 40-59 cm FL sturgeon, the consistent decline in the 60-79 cm FL size group, and recent decline in the 80-99 cm FL size group, is of significant concern. The estimated abundance of White Sturgeon over 140 cm FL has been generally trending upward since 2010. This is in part a result of fishery restrictions and retention closures enacted in 1994, but also survival and growth of fish from smaller size groups into larger size groups.

Figure 2. Mean abundance estimates of White Sturgeon in the lower Fraser River, by 20-cm size group, 2004-2015.



The number of sturgeon examined for the presence of a PIT tag each year has exceeded 8000 since 2005. The annual mark rate has increased in most years since 2000. In 2015 the overall mark rate was 67.0% (Figure 3).

Figure 3. Number of sturgeon examined for the presence of a PIT tag and the annual mark rate, 2000-2015.

