



## Nechako White Sturgeon Fact Sheet

*This overview has been prepared by Jayson Kurtz, Water Engagement Initiative Technical Coordinator, to outline our general understanding of white sturgeon in the Nechako watershed. This overview is based on specific scientific studies and a general understanding of the species. The information is intended to provide a starting point for further discussion as the main table identifies issues of interest, and considers operating alternatives, additional studies or other mitigation options.*

### Life History: biology and habitat use

- Reasonably well understood
- Non-bony fish (similar to sharks) with distinctive appearance: pointed nose, barbells (“whiskers”), and scutes (bony plates) not scales
- Live entire life cycle in large rivers (and some lakes)
- Adults 1-3m long in Nechako, larger in other populations
- Long lived (> 100 years)
- Late maturity: females 30-40 years old before spawning, males 20-25
- Very fecund (up to 800,000+ eggs) and can repeat spawn every 3-6 years
- Springtime migration to only known spawning site near Vanderhoof
- Adults broadcast spawn mid-May – June over cobble bottom
- Eggs sink, stick to rocks for protection from predators
- Tadpole-like larvae hatch <1 month and have 2 phases: “hiding” and “feeding”
- Juveniles < 1-month old look like miniature adults (several cm to 1m long)
- Juveniles disperse and move between habitats in main river and off-channel area
- Young sturgeon eat larval insects, freshwater clams and snails
- Adults prefer large pools, back eddies, and below rapids
- Adults feed primarily on fish, including adult salmon



## Distribution

- Well understood
- Very limited in BC: Kootenay/Columbia Rivers, Fraser River, Nechako River
- Nechako population includes Stuart and Nautley watersheds (including Fraser, Takla, Trembleur and Stuart Lakes)
- Nechako population separate from upper Fraser
- One known spawning location adjacent to Vanderhoof
- No known/viable population upstream of Nechako Canyon

## Population Status and Trends

- Reasonably well understood
- Population declining
- 1967 estimate 1600 mature adults
- 2012 estimate 243-630 mature adults
- Extremely limited recruitment (recently recorded only in 1995, 2007, 2011)
- Listed as critically imperilled (British Columbia Conservation Data Centre) and as an endangered species (Committee on the Status of Endangered Wildlife in Canada COSEWIC and Federal *Species at Risk Act*)

## Impacts from Hydro

- General impacts generally understood
  - Loss of recruitment
  - (migration barriers in other watersheds)
- Specific mechanism of impact less clear (**Data Gap**):
  - Spawning habitat quality (excess sand and sediment)?
  - Water quantity and timing (hydrograph)?
  - Water velocity?
  - Water quality (turbidity)?
  - Other?
- Other factors that might limit population

- Predation (otters)
- Poaching/fishing
- Low population/genetic diversity

### Recovery Initiatives

- Federal Recovery Strategy
  - Federal *Species at Risk Act* Recovery
  - Recovery targets 1000 mature adults
  - Provides habitat protection
- Nechako White Sturgeon Recovery Initiative (NWSRI)
  - Multi-stakeholder: BC, Canada, Indigenous Groups, industry, public
  - Hatchery program
    - Rebuild and maintain population until natural recruitment is restored
  - Monitoring and Research
    - Population size
    - Spawning and survival
    - Spawning gravel placement and cleaning
    - Migration
    - Sediment transport
    - Predation
    - Genetics
  - Education and Community Outreach
    - Bycatch release
    - Community signage
    - School curriculum
    - Conservation center tours



**Priority Areas For Activity**

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| <span style="border: 1px solid blue; padding: 2px;"> </span> Medium | <span style="border: 1px solid red; padding: 2px;"> </span> Critical           |
| <span style="border: 1px solid yellow; padding: 2px;"> </span> High | <span style="border: 1px solid black; padding: 2px;"> </span> Recovery Actions |

✗ Severe bottleneck for recruitment

**Factors Potentially Affecting Survival**

- Water quantity and timing
- Water velocity
- Spawning habitat location and quality
- Predation
- Poaching/fishing

