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GMSMON-13

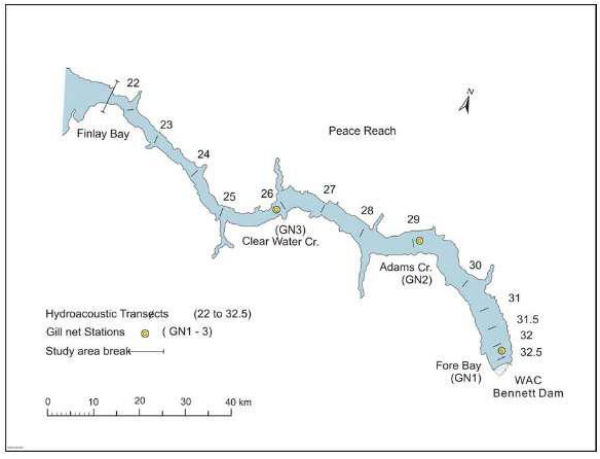
Williston Reservoir Fish Index Study

Establishing fish population data in the Peace Reach

The Peace River Water Use Plan (WUP) Committee recommended an index study of fish in Williston Reservoir that with together with the WAC Bennett Dam Entrainment study GMSMON-4 would assess the impact of spillway operations on reservoir fish populations. The objective of this study is to determine fish species, location and abundance in the Peace Reach, the population closest to the dam. This study was completed in 2008 utilizing gill net and acoustic sampling methods.

Questions We Wanted to Answer

1. What fish species are present in the Williston Reservoir?
2. How abundant are fish species in the reservoir?
3. How are fish distributed within the water column of the reservoir?



Study Update

- Kokanee are the dominant species.
- The forebay area is least productive.
- The abundance of fish had doubled to 3.2 million from previous estimates conducted in 2000.
- Fish smaller than 460 mm were found at depths of 10 to 17 meters while larger fish preferred depths of 45 to 80 meters.

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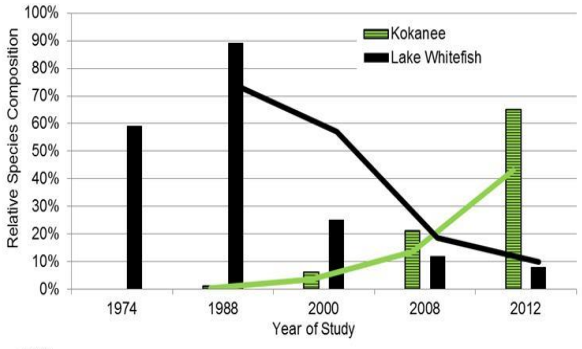
Lessons Learned

- An assumption of the 2008 study was that year to year variability of the population was minor and could be applied to future spillway operations.
- A review of the 2008 study and other data tested this assumption and found that population variations were not as stable as presumed.



Relative abundance of Kokanee, Lake Whitefish captured within 15 km of W.A.C. Bennett Dam, 1974-2012. Source: Plate et al. 2012

Key Findings and Next Steps

- In the summer of 2012 spillway operations triggered the companion study, GMSMON-4.
- The fish populations near the forebay were sampled again in 2012 to provide a more accurate estimate for the entrainment study GMSMON-4.