

**Williston Debris**

GMSWORKS-18 Williston Debris Field Survey Project

GMSWORKS-22 Williston Debris Removal Project

## Williston Debris Field Survey Project

### Determination of debris recruitment, inventory and burning alternatives

The Peace Water Use Plan Committee recommended a study to collect information on the volume and recruitment of debris, as well as, to develop a management strategy for debris in the Williston Reservoir. The debris data will be used with the Williston Debris Trends monitoring program (GMSMON-16) to assess the effectiveness of the Williston Targeted Debris Management Project (GMSWORKS-22).



#### Questions We Wanted to Answer

1. What is the quantity and location of existing debris?
2. What is the recruitment rate of debris into the reservoir?
3. Are there reasonable cost effective alternatives to burning debris?



#### Project Update

- A debris survey and contribution analysis was completed in 2009.
- Removal methods, types of burning and bio-energy opportunities were compared in the 2014 debris strategy report.

# Williston Debris Field Survey Project



## Lessons Learned

- Costs associated with chipping and transporting debris outweigh the economic value of the fibre.
- Eroded banks were found to be a major contributor to volumes of woody debris.



## Key Findings and Next Steps

- The debris field survey estimated 1.3 million cubic meters of debris within Williston Reservoir, mostly in ribbons and piles along the shoreline of Finlay Arm.
- Analysis of recruitment rates estimate that erosion of bank and shoreline areas contribute approximately 13,200 cubic meters of woody material to the reservoir per year.
- The survey and contribution analysis will be repeated near the completion of the debris removal program to evaluate the remaining inventory.
- To date, no economically practicable alternative options for debris removal have been realized.
- This project is complete.

## Williston Debris Removal Project

### Targeted debris removal in the Williston Reservoir

The Peace Water Use Plan Committee recommended a program of targeted debris removal. The objective of this project is to provide ten years of debris management to improve navigation and recreation access, remove debris at known problem locations and physical works trial locations. The Williston Debris Trends monitoring program (GMSMON-16) will be evaluating the effectiveness of this debris removal program along with the debris data collected in the Williston Debris Field Survey Project (GMSWORKS-18).



### Project Objectives

1. Manage debris to:
  - Minimize damage to physical works trial sites;
  - Improve navigation and access around boat launches;
  - Improve fish access to tributaries; and
  - Reduce shoreline erosion and destruction to riparian vegetation.



### Project Update

- The Williston Debris Removal project is in its eighth year of ten.
- Pre-season flights provide a good overview for the annual debris management strategies.
- Since 2013, Chu Cho Industries has piled an estimated 52,000 cubic metres of debris above the high water mark.
- Burning some of these piles began in 2015.

# Williston Debris Removal Project



## Lessons Learned

- The system for debris removal and management has been refined over time to increase efficiency.
- Weather conditions can greatly effect debris operations and can limit opportunities for burning.



## Key Findings and Next Steps

- Selection of treatment areas need to consider a number of factors, including accessibility, operational feasibility, and priority accumulation areas.
- Effectiveness of the targeted debris removal will be evaluated in GMSMON-16 which has not yet started.
- Debris removal and management is an ongoing process.