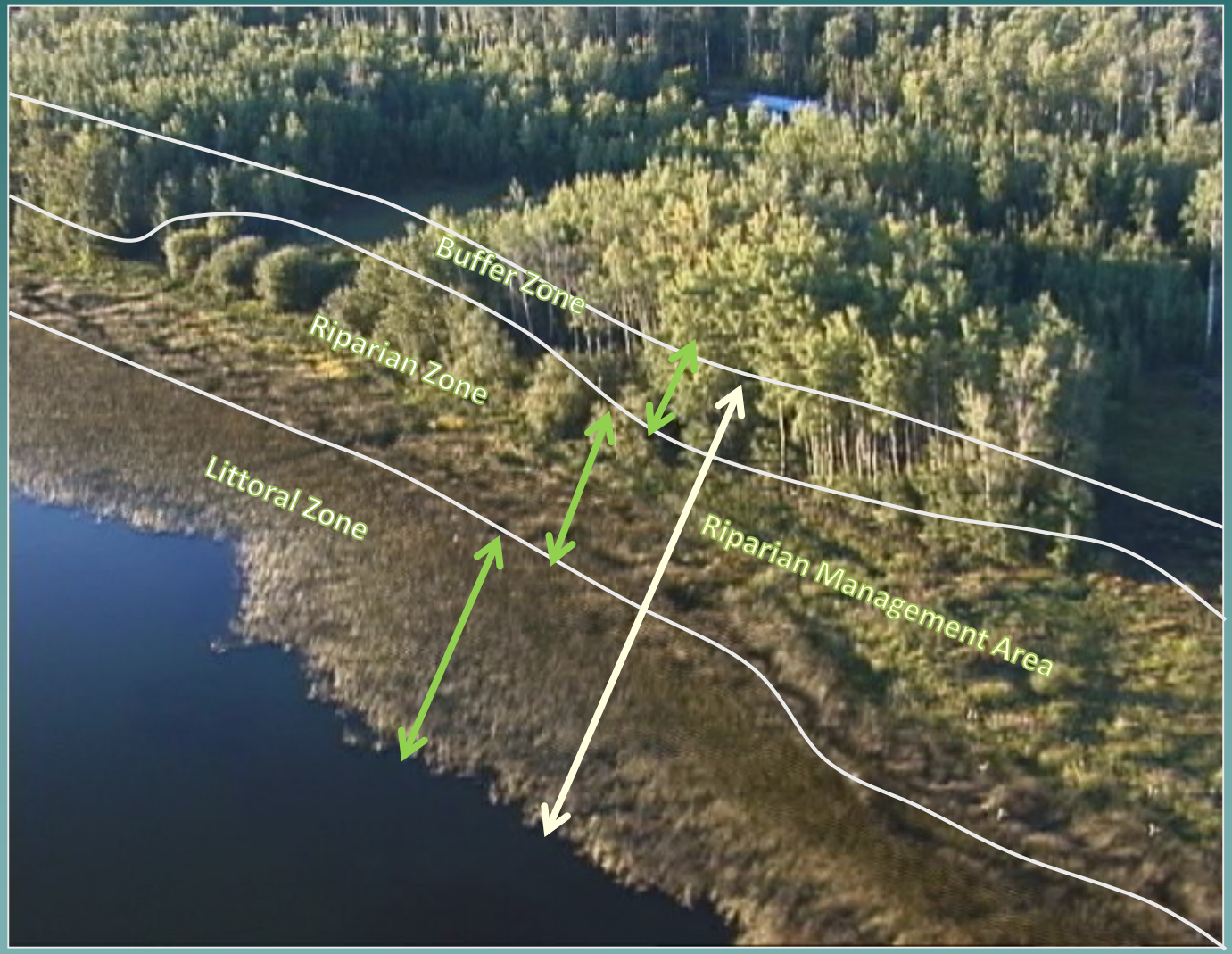
Jackfish Lake Riparian Assessment

David O. Trew, P. Biol
North Saskatchewan Watershed Alliance
May 9, 2015

Riparian Management Area

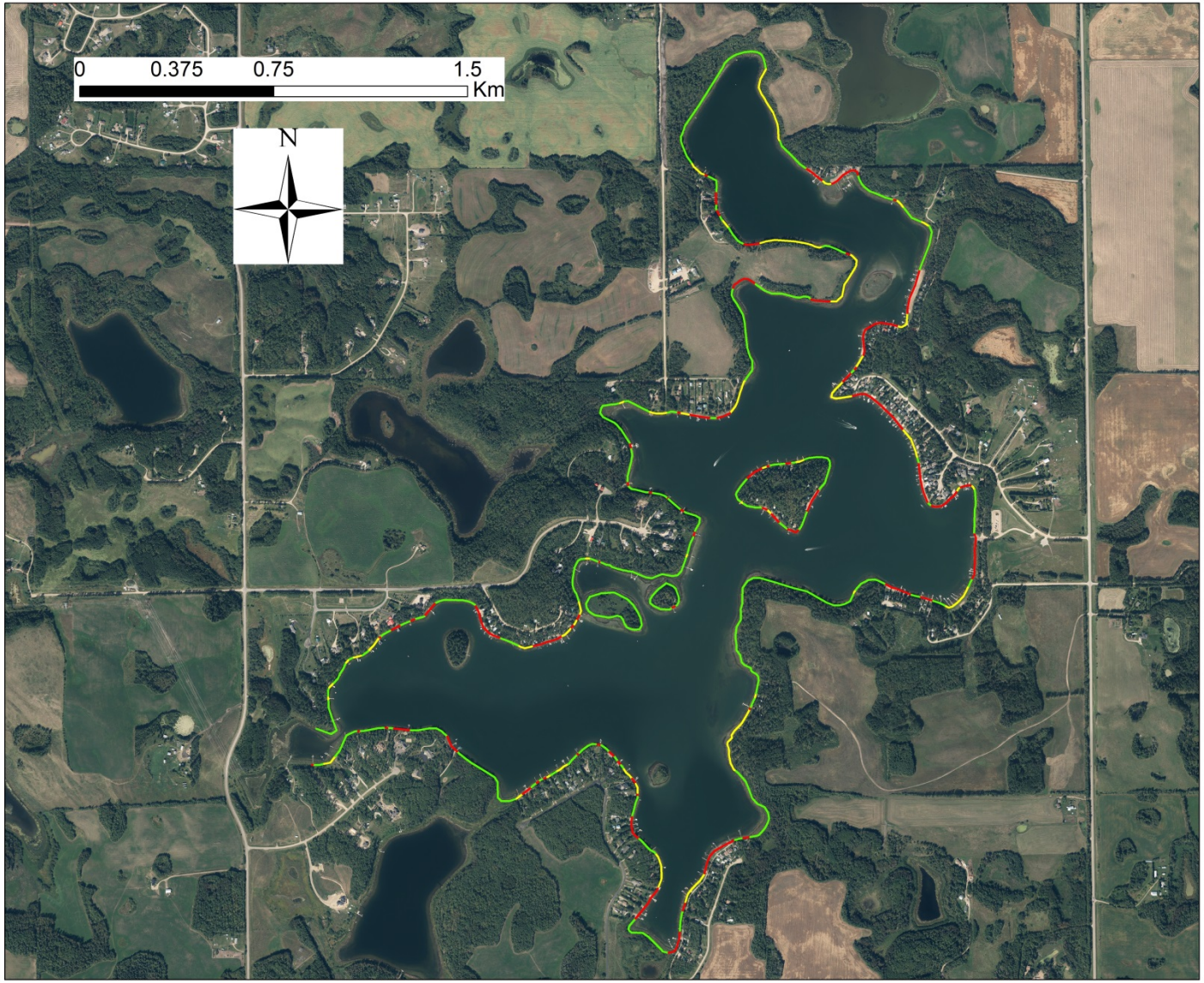


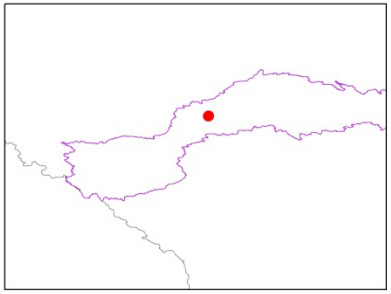
The Drone

Aerial Image and GIS data

Assessment Segments

Jackfish Lake:
Aerial Riparian Health Assessment





Inset Map Legend

- Jackfish Lake
- North Saskactewan Watershed
- Alberta Boundary

Map Legend

Health Rating

- Healthy
- Highly Impaired
- Moderately Impaired

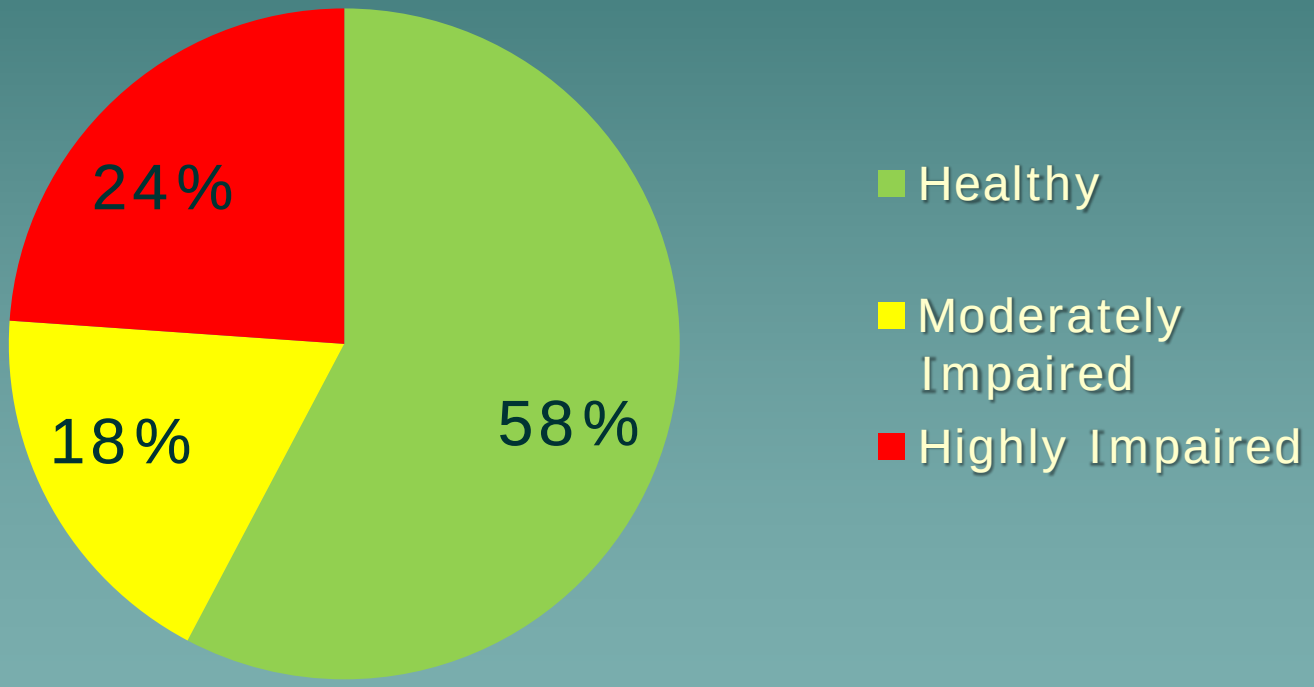
This map was created by the North Saskatchewan Watershed Alliance on May 07, 2015.

The information presented here is based on high resolution videography that was captured in August of 2014. The orthophotographs, captured in 2013, were provided by Parkland County. Funding for the project was provided by the Jackfish Lake Management Association.

North Saskatchewan Watershed Alliance

Results

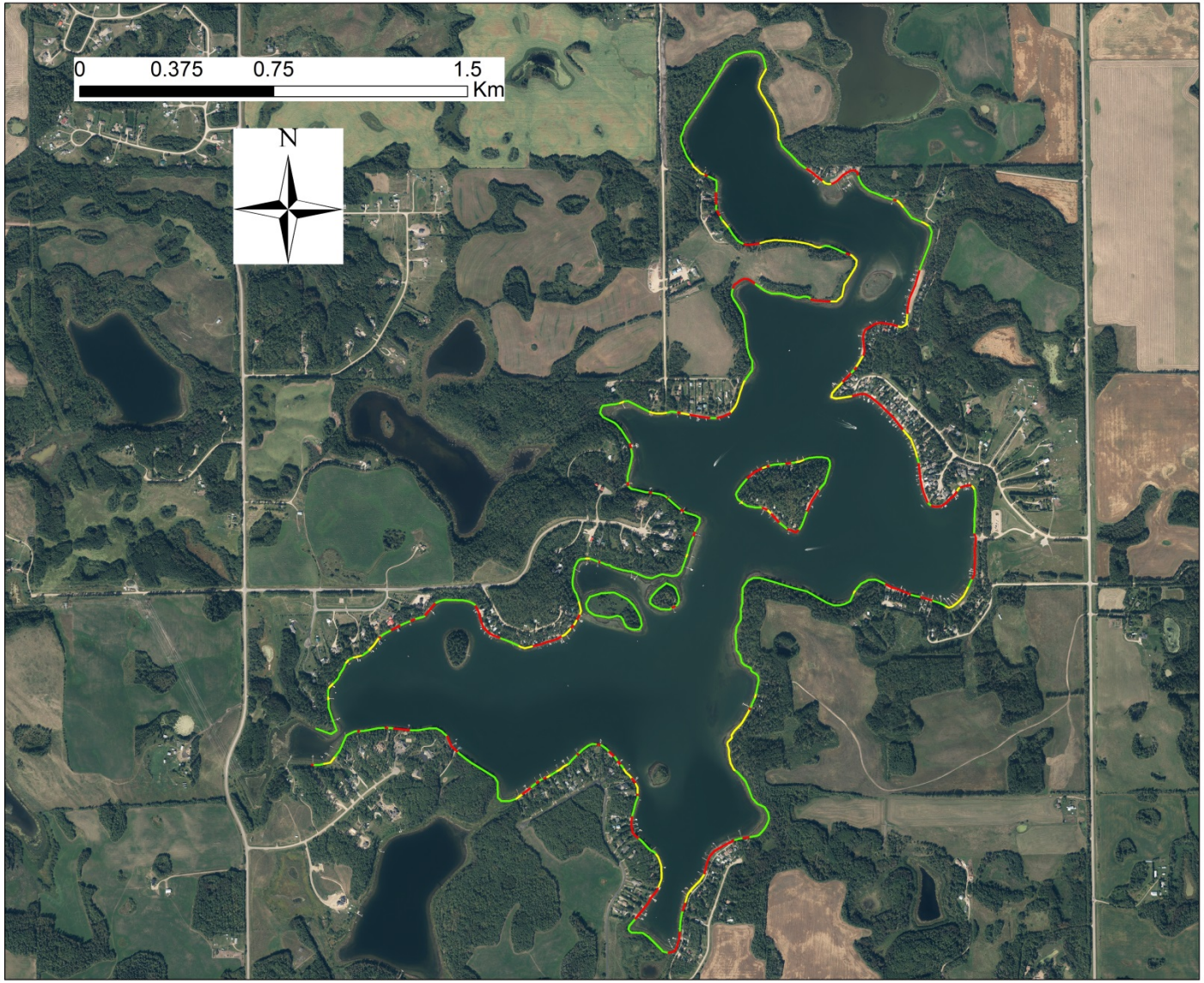
Whole Lake Assessment

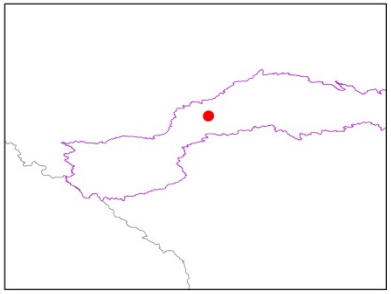


Jackfish Lake Riparian Condition

- Total Shoreline (16.5 km)
- Parkland County (7.8 km)
  - 4.8 km healthy
  - 1.0 km moderately impaired
  - 2.0 km highly impaired
- Crown Land (2.0 km)
  - 1.4 km healthy
  - 0.1 km moderately impaired
  - 0.5 km highly impaired
- Private Land (6.7 km)
  - 3.4 km healthy
  - 1.8 km moderately impaired
  - 1.5 km highly impaired

Jackfish Lake:
Aerial Riparian Health Assessment





Inset Map Legend

- Jackfish Lake
- North Saskactewan Watershed
- Alberta Boundary

Map Legend

Health Rating

- Healthy
- Highly Impaired
- Moderately Impaired

This map was created by the North Saskatchewan Watershed Alliance on May 07, 2015.

The information presented here is based on high resolution videography that was captured in August of 2014. The orthophotographs, captured in 2013, were provided by Parkland County. Funding for the project was provided by the Jackfish Lake Management Association.

North Saskatchewan Watershed Alliance

The following organizations offer assistance on riparian area restoration

- Nature Alberta: *Living by Water Project*
- Alternative Land Use Systems (ALUS): *Green Acreages Program*
- Land Stewardship Centre (LSC): *Green Acreages Guide and Workbook*
- Alberta Riparian Habitat Management Society (Cows and Fish)
- Agroforestry and Woodlot Extension Society (AWES): *Riparian Restoration Program*
- Wabamun Watershed Management Council (WWMC): *Lakefront Naturalization Guide*

Riparian Ecosystem Services

- Trap sediments and contaminants
- Filter and buffer water (physical, biochemical)
- Recharge aquifers
- Store flood water and energy
- Reduce and dissipate stream and wave energy
- Maintain wetland habitats and biodiversity

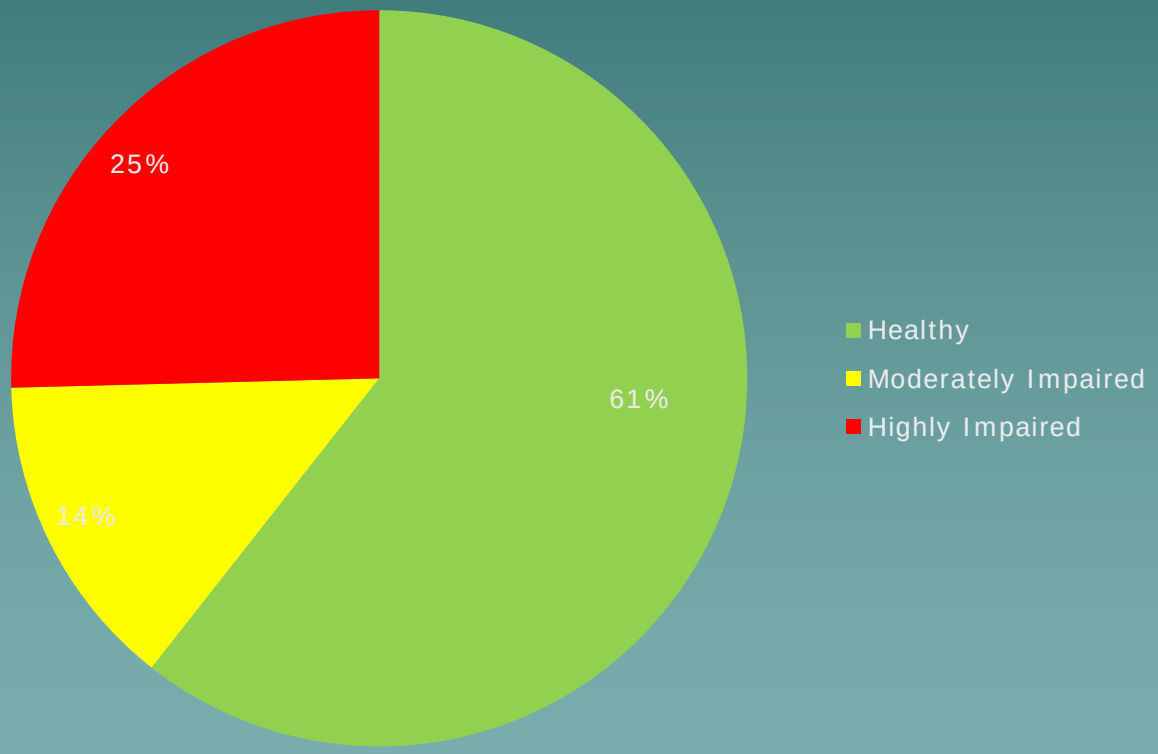
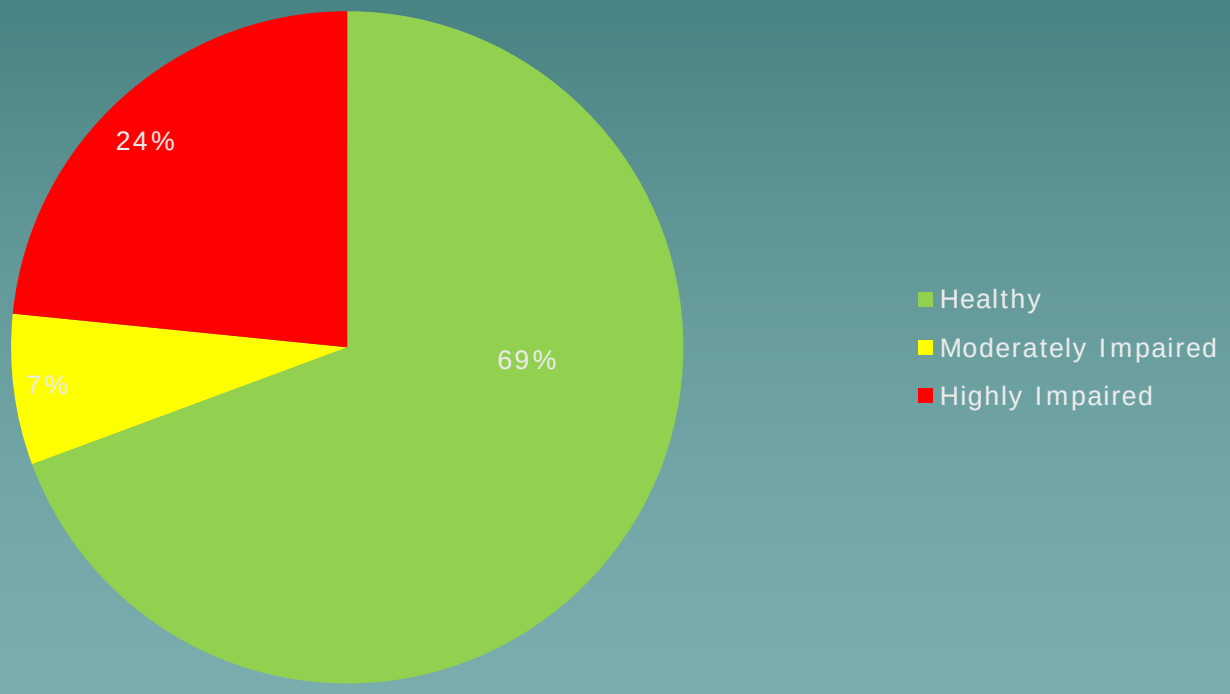
Score Card

1. More than 85% of the RMA is covered with vegetation of any kind
2. Cattails and bulrushes are visibly growing in the adjacent littoral zone
3. More than 15% of the RMA contains woody plants (eg. willow, birch, poplar)
4. Within the woody area (identified in question 3), the abundance of trees are dense
5. In less than 35% of the RMA, there are signs of human activity (e.g. cutting or mowing of vegetation)
6. In less than 35% of the RMA, there are signs of human caused alteration to the soil (e.g. cultivation of soil, addition of concrete, patios, buildings)
7. Aesthetically, the segment appears impacted (see Appendix 3 for detail)

Results

Item	Result
Total shoreline length	16.5 km
Total number of segments	232
Total weighted sum of scores	8/11 (Moderately Impacted)
1. Score: Healthy	Length= 9.5 km; Percent= 58.%
1. Score: Moderately impacted	Length= 3.0 km; Percent= 18%
1. Score: Highly impacted	Length= 3.9 km; Percent= 24.%
Total length of beach	1 km
Area of bare soil	12.6 km^2
Length of hard armored shoreline (artificially added rocks, concrete, veranda etc.)	none

Parkland County Reserve Lands: Aerial Riparian Health Assessment



Crown Land:
Aerial Riparian Health Assessment