Bow & Beyond Initiative
Sheep River (Headwaters to the Highwood River)

Riparian Escarpment Model

Utilizing data captured through Light Detection and Ranging (LiDAR) techniques, a Digital Elevation Model (DEM) and associated slope surface was generated. Using these surfaces along each river reach, we employed a path distance technique to generate a relative cost of moving across the surface and the distance travelled. The resultant layer approximates the area from the river to the riparian escarpment edge. The output from the Riparian Escarpment Model was used in the following Land Title Prioritization Model.

Land Title Prioritization Model

The boundary generated from the Riparian Escarpment Model was used to select intersecting Land Titles. Each land title was given a conservation magnitude ranking based on the occurrence of the following conservation features based on the location of the land title:

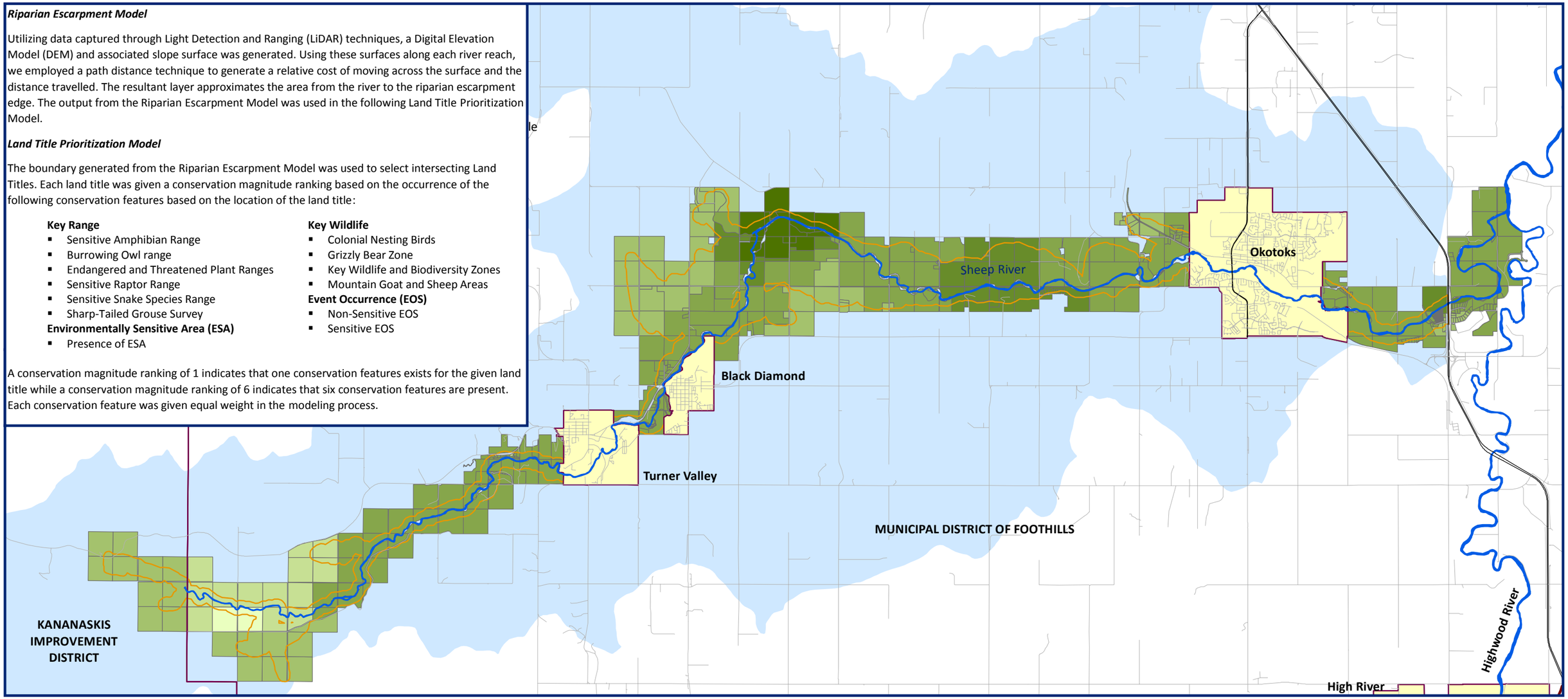
Key Range
- Sensitive Amphibian Range
- Burrowing Owl range
- Endangered and Threatened Plant Ranges
- Sensitive Raptor Range
- Sensitive Snake Species Range
- Sharp-Tailed Grouse Survey

Environmentally Sensitive Area (ESA)
- Presence of ESA

Key Wildlife
- Colonial Nesting Birds
- Grizzly Bear Zone
- Key Wildlife and Biodiversity Zones
- Mountain Goat and Sheep Areas

Event Occurrence (EOS)
- Non-Sensitive EOS
- Sensitive EOS

A conservation magnitude ranking of 1 indicates that one conservation features exists for the given land title while a conservation magnitude ranking of 6 indicates that six conservation features are present. Each conservation feature was given equal weight in the modeling process.



Western Sky Land Trust
Conserving Our Sense of Place

WSLT Conservation Model

Conservation Magnitude
(Land Title Polygons)

Lowest Conservation Magnitude — Highest Conservation Magnitude

1 2 3 4 5 6

Number of Conservation Instances / Land Title

Riparian Escarpment

Sheep River Sub-basin

N

0 0.5 1 2 3 4
Kilometers

0 0.5 1 2 3 4
Miles