



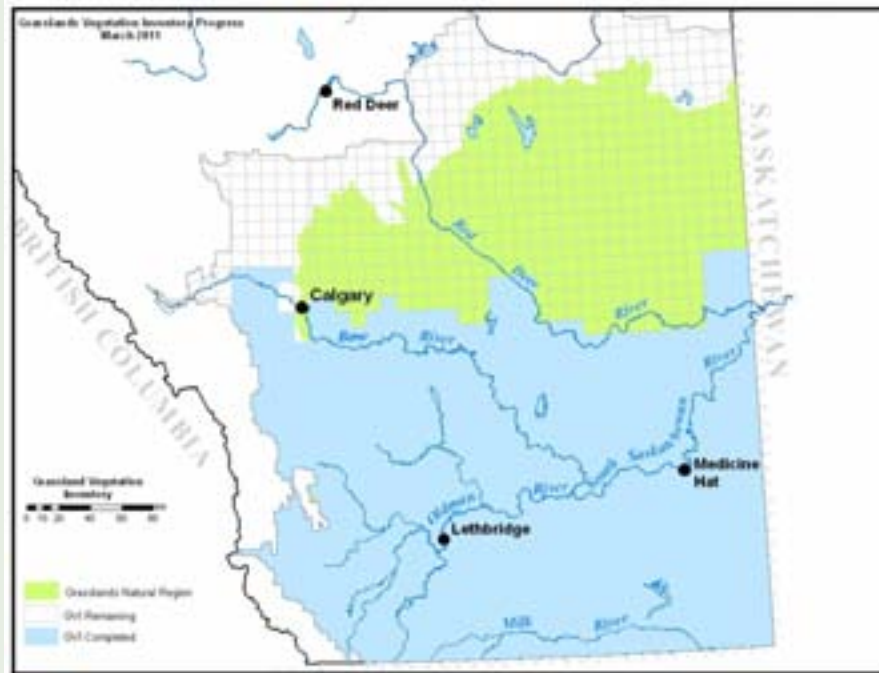
Using Grassland Vegetation Inventory Data

GRAZING AND RANGE MANAGEMENT

Government
of Alberta 



WHAT IS THE GRASSLAND VEGETATION INVENTORY (GVI)?

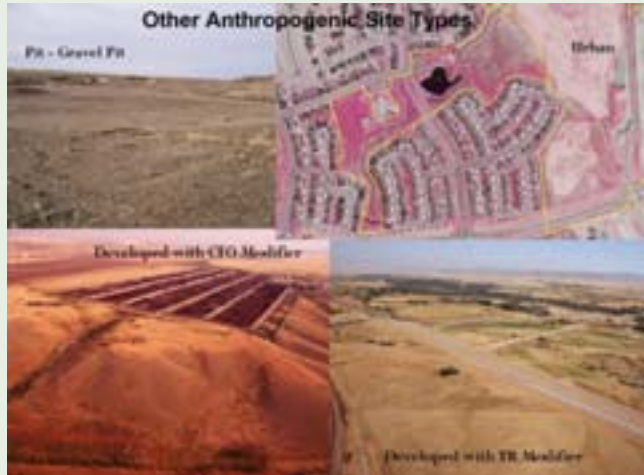


GVI progress to January 2011

- ✘ The GVI represents the Government of Alberta's comprehensive biophysical, anthropogenic and land-use inventory of the province's grassland natural region.
- ✘ Information for the GVI project will be collected for the entire area regardless of jurisdiction including the foothills grasslands (water bodies, native or natural areas, and agricultural, urban and other anthropogenic areas).

WHAT IS THE GRASSLAND VEGETATION INVENTORY (GVI)?

Site Type Examples



- ✘ GVI data are captured as polygons, lines, and points in a geodatabase that provides information on a number of different landscape features
- ✘ These landscape features or “Site Types” can also be thought of as different habitat types



WHAT IS RANGELAND?

Rangeland, or range, is land supporting indigenous or introduced vegetation that is either grazed or has the potential to be grazed and is managed as a natural ecosystem. Rangeland includes:

- × Grassland;
- × Forestland that can be grazed;
- × Shrubland;
- × Pastureland; and
- × Riparian areas.



Rangelands are an important agricultural resource for livestock grazing. In Alberta, it is estimated that rangelands provide about 14% of the forage required by the Alberta beef cattle herd.

RANGELAND MANAGEMENT

- ✘ Range management is about balancing human needs and demands on rangelands with the needs of range resources (i.e. to protect soil, vegetation and water).
- ✘ The objective of sustainable rangeland management is to maintain plant vigour, protect and build the soil, perpetuate the forage resource and ensure a stable flow of products and other social benefits.
- ✘ Sustainable rangeland management applies ecological knowledge, principles and practices. Because rangelands are dynamic ecosystems, the flexible application of rangeland management principles and practices is the best approach to promote sustainable management.



THEORETICAL RANCH



- × Prior to GVI, traditional range management planning involved a significant amount of ground truthing and field assessments to understand range sites and plant community distribution.

RANCH WITH EXISTING INFRASTRUCTURE AND GRAZING PASTURES



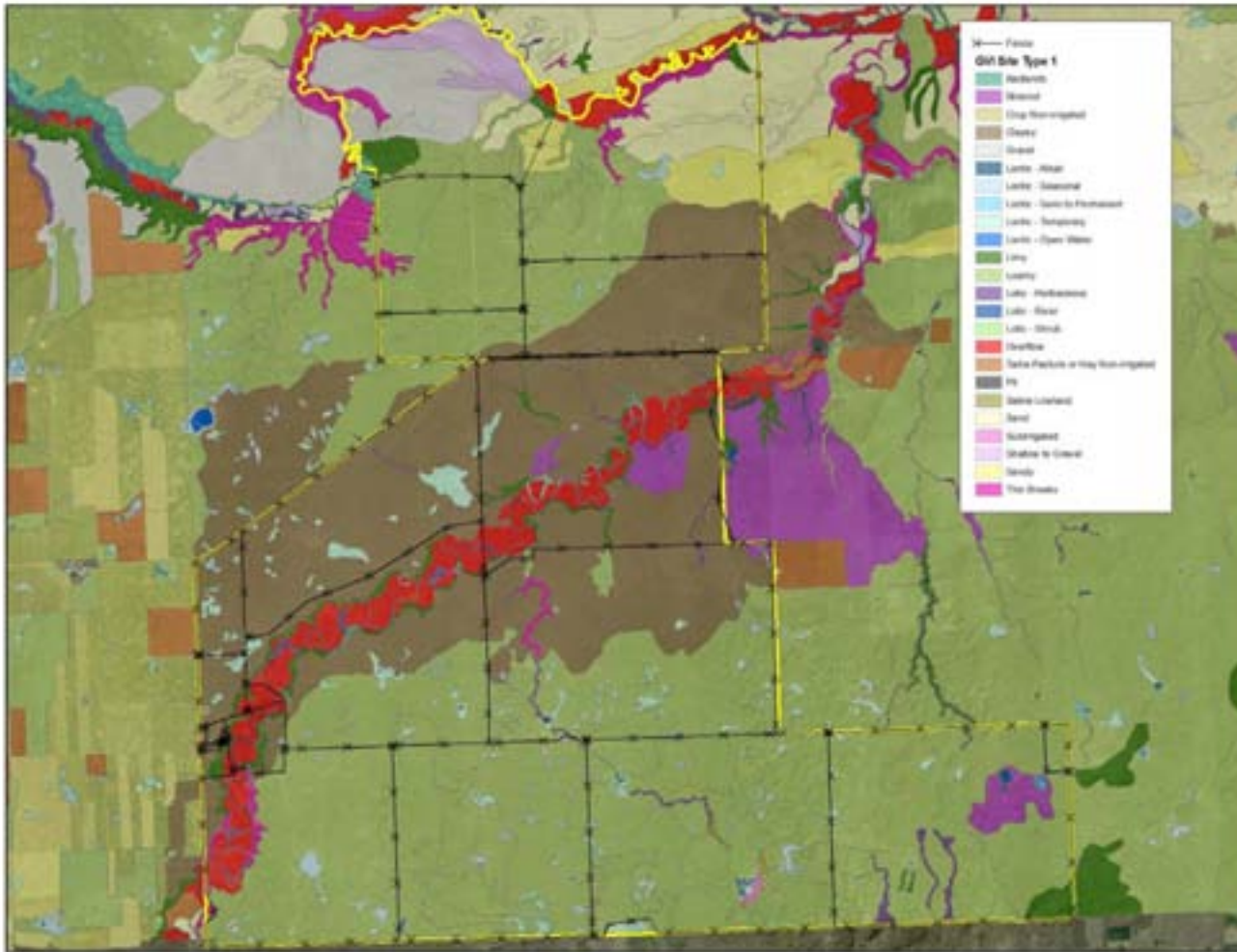
- × Most of the original range management plans did not incorporate the ecology and spatial distribution of range sites on the ranch. Therefore, fences and other infrastructure were developed without an understanding of range sites.

RANCH WITH GVI OVERLAYED



- × Landscape polygons are the basic map units in the GVI and they represent interpretations of relatively uniform natural or anthropogenic areas.
- × Ranches contain one or more GVI site types, each with associated land that has specific physical characteristics and produces a distinct kind and amount of vegetation.

RANCH WITH GVI RANGELAND VIEW AND INFRASTRUCTURE

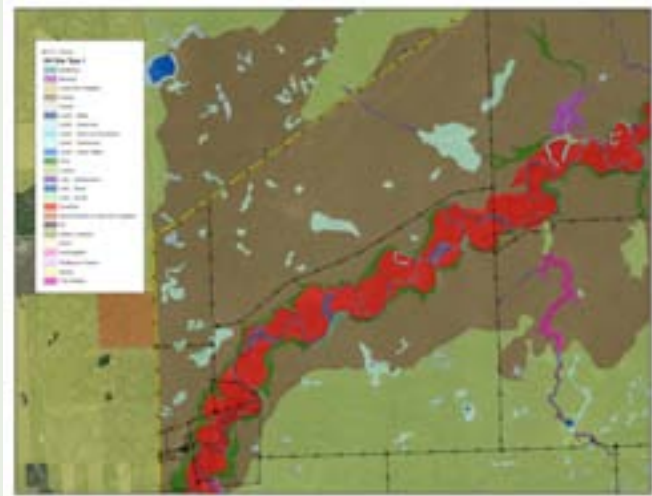


- ✗ GVI site types have been grouped under major site types
- ✗ Grouped by productivity livestock management

GVI APPLICATIONS FOR RANGE MANAGEMENT

With the understanding of GVI site type distribution, ranchers can implement improved range management principles and practices such as :

- × Balancing livestock demands with the available forage supply;
- × Promoting even livestock distribution by using tools like fencing, salt placement and water development to spread the grazing over the landscape and minimize disturbance of sensitive habitats;
- × Providing effective rest periods after grazing to allow for range plants to recover from the stresses of grazing; and
- × Applying ecologically sustainable stocking rates and distribution of livestock grazing effectively.



CONCLUSIONS



Sprague's Pipit photo by Gordon Court

- × GVI facilitates the understanding of the kind, amount and distribution of range sites throughout the ranch.
- × Range management principles can then be applied to maintain or foster healthy productive rangeland.
- × Enables beneficial management practices and recommendations to landowners to be refined.

REFERENCES

- ✘ Alberta Government Website
www.srd.alberta.ca/BiodiversityStewardship/GrazingRangeManagement/Default.aspx
- ✘ Grassland Vegetation Inventory (GVI) Specifications Alberta Sustainable Resource Development, Government of Alberta 5th edition June 29,2010. Revised July 13, 2010