Rangeland Management and GVI

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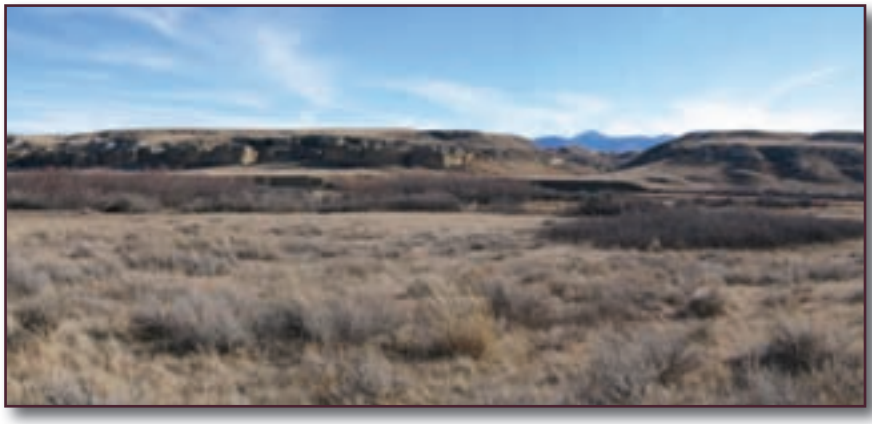

Ian Dyson

Kevin, and the Range Resource Management Team, use the Grassland Vegetation Inventory (GVI) to facilitate discussions and improve the understanding of grassland ecology.

The province of Alberta contains vast tracts of public lands. Approximately five percent of this land, an area of about five million acres, is granted to individual ranchers as grazing lease. Of the 5700 grazing leases in the province, a significant portion of these lands are found within the complex Grasslands Natural Region (GNR). **Kevin France**, a Provincial Range Specialist for the grassland ecosystem, works with ranchers to ensure that rangeland health is maintained.

Kevin, and the Range Resource Management Team, use the Grassland Vegetation Inventory (GVI) to facilitate discussions and improve the understanding of grassland ecology. It is the first tool he has seen that provides an ecological context that reveals the distribution of site types, improves the understanding of their interaction on the landscape, and helps to identify areas of vulnerability. This understanding facilitates improved land management decisions.

One such management decision is the determination of site-specific stocking rates. This requires knowledge of site access and management factors, as well as the Ecologically Sustainable Stocking Rate (ESSR) for the grassland community. The ESSR is the maximum number of livestock that can be supported by a specific grassland plant community. To identify plant communities prior to field assessments agrologists used to trace lines on aerial photos. This manual stratification depended on individual interpretation that could introduce inconsistencies. GVI presents a standardized interpretation of the landscape.

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Now they can access pre-stratified maps and plan range surveys with greater confidence in what they will find on the landscape and more effectively determine the stocking rate.

Spatial representations of GVI are simple lines and polygons. To GIS trained professionals these polygon maps are useful, but they can be complicated for the average person to read. To improve communication of GVI information, Kevin and the team have converted the information into colour coded maps showing dominant rangelands. It is now easier to depict distinct land features such as riparian areas, and this enables ranchers to better understand what they are seeing on their lease. The maps spark conversation on the best location for off-stream watering sites, where to place fencelines to allow improved management of individual plant communities, and how to arrange grazing schedules.

GVI is also useful as a pre-site assessment tool for industrial

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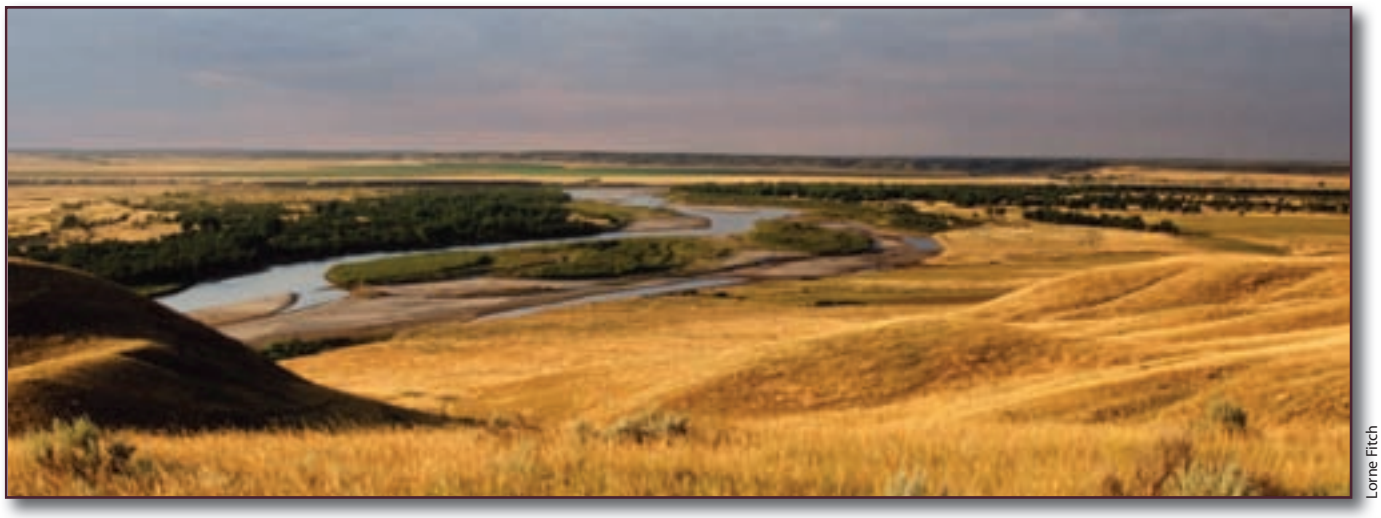

Lorne Fitch

development on rangelands. Using GVI in discussions with oil and gas companies, Kevin can help identify appropriate locations for wellsites to avoid sensitive rangelands and where reclamation can be best achieved. The applications of GVI are far reaching and even include urban landscape applications. GVI can aid land annexation decisions, identify potential impacts of development on wetlands, or improve transportation routes to minimize the effects on native grasslands. In Kevin's experience, rural municipalities are particularly interested in how GVI can be used in decisions for maintaining ecological wealth.

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GVI also has applications for the individual landowner. Kevin would like to design a training program for ranchers' and stockmen's associations to demonstrate how GVI can improve their land use and rangeland management. The full GVI database can be a bit complicated so beyond providing training, Kevin would like to see some aspects of GVI simplified for applications by the average, non tech-savvy person.

It is the maps that ultimately resonate with people. If a landowner can associate the polygons to the place, the map becomes more than colours on a page. Kevin hopes that GVI will become more widespread and therefore there is a need for greater GVI mapping functionality for the average person. Until this happens, Kevin is committed to making these maps available to the ranchers he works with and anyone else who requests them.

Kevin is dedicated to the ongoing perfection of GVI. The database is developed primarily through qualified desktop interpretation with limited field verification. The Rangeland Management Team is the first group actively using GVI on the landscape that can provide the field verification. However, GVI isn't yet complete for the entire Grassland Natural Region, and the Northern Fescue Grasslands are yet to be mapped. Kevin will be the technical lead to link GVI to the Northern Fescue Plant Community Guide and assist in training development for interpreting these grasslands.

There is still work to be done, but GVI is the first tool that facilitates the understanding and communication of the complex grassland ecosystem. It enhances the ability to make informed management decisions for the maintenance, conservation and preservation of the grassland ecosystem.

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