

State of the Prairie Technical Report: A General Overview

The 'State of the Prairie Technical Report' is based on a comprehensive broad scale GIS analysis that focuses on two main questions: what is the current extent of native vegetation/features of the Grassland and Parkland Natural Regions, and, what change has occurred from the earliest datasets (1990) to the latest (2016). Eleven datasets were used to determine extent, change, verification, and validation of the native vegetation/features results. The data are analysed by a number of stratifications, at the very broad scale of Natural Regions (Grassland and Parkland) at the intermediate level of Natural Subregions (eg. Mixedgrass) and at the ecodistrict level (eg. Lethbridge Plain). The data are also analysed by Administrative Areas (eg. Lethbridge County) and by tenure (private vs. public). The analysis did not assess 'state' at the local levels (township, section, quarter section), as such, condition, fragmentation, invasive species and change at the local level are not evaluated in this report.

Over the course of the analyses, three datasets stood out as being most apt to answer the two questions posed. For the Grassland Natural Region this included the Grassland Vegetation Inventory (GVI) and the Agriculture and Agri-Food Canada Land Use (AAFCLU) datasets. For the Parkland Natural Region only the AAFCLU data adequately represented the complete region. All these datasets were standardized to mimic the Native Prairie Vegetation Inventory's six classes (gramanoid, shrub, trees, water, riparian, wetland). The GVI's compilation window spanned 10 years from 2006 to 2016 whereas the AAFCLU data was compiled for two separate years 1990 and 2010. These datasets provided the basis for assessing 'state' as of approximately 2010 and historical change back to 1990. It should be noted that the AAFCLU is scheduled to be compiled again for 2020 and that a 30-year change should be pursued at that time.

The key results from the analysis show that 'state of the prairie' in terms of the extent or amount of native vegetation/features remaining in the two Natural Regions is approximately 48% and 20% for the Grassland and Parkland, respectively. The amount of change occurring in the two Natural Regions between the period 1990-2010 is a decrease of approximately 2%. As the analysis focuses on increasingly smaller areas (subregions, ecodistricts, admin areas, etc.), the magnitude and variability in the data increases. For example, the ecodistricts with the greatest amount of native cover are the Cypress Hills Slope (92%) and the Ribstone Plain (71%) in the Grassland and Parkland Natural Regions, respectively. The ecodistricts with the lowest amount of native cover are the Standard Plain (9%) and Olds Plain (7%) in the Grassland and Parkland Natural Regions, respectively. The greatest amount of change is seen in the Lethbridge Plain (-8%) and the Black Diamond Upland (-6%) for the Grassland and Parkland Natural Regions, respectively.

These types of analyses are at the core of the Technical Report and are presented for all the stratifications noted earlier (Natural Region, Subregion, Ecodistrict, admin. areas, and tenure), the reader is referred to the report for both the 'state' and 'change' values. Of note is the use of some of the statistical terminology in the report, data significance in particular. When the term 'insignificant' or 'not significant' is used it is strictly with respect to the error and error analysis inherent in the data; it should not be confused with societal values regarding loss of native cover. For example, the loss of 2% of native cover in the Parkland may be statistically speaking 'not significant' based on the data error but will have a completely different meaning in a Natural Region that only has 20% native cover left. As the Technical Report notes, the PCF will follow up this purely technical analysis with the second phase of this project which includes an Occasional Paper that would contextualize these findings in terms of impacts, condition, fragmentation, threat of loss, conservation, mitigation, and potential options and actions needed.