Saskatchewan Ministry of Environment
Fish, Wildlife and Lands Branch
Habitat Unit
Prairie Landscape Inventory (PLI) Team

Fieldwork season, July 2021

Manual
Version 3.12

Prairie Landscape Inventory – Land Cover Identification Tool

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1. Background

Motivation: Native grasslands are vital for sustaining ecosystem health in the prairie as well as a hotspot for biodiversity, so grassland mapping has become an urgent necessity for better environmental conservation planning in Saskatchewan.

Objectives: The primary goal is to identify stands of pure native grassland (> 75% native cover), pure tame grassland (> 75% tame cover), and stands of mixed native and tame grasses. The study area includes the moist mixed grassland and aspen parkland, aiming to finalize the classification for the Prairie Ecozone.
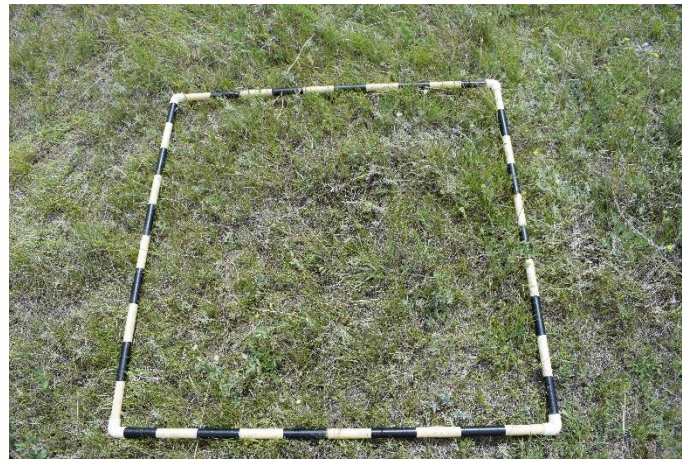
Datasets: The classification approach is based on freely available remotely sensed products from 10 m resolution multispectral optical space-borne sensor (Sentinel-2) and synthetic aperture radar (SAR) space-borne sensor (Sentinel-1)

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Native: composed of at least 75% native grass species such as the needle grasses (needle and thread, porcupine grass and green needle grass), wheatgrasses (slender wheatgrass, western wheatgrass, awned wheatgrass) along with June grass and blue gramma grass; also includes additional sedge species, forbs (pasture sage), and some non-vascular species (lichen, moss).
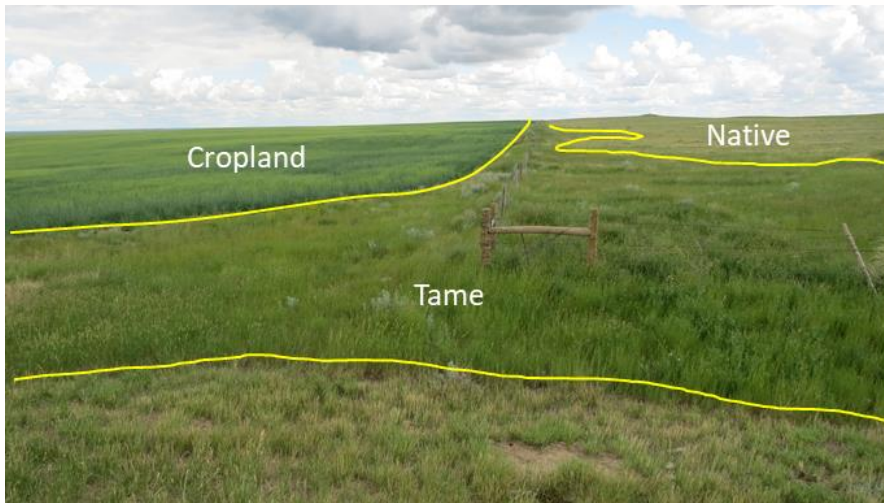

Unbroken grassland that is invaded by species like Kentucky bluegrass, crested wheatgrass or smooth brome, such that native cover is < 75%, is not considered native for the purpose of this project.

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Note: Any patches must be at least 10m x 10m

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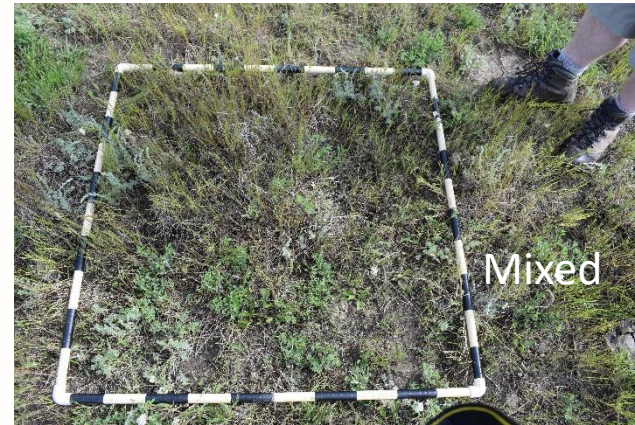
2. Land cover classes, definitions, and examples

Tame: composed of at least 75% seeded or planted species with introduced grasses and forb species such as crested wheatgrass, smooth brome, alfalfa, sweet clover. If it is irrigated tame, please add that as a comment.

Mixed: a heterogenic grassland with a mix of less than 75% native grass species or less than 75% tame species.

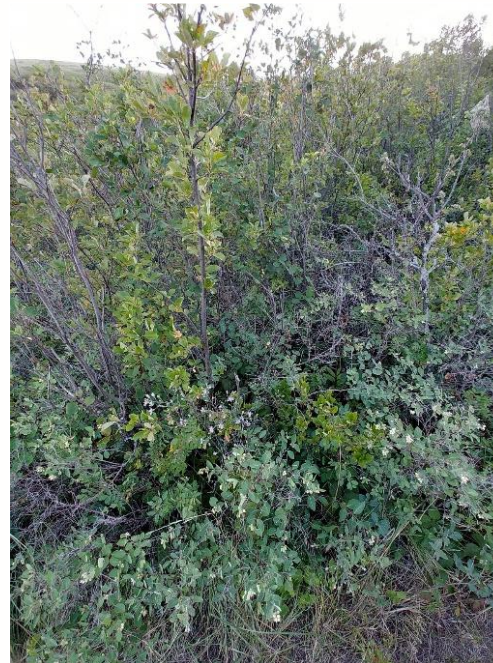Note: Any patches must be at least 10m x 10m

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2. Land cover classes, definitions, and examples

Shrubs: dominated by woody vegetation of relatively low height (generally +/- 2 meters) with shrub canopy typically > 20% of total vegetation cover (including regenerating forest).

Trees: coniferous/deciduous trees, mixed-wood area, and other trees > 2m height with tree canopy typically > 20% of total vegetation cover.

Note: Any shrubs and trees patches must be at least 10m x 10m.

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2. Land cover classes, definitions, and examples

Cropland: all cultivated areas with crop commodities: corn, pulse, soybeans, canola, grains, summer-fallow.

Water: permanent water in lakes, rivers, water ponds, streamflow, dugouts, and lower elevations in irrigated areas.

Source: https://prairiesrealty.com/services/selling-land-and-farmland-in-saskatchewan

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2. Land cover classes, definitions, and examples

Urban/developed: land that is predominantly built-up or developed and vegetation associated with these land covers, including road surfaces, railway surfaces, buildings and paved surfaces, urban areas, industrial sites, mine structures, golf courses, etc.

Wetland: land with a water table near/at/above soil surface for enough time to promote wetland or aquatic processes (semi-permanent or permanent wetland vegetation including fens, bogs, swamps, sloughs, marshes, etc.)

Note: For the purpose of this study, ground truth points for urban/developed area and wetland classes will be derived using masking technique from the most recent AAFC classification and wetland map of Ducks Unlimited Canada.

-- SO NO NEED TO COLLECT THESE --

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3. How to conduct this survey?

① Download the app

Survey123 for ArcGIS
Esri

② Sign in to the app

③ Search the survey named:

Prairie Landscape Initiative – Land Cover Identification Tool

OR scan the code

④ Download the survey into your app

⑤ Fill in the survey

Prairie Landscape Initiative - Land Cover Identification Tool

This survey aims to collect ground truth data for tracking native grassland remnants in the prairie of Saskatchewan. If you have questions, please contact **Thuy Doan** (thuy.doan@gov.sk.ca) or **Beatriz Prieto Diaz** (beatriz.prietodiaz@gov.sk.ca).

Crew Name*
Select Other if your name is not found in the list then write down your name in the blank box following the convention: First name Last name (capitalize the first letters of your first and last names, separate them by a space only)

-Please Select-   ▼

Date*

🗓

What is the land cover type in your location?*
Native (>= 75%); **Tame** (>= 75%); **Mixed** (< 75% tame or native); **Trees** (coniferous/deciduous trees, mixed wood areas, and other trees at least 2 m height); **Shrubs** (predominantly woody vegetation of relatively low height about 2 m, including regenerating forest); **Water Bodies** (lakes, rivers, water ponds, streamflow, dugouts, lower elevations in irrigated areas); **Wetland** (semi-permanent or permanent wetland vegetation including fens, bogs, swamps, sloughs, marshes, etc.). If you choose **Cropland**, please write the crop name.

○ Native	○ Mixed	○ Tame
○ Trees	○ Shrubs	○ Cropland
○ Water Bodies	○ Wetland	○ Urban/Developed Areas

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4. Contact information

Questions related to the survey, please contact: thuy.doan@gov.sk.ca or (306) 227-6704

Questions related to identification, please contact: sarah.vingemazer@gov.sk.ca or (306) 787-7039

THANK YOU!

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