

# Applying a Wetland Monitoring Analysis to Protect Arable Land



## Services / Expertise

Spatial Analysis  
Data Aggregation and Standardization  
Data Visualization

## Market

Agricultural Stewardship

## Project Location

Manitoba, Alberta, Saskatchewan provinces,  
Canada

## Date Completed

2019-2020

## Project Owner

Confidential

## Point of Contact / Reference

Confidential

## Project ID#

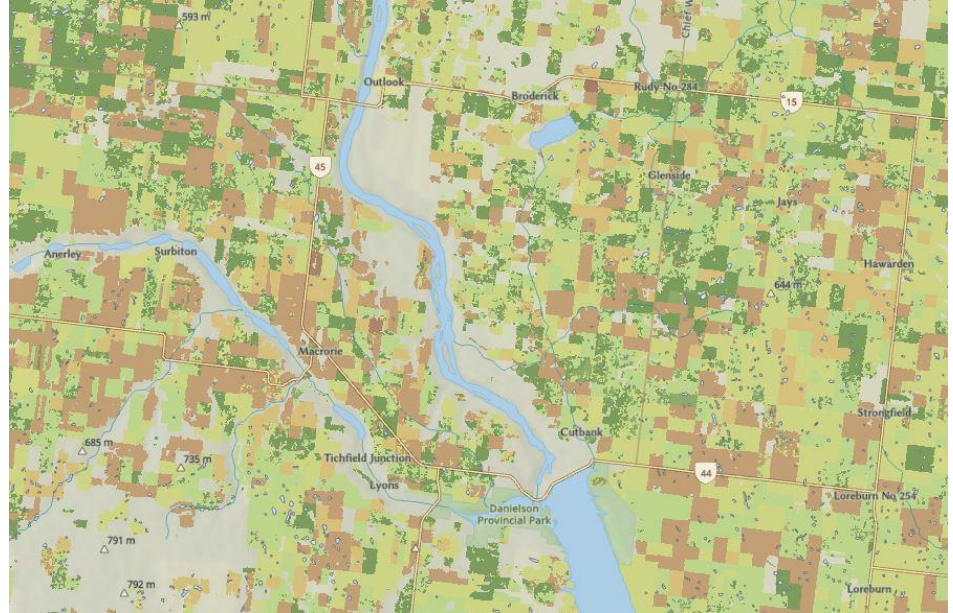
18-061

## Project Manager

Barbara Patterson

## Project Team

Heather Cox



*Crop data from Agriculture and Agri-Food Canada's 2019 Annual Crop Inventory and its relationship to wetlands near Juniper, Saskatchewan.*

STONE conducted a geospatial analysis to determine how the creation of protective buffer zones of varying sizes around wetlands would affect the arable land area available for different crops in three Canadian provinces (Manitoba, Alberta and Saskatchewan). Stone's GDS team cleaned and cross-referenced multiple hydrography datasets to ensure the best possible wetland data coverage and quality prior to creation of buffer zones for each of the seeding setback scenarios. The team calculated arable land loss in each scenario by finding the total area where the buffer zones intersected with existing crops in a nationwide crop raster layer (Agriculture and Agri-Food Canada's Annual Crop inventory). Stone presented results as a geodatabase and ArcGIS Pro model to allow for future repetition of the analysis for different buffer sizes.