



# Monitoring Range Health with ArcPad GIS Software and Handheld PDAs



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## Background

Consistency in range monitoring and data collection is challenging for government agencies. Technologies such as ArcPad, Microsoft Access and handheld computers are tools to increase the consistency and efficiency of the data collection and analysis. Handheld computers and GIS software assist range staff to collect detailed range health information and upload that information onto a provincial database.



Figure 1. Range Agrologists collect soil information in the grasslands of central British Columbia.



Figure 2. The basic equipment for a range inspection includes a PDA, a GPS, a telescopic pole, protective cases and an extended battery.

## What is ArcPad Software?

- Mobile mapping and GIS technology.
- Database access, mapping, GIS, and GPS integration via mobile devices.
- Collect range health information in the field and upload the information into a provincial database.
- Digitize landscape features and range infrastructure.
- You can customize ArcPad

## Forms and Views on PDA

- Numerous shapefiles and maps are available on Arcpad including vegetation cover, tenure boundaries, aerial or satellite imagery, road systems, water lines and any other feature created as a shapefile.
- Screen views are used to assist in navigation, developing a strategy for the location of inspections, and gathering information.
- Different inspection forms suit various range sites.

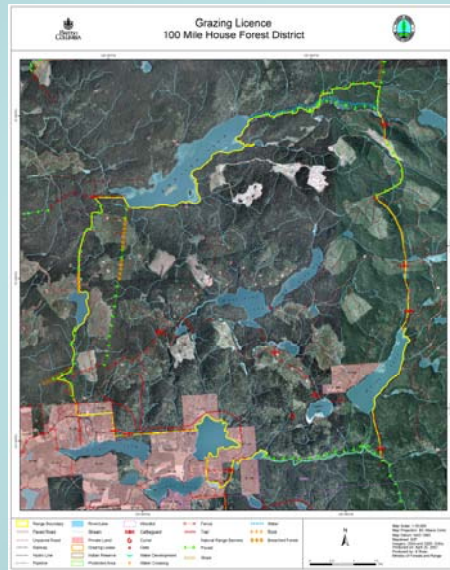


Figure 3. Completed range map including range developments and natural range barriers. (map by: Selena Ross)

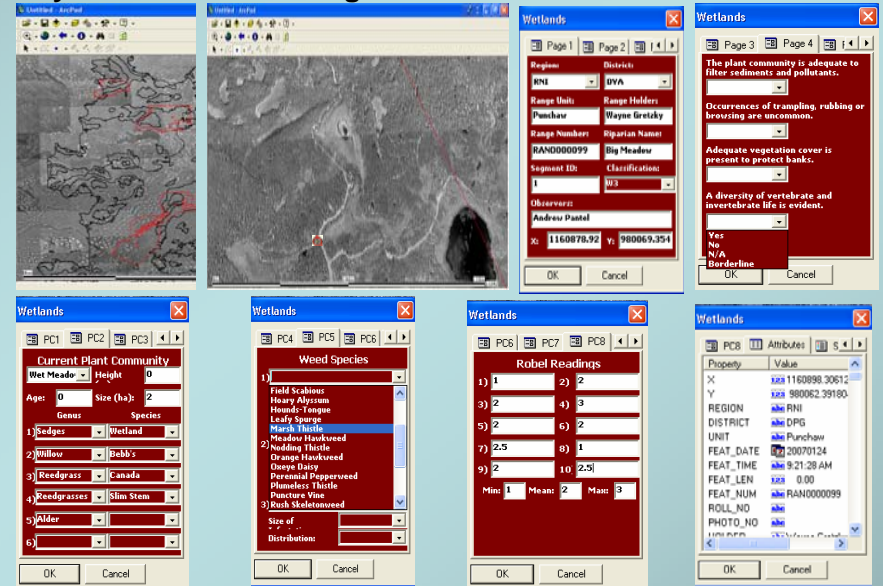


Figure 4. ArcPad Views of Wetland Riparian Health Form on PDA from left to right and top to bottom; vegetation zones, GPS location, tenure information, range health information, current plant community, weed species and attributes table.

## Inspection Report

- An inspection report is created in Microsoft Access.
- Included in the inspection report is a summary of the inspection and a calculated range health score.



Figure 5. Four Range Health Assessment Forms.

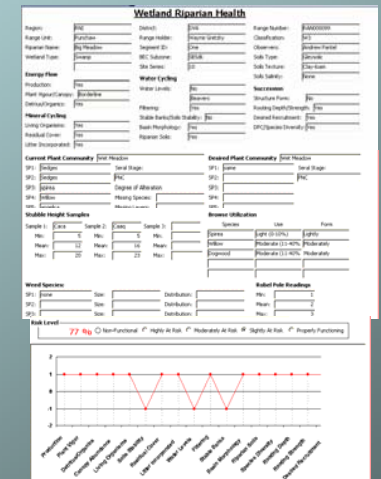


Figure 6. Wetland Health Form generated in Microsoft Access Database.

