

Field Recon for Restoration Planning



Field recon for restoration planning, some ground truthing is essential.

In a previous post, we covered the importance of desktop planning. Through desktop planning, you can map out the program area, decide which priority areas will be treated first, and plan out prescribed treatments according to ecotypes present on the landscape, all before putting boots on the ground.

To have sufficient confidence in this information, however, some ground truthing is essential. Ground truthing is the process of going out into the field and verifying that the information gained from the desktop planning process matches what is actually present on the ground. This way, there should be fewer surprises when machines and operators show up to implement the treatments.

The Challenge with Data

How could diligent desktop planning ever lead one astray during restoration delivery? The biggest issue is the age of the underlying datasets used to map the area. Take LiDAR for example. LiDAR is a popular technique for creating detailed vegetation height maps. An aircraft flies over the area of interest and emits pulsed lasers towards the ground, whose reflections are then read by a sensor. Combined with detailed position data, this information is used to create a detailed height profile of the underlying area. Planners can use LiDAR to identify seismic lines and other anthropogenic features, as well as determine the height of the vegetation growing on those features.

The thing is, the most commonly available LiDAR datasets for Alberta were collected back in 2007, and a lot can change over the years. Matthew Pyper, Principal of Fuse Consulting Ltd., experienced this first hand. While helping to plan a provincial restoration program within the Little Smoky range in west-central Alberta with Woodlands North, the field team encountered a clear example of just how much can change in 10 years. While the LiDAR data indicated the line was heavily regenerating, the ground inspection revealed quite a different story. The line had been re-cleared for seismic activity since the LiDAR data was captured. Instead of leaving this line as-is, the team would now need to include this line as part of their treatments.



The line in question. On the left-hand side, the line has been cleared for a seismic project. The regenerating vegetation on the right-hand side represents what the team expected to see covering the whole line.

Field Recon in Practice

This example demonstrates the importance of ground-truthing to verify restoration plans. Without this field verification, operational crews would need to change plans on the fly, creating inefficiencies and delays. While desktop planning can help focus the ground truthing process (i.e., it may only be necessary to ground truth 10-20% of the area), field verification remains a crucial step. Ground truthing can reveal access problems, safety hazards, unexpected advanced regeneration, or, in Matthew's case, unexpected removal of vegetation. A plan that is built from a combination of desktop planning and targeted ground truthing is the best way to ensure success in a restoration program.

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