DESKTOP PLANNING:
Mapping Your Way

Mapping your way to success: the importance of desktop planning.

Imagine you are planning your next vacation: what's the first thing on your to-do list? The answer is probably not showing up at the airport.

While embarking on a vacation is exciting, a lot of planning is needed first: budgeting for the trip, selecting the right time of year, planning a travel itinerary, deciding what to pack, and planning where to park your vehicle at the airport. Without this careful planning beforehand, your vacation could quickly go off the rails. Restoration work is the exact same way. While it can be exciting to get boots on the ground, an effective restoration project starts in the office.

Setting Project Priorities: Broad Scale Planning

One important aspect of desktop planning is the opportunity to identify where the biggest bang for the restoration buck is. These are often called priority areas. Restoration takes time, so it is important to get high priority areas on track to recovery as early as possible. In our analogy of planning a vacation, this would be like deciding which country you might like to visit.

Choosing which areas to restore first is largely guided by woodland caribou recovery. Woodland caribou are negatively affected by linear disturbances and are threatened in Alberta. To aid their recovery, the federal government has set a target of 65% undisturbed habitat in each caribou range. The faster this target is reached, the faster caribou populations might experience the benefits.

Planners can achieve these targets quickest by starting at a coarse scale and asking, "which area will get me the most benefit for the investment?" The Alberta Biodiversity Monitoring Institute (ABMI) and COSIA have conducted several prioritization exercises to answer this question at broad scales. The process combines the number of features to be restored, the amount of undisturbed habitat that could be gained, and the future potential for oil sands and other resource development in that area.

Once a township is selected for restoration, planners can further maximize the benefits to caribou. Scientists have identified that creating large, lowland areas free of linear disturbances is important for caribou to avoid their main predators – wolves. Caribou calve in these lowland areas to avoid wolves, but linear features give wolves easy access into these areas. Focusing initial restoration efforts on these lowlands will likely have a bigger impact on improving caribou survival.

Mapping Sites and Focusing Field Work: Fine Scale Planning

Desktop planning can assist with identifying what treatments to apply to which linear features as well. In our analogy of planning a vacation, this would be like deciding what cities and which attractions you hope to visit. Using tools such as satellite data, LiDAR, and vegetation inventories, planners can map out treatments and identify areas most and least likely to have vegetation already present (often called advanced regeneration).

"Desktop planning focuses field level work in a couple of essential ways," explained Michael Cody, Land and Biodiversity Specialist with Cenovus Energy. "Firstly, ecological site types tend to occur in patterns or associations that are predictable based on geomatic information, and treatment prescriptions can be established based on this information."

This can make the entire planning process much more efficient. Rather than having to ground truth a full restoration area, a smaller portion of sites can be visited with the goal of testing the accuracy of the desktop planning exercises.

Proper planning can also avert headaches down the road.

"It's obviously way more efficient, way more targeted, to have that plan before you go. You do have to reduce costs, but more importantly, if we make a mistake, we may have to completely re-do the field work. The cost of not doing [desktop planning] could be millions of dollars. The other part that's critical is that it makes you safer in the field," explained Cody.

Depending on the time of year you visit a site, it may be difficult to gather all relevant ecological observations. Because of this, the information gleaned from desktop planning can provide critical context to the ground truthing process.

"It's like putting a puzzle together. What you experience in the field is limited to a site-level observation, but having made a prior desktop plan, you have the local landscape in your hand," explained Cody.

Bringing it all Together

Starting your family vacation with a well-organized plan is the best way to ensure success, and you can now see that it's the same for restoration work. This means going into the field with a clear idea of which areas are going to be treated, which lines will need which treatments, and how the crews and equipment are going to make their way through the landscape. With proper planning, you have the best chance of seeing the project go smoothly – and perhaps getting to that well-deserved vacation a little sooner!

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