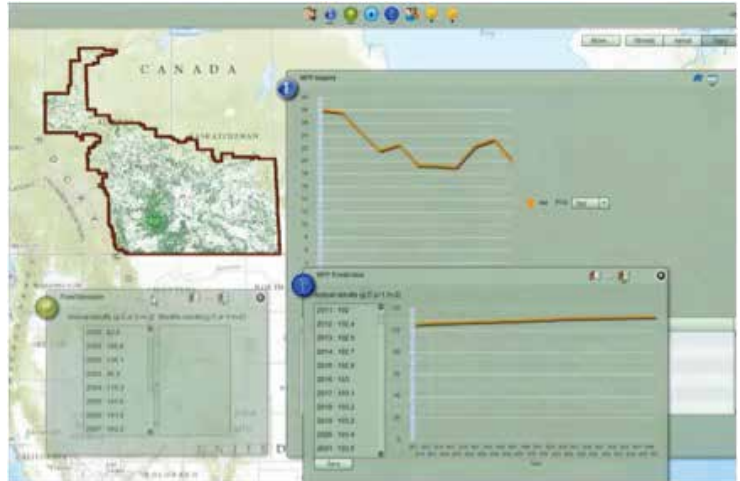
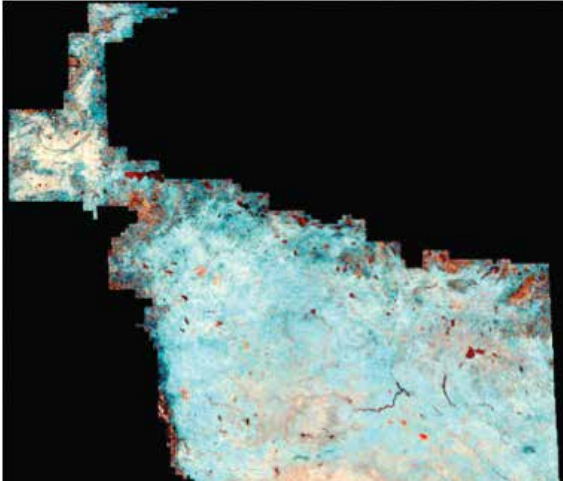


Seeing the Big Picture

Using remote sensing for reclamation monitoring.



Although it is often viewed as one of the last stages of a mine's operations, reclamation activities are planned and execution has begun long before ground is broken. Often, stakeholders including governments, communities, and oversight groups, consider reclamation activities a barometer for the overall environmental impact of a project. Because of this scrutiny, accurate monitoring and reporting on the progress of reclamation activities is an important link between the developer and these stakeholders.

But environmental and social responsibilities aren't the only issues at stake for reclamation activities. Like most aspects of the industry, there is a huge financial stake in reclamation monitoring. The Alberta Government reports there are currently over \$912 million in reclamation security bonds held from the oil sands alone. Given the importance of all of these issues, it becomes clear that accurate, easy to understand information is essential to reclamation monitoring.

But getting the big picture of the environmental health of a project area can be very difficult. Often, plant and soil tests are carried out as part of an environmental assessment. However, spot tests

are not indicative of an entire area, and on large projects there can be a significant difference in health across a project's footprint.

But as technology progresses, so does our ability to use it to solve problems. With the proper tools, training, and experience, satellite imagery can provide answers. Satellite imagery is optimized for vegetation and with more than 20-years experience analyzing satellite imagery, Western Heritage has developed a management tool that uses remote sensing to accurately measure vegetation change in an environmental footprint. This web-based tool provides managers with a detailed map of the area of interest that measures and displays vegetation health on several key indices. The map is regularly updated through an imagery subscription, and provides faster, more accurate monitoring and reporting by measuring the health and growth of vegetation in a reclamation area in real time.

One of the most desirable aspects of satellite footprint monitoring is that it provides a visual reference, so that interested parties can actually see the big picture of the progression of environmental and reclamation efforts. In addition to

demonstrating the effectiveness of current activities, satellite monitoring has the ability to look back in time. With imagery available dating back to the early 1980's, it is possible to track footprint changes pre-, during, and post-project. With reclamation judged on equivalent land capability, and many efforts lasting several decades it can also look at vegetation growth patterns to establish a more accurate baseline for goals.

With Western Heritage's custom model it is also possible to forecast the growth and health of a reclamation area. This information can be used to help set realistic goals, or to act as a measuring stick for ongoing activities.

Embracing new technology for monitoring is valuable, as it provides more information and better answers. But using it also demonstrates a commitment to sustainable resource development; it shows that an organization takes its environmental commitments seriously and will employ cutting edge technology to reach them. As the world changes, so do the ways we are able to see it. Satellite imagery allows us to see the big picture, while focusing on the information we need. ✕