

# Restoring life to the UBMC

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A re-vegetation crew work along Mike Horse Creek last Wednesday.

Life is returning to the upper Beartrap and the Mike Horse.

At a glance, the two narrow valleys that were once home to most of the mine waste in the Upper Blackfoot Mining Complex still seem like a barren moonscape of gray dirt, littered with downed trees and woody debris. A closer look reveals that four years of remediation, restoration and ongoing re-vegetation is paying off as native plants take hold along the reconstructed creeks and on the hillsides.

Work to continue the removal of contaminated mine waste in the UBMC below the confluence of the two streams hasn't resumed yet this year, but re-vegetation crews were back at work last week, replanting and reseeding the area that had been cleared of contamination last year, before the work there was suspended early last August.

With the delivery of nearly 1400 native plants from the State Nursery, Giles Thelen was busy ferrying plants across the now free-flowing Mike Horse Creek Wednesday. Thelen, is the owner of Native Yards in Missoula and the Natural Resource Damage Program's re-vegetation subcontractor this year.

"I get the glory job of making this place look pretty. We get to plant and seed and spread propagules from the forest" he said.

Thelen's re-vegetation crew stayed busy planting willows, cottonwood, Sitka spruce, raspberry and alder, and other species throughout the area.

Beau Downing, who oversees the restoration and re-vegetation of the site for the NRDP, said all the plants Thelen's crew were working with were grown from seeds sources in the Mike Horse area.

"We don't really feel like anything from outside of the Mike Horse would survive in the Mike Horse," said Shellie Haaland, the Montana Department of Environmental Quality construction supervisor for the UBMC cleanup.

Downing explained that the re-vegetation with native plants plays two important roles. First, it should provide for a head start over the natural recruitment of native plants, which would take years.

"If we never touched it, it would get to where it needed to be in like 30 years. We're hoping it's there in five to ten," Downing said. "We're trying to kick start, trying to save ourselves 20 years of waiting to have it look as natural as possible.

Second it to limit the spread of a different type of contamination: invasive weeds.

"If we don't get something native growing on it, that's just an opportunity for an invasive to take over," he said. "Weed control is expensive. If you can get all your desirable plants going and growing and you're not spending that money on spraying and chemicals."

Spotted knapweed was already a substantial issue in the areas along old Forest Service roads that were used for access and recreation.

"What we have done, as we have been here, we actually came here and sprayed before we touched anything," Haaland said. "Then it doesn't get in vehicles and we don't track it all over hells creation."

Restoration work at the site began in 2014 in the Beartrap Canyon. It followed close behind the excavation of the Downing said restoration crews began rebuilding the stream channel in Beartrap Canyon right on the heels of the excavation work removed the 300,000 yards of heavily contaminated mine tailings and the 70-foot tall Mike Horse dam.

"As soon as that stuff was tested and deemed safe, we survey (and it's) time to build floodplain and stream channel. You just chase them all the way down the valley," he said. At times the work was within 200 feet of where the tailings were being hauled out. They followed a similar process in the Mike Horse valley.

Re-vegetation efforts follow along behind the restoration of the steam channels in the same way restoration followed behind the waste removal. By 2015, almost the entire length of Bear Trap Creek above the confluence had been reconstructed, and willows planted from local cuttings were taking hold in the upper end of the drainage.

The upper Mike Horse streambed was rebuilt and planted with willows in 2016. Last spring the area was seeded, and more plants went in.

Thelen, who has worked on NRDP projects in the past but is new to the Mike Horse this year, said they concentrate the planting along the riparian area and near areas where there are natural seeps in the hillsides. "I'd say 85-90 percent of the plantings are within 10 meters of the flowing water," he said.

Integrating restoration with the remediation work can be tough, but Downing said it's a beneficial symbiotic relationship.

"We can see what surface they've left behind. We can adapt our design to try and be cost effective within our tolerances," he said. "We have restoration goals: move water, move sediment, grow plants and provide habitat for when things recolonize the stream. You're always trying to balance that against cost, availability of materials."

With concerns about the money left to complete the mine waste remediation and restoration of the UBMC, Downing said they look to improve their efficiencies.

"We look at ways to save money and not compromise any of those design components that are necessary to leave the best possible creek and floodplain behind while getting all the dirty stuff out," he said.

Below the Mike Horse-Beartrap confluence there's still plenty of 'dirty stuff' left to move.

At a glance, the vegetation along the Blackfoot River below the water treatment plant seems healthy. A closer look reveals trees and willows that have been slowly dying in the contaminated soil.

Excavation work is anticipated resume in July and the bid package that went out to contractors about two weeks ago and is designed to provide some flexibility, depending on how well the work progresses.

“Everything down to the water treatment plant will get done in this bid package, then they have an Alternative A and an Alternative B,” she said. The alternatives are areas that can be added to the bid if the contractor hits the boundary in the base bid and has time left in the season to continue.

“We can choose to award those next remediation sections for removals and be able to potentially get to those areas,” Haaland said.

Officials from Montana DEQ hosted a meeting Tuesday night in conjunction with the Upper Blackfoot Valley Community Council meeting to discuss details of their plan for the remainder of the cleanup work at the UBMC.

Since the meeting occurred after our press deadline, we’ll include a report on it in an upcoming issue.



Beau Downing shows two stone flies living under a rock in Bertram Creek.

