

Innovative Arch Replaces Creek Culvert

Tyler Waugh 30.JUL.09 – The Hinton Voice – www.hintonvoice.com



Members of Trout Unlimited Canada, the Foothills Research Institute and Fisheries and Oceans Canada sweep Hardisty Creek with electric pulses to salvage the fish population in effected areas of the waterway. The sweep was done July 27 prior to the waterway being diverted to accommodate culvert replacement that will improve fish passage. Photo by Tyler Waugh

Motorists looking to use Robb Road south of town couldn't get past a culvert last week ... and now they know how multitudes of fish have felt for decades.

Crews that ranged from biologists to contractors teamed up to replace a culvert on Hardisty Creek located about four kilometres past the Hinton Mountain Bike Park.

That culvert was identified as a barrier to fish passage and plans for replacement were sped up in spring 2009 when funds became available through Fisheries and Oceans Canada (FOC).

Project coordinator Ngaio Baril, a stream specialist with the Foothills Research Institute (FRI), said this replacement was a fairly easy sell for funding "Hardisty Creek has such a high profile with all the work that has been done right in town," Baril said. "There's already a lot of stewardship and community involvement. This isn't directly related (to the Hardisty Creek Restoration Project), but it's the same water system."

The project land is controlled by West Fraser, who agreed to participate in the project and secured the contractors and equipment.

Replacing the culvert is a new system called a geotextile reinforced soil arch, a crossing design used often in British Columbia. "This project represents one of the first structures of its kind in our province, though," Baril said, adding that arches are unique to other alternatives because they do not require footings and can be constructed using primarily local materials.

The concept is so new in Alberta that FP Innovations was on site to film the process for contractor training purposes at other locations.

Work began on July 24 as machinery crews dug a path for a diversion creek so that water flow could be maintained during work on the crossing.

Representatives from Trout Unlimited Canada, FOC and FRI arrived Monday morning to undertake a fish salvage, as well as advise and assist on finishing touches of the 75-metre long diversion creek.

Once the stream was diverted work began on the new system with an excavation that was 11 feet wide along the old path of the culvert and two feet deeper than the current level of the creek. That two feet of excavation will be filled with natural material to recreate the actual stream bed composition.

Above the stream bed is where the GRS system is implemented. The concept has a pre-fabricated metal arch topped with layers of the geotextile material that are separated by pounded, compacted earth.

Work will be done to stabilize and restructure the banks before the road is reopened. Reclamation of the riparian zone will take place sometime in the fall.

"Because of the proximity to town there are some definite education opportunities," Baril said. "We're hoping to get schools involved and have students out here planting willows."

Hardisty Creek is home to several trout species, as well as Mountain Whitefish.



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