



1. Before - aging culverts and dam remnants were an unsightly problem on Dair Creek. 2. After - a bottomless arch accommodates fish passage.

Dair Creek Recovery

June 2006 through October 2009

Dair Creek is the coldest and second largest tributary to the Betsie River, thus providing critical escape cover and spawning habitat for trout in a watershed known to have extreme water temperatures on the mainstem during the summer and winter months. In 1865, a man named Fred Dair constructed a dam, pond, footbridge, and sawmill near the confluence of Dair Creek with the Betsie River, and a portion of Dair Creek was re-routed to a man-made channel. The original wooden dam burned and collapsed, and the concrete dam built in its place also failed. Outdated road/stream crossings upstream and downstream of the dam were unable to handle stream flows and had major erosion problems.

With this project, remnants of the dam were removed, Dair Creek was put back into one stream channel, 2 road/stream crossings were replaced with bottomless arches, and a road embankment was rebuilt and stabilized. Approaches were paved and spillways were constructed; habitat platform structures were installed on the Betsie mainstem nearby for added fish cover. All of this work restored full fish passage to 8 miles of Dair Creek upstream, where the stream meanders through large tracts of public land that is heavily wooded and rich with wetlands.

PROJECT COST: \$426,943

LOCATION: N 44.551885 W 86.054106

BEST MANAGEMENT PRACTICES:

- Dam removal
- Re-route & restoration of 500' of stream channel
- Triple 5' diameter culverts replaced with a 13' wide bottomless arch, 4'1" high, 60' long
- Single 24" diameter culvert replaced with a 10' wide bottomless arch, 4'6" high, 54' long
- 150' of road embankment stabilization
- 400' of pavement and 2 spillways
- 100' of woody debris & fish habitat platform structures
- 80 cu.yds. fieldstone placement
- Removal of 30 cu.yds. sand

PROJECT BENEFITS:

- **Reconnect 8 miles of Dair Creek to the Betsie River**
- Restore fish passage
- Restore natural movement of woody debris, substrate, & aquatic insects
- **Halt annual input of up to 10 tons of sediment from roads into the river & creek**
- Halt bank erosion & scouring of stream bottom
- Provide natural stream bottom under roadways
- Ensure safe roadway & reduce road maintenance

PARTNERS:

- Environmental Protection Agency
- Grand Traverse Band of Ottawa and Chippewa Indians
- Great Lakes Fishery Trust
- National Oceanic Atmospheric Administration
- Fish America Foundation
- US Fish & Wildlife Service
- Conservation Resource Alliance
- Benzie County Road Commission
- Trout Unlimited - Adams, Pine River Area, Elliott Donnelley & Martuch Chapters
- NRCS - Conservation Innovation Grant
- Betsie River Watershed Restoration Committee
- Michigan Department of Natural Resources
- Michigan Department of Environmental Quality
- Wilcox Professional Services
- Landowner, Bryan Matthews



3. Before – Old King Road repeatedly washed into the Betsie River nearby. **4.** After – stabilizing Old King Road prevents sedimentation of the Betsie River.
5. Before – dam remnants and a channelized Dair creek. **6.** After – a restored Dair Creek.

