



## Conservation Resource Alliance

Telephone: 231-946-6817

[www.rivercare.org](http://www.rivercare.org)

Email: [info@rivercare.org](mailto:info@rivercare.org)



# Dair Creek & Landis Road Crossing Replacement Betsie River Watershed 2012

The Betsie River is a State designated Natural River known for salmon & steelhead fishing in Northwest Michigan. Dair Creek is the coldest and second largest tributary to the Betsie - thus provides critical escape and spawning habitat in a watershed that is known to have extreme water temperatures on the mainstem during summer & winter months. Dair Creek is a Designated Trout Stream & supports populations of brook and brown trout. The Betsie Watershed has 106 road crossings and site #B-40 is where Landis Road crosses Dair Creek. With the replacement of the aging, undersized 3' diameter corrugated culverts, a bottomless arch now spans Dair Creek providing full passage of aquatic life and a natural stream bottom under the road.

### Project Cost:

**\$109,427 incl. match**

### Contributors:

- Environmental Protection Agency – Great Lakes Restoration Initiative
- Benzie County Road Commission
- Adams Chapter of Trout Unlimited
- CRA River Care Program

### Partners involved:

Betsie River Watershed Restoration Committee including the following partners - Conservation Resource Alliance, Benzie County Road Commission, Michigan Department of Environmental Quality, Michigan Department of Natural Resources - Fisheries Division, KPM Engineering, Team Elmers

### Location

Section 16 WeldonTwp.  
Benzie County, MI  
N44.55745525 degrees  
W85.0149057 degrees



### Best Management Practices:

- Replaced twin 3' diameter culverts with a bottomless aluminum arch 18' 2" span x 4' 7" rise, 27' long
- Road grading & 2 spillways
- Fieldstone placement
- Grading embankments & revegetation

### Project Benefits:

- Improved fish passage to 3 miles of Dair Creek & tributaries upstream
- Natural movement of woody debris, substrate, aquatic insects
- Reduce scouring of streambed
- Provide natural stream bottom under road
- Halt annual input of approximately 124.7 tons of sediment from road runoff from entering Dair Creek



# #B-40 Dair Creek and Landis Road – August/September 2012 Construction

Before – 2 x 3' diameter culverts with cement bag headwalls



After – bottomless arch 18'2" span, 27' long, 4'7" rise installed





# #B-40 Dair Creek and Landis Road – August/September 2012 Construction

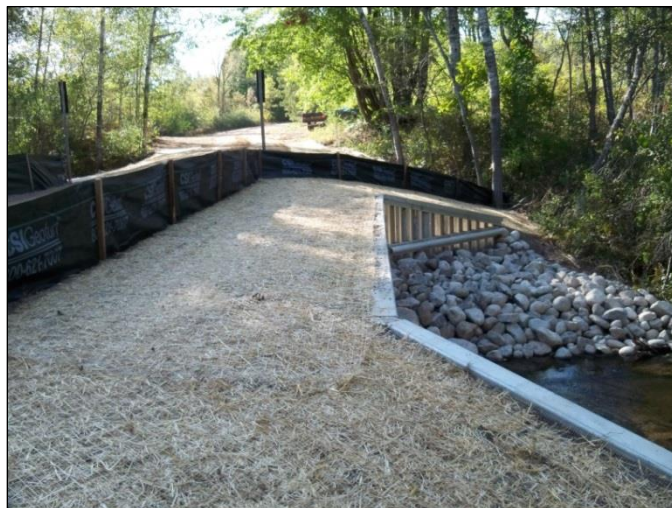
The original culverts



During construction



Embankments stabilized



Spillways installed



Culvert and rock work

