

Mole Creek

The on-going Mole Creek habitat improvement and restoration project is being completed on multiple WDNR conservation easements in the Town of Saukville. Broad project objectives are to improve and enhance in-stream and riparian habitat in historically-modified portions of the Mole Creek Watershed. Historic channel modifications, in particular, channelization to accommodate agricultural practices, are the most important factor limiting the streams potential biological use. Mole Creek flows south and southeast for 7 miles from its headwaters in the Town of Saukville before discharging to the Milwaukee River in the Village of Grafton. Approximately 50% of the stream was historically channelized to accommodate drainage for agricultural uses, resulting in "poor" fish and aquatic life habitat. The fish community is dominated by cool-cold water species including Mottled Sculpin, a cold water species and indicator of suitable trout waters. Continuous hourly logged water temperatures by WDNR during years 2000 and 2001 confirmed that Mole Creek has the potential to support trout. The WDNR stocked 750 Brook Trout fingerlings in Mole Creek during the fall of 2017. Overwinter survival of the stocked brook trout was confirmed during 2018 monitoring activities.

The goal of the project is to create and restore in-stream and floodplain habitat conducive to supporting a cold to cool-cold water fish and aquatic life assemblage, including trout. Additional benefits include improving habitat for wildlife, enhancing water quality and hydraulic connectivity with the streams floodplain.

Activities to meet the project goal include:

1. Excavating a stable meandering stream plan form (typical meander length of 7-10 times mean stream width);
2. Increasing stream length and sinuosity from 1.0 miles to 1.4 to 1.5 miles;
3. Decreasing mean stream width, and increasing effective water depths and stream velocities;
4. Increasing in-stream and bank habitat cover for fish and wildlife to >15%, emphasizing coarse woody debris in pools and boulder retards in pools and glides;
5. Rehabilitating 10-15 acres of wet-deciduous forest and wet meadow wetland currently in agricultural land use by excavating connected wetlands and wetland scrapes;
6. Increasing canopy shade by 75% on the sunward side (west bank) of stream by planting deciduous trees;
7. Increasing the amount of pool and deep glide to 60%, and construct coarse substrate riffles for lithophilic spawning fish and macroinvertebrates.

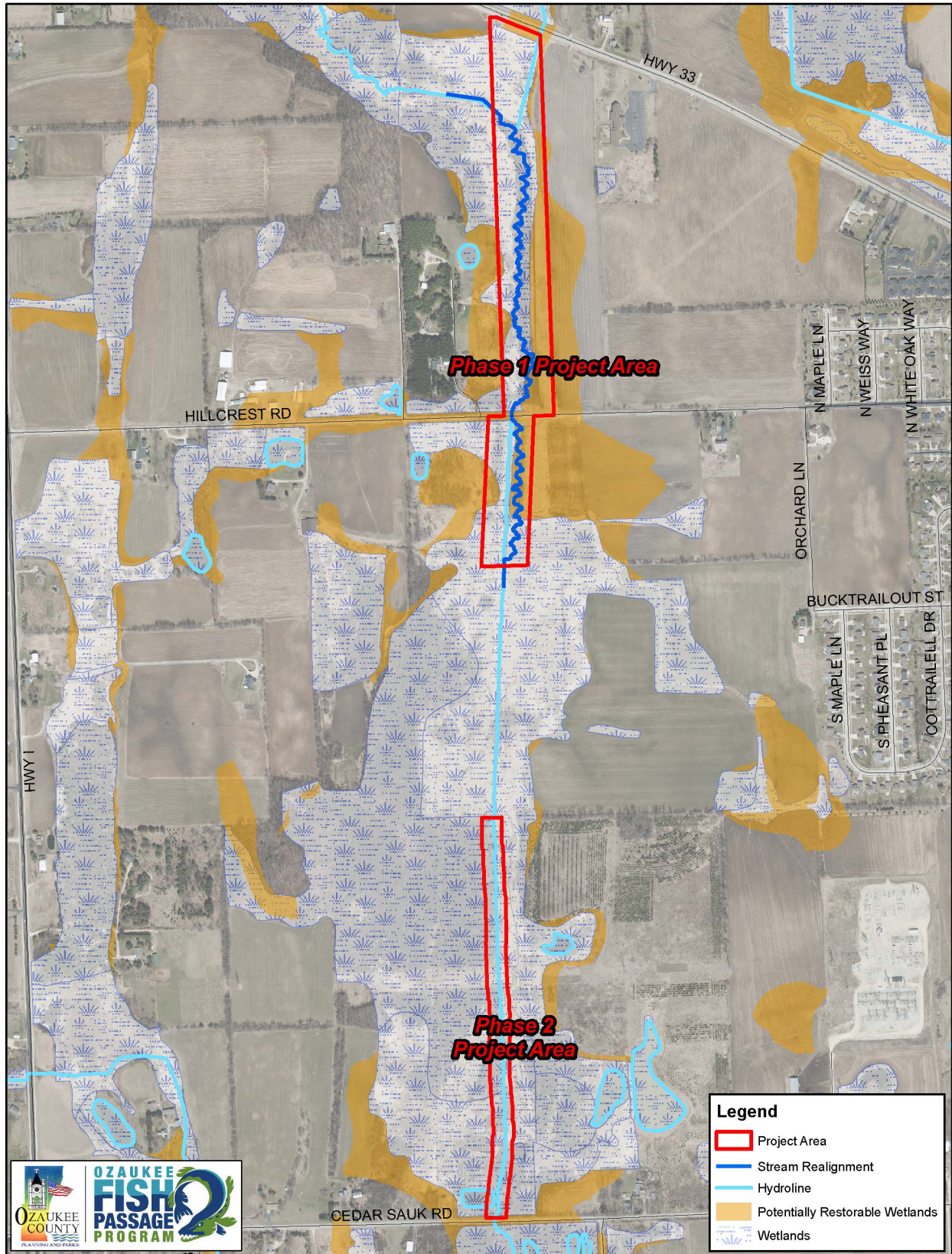
To date, completed project activities (Phase I) have included stream remeandering, enhancing in-stream and wetland habitats, native tree planting, and wildlife monitoring on WDNR-owned easements adjacent to Hillcrest Road in the Town and Village of Saukville. Project results have included abandoning 3,150 ft of existing channel with a fish habitat quality index (HQI) rating of "poor" to "fair" and replacing it with a 4,900 ft meandering channel with a fish HQI rating of "good" to "excellent". Approximately 57 acres of wetlands, 164 acres of 2-year floodplain, 191 acres of 5-yr floodplain, and 210 acres of 100-year floodplain were reconnected, improving and enhancing their ecological value.

Phase II Update

Approximately 2,700 linear feet of mainstem channel north of Cedar Sauk Road (approximately 1,500 ft south of the Phase I project area completed under USEPA GLRI funding) was also significantly altered through dredging and artificial straightening, resulting in an incised channel hydrologically disconnected from adjacent riparian floodplain and wetland areas, which provide high quality habitat for spawning northern pike and other aquatic and terrestrial species. A WDNR River Protection Management grant supported the completion of engineering and design plans that includes a combination of stream remeandering, restoration of hydrologically and biologically functional floodplains, bank and in-stream structure restoration, wetland enhancements, invasive vegetation control, and native vegetation restoration (e.g. tree planting)

activities. A National Fish and Wildlife Foundation Sustain Our Great Lakes grant is supporting implementation of project plans, and construction and restoration activities are ongoing.

Mole Creek Habitat Restoration Project



Map Produced By:
Ozaukee County Planning and Parks Department
3/22/2016

Funding Sources



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