

Repairing the Roads Can Mean Working in the Water

As part of the ongoing process to keep roads safe for drivers, PennDOT sometimes has to wade into the waterways surrounding the bridges and highways.

Before diving into any work, precautions are taken to ensure the least amount of impact on the plants and animals living within the nearby rivers or streams.

In this edition of the Road Trip. We will examine two PennDOT projects and how District 1 employees worked to preserve nature while providing safe driving conditions.



Mussels on the Move — Thousands Are Taken from the River

Endangered mussels found around the Hunter Station Bridge near the Venango-Forest county line are on the move.

After years of studies and small-scale relocation trials, the endangered Northern Riffleshell and Clubshell mussels are being shipped to new homes, many out-of-state.

But the relocation process is more than a salvage and relocation effort.

Each mussel that is plucked from the river is tagged with one of three markers.



A northern riffleshell mussel is marked with a numbered Hallprint tag for relocation.

Passive Integrated Transponder (PIT) tags were used during a pilot study between PennDOT and the Pennsylvania Fish and Boat Commission to study how well about 900 mussels could

adapt in one of five locations within the state. The PIT markers were glued to the shells of each mussel and incorporated an electronic tracking mechanism to enable Fish and Boat Commission officials to gauge the survival and growth rates of the relocated mussels.

Through the use of the PIT tags, biologists were able to determine the locations that were conducive to a thriving mussel community. Therefore, an additional 2,000 of the shelled

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Covered in this issue:

Embedded Tech and Engineering Topics — PIT tags, Hallprint tags, Mudsill wall

Vocabulary Terms — Epoxy, endangered

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Mudsill Used to Stabilize Creek Wall

When the banks of a Forest County creek started to deteriorate near the roadside, PennDOT officials looked for a natural fix. Maintenance crews created a mudsill wall along Blue Jay Creek. Mudsill is a type of construction in which logs are placed directly on a base or the ground.

Hemlock logs from the nearby Chapman Dam State Park were used to create the mudsill wall along a portion of the creek that is visible from Blue Jay Road.

After securing the logs in place with epoxy rebar, PennDOT crews backfilled the area with rocks before putting down grass seeds and mulch.

Along with helping reduce erosion, the mudsill method is also known for enhancing the creek's fish habitat.

The summer project was the first of its kind done in PennDOT District 1 for some time. A similar wall was installed at the same spot about 20 years ago.

The Pennsylvania Department of Environmental Protection and the Pennsylvania Fish and Boat Commission assisted with the project.



PennDOT employees work on the Blue Jay Creek Project, which included the creation of a mudsill wall.



Once the wall was built, crews seeded and mulched the area.

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animals were moved to one of the five spots in 2015.

But even before the in-state sites were identified, out-of-state locations had been found.

Since 2008, tens of thousands of mussels have been scooped out of the river and moved to Kentucky, Illinois, Indiana, West Virginia, Ohio, New York and the Seneca Nation within New York. Some of them (about 10 percent)

left with one of the electronic PIT tags, but many more were marked with more simple indicators.

After a gentle cleaning, numbered Halprint tags were placed on some of the mussels to help identify them as relocated Hunter Station marine life for years to come, as well as to help officials track survival rates.

Due to the cost and time involved in placing either the PIT or

numbered tags, the states opted to use specks of glitter as markers on many of the mussels.

Starting this year, the numbered and glitter tags will follow a color schedule, with each year having its own shade. The color designating 2015 is blue.

DID YOU KNOW...

PennDOT District 1 maintains 2,064 state bridges that measure at least eight feet in length.

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