

NYSG Assists Czech Republic Development of Reservoir Trawling Program

In the Czech Republic there are more than 100 large artificial reservoirs created as river impoundments. These impoundments are the major freshwater supplies to many communities in the Czech Republic. Fish community structure, an important indicator of water quality in these systems, is monitored by the Fish Ecology Unit (FishEcU, www.fishecu.cz) of the Institute of Hydrobiology of the Czech Academy of Sciences. Passive tools (gillnetting) are used for sampling adult fish in open water, however, they are ineffective for capturing small fish and must be deployed overnight in several areas to obtain representative samples of the fish communities.

In the Great Lakes of North America, trawling is most commonly used for sampling offshore fish communities. For more than a decade in the Czech Republic, preliminary trials were conducted using trawling gear, a preferred active sampling method. The trials proved unsuccessful due to the FishEcU staff unfamiliarity with trawl design and operation, particularly in freshwater.

In 2008, NY Sea Grant organized a trawl design workshop with Rhode Island Sea Grant and the Memorial University of Newfoundland (MUN). Dr. Tomas Juza attended the workshop as a representative of the FishEcU from the Czech Republic. Upon his return home, the FishEcU was able to use the NYSG training to design a new trawling vessel and trawl to begin a new reservoir sampling program.

In 2010, the Czech team reported that the new vessel and trawling technique enabled the FishEcU to obtain representative, quantitative fish



*This trawling research vessel was designed and built in the Czech Republic using a training program developed by NY Sea Grant.
Photo: FishEcU, Czech Academy of Sciences*

Because fish communities influence the nutrient dynamics and amount of plankton in waterbodies, fish community structure is an excellent indicator of water quality.

In the Czech Republic, water quality in large drinking water reservoirs and recreational fishery waters is now monitored using fish community indices from trawling operations developed with assistance from New York Sea Grant.

samples in only 20 minutes of trawling in each reservoir, compared to the overnight gillnetting.

The new trawling system has now been successfully applied in the United States and in assessment projects in the Czech Republic, Spain and Germany, resulting in the publication of at least four research papers in international journals in 2009 and 2010.