

Great Lakes Restoration Initiative

Fish Tumors and Other Deformities Beneficial Use Impairment

Niagara River Area of Concern, Niagara, NY

Background

Several beneficial use impairments (BUIs) have been identified in the U.S. Niagara River Area of Concern (AOC). With funding from the Great Lakes Restoration Initiative, the U.S. Fish and Wildlife Service (USFWS) New York Field Office is assessing the status of the “Fish Tumors and Other Deformities” BUI within the Niagara River AOC. The incidence of tumors and other deformities in representative fish collected over three consecutive years from the lower, upper, and middle sections of the river will be compared against the incidence of these abnormalities in fish from a reference location. The brown bullhead (*Amierurus nebulosus*) is the study species.



Brown bullhead with tumor. Photo credit: USFWS

Assessment

- USFWS biologists and partners collected up to 25 mature brown bullhead at each site using fyke nets, minnow traps, or electrofishing.
- Specimens were weighed, measured, and a comprehensive assessment was completed on all fish collected.
- Liver and gonad tissue were removed from each specimen and any abnormalities were noted.
- Laboratory analysis was completed by U.S. Geological Survey biologists.

Work Done and Future Plans

Sampling was planned to be conducted in three consecutive years beginning in 2011 in the middle, upper, and lower river. Work has already been performed in June of 2011 and June of 2012. Fish were collected from the middle portion of the US side of the Niagara River AOC (Love Canal and Grand Island) in 2011 and from two areas in the upper Niagara River in 2012.

Future sampling efforts will be focused in the lower river. Statistical comparisons between the Niagara River AOC and reference fish will be conducted after all of the tumor and deformity assessments are complete.



USFWS Biologist, 2012 Niagara River sampling trip. Photo credit: USFWS

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