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Agency: Natural Resources

Fish Disease Halts Walleye, Pike and Muskellunge Production and Stocking

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The rapidly increasing distribution of Viral Hemorrhagic Septicemia virus (VHSv) in Michigan waters is forcing the Department of Natural Resources to place a one-year moratorium on walleye, northern pike, and muskellunge production and stocking ensure the disease is not inadvertently spread by DNR activities, and to protect the state's fish hatchery system.

"All of the DNR's egg sources for walleye and one key source for northern pike are from Great Lakes waters that are, or are highly likely to be, infected with VHSv," said Kelley Smith, chief of the DNR Fisheries Division. "Muskellunge egg sources, as well as two other sources for northern pike are located in very high risk waters, based on our understanding of the movement of bait fish around the state, as well as the amount of recreational and angler boat traffic between those waters and the Great Lakes."

Smith said that currently it is not known whether eggs from these species of fish can be disinfected, adding that disease testing takes four to eight weeks, thus making it impossible to determine which egg sources are infected before moving the eggs into state hatcheries.

VHSv has already caused widespread fish mortalities in Lakes St. Clair, Erie and Ontario, and is an international reportable disease. In late 2006, the DNR determined it had spread into Lake Huron, as far north as Cheboygan and Rogers City. The disease entered Michigan waters from the Maritime Region of Canada, likely in the discharge of infected ballast water from cargo ships that took up ballast water in previously infected waters. The virus does not affect humans in any way.

"If VHSv would inadvertently infect a state fish hatchery, all of the fish at that facility would have to be destroyed and the hatcheries completely disinfected. The economic loss to our state would be between \$40 and \$60 million," Smith said. "Since we only rear coolwater fish at Thompson and Wolf Lake State Fish Hatcheries, incubating potentially infected walleye, muskellunge and northern pike eggs at these two facilities would put at risk all of the state's production of steelhead, 40 percent of the Chinook salmon and a number of other species."

Prior to making the decision to place a moratorium on the production of these species, the DNR examined a range of options. They included:

- Developing isolation areas within existing hatcheries - it was determined that this cannot be done without substantial risk to other fish species in the hatcheries.
- Undertaking off-site rearing at other DNR facilities - this was rejected because sufficient water of the proper quality and temperature was not available and appropriate effluent treatment could not be done.
- Undertaking off-site rearing at other cooperator facilities -the DNR determined that the liability risk is too great, since contaminating a non-DNR facility with VHSv would result in substantial costs for the DNR to disinfect and clean up of the facility.
- Obtaining fish from other agencies - this concept was investigated, but genetically compatible sources of walleye and northern pike are not available in the Great Lakes region. However, this may be an option for muskellunge, and is being pursued by the DNR.
- Obtaining eggs from other inland sources in Michigan - this option is not feasible because insufficient numbers of fish are available to meet the state's egg-take needs, and the potential sources of eggs are at high risk of VHSv infection.

The DNR is taking the following steps to ensure that walleye, northern pike, and muskellunge production can resume in the future:

- Experiments will be conducted this spring on eggs collected from walleye and muskellunge populations in Lakes Erie and St. Clair that are likely infected with VHSv to determine if standard iodine disinfection techniques will work for coolwater fish. If the experiments demonstrate that the standard techniques

are effective, then normal coolwater fish production will resume in 2008.

- Extensive VHSV surveillance and monitoring of current coolwater broodstock populations will be conducted to allow the DNR to determine the prevalence and intensity of infection in each broodstock population. These efforts should help to identify potential broodstock sources and rearing locations for the future.
- Determine other potential out-of-state sources for coolwater fish for future rearing options.
- Develop additional backup options to incubate and rear coolwater fish outside of the state's hatchery system, including the development of fully contained mobile incubation and rearing facilities and the potential use of other off-site incubation and rearing facilities. The cost of additional mobile incubation facilities is approximately \$22,500 per one million walleye fry.

"Implementation of these measures will require a substantial commitment of effort and dollars, at a cost that will greatly exceed what would be expended for coolwater fish rearing under normal circumstances," Smith said. "There are no new dollars for such efforts, so we are reprioritizing our existing work plans and budget to ensure the work is accomplished prior to the 2008 coolwater fish production season. We have, however, requested emergency funding from the U.S. Department of Agriculture's Animal and Plant Health Inspection Service, but we do not yet know if and when these funds might be available to help us meet the threat posed by VHSV in the Great Lakes."

For more information on VHSV, visit the DNR Web site at www.michigan.gov/dnr.

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