



Little Falls Fisheries Newsletter

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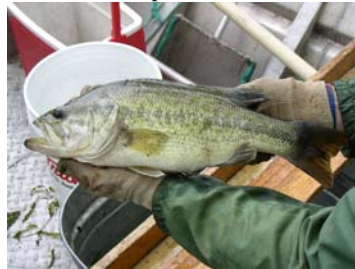
Two New Fish Viruses Concern Fisheries Managers

Inside this issue:

Two new fish viruses have caused concern recently amongst Minnesota fisheries managers. The first, **Largemouth Bass Virus**, or LMBV, has been found in at least 19 states including Minnesota and Wisconsin. While the origin of the virus is unknown, it was first discovered in Florida. The virus was first documented in Minnesota in 2003 in the lower Mississippi River, and has since spread to four metro area lakes and Rush Lake in Chisago County.

Largemouth bass infected with LMBV typically act normal until stressed. Typical stressors include: hot weather, crowding in a livewell, poor water quality, and pollution. When stressed, diseased fish will be near the surface and have trouble swimming and staying upright. LMBV appears to affect the swim bladder of infected individuals causing redness, over-inflation and oftentimes a thick yellow or brown substance to be present. A DNA test is required to diagnose the disease.

Largemouth bass virus appears to be contracted by simple contact in the water, by fish to fish contact, and by consuming infected prey. People can spread the virus by transporting infested water in boats and trailers or by stocking infected fish into a lake. Other species such



Adult largemouth bass such as this one are especially vulnerable to LMBV.

as smallmouth bass, bluegill, white and black crappie, and some aquarium fish can also be infected, although largemouth bass is the only species known to succumb to the disease. Some amphibians and reptiles can also carry the virus, and, when preyed upon, can transmit the disease.

LMBV disease outbreaks usually kill adult largemouth bass,

which alarms anglers. It has been found, however, that the majority of kills effect only a small portion of the population, and that long-term effects are insignificant.

The second virus fisheries managers are concerned with is **Viral Hemorrhagic Septicemia**, or VHS. VHS was discovered in the Great Lakes in 2005 and has caused fish kills in Lake Ontario, Lake Erie and Lake St. Clair. Die-offs of muskellunge, walleye, freshwater drum, yellow perch and round gobies have been attributed to VHS. It is not known how many fish species are susceptible to the disease. VHS is a much more serious threat than LMBV. VHS causes hemorrhaging, which kills fish. Scientists speculate that the virus entered the great lakes via ballast water in ocean going vessels.

VHS has not been documented in Lake Superior, but fisheries managers are proceeding with management as if it were already present. Management at

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Important Information and Phone Numbers



Jim Lilienthal has been Area Fisheries Supervisor in Little Falls since 1980.

Longtime Little Falls Area Fisheries Supervisor, Jim Lilienthal, is retiring from DNR service in January 2008 after 38+ years of service. Jim's service began after three years of college at the University of Minnesota. He was first hired by the Department as a Natural Resources Conservation Aide, equivalent to a Fisheries Technician today, on September 24, 1969. He worked in St. Paul in this capacity until 1974 when he became the Assistant Fisheries Area Supervisor at the Montrose Fisheries office. He held that office until 1980 when an area office was established at Little Falls and he was promoted to the Fisheries Area Sup-

ervisor position there.

Jim has basically been the only supervisor to work at the Little Falls Office. When he arrived there he had a desk, an empty file cabinet, and a small handheld calculator. His first employee, Lloyd Anderson, was hired a month after Jim arrived, and they were appropriated their first work truck a month later. Jim and Lloyd worked tirelessly to obtain large rearing ponds to help produce walleyes for Region III Areas that included Aitkin, Brainerd, Hinckley, Little Falls,

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**DNR Information and Licensing (888) 646-6367*

**DNR Website: www.dnr.state.mn.us*

**Turn In Poachers: (800) 652-9093*

**Exotic Species Hotline: (888) 646-6367*

**Little Falls Area Office: (320) 616-2450*

Area Fisheries Supervisor Jim Lilienthal Announces Retirement (continued from page 1)

and Montrose. In their first year of production, Jim and Lloyd produced half the Region's walleyes, a feat that required long hours and much hard work.

During his tenure as Fisheries Supervisor, Jim has been responsible for pioneering, or partnering in establishing, many of the processes and techniques used in rearing walleye and muskellunge in natural ponds. These techniques, although streamlined over the past 27 years, are still utilized today.

Rearing fish in shallow "duck" lakes has come under scrutiny by waterfowl managers and waterfowl hunting enthusiasts in recent years. A career highlight for Jim has been participation as Regional representative at the Shallow Basin Study Group. This group, made up of all shallow lakes interest groups, has met several times to discuss future sustainable management of these basins.

Another career

highlight has been Little Falls Area's cooperation and participation in research projects, especially in regards to northern pike special regulations. While controversial with some groups, Jim has pressed for more protection for large pike while encouraging the harvest of small northern. In the process, many contributions have been made to the DNR Research Unit and to management of pike statewide. While not all northern pike management has been a success, some very positive results have been obtained in the area.



Jim has tried to manage for big northern and against "hammer-handle" pike populations.

Other highlights in Jim's career were participation in research involving muskellunge and smallmouth

bass on the Mississippi River. Jim's support and participation in these efforts has led to current catch and release management for muskellunge on the river, and contributed to the early September closure of smallmouth bass harvest statewide. In addition, ongoing smallmouth bass management on the Mississippi continues to increase the state's understanding of river smallmouth biology.

Over the years Jim has found it to be increasingly important to be a participant and advisor to county governments in the Little Falls Area. Providing input from a conservation perspective to local water and comprehensive planners has been critical in maintaining clean water and healthy fish and wildlife habitats in area lakes and streams.

Another positive change Jim has observed has been the recent emphasis DNR is placing on shoreland restoration. Over the years, much of our lakeshore has been transformed from natural trees, shrubs and grasses to sand blankets, Kentucky bluegrass, and rock riprap. The establishment of the DNR Shoreland Habitat Program will hopefully begin a trend of more sustainable shoreland management.

Jim's participation in this effort has been to have Area personnel collect native plant seeds that are raised at the Ramsey County Correctional Facility, and eventually planted on private lakeshore properties. These efforts will hopefully lead to better fish and wildlife habitat, more stable shorelines, and cleaner water.

A couple of issues left undone that will haunt Jim in his retirement include the lack of a tool to "fix" hammer-handle pike populations, and the lack of a socially acceptable way to protect quality panfish fisheries.

Jim's retirement years will be spent at his home on Lake Alexander in northwestern Morrison County with his wife Cindy and faithful chocolate lab Meg. Jim will have plenty of time to pursue his fishing and waterfowl hunting passions in the near future when all his days will be like Saturdays.

Area Staff Collect Seeds for Shoreline Restoration

One of the benefits of working on our area lakes and streams is seeing some cool plants. Since 2001, the personnel at the Little Falls Fisheries office have been venturing out and collecting seeds from emergent aquatic, transitional, and upland plants for lakeshore restoration projects. Seeds from thirty-one different species of flowers, sedges, and grasses such as swamp milkweed, boneset, prairie blazingstar, bottlebrush sedge, big bluestem, and Indian grass were picked.

We believe that lakeshore habitat

improvement is one of the most beneficial things that can be done to altered shorelines to improve water quality and provide habitat for fish and wildlife. Although we are not botanists, we have made an effort to correctly identify and learn new plants every year. Our seed collection begins as soon as some of the plants wanted by the State Shoreline Habitat Program begin producing ripe seeds. The major effort usually has been from the end of August up to mid-September, end of lake surveys until beginning of walleye pond harvest. The seeds are dried and labeled before being shipped in November with the final

destination to be the Ramsey County Correctional Facility.



Swamp milkweed is one of many plants that seeds are collected from.

The Facility has greenhouses where the seeds have been used to produce transplants for shoreline restoration projects. By collecting seeds around the Little Falls area, the plants that

are produced can be used throughout most of Minnesota or anywhere within 150 miles of the collection site. Local plant varieties are wanted and natives are required when planting below the ordinary high water level along water bodies.

For more information visit the Shoreland Habitat Website at: <http://www.dnr.state.mn.us/grants/habitat/shoreland.html> or contact: Heather Baird, Brainerd 218-833-8648



Little Falls

Two New Fish Viruses Concern Fisheries Managers (continued from page 1)

“The key to managing viruses is preventing their spread.”

this time focuses on educating the angling and boating public. The key to managing viruses is preventing their spread. Since these viruses can survive up to seven days in water; boats, livewells, trailers, minnow buckets, etc.; must be cleaned out or dried out prior to use on

another body of water. In the case of LMBV, conducting bass fishing tournaments during cool water periods will reduce stress on bass crowded in livewells. DNR fisheries managers are also taking precautions when stocking and transporting fish, making sure sources of fish are free of viruses or other exotic species. If you

see any dead or dying fish, report your observation to the Little Falls Area Fisheries Office at (320) 616-2450 or e-mail the office at: littlefalls.fisheries@dnr.state.mn.us.

How Old Is That Fish?

As fisheries professionals we are often asked, “How old is that fish?” There are lots of things that go into answering that question but the primary factors are; which lake it came from and whether it’s male or female. Growth can vary considerably between lakes due to fish community characteristics, lake fertility, genetics, habitat and other factors. In many species the female fish grow faster and attain a larger size. Lakes with very abundant populations of a species such as sunfish, will often exhibit slow growth for that species. At the Little Falls Fisheries Office we age thousands of

fish each year to help us understand the age and growth characteristics of fish populations in our lakes and streams. Through this work we have been able to generate data showing the “average” growth rates for our work area. This information provides benchmarks for comparisons between our lakes, but any given lake and any species residing there, may vary considerably from these “averages”. A chart of our area “averages” for several species is provided at right.

Some interesting observations are evident from this chart such as the lack of data for 10-year-old northern pike and black crappie. We have

<u>Species:</u>	<u>Age 3</u>	<u>Age 5</u>	<u>Age 7</u>	<u>Age 10</u>
Walleye	13.4”	18.8”	21.6”	23.3”
Northern Pike	19.4”	23.9”	26.7”	
Largemouth Bass	8.6”	12.2”	14.5”	17.4”
Bluegill	3.4”	5.2”	6.3”	7.4”
Black Crappie	6.9”	9.2”	11.0”	

very limited data on older northern pike and crappie because few individuals of these species ever attain 10 years of age due to fishing harvest and natural mortality. In many of our lakes, bluegills take 10 years or more to reach a “harvestable” size of 7 inches. Anglers should consider this when harvesting bluegills. Also, large northern pike and walleye are generally females that grow at a faster rate than shown in the chart. Where prey is abundant a female northern pike may reach 30 inches in 5-6 years.

Small Streams: A Barometer of Watershed Health

Small streams criss-cross our landscape collecting water washing off roads, residential areas, agricultural fields, and pastures. We may not even notice them, but we may cross several as we drive along from Point A to Point B. These streams are often too small for gamefish, or may only provide gamefish habitat on a seasonal basis, so they don’t draw our attention. Some do, however, contain very diverse fish populations containing shiners, dace, chubs, darters, suckers, and juvenile gamefish. The diversity (or lack thereof) of fish in a stream can tell us a

lot about watershed health or if we are being good conservation stewards on the landscape.

Little Falls Area Fisheries has been conducting Fish Community Index of Biotic Integrity (IBI) Assessments on a handful of small streams annually. These assessments provide an IBI Score based on several metric scores. These metrics include: total number of species; number of wetland species; number of minnow species; number of intolerant species; percent of tolerant species; percent dominant two species; number of invertivore species; percent of fish that spawn on gravel substrates; number of fish per 100 meters of stream; and number of fish with

deformities, lesions and tumors. In general, if a stream has a high number of species and a high number of species intolerant of pollution, it is assumed that land uses have had little impact on stream habitat, and water quality is probably good.

“...if only a few species are sampled and they all tend to be tolerant of pollution, we can assume that there are probably destructive land uses occurring....”

On the other hand, if only a few species are sampled and they all tend to be tolerant of pollution, we can assume that there are probably destructive land uses occurring in the watershed or on riparian lands that are having a major impact on stream

habitat and water quality.

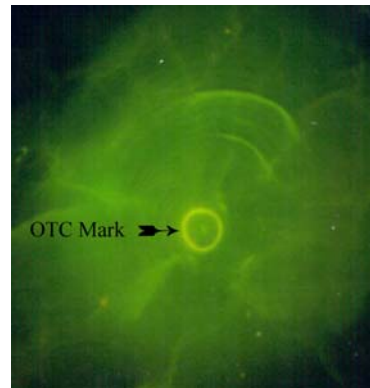
Information collected on small streams is shared with local units of government and agencies such as local water planners, county SWCD offices and the Minnesota Pollution Control Agency. We can then attempt to encourage landowners in the watershed and on riparian lands to institute best management practices to rectify issues affecting water quality and habitat. If you are interested in finding out if the stream in your neighborhood is healthy or impaired, contact the Little Falls Fisheries Office at 320-616-2450.

Walleye Marking Project Being Conducted on Little Birch Lake

Since 2005 DNR Fisheries staff have been marking walleye stocked into Little Birch Lake with Oxytetracycline, a fluorescent chemical that persists in the bones of the fish. The fluorescent mark is not visible to the naked eye and can only be found using a specialized microscope. By marking stocked walleye fry and fingerlings fish managers can determine the relative contributions of the various stocking methods and assess how much natural reproduction is occurring.

Marked walleye fingerlings (1,905 fish) were stocked in 2005, while

marked fry were introduced in 2006 (800,000 fish). Unmarked fry were also stocked in 2005 prior to the beginning of the project. Young walleyes were collected by DNR staff using electrofishing gear in the fall of 2006 and also by local anglers during the winter of 2006-07. These fish were inspected for marks by DNR staff in early 2007. Results indicated that about 1/3 of the 2005 year class originated from the stocking of walleye fingerlings while the remaining 2/3 came from fry stocking or natural reproduction. Additionally, almost the entire 2006 year class was produced from fry stocking. We are encouraged by these preliminary



OTC leaves a fluorescent mark on bony structures in the fish that is detectable under a specialized microscope (DNR photo taken by Dale Logsdon).

results as walleye fry stocking is much less costly than fingerling stocking.

DNR Fisheries will be stocking marked walleye fingerlings into Little Birch Lake again in 2007 and marked fry in 2008. This additional two years of data should help us to determine the most cost effective strategy for walleye management on Little Birch Lake. It should also provide some answers regarding the level of natural reproduction taking place in the lake.

Special Walleye Sampling Completed On Sullivan and Shamineau Lakes in 2006

Two of the larger walleye lakes in the Little Falls work area received added attention during the spring of 2006. Intensive spring trapnet sampling was performed on Sullivan and Shamineau Lakes in an effort designed to better evaluate adult walleye populations. Historically, DNR Fisheries has relied on summer gillnet sampling to provide the data necessary to properly manage walleye populations. Gillnets have been relatively effective at providing an index of walleye abundance but at times have shown highly variable results and have poorly represented the larger individuals in the

population. Spring trapnet sampling targets spawning adults and often produces a much larger sample than summer gillnets. The trapnets in Sullivan Lake captured 364 walleyes with 44 of the fish measuring from 25-30 inches long. Males outnumbered females by a margin of 2 to 1. Dorsal spines were taken from 353 fish for aging purposes. Almost 30% of the walleyes were 10 years old or older and 57% of the sample was comprised of naturally reproduced fish. Through the spine aging process we were able to determine that this larger percentage of the population (57%) had to be generated naturally as they were produced during years when no stocking

occurred.

A total of 244 walleyes were caught in the trapnets on Shamineau Lake with 60 fish measuring between 25 and 30 inches long. Dorsal spine aging showed 38% of the sample was comprised of the 2000 year class (age 6 fish).



Roughly 30% of walleyes captured on Sullivan and Shamineau Lakes were 10 years old or older.

As in Sullivan, roughly 30% of the walleyes were age 10 or older. Though some natural reproduction was evident, stocked fish appear to make up the bulk of the population. Several fish over 15 years old were sampled in both lakes. Due to the value of this type of information for walleye management we will likely perform spring trapnet sampling on most of the area's larger walleye lakes into the future. For more information on these special assessments contact the Little Falls Office at 320-616-2450.

New Regulations in the Little Falls Area for 2007

Muskellunge on the Mississippi River: Catch and release only from Blandin Dam in Grand Rapids to Coon Rapids Dam in Coon Rapids (Itasca, Aitkin, Crow Wing, Morrison, Benton, Sherburne, Wright, Anoka, and Hennepin Counties).



Little Falls 2006 Stocking Detail

Lake/Stream	Species	Size	Number
Little Rock Creek	Brown trout	Yearling	300
	Brook trout	Yearling	436
Mayhew Lake	Walleye	Fingerling	3,960
Sullivan Lake	Walleye	Fingerling	28,700
Sylvan Reservoir	Walleye	Fry	200,000
Round (Camp Ripley)	Walleye	Fingerling	5,350
Lake Alott	Walleye	Yearling	1,963
Shamineau	Walleye	Fingerling	34,550
Round (Bergstrom)	Walleye	Fingerling	2,275
Fish Trap Lake	Walleye	Fingerling	37,065
Cedar Lake (Upsala)	Walleye	Adults	176
	Walleye	Yearling	500
	Walleye	Fingerling	2,485
Mound Lake	Walleye	Fingerling	5,280
Mary Lake	Walleye	Fingerling	1,140
Big Swan Lake	Walleye	Yearling	2,005
	Walleye	Fingerling	10,530
Bass Lake (Burtrum)	Walleye	Fingerling	2,450
Long Lake (Burtrum)	Walleye	Fingerling	4,680
Coal Lake	Walleye	Fingerling	2,160
Big Lake	Walleye	Fingerling	4,980
Thunder Lake	Walleye	Fry	300,000
Pine Island Lake	Walleye	Fingerling	3,720
Big Birch	Walleye	Fry	1,900,000
Turtle	Walleye	Fingerling	1,020
Little Birch Lake	Walleye	Fry	800,000
Latimer Lake	Walleye	Fingerling	2,310
Charlotte Lake	Walleye	Fingerling	2,280
Horseshoe Lake	Walleye	Fingerling	2,520
Big Sauk Lake	Walleye	Adult	137
Lake Alexander	Muskellunge	Fingerling	516
Shamineau Lake	Muskellunge	Yearling	58
	Muskellunge	Fingerling	750

Little Falls 2007 Survey Schedule

Lake Survey/Population Assessment and probable dates		Spring Panfish Assessments – Late May to Mid June
Thunder Lake	June 18-22	Big Sauk Lake
Shakopee Lake	June 25-29	Shakopee Lake
Round (Camp Ripley)	July 2-6	Round (NE)
Latimer Lake	July 9-13	Mill Lake
Mill Lake	July 16-20	Little Sauk
Little Birch Lake	July 23-27	
Round (NE)	July 30- August 3	Ice-out Assessments
Big Birch Lake	August 6-10	Big Birch Lake
Turtle Lake	August 13-17	Big Swan Lake
Big Sauk	August 20-24	Little Rock Lake
Round (Bergstrom)	August 27-31	Bass (Burtrum)
Stream Surveys/Assessments		Fall Walleye Electrofishing
Mississippi River – Brainerd to St. Cloud		Shamineau Lake
Mississippi River – Brainerd to Little Falls (Smallmouth bass)		Fish Trap Lake
Mississippi River – Sartell to St. Cloud (Smallmouth bass)		Sullivan Lake
Fletcher Creek – IBI Assessment		Big Swan
Pike Creek – IBI Assessment		Alexander
Little Rock Creek – Original IBI Site		Sylvan Reservoir
Sucker Creek – IBI Assessment		Placid Reservoir