

From: Robert Thompson
To: Baitz, Steven; Liston, Jerry; Ward, Kenton
Date: 4/15/03 10:13AM
Subject: FYI

This was in Todays Ledger

Proper pond upkeep can lower number of dead fish
Staff report
April 15, 2003

CICERO -- Conservation officers found a large number of dead fish Wednesday in a wetland area on private property near 236th Street and DeVaney Road.

"It's just a phenomenon that happens every spring," said Sharon Roberts, an urban conservationist with the Hamilton County Soil and Water Conservation District.

After a harsh winter, it's common to find dead fish in lakes, ponds and other small bodies of water once the snow and ice melt away, she said.

Blankets of snow and ice decrease the available oxygen in the water causing weak and unhealthy fish to die.

Ponds and lakes with abundant weed growth before winter will have larger amounts of dead fish because the decomposing vegetation further reduces the amount of oxygen in the water.

"A small amount (of dead fish) is a food resource for those that lived," Roberts said, but larger numbers of dead fish should be disposed of properly.

Residents can learn proper pond and lake maintenance at workshops offered by the county conservation district and the Hoosier Heartland Resource Conservation and Development Council. The workshops will be held 6:30-8:30 p.m. on Wednesdays beginning April 23 and ending May 17 at the Cool Creek Nature Center in Westfield.

For more information, call Roberts at (317) 773-2181, ext. 101.

FAX COVER SHEET

3-27-03

TO LINDA ALLEN W/THR CH 13

FROM KENT WARD

655-5812

Fax 655-5741

OF PAGES 14

COMMENTS HOPE THIS HELPS

IF YOU NEED ANYTHING ELSE PLEASE LET
ME KNOW

HAMILTON CO. SURVEYOR'S OFFICE
1 HAMILTON CO. SQUARE
SUITE 146
NOBLESVILLE, IN 46060
776-8495 FAX# 776-9628

From: Robert Thompson
To: Baitz, Steven; Conover, Andy; Evans, Walter; Holt, Steve; Ward, Kenton
Date: 3/27/03 10:54AM
Subject: Winter Fish Kill Info

This article may be helpful in dealing with public and media. From the Michigan Dept of Natural Resources Web Site (http://www.michigan.gov/dnr/0,1607,7-153-10364_10951_18964-45765--,00.html)

Fish Kills

Dead and dying fish are an ugly sight. Truth is, most species of fish are relatively short-lived and have a high rate of mortality. Even large fish, too large to be eaten by predators such as bass and pike, experience a death rate of approximately 50% per year. Fortunately, the deaths are usually spread-out over the year and are rarely observed or become a problem except when concentrated as a fish kill. Only a fraction of the dead fish are ever observed because many decompose on the bottom or are eaten by scavengers such as turtles and crayfish.

Most of the time, fish kills are due to natural causes over which we have no control, such as weather. Only occasionally is death directly related to pollution or improper use of herbicides or other chemicals. Natural fish kills are of three basic seasonal types: winterkill, which occurs in late winter but may not be seen until early spring; spring kill, which occurs in late May to early June; and summer kill, which occurs on the hottest days of mid summer.

Winterkill

Winterkill is the most common type of fish kill. When severe, it has devastating effects on fish populations and fishing quality. Winterkill occurs during especially long, harsh winters, such as occurred in northern Michigan during the winter of 1995-96. Shallow lakes with excess amounts of aquatic vegetation and mucky bottoms are prone to this problem. Fish actually die in late winter, but may not be noticed until a month after the ice leaves the lake because the dead fish are temporarily preserved by the cold water. Winterkill begins with distressed fish gasping for air at holes in the ice and ends with large numbers of dead fish which bloat as the water warms in early spring. Dead fish may appear fuzzy because of secondary infection by fungus, but the fungus was not the cause of death.

Actually, the fish suffocated from lack of dissolved oxygen. Trace amounts of dissolved oxygen (measured in parts per million, ppm) are required by fish and all other forms of aquatic life. Even living plants and the bacteria that decompose organic materials on the bottom of the lake require oxygen. As a rule of thumb, the critical level of oxygen is about 2 ppm for most game fish native to warmwater lakes, and levels below 1 ppm for extended periods of time are lethal.

But species of fish vary in their tolerance of low oxygen. Trout are most sensitive; walleye, bass, and bluegill have intermediate sensitivity; and northern pike, yellow perch, and pumpkinseed are relatively tolerant. Bullheads and certain minnows are very tolerant. Lakes prone to periodic winterkill can often be detected from the composition of their fish populations - tolerant species predominate, sensitive species are rare, and prey greatly outnumber predators. Fortunately,

usually enough fish survive, either in the lake or in connecting waters, to repopulate the lake in a couple of years. Only for extreme die-offs is fish restocking necessary.

The dissolved oxygen content of water depends primarily on three variables. These are the amount of mixing with the air above the lake, the rate of oxygen production by plants, and the rate of oxygen consumption (respiration) by living aquatic organisms. During periods of prolonged ice cover, the lake is sealed off from the atmosphere and cannot be recharged with oxygenated air. Furthermore, ice and snow reduce the amount of sunlight reaching aquatic plants, thereby reducing photosynthesis and oxygen production. (During photosynthesis, living plants use sunlight energy and carbon dioxide to make plant tissue and dissolved oxygen). Meanwhile, on-going consumption of oxygen depletes the supply of oxygen stored in the lake when the lake froze over. Shallow, productive lakes are at a disadvantage because they have a low storage capacity and high rates of oxygen-consuming decomposition.

February is usually a critical period and is the best time to check the oxygen content of lakes prone to winterkill. A good midwinter thaw about then often recharges the lake's oxygen supply by means of photosynthesis and melt water. Conversely, a prolonged winter, with continuous snow cover and late ice-out, increases the chance of winterkill.

A short-term solution to impending winterkill, suitable for ponds and small lakes, is to aerate with commercial devices or outboard motors. A significant improvement can be made in the oxygen content of about 1 acre of water by running a small outboard motor for about 4 hours. Select a relatively warm day to use the outboard method. Mount the outboard on a dock, frame, or small boat and lower the shaft into a large hole in the ice. Tilt and run the motor so as to push water on top of the ice. Then, at the edge of the flooded area, chop more holes so the water can return. Beware of weakened ice. Move to another location before the outboard hole becomes dangerously enlarged or water is no longer pushed onto the ice. Run the motor over relatively deep water so that bottom mud is not stirred up along with the water.

The only long-term solution for winterkill lakes is to reverse the natural process of filling and enrichment (eutrophication). Dredging or sucking bottom sediments can increase the volume of water, reduce the nutrient-rich sediment, and reduce the growth of nuisance plants. However, such projects are extremely costly, require a site for disposing of the bottom material, and may require a permit. Lake residents can help slow down the rate of eutrophication by keeping all types of plant fertilizers out of the lake.

Spring kill

Spring kill occurs in lakes and rivers when fish survive the winter but die as the water warms rapidly in May and June. It rarely claims many fish and is usually over in a couple of weeks. Spring kill is almost always due to natural causes beyond our influence. The usual victims are large bluegills and crappies, and other fish which spawn in the spring such as perch, bass, pike and suckers.

A combination of stresses is usually responsible. Fish come through the winter in a weakened condition because they've been eating at a reduced rate. As the water warms, their metabolism increases and they divert much energy to strenuous spawning activities. In lakes, additional stress may be added during

"turnover", which is when wave action stirs up bottom water low in oxygen and high in noxious gases. Diseases and parasites also become more active and on a few occasions have been implicated in fish kills. An example is the spring salmon mortality in Lake Michigan caused by bacteria kidney disease (BKD).

Summer kill

Summer kill occasionally occurs in lakes and streams during extremely hot summer weather. High temperature and low dissolved oxygen combine to stress the fish. Most prone to summer kills are pike, perch, suckers, bass, and bluegill living in shallow, productive lakes or bays with excessive amounts of algae or rooted aquatic vegetation. The plants consume large amounts of oxygen at night, causing a temporary shortage of the vital gas just before dawn. A cloudy, calm day extends the critical period by reducing re-oxygenation from photosynthesis and wave action. Apparently, fish in the oxygen-depleted areas do not sense the danger and swim to safety in time.

Summer kill may also occur in deep, unproductive lakes containing trout or cisco. These fish require both cold and well-oxygenated water. During summer they seek refuge in the cold bottom layers where temperatures are less than 72 degrees F. Death results if the oxygen level there declines below about 4 ppm. Trout will also die in streams if they are unable to find cold spring water. Several stream trout mortalities were reported during the hot summer of 1995.

A very unique type of fish kill is caused by a lightning strike on water. Death occurs immediately. Large fish, which draw more electricity than small fish, may be killed selectively.

In conclusion, the risk of some types of fish kills can be reduced by keeping as many nutrients out of the water as possible. Sources of nutrients include septic fields, fertilized lawns and farm fields, and wastes from livestock and waterfowl (including tame geese). Reducing nutrient input starts the following favorable chain reaction: production by aquatic plants is reduced, less decomposition is required, and oxygen will not become depressed to critical levels.

Natural fish kills are obnoxious, and may affect fishing and predator-prey "balance" for years. However, they are often not serious in the long run because lakes contain thousands of fish per acre. They may be thought of as nature's way of thinning out fish populations. Usually, fish kills indicate that the habitat is of marginal quality for certain species because of the broad range of weather conditions we experience in Michigan. Infrequently, fish kills indicate habitat or pollution problems we may be able to correct. And sometimes, fish kills beneficially reduce over-populated, slow-growing panfish and actually increase growth rates and improve fishing.

--James Schneider, Fisheries Division, April 1996

Robert Thompson, ASLA
Program Manager

Surveyor's Office
One Hamilton Co. Square
Suite 188
Noblesville, IN 46060
ph: 317-770-8833
fax: 317-776-9628
email: rct@co.hamilton.in.us

HAMILTON COUNTY DRAINAGE BOARD
MINUTES AUGUST 26, 2002
BOOK 6, PAGE 423-5

HAMILTON COUNTY DRAINAGE BOARD

Steven A. Holt
President

Steven C. Dillinger
Member

Sharon R. Clark
Member

Attest: Lynette Mosbaugh

Marion Blanton Drain - Reconstruction:

There were no objections on file. The following landowners were present: Mr. David Wainscott, Mr. Jon Hancock, Mrs. Pam Hancock, Mr. Bob Thomas, Mr. Chad Hartwick, Mr. J. R. Cowan, Mr. Paul Weyers, Mr. Cleone Weyers, Mrs. Lisa Buescher and Mr. Gregg Buescher.

The Surveyor presented his report to the Board for approval.

"To: The Hamilton County Drainage Board

July 5, 2002

Re: Marion Blanton

Attached are plans, petition, drainage shed map and assessment schedules for the proposed reconstruction of a portion of the Marion Blanton Drain. This is Phase Two of the Marion Blanton Reconstruction which will involve replacing approximately 624 feet of existing tile drain with an open ditch and placing a debris guard on the tile exiting the gravel pit.

The Marion Blanton Drain is located in Jackson Township of Hamilton County and benefits properties in Sections 27, 28, 33 & 34, Township 20 North, Range 4 East and a portion of Section 4, Township 19 North, Range 4 East. The drain consists of tiles and open ditch totaling 26,707 feet in length. The total drainage shed equals 1,229.12 acres.

The proposed reconstruction shall begin at STA 60 + 07, which is upstream of the gravel pit located on the north line of tract 02-33-00-00-013.002, and terminate at the gravel pit being STA 66 + 31 on the same tract. The proposed open ditch shall replace the existing 18" field tile in its current location and elevation as close as practicable running South and Easterly to the gravel pit. The open ditch shall be constructed with a 4-foot wide bottom and 2:1 side slopes. Excavation shall begin at the existing west top of bank which is the approximate fence line between the Zimmerman and Wainscott properties. Filter strip 20 feet in width shall be placed along the top of bank on the east side of the open drain. Rip Rap armoring, a minimum of 18" thick underlain with filter fabric shall be placed at the point where the open ditch enters the pit to stabilize the area. A fabricated 30" CMP Tee shall be placed as a debris guard on the outlet to the pit STA 70 + 50. The area around this Tee shall be excavated and lined with Rip Rap per plan. Rip Rap shall be installed at the start of the open ditch too eliminate erosion and a sediment trap shall be installed and maintained during the reconstruction process. Any tiles found during the excavation process shall be properly outletted into the open channel per county standards.

The cost estimate for this work is as follows:

1.5 acres of Clearing @ \$4,000.00 per acre	\$ 6,000.00
624 ft of channel excavation @ \$20.00 per ft.	\$12,480.00
1 acre of seeding @ \$1,500.00 per acre	\$ 1,500.00
1-30"x30" CMP Tee debris guard installed @ \$500.	\$ 1,600.00
	<u>Sub Total \$22,080.00</u>
	15% cont. \$ 3,312.00
	<u>Total == \$25,395.00</u>

- Spreading of spoils and sediment trap to be included in the excavation costs.
- Clearing to include burning and bury.
- Seeding to include seedbed preparation and fertilizer for the filter strips, bank slopes and spoils area.
- Installation of CMP Tee to include excavation and placement of Rip Rap with anchor post for stabilization.

The drainage shed is based on that portion being upstream of DeVaney Road at approximately STA 85 + 50 on the Blanton Drain. This shed consists of 858 acres. I recommend an assessment of \$29.59 per acre with a \$5.00 minimum. I believe that no damages will result to any property owner within the drainage area.

The board should set a hearing for this item for August 26, 2002.

Kenton C. Ward
Hamilton County Surveyor

KCW/sab"

Mr. Holt asked what was wrong with the tile?

The Surveyor stated that the tile is collapsed and probably filled with sediment.

Mr. Holt asked if the tile functions at all?

The Surveyor stated that it did not.

Mr. Holt asked how the water was getting from the pond to the pit?

The Surveyor stated that it has to build up to a certain point and then flows over land. He stated that in the 1800's it was an open ditch. At the turn of the century it was tiled and filled up, but you can still see a semblance of the open ditch through this area.

Mr. Holt asked if this was the water way, but it just did not flow well?

The Surveyor stated that this was correct.

Mr. Holt opened the public hearing.

Mr. Jon Hancock asked if the purpose of re-opening the ditch was to drain the swamp or to keep the excess water from overflowing the roadways?

The Surveyor stated that the purpose was two fold. To keep the water from drowning out the road to the north and also to get rid of some of the excess water from the wetland area. After this is done they will be working with Ducks Unlimited in order to get the criteria and something established for a true wetland area. The Surveyor's will also work with them on the design of it as well. He stated that they need to drain all the water out first so they know what is there.

Mr. Hancock asked if this has ever been declared a wetland legally by the statutes of the State of Indiana.

The Surveyor stated that he did not know.

Mr. Hancock stated that in 1981 he drove a tractor from DeVaney Road to across the ditch area over to the trees on Mr. Cowan's property. He stated that a lot of people stated that this was a wetland and it cannot be drained. That you have to get the Corps of Engineers involved and he was there to say that it was not a natural occurring thing it was a result of an argument between two gentlemen. He stated that one of them was present on the Board. Mr. Hancock stated that he personally did not care one way or the other if it is drained. He stated that he liked having the ducks back there, but he did not like the mosquitoes and of course with the West Nile Virus it would be nice to have some of that water gone. He stated that he wanted to make sure that the money that he was being assessed was going to a good cause. They did the original reconstruction part from the pit to the road and he question was 'how was this getting from the road into the ditch'. He asked if this was going to be a phase III?

The Surveyor stated that this would probably be part of the Phase III.

Mr. Hancock asked if this was going to be an open ditch as well?

The Surveyor stated that they were looking at putting in a grass water way and leaving the existing tile. If they do not have to replace it, it would be better to leave it in place and put in an open grass waterway on top of it. The water goes there now, so why spend more money than they have to.

Mr. Hancock stated he agrees. He stated that he did not object to the project at all, it needs to be done.

Mr. Holt asked if anyone else would like to speak? Seeing no one he closed the public hearing.

Mrs. Clark asked why they would put a tile in as opposed to an open ditch?

The Surveyor stated that this was the proposal.

Mrs. Clark stated that she thought they were putting in new tile.

The Surveyor stated that this was to take out the original tile.

Mrs. Clark stated that she thought there was not longer water over DeVaney Road.

The Surveyor stated that there are still problems with water over DeVaney Road.

Mr. Dillinger made the motion to approve the Surveyor's report, seconded by Mrs. Clark and approved unanimously.

Mr. Holt asked who on the Board was in a dispute in the 1980's?

Mr. Hancock stated that he did not feel that it was appropriate to say. He stated that it was a landowner at the time and someone sitting on the Board.

Mr. Holt stated that he did not believe it was him and Commissioner Dillinger does not have any recollection of it and neither of them were recusing themselves from the discussion, so if he knows something they do not they would like to know.

Mr. Hancock stated that it was neither of them. He stated that they were not on the three member panel.

Mr. Wainscott asked how wide the filtration strip and open ditch would be? Where will the open ditch stop?

The Surveyor pointed out on the map where they would stop. There would be an end section put on because of debris. The filter strip would be on Mr. Wainscott's side and the work is being done from the fence line over to his side.

Mr. Wainscott asked what kind of time table they were talking about?

The Surveyor stated that they hoped to be started by October or November maybe late September. He stated that they would work with the property owners with crops and so forth.

Mr. Wainscott asked if someone has already bid on it?

The Surveyor stated that they have not done that. It will take around 30 to 45 days.

Mr. Wainscott asked if the payments are all at once or over a five year period?

The Surveyor stated that they could pay it all at once or spread them out.

Mr. Wainscott asked if the Surveyor knew what kind of time table there was on phase III?

The Surveyor stated that they want to work with Ducks Unlimited and work on getting a grass waterway. It would probably take about another year before they start developing that. He stated that they have been trying to get a hold of Ducks Unlimited.

Mr. Hancock asked what their interest was in this?

The Surveyor stated that Dux North told him was that because of the standing water all the nesting areas are gone for ducks and they would like to see the water gone and nesting areas returned. They want to make it a true wetland again where the water is there just a portion of the time instead of all the time.

Mr. Hancock asked if they were going to keep their membership hunters on their property and off of theirs?

Mr. Holt asked if there were any other questions?

There were none.

"STATE OF INDIANA)
) ss:
COUNTY OF HAMILTON)

BEFORE THE HAMILTON COUNTY
DRAINAGE BOARD
NOBLESVILLE, INDIANA

IN THE MATTER OF THE
RECONSTRUCTION OF THE
Marion Blanton Drain