

Pipe and North Pipe Lakes Protection and Rehabilitation District
 2016 Survey
 Discussion
 Special Meeting May 28, 2016

Introduction and Background

- Required under Grant LPT-355-10
- WDNR reviewed and approved, strongly suggested paper survey
- Previous District surveys – 1998, 2000, and 2008
- Questions from other Lake District Surveys and WDNR or Polk County Recommended

| |
|-------------------------------|
| Summary Survey Results |
|-------------------------------|

Survey response Rate

- Exceptional response – 70%

Aquatic Invasive Species and Water Quality

- Familiar with AIS – 99%
- Important to Improve Water Quality – 99%
- Important to Prevent Introduction of AIS – 100%

How do you prefer to receive information from the District?

2008 compared with 2016

| | 2008 | Rank 2008 | 2016 | Rank - 2016 |
|------------|-------------|-----------|-------------|-------------|
| Email | 37 | 1 | 46 | 1 |
| Newsletter | 32 | 2 | 24 | 2 |
| Meetings | 10 | 4 | 15 | 3 |
| Web Site | 21 | 3 | 13 | 4 |
| Facebook | NA | NA | 2 | 5 |
| Other | | | | |

Aquatic Invasive Species Prevention
Actions for Consideration

| | Yes % | No % | Unsure % |
|--|----------|---------|-------------|
| Boat Landing Cameras | 62 | 8 | 30 |
| Boat Wash Station | 53 | 10 | 36 |
| Educational Programs Providing AIS Information | 78 | 5 | 17 |
| Training for Boaters and Others to Identify and Manage AIS | 86 | 2 | 12 |
| No Response 10 individuals | | | |

Water Quality Initiatives
Past, Current and Future Considerations

| | Yes % | No % | Unsure % |
|---|----------|---------|-------------|
| Installation of Shoreline Buffers and Rain Gardens | 67 | 8 | 25 |
| Incentives for Farmland Conservation Practices | 75 | 6 | 20 |
| Lake Fairs and Workshops | 55 | 10 | 35 |
| Incentives to Upgrade Non-conforming Septic Systems | 79 | 6 | 15 |

Practices to Enhance Fisheries

Take initiatives to improve fisheries –

Yes - 82%

No – 4%

Unsure – 14%

- *Per Aaron Cole WDNR*
 - *Half logs installed*
 - *13 fish sticks installed*
 - *Fish Sticks best option*
 - *Need more – near private shorelines?*
 - *Protecting any natural shorelines*
 - *Making developed shorelines more ‘natural’*

Bass Tournaments

Per Aaron Cole WDNR

Bass Tournaments require a license when meeting one of these criteria:

- The tournament involves 20 or more boats, or 100 or more participants;
- The tournament targets any trout species on waters classified as trout streams;
- The tournament is a catch-hold-release tournament with an off-site weigh-in;
- The total prize value is \$10,000 or greater, or
- The tournament will have fewer than 20 boats but you want to allow participants to cull bass.

According to Aaron, he has not issued a license for a tournament on Pipe or North Pipe Lakes in the past 4 years and in checking his records, cannot find one prior to his arrival in this position.

Local “clubs” not meeting the criteria need not obtain a license.

Tournament participants have a better understanding about invasive species than the average person; however, tournament anglers are also fishing more lakes over a larger area so they have a greater likelihood of encountering invasive species.

If you know of any local fishing club persons who can be contacted, please let Greg Warner know.

Boats and Boating Practices

Should more efforts be considered to enforce excessive boat or personal watercraft speeds within 200 (law is 100 feet) feet of shoreline and rafts?

Yes – 53%

No – 27%

Unsure – 21%

Watercraft on Lakes 2000 versus 2016

| Watercraft Type | 2000 | 2016 | % Increase/(Decrease) |
|------------------------------|------------|------------|--------------------------|
| Personal Water Craft | 10 | 31 | 300 |
| 1-20 HP | 48 | 28 | (58) |
| 21-50 HP | 100* | 72* | 19 |
| >50 HP | | 51 | |
| Fishing Boats with Motors | 22 | 43 | 49 |
| Canoes/Kayaks | 50 | 92 | 56 |
| Paddleboats/Rowboats | 44 | 56 | 21 |
| Sailboats | 24 | 21 | (13) |
| None | | 11 | |
| Total | 298 | 692 | 57 |

* Need to add 21-50 and >50 for comparison

Educational Topics

Which of the following topics, if any, would you like to be informed of regularly?

| Topics | % |
|---|----|
| General education related to lake ecosystems | 30 |
| Information regarding District activities, including program status | 32 |
| Wisconsin legislative activities that affect water quality | 22 |
| Other | 1 |
| None of these | 8 |
| No Response | 7 |

Volunteers

| | Yes % | No % | NR % |
|---|----------|---------|---------|
| Do you or a member of your household currently volunteer performing activities for the District such as collecting water samples, assisting with the boat parade or picnic? | 17 | 79 | 3 |
| Have you or a member of your household volunteered in the past performing activities for the District such as collecting water samples, assisting with the boat parade or picnic? | 40 | 58 | 2 |

Septic Systems and Holding Tanks

Sanitary Ordinance

The Polk County Sanitary Ordinance requires owners of private sewage systems to have their septic tank pumped or inspected at least every 3 years. As an owner, you are required to provide proof that you have had your septic tank pumped or inspected. Your system must be inspected by an authorized person (e.g., pumper, plumber, etc...) If you have more than one system, a report must be given for each. Contact office (715) 485-9111 or see website for additional form.

The property owner agrees to submit to the county a certification form (to be provided by the county) every 3 years -- signed by the owner and by a master plumber, journeyman plumber, restricted plumber, or a licensed septage hauler. The form shall require certification of the following.

- a. That the on-site wastewater disposal system is in proper operating condition.
- b. That after inspection and after pumping (if necessary), the septic tank is less than 1/3 full of sludge and scum.
- c. I, the undersigned, have read the above requirements and I agree to maintain the private sewage disposal system in accordance with the standards set forth, herein, as set by the State of Wisconsin.

Holding Tanks

HOLDING TANK AGREEMENT This agreement is made between the government unit & holding tank owners(s)

Per the **Pipe and North Pipe Lakes Protection and Rehabilitation District Bylaws**, the District has the authority to: "Require the inspection of private systems for compliance with state plumbing code:"

Survey Proposed Next Steps

- Water Quality Committee to use results in developing proposals for 5 year Lake Management Plan
- Create educational program for picnic – how to identify AIS and what to do if suspicious plant found – Rapid Response Plan
- Periodic updates sharing responses of survey results, and action items if appropriate, for example:
 - Share county/state requirements for septic systems
 - Research and Share Bass Tourney Rules, Communicate with Local Clubs
 - Research cost and value of boat landing cameras
 - Research cost and value of boat wash
 - Better explain farm management practices
 - *Per Carol Vantine, all farms adjacent to PNPL are complying with established farm management practices*
- Quarterly “Commissioners’ Corner” email with posting on web

Thank you once again for taking your time to complete this survey and providing your valuable input.

What we do or don’t do, has an impact on our lakes.

What does my shoreline look like?

Has my septic system been inspected/pumped per regulation?

Would I want/allow a fish sticks project off my shoreline?

If my boat(s) are used on other lakes, do I take measures to ensure no AIS are attached to the boat or trailer before entering Pipe Lake?

Do I take time to learn to spot and identify AIS?

Am I a responsible lake steward?

Do I encourage my friends and neighbors at the lake to be responsible lake stewards?

Can I volunteer a little time each year to help maintain (and improve?) our lakes?

Detention Pond Study
Professor William James
University of Wisconsin – Stout
Summer 2015
Summary

The detention pond exhibited relatively high Total Phosphorus (TP) and Soluble Reactive Phosphorus (SRP) retention efficiency.

The TP loading from NPI-NE subwatershed to North Pipe Lake was effectively reduced by 50%.

The inflow load of TP retained was 50% or 3.70 kg (8.35 pounds).
The inflow load of SRP retained was 63% or 2.98 kg (6.57 pounds).

Consequently, *only* about 3.83 kg (8.44 pounds) TP and 1.73 kg (3.81 pounds) SRP were discharged from the detention pond into North Pipe Lake during the summer of 2015.

Potential Next Steps:

Additional Monitoring?

- Requires on-site staff to obtain and transport samples in a timely manner.
What more would we learn?

Re-evaluate previous models used to predict phosphorous loading?

- These results are about half of modeled amounts. Do these results influence other thinking (models) regarding our lakes?

Retain consultant to evaluate results and suggest potential next steps?

Definitions

Total phosphorus (TP): is a measure of all the forms of phosphorus, dissolved or particulate, that are found in a sample.

Soluble reactive phosphorus (SRP): is a measure of orthophosphate, the filterable (soluble, inorganic) fraction of phosphorus, the form directly taken up by plant cells.

Orthophosphate: is sometimes referred to as "reactive phosphorus."

Orthophosphate is the most stable kind of phosphate, and is the form used by plants. Orthophosphate is produced by natural processes and is found in sewage.

Inorganic phosphate: is phosphate that is not associated with organic material. Types of inorganic phosphate include orthophosphate and polyphosphates.

Polyphosphates: (also known as metaphosphates or condensed phosphates) are strong complexing agents for some metal ions. Polyphosphates are used for treating boiler waters and in detergents. In water, polyphosphates are unstable and will eventually convert to orthophosphate.

Organic phosphate: is phosphate that is bound to plant or animal tissue.

Organic phosphates are formed primarily by biological processes. They are contributed to sewage by body waste and food residues, and also may be formed from orthophosphates in biological treatment processes or by receiving water biota. Organic phosphates may occur as a result of the breakdown of organic pesticides which contain phosphates.

Factors Affecting Phosphorus Concentrations

Wastewater and Septic System Effluent

Detergents

Fertilizers

Animal Waste

Development/Paved Surfaces

Industrial Discharge

Phosphate Mining

Forest Fires

Synthetic Materials

Organophosphates are commonly used as construction materials, flame retardant and plasticizers.

**Pipe and North Pipe Lakes
2009 Five-Year Action Plan
Assessment and Recommendations
January 2014**

| Planned Management Actions and Assessments with Recommendations | | |
|--|---|--|
| Actions | Assessment | Recommendations |
| Mailings of educational materials to District Members | Probably not a good action going forward. | Continue with web site enhancements. Use DL for more regular notification. |
| Small group guidance meetings led by District leaders | Difficult to achieve. | Use technology for regular committee or task force meetings. |
| Reports to local government units | Seems to be in place. | Continue while building succession. |
| Monitoring Studies | | |
| Lake Clarity Characteristics – every 2 weeks May through October 15 | Have not met action goals with some measures. | Need to document SOPs, recruit more volunteers and/or consider paying for measures at certain times of year. |
| Major stream monitoring – sample during 5 runoff events | Not clear from the data if this occurred | See above. Need for volunteers throughout the calendar year. |
| Enhanced stream monitoring – evaluate retention Structure | Retention structure completed | Ensure appropriate measures from structure are conducted |
| Shoreline | | |
| Increase protected shoreline on Pipe Lake from 67% to 80% | Not clear if this is accomplished | Need a volunteer to conduct assessment using publically available information |
| In lake projects | | |
| Invasive species | CBCW program | Continue with increased monitoring |
| Tree falls | 2 completed. Others under consideration | Continue with plans |
| Critical habitat areas | Not clear if review accomplished-DNR | Re-assess, if needed, seek volunteer to coordinate |
| Aquatic plant survey | Achieving goal | Continue per DNR guidelines |
| Outer Watershed | | |
| Road construction and maintenance | Specific culvert issues resolved | Re-evaluate all culverts |
| Stream Bank stabilization | On-going | See 1 year plan. |
| Farm management practices | Most if not all under nutrient plans | Carol Vantine verifying Danniger and Elk Farm properties |
| Phosphorus retention projects | Retention basin for North Pipe Lake | Completed, need to gather appropriate data |

Rapid Response Plan
Summary – Initial Steps
See Full Plan on Pipe Lakes Web Site

- Notify Dick Hollar, Rapid Response Coordinator at (941) 484-4314
- And if not available contact: Tom O'Hern at 651-428-5532
- Whoever is available will coordinate rapid response efforts
- -Accurately identify location(s)
 - **Process Sample**
 - -collect entire specimen including roots & stem
 - -Place in sealable bag
 - -Ice or refrigerate
 - -label with date, collector's name, lake name, town and county
 - -attach lake map with location marked & GPS coordinates recorded
 - -Submit sample to WDNR Spooner Lakes Team within 3 days
 - Notify The District Commissioners of suspected sample
 - **Notify WDR Spooner Lakes Team**
 - WDNR decides need for lake visit
 - Notify District if appropriate