West Loon Lake and East Loon Lake – Antioch IL

West Loon Lake is a glacial lake that has a maximum depth of 38–44 feet. It has an area of 166 acres and more than 2.1 miles of shoreline. It is an extremely clear lake, transparency of the lake is 15–18 feet depending on the time of year. Water clarity has been at the highest level in 15 years.

East Loon Lake is a Glacial lake that has a maximum depth of 26–28 feet. It is slightly larger than West Loon Lake with an area of 168 acres and more than 4.8 miles of shoreline. East Loon has a different ecological makeup; compared to West Loon, it is more of a nature lake than a recreational lake. The clarity of this lake is much poorer than West, only 5–7 feet.
Loon Lakes Management Association (LLMA) is an umbrella organization that is funded by Lake County tax revenues (SSA). The LLMA Board is comprised of an elected President, Vice-President, Secretary and Treasurer and Director representatives from 14 HOAs within the watershed of the two lakes.

In the late 1970’s The Loon Lakes Management Association was formed by a group of volunteer homeowners who owned properties around East and West Loon Lakes. They came together for the purpose of handling any concerns they had regarding the lakes. In 1989 a Special Service Tax Area (SSA) was set up for the purpose of providing funding for the care and maintenance of the lakes. The Loon Lakes Management Association, by then representing all property owners in subdivisions around the lake, was named to work in a stewardship role with the SSA. Today, the objectives of the Loon Lake Management Association are to provide a coordinated and unified effort for the implementation of policies and programs for the long-term management, restoration and protection of East and West Loon lakes in Antioch, IL, including the management of the lakes’ watersheds and other natural resources and manmade features within the defined SSA area. The LLMA works together with the Illinois Department of Resources and the Lake County Lakes Management Unit toward these goals.
Challenges

- Aquatic Weed Management
  - Herbicidal Treatment
  - Mechanical Harvesting

- Threatened and Endangered Fish Management

- Channel Restoration
  - Seawall Replacement
  - Channel Dredging

- Lake Level Management
Aquatic Weed Management

• Allowed under an Incidental Take Agreement (ITA) with the IDNR

• Herbicidal Treatment
  • Invasive weed species ONLY (Eurasian Watermilfoil).
  • Acreage, application timing and herbicide (2, 4-D) controlled under ITA
  • LCHD conducts “rake studies” and approves the aquatic plant management plan each year

• Mechanical Harvesting
  • Harvesting areas controlled by ITA and lake bottom owners
Threatened and Endangered Fish

- Threatened and Endangered Species in Loon Lakes accounted for in (ITA)
  - Banded Killifish
  - Starhead Topminnow
  - Blackchin Shiner
  - Pugnose Shiner (not documented for several years in Lake County per the LCHD)
  - Iowa Darter
  - Mudpuppy (amphibian)

- ITA requires regular Fish Studies be conducted to monitor impact to T&E species
Channel Restoration

- Channel between the West and East Loon became impassable
- Channel Seawalls replaced in 2013. Steel plate replaced collapsed wood seawalls
- Hydraulic dredging completed in 2017
  - Extended permitting process
  - Sediment de-watered and hauled offsite
- Water Outflow through Sequoit Creek
Solutions

• ITA with IDNR for weed control and T&E management
• Association Marketing
  • Website – Loonlakesmgmt.com
  • Facebook Page – Loon Lakes Management Association
• Community Involvement
• Funding through SSA-8 and Community Fund Raising events
• Received 501(c)(3) Tax Exempt Charitable Organization Status
Future Challenges

- Replacement of 25 year old Weed Harvester
- Supplemental Funding to static SSA-8 fund levels
Highland Lake Property Owners Association
Background Information

- Lake County, Illinois
- 110 acres – 29 feet – Kettle Lake Geomorphology
- 150 of residents/homes
- Near the top of the drainage basin
- Strict access policy on boats
  - Limited locations
  - No public access points
  - All boats inspected before and after removal
  - Signs posted
  - Community informed of policies
Challenges

• What are some past problem(s) for your HOA?
  • EWM
  • Lily pads
  • Fish populations
  • Water level

• What are the causes of these problem(s)?
  • Invasive water plants
  • Fishing policies
  • Dam grate control

• Did you study the issue? If so, how? Was it helpful?
  • Extensive research on EWM – Now using spot treatment along with whole lake
  • Stocking – Carp Fest
  • Avon township monitors grate
Future

• problems that you currently are working on – Zebra Mussels
• need help? Yes, we have some solutions, but need to study the process
• need ideas? Yes, any thoughts are welcomed
• how can ILMA members help? Help document Zebra Mussel monitoring and control
Solution

• First Zebra Mussel May 27, 2018.
• Resolution to problem
  • Monitor
  • Study
  • QZ-Tech David Hammond dhammond@earthsciencelabs.com
  • Others
• did it work? – not yet
• how did you fund?
  • Need funding for research
  • Need you – sign up
Lake Thunderbird Association
Background Information

- Putnam IL
- Approximately 120 acre Lake
- 1982 lots, 500 homes, 300 full time residents
Background Information

- Large agricultural watershed with deep ravines
- Lots of sediment and runoff
Challenges – Lake Characteristics

- Sedimentation
- Erosion
- Lake and shoreline habitat
Challenges – Gizzard Shad

- Ongoing problem
- Working with consultant on fisheries management
Solutions -- Dredging

- Mechanical or hydraulic dredging?
Solutions -- Mitigation

- Weirs
- Slowed velocity
Solutions -- Mitigation

- Bank stabilization
- Funded by reserve
Future Work

- Still have many ravines and creeks that need mitigation
- Work constantly with engineers helping design ways to slow the sediment down
- Current initiatives
  - Weed control
  - Landscaping along 2 miles of trails along our creeks
Apple Canyon Lake
Area: 13.63 Acres
Distance from lake: 2300 feet
Average Width: 200 feet
Drainage Area: 2.47 Sq. Miles
2,026.9 Acres
When the lake is healthy, everyone is happy!

Lindenhurst Lakes Commission
Lakes Waterford, Linden, Potomac and Springledge
Lake Potomac
~14 acres
Max depth 4’
Ave depth 1.75’

Lake Waterford
~67 acres
Max depth 13’
Ave depth 6.5’

Lake Springledge
~7 acres
Max depth 10’
Ave depth 8’

Lake Linden
~30 acres
Max depth 9’
Ave depth 3.1’
Lake Potomac
~14 acres
Max depth 4’
Ave depth 1.75’

Lake Waterford
~67 acres
Max depth 13’
Ave depth 6.5’

Lake Springledge
~7 acres
Max depth 10’
Ave depth 8’

Lake Linden
~30 acres
Max depth 9’
Ave depth 3.1’

Lindenhurst Stats:
• Homes - 4,500
• Residents - 14,000
• Shoreline Properties - 340
Who we are

- Mayoral appointed volunteers
- One commissioner per lake
- Five commissioners at-large
- Village Trustee Liaison
- Village Administrator
- Bi-monthly open meetings

What we do...

- Recommending body to village board
- Review and recommend ordinances
- Manage the lakes and fishery (not beaches)
- Work with herbicide applicators
- Shoreline stabilization and plantings
- Boat sticker program for watercraft
- Interface with IDNR, LCHD ES, ILMA, local biologists and Lindenhurst Police
- Public education and interaction
- Web Site: www.lindenhurstlakes.com
Challenges

Bait-Bucket
Biologists

Phosphorus
Problem Studied
## IDNR Electrofishing Survey
Lake Waterford
June 5, 1995

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>NUMBER</th>
<th>PERCENT</th>
<th>MINIMUM</th>
<th>AVERAGE</th>
<th>MAXIMUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Largemouth Bass</td>
<td>45</td>
<td>33.09</td>
<td>10.8</td>
<td>13.3</td>
<td>18.0</td>
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<td>Bluegill</td>
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<td>35.29</td>
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<td>8.4</td>
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<td>Pumpkinseed Sunfish</td>
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<td>16.18</td>
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<td>Sunfish Hybrid</td>
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<td>1.47</td>
<td>6.0</td>
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<td>Black Crappie</td>
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<tr>
<td>Yellow Bass</td>
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<td>0.74</td>
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<tr>
<td>Golden Shiner</td>
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<td>1.47</td>
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<tr>
<td>Black Bullhead</td>
<td>12</td>
<td>8.82</td>
<td>10.4</td>
<td>11.3</td>
<td>12.0</td>
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<tr>
<td>Carp</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SPECIES = 9</strong> <strong>TOTAL =</strong></td>
<td>136</td>
<td>100.0</td>
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</table>

1 hour electrofishing + overnight set of 250 foot gill net

J. Ferencak, IDNR
# IDNR Electrofishing Survey
## Lake Waterford
### June 25, 1998

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>NUMBER</th>
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<th>MAXIMUM</th>
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</thead>
<tbody>
<tr>
<td>Largemouth Bass</td>
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<tr>
<td>Pumpkinseed Sunfish</td>
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<td>2.4</td>
<td>4.8</td>
<td>6.7</td>
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<tr>
<td>Spotfin Shiner</td>
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<tr>
<td>Yellow Bass</td>
<td>10</td>
<td>6.3</td>
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<td>5.1</td>
<td>6.3</td>
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<tr>
<td>Black Bullhead</td>
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<td>0.6</td>
<td>11.9</td>
<td>11.9</td>
<td>11.9</td>
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<tr>
<td>Carp</td>
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<tr>
<td><strong>SPECIES = 8 TOTAL =</strong></td>
<td><strong>159</strong></td>
<td><strong>100.0</strong></td>
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1 hour electrofishing
## IDNR Electrofishing Survey

**Lake Potomac**  
**June 24, 1998**

<table>
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<tr>
<th>SPECIES</th>
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<th>PERCENT</th>
<th>MINIMUM</th>
<th>AVERAGE</th>
<th>MAXIMUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Largemouth Bass</td>
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<td>1.2</td>
<td>13.8</td>
<td>13.8</td>
<td>13.8</td>
</tr>
<tr>
<td>Bluegill</td>
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<td>1.2</td>
<td>4.8</td>
<td>4.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Green Sunfish</td>
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<td>1.2</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
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<tr>
<td>Carp</td>
<td>78</td>
<td>96.3</td>
<td>6.6</td>
<td>9.4</td>
<td>21.9</td>
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<tr>
<td><strong>SPECIES = 4  TOTAL =</strong></td>
<td><strong>81</strong></td>
<td><strong>100.0</strong></td>
<td><strong>6.6</strong></td>
<td><strong>9.4</strong></td>
<td><strong>21.9</strong></td>
</tr>
</tbody>
</table>

15 minutes electrofishing

312 carp / hour
Problem Studied

Problem Resolved
Lake Waterford before removal of carp in 1999
~ 20 years ago

Lake Linden after removal of carp in 1991
~ 28 year ago
Issues and Concerns

Shoreline stabilization
Sedimentation
Waterflow
Grant proposals to deal with sedimentation seem lacking in merit.

Grant proposals dealing with the benefits of water flow may have merit.
1.36 MG daily
40.68 MG monthly
445.00 MG annually

Potomac           26 acre-feet
Waterford      433 acre-feet
Springledge 13 acre-feet

gal/acre-foot = 325829

Potomac                 83 MG
Waterford            141 MG
Springledge 42 MG
How you can help...

Any suggestions and recommendations for grant proposal justification, logic and rational appreciated.