Fish & Habitat

YLAG 2

Kurt Welke
Fisheries manager
If you take care of the pike, everything else is taken care of…
# Chronology of Spring Romance

<table>
<thead>
<tr>
<th>Sunday</th>
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Did you know that you can stay informed by reading the monthly MDS newsletter? Contact customer service if you are not on our email distribution list or view the newsletter at: www.bussvc.wisc.edu/mds/news

36 - 38°C
Is spring cleaning happening in your department? Don’t forget to contact SWAP to assist in your cleanup efforts. To schedule a surplus pickup, visit our website at bussvc.wisc.edu/swap/pickuprequest for a pickup request form.
Native TLP, trophy fishery

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<th>SPECIES</th>
<th>SIZE LIMIT</th>
<th>BAG LIMIT</th>
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<tbody>
<tr>
<td>Northern Pike</td>
<td>40” or Longer</td>
<td>1 Fish</td>
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<tr>
<td>Largemouth &amp; Smallmouth Bass</td>
<td>18” or Longer</td>
<td>1 Fish</td>
</tr>
<tr>
<td>Walleye; Sauger &amp; Saugeye</td>
<td>18” or Longer</td>
<td>3 Fish Total</td>
</tr>
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Size and bag limit regulations pursuant to Wisconsin Administrative Code, Section NR 20.03 (1), are in effect on these waters.

# 28077 tagged 4/6/90:
25.9”, 5 - 6 years old.

Returned Feb 2010;
44.5” 25-26 years old
Life history

The northern pike inhabits cool to moderately warm, weedy lakes, ponds, and sluggish rivers. In a number of Wisconsin collections it is a common resident of most medium- to large-sized lakes with inlet streams. Its frequency in streams of various widths was: 1.0–3.0 m wide, 13%; 3.1–6.0 m, 9%; 6.1–12 m, 14%; 12.1–24.0 m, 50%; 24.0–50.0 m, 27%; and more than 50 m, 7%. In streams it was present in quiet pools to fast currents. Frequencies of substrates reported for this species were sand (27%), mud (21%), gravel (13%), rubble (15%), silt (10%), boulders (9%), detritus (4%), and clay (1%). It is present in areas of light to dense aquatic vegetation, and has been captured over a wide range of turbidity, although it is much more common in clear and only slightly turbid water.

BIOLOGY

Spawning may occur from late March to early April, as soon as the ice begins to break up in the spring. Migrations into the spawning areas take place during the night; the peak of the run is between 2100 and 2400 hr (Franklin and Smith 1963; Cottine 1942). Spawning sites are located in shallow, flooded marshes associated with lakes or with inlet streams to those lakes. Spawning runs into a brook in Minnesota occurred at water temperatures between 1.1 and 4.4°C (34 and 40°F), but 2.2–2.9°C (36–35°F) was the preferred temperature range (Franklin and Smith 1963). There is general agreement that northern pike congregate in spawning areas a few days before spawning actually occurs. Apparently temperature, daily light intensity, and the presence of suitable vegetation work together to stimulate spawning. The spawning habitat is basically a flooded area with emergent vegetation. Grasses, sedges, or rushes with fine leaves appear to make the best substrate for egg deposition.

Certain characteristics of the spawning population from Gilbert and Big Cedar lakes (Washington County) were noted by Fiegl and Krohn (1975): (1) Males tended to move into and out of the spawning area faster than females. The average sex ratio ranged from 1 female to 2.0–2.3 males. (2) As the run progressed, the average size of males increased; after the
What water levels are necessary for spawning and at what times of the year?

- A: sufficient water beginning at ice out to wet the lowest lying marsh environments:
  - necessary to minimize the gap between winter minimum and the summer minimum
  - a rising hydrograph sends the right stimulus (discharge)
  - maintain stable water level (no stranding)
Finding of Fact

10. In order to aid the spawning of northern pike, it is desirable that the water level be brought to and be maintained at 849.6 feet mean sea level datum, as soon as possible after March 1. In order to promote spawning of walleyes and other fish in the channel between lakes Mendota and Monona, one of the taintor gates must be open at least three tenths of a foot from April 1 through May 15 to provide a flow through the channel.

Doesn’t ensure everything necessary all the time = compromise
Public Rights Features

To fulfill its affirmative duty to protect public trust waters, the department shall assess the states’ public trust waters to identify location of public rights features…to assure that public rights and interests under the public trust doctrine are protected …

Public rights features are :

Fish and wildlife habitat , including specific sites necessary for breeding, nesting and nursery and feeding.

Note : Physical features constituting fish and wildlife habitat includes;

- Stands of aquatic plants
- Riffles and pools in streams
- Undercut banks with overhanging vegetation or that are vegetated above
- Areas of lake or streambed where fish nests are visible
- Large woody debris
Highest priority habitat areas
Where: Mendota
Where: Monona
Where: Upper Mud & Waubesa
Where: Lower Mud & Kegonsa

LMLFA
Where: System

**Yahara River**
- maximum depth: 10 feet
- water temperature: winter 35–40°F
- visibility: winter 5–10 feet

**Lake Wingra**
- surface area: 345 acres
- maximum depth: 21 feet

**Upper Mud Lake**
- surface area: 223 acres
- maximum depth: 8 feet

**Lower Mud Lake**
- surface area: 195 acres
- maximum depth: 15 feet
Water levels on 3/1/01 - 3/1/11

<table>
<thead>
<tr>
<th>Year</th>
<th>SMIN</th>
<th>Mendota</th>
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<tr>
<td>2011</td>
<td>848.91</td>
<td>0.69</td>
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<tr>
<td>2010</td>
<td>848.37</td>
<td>1.23</td>
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<tr>
<td>2009</td>
<td>849.43</td>
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<td>2008</td>
<td>849.41</td>
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<td>2007</td>
<td>849.03</td>
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<tr>
<td>2006</td>
<td>849.10</td>
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<td>2005</td>
<td>850.00</td>
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<td>2004</td>
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<td>2002</td>
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<tr>
<td>2001</td>
<td>848.66</td>
<td>0.94</td>
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Q: Can you tie fish production to water elevation? Do high water years equate with good spawning success?

A: It ain’t that easy. I do not know the age of fish from the size with any great certainty …remember the 44.5 “ fish? Which is to say I can’t assign “success” from presence/absence. There are other drivers, especially as fish mature. Need known age fish AND NP are cryptic as YOY so traditional assessment doesn’t work.
Well...yes
And ....no ( maybe ?)
Q. Can hatchery fish “substitute” for natural reproduction?

A. It ain’t that easy. There is NOT an unlimited supply of hatchery fish – I am ‘capped” at a quota of 2500 / yr or 1 / 4 acres ….very low number. Additionally, other production options such as rearing ponds are being downsized, intensifying the importance of natural reproduction.