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

March 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10 $	11	12
13	14	15	16	17	18	19
20	21	22	23	24 $	25	26
27	28	29	30	31	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	

ICE OUT

36 - 38^0

42^0

44^0

41^0 - 45^0

46^0 - 48^0

University of Wisconsin – Madison
Materials Distribution Services (MDS)
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MDS - (608) 497-4400
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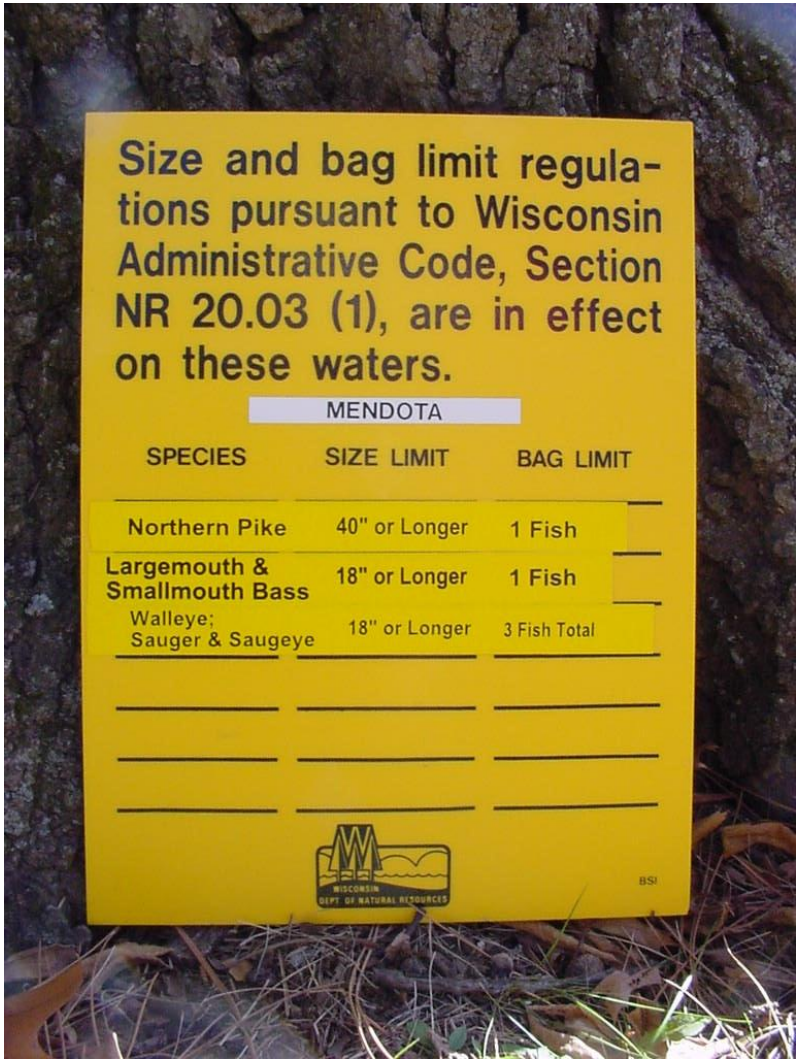
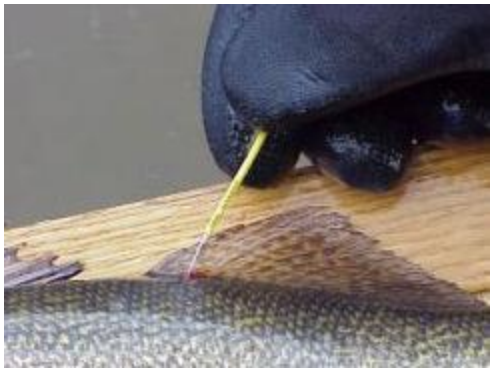
April 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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 pick-up request form.					1	2
			6	7 $	8	9
				14	15	16
17	18			21 $	22	23
24		26	27	28	29	30

41^0

Native TLP, trophy fishery

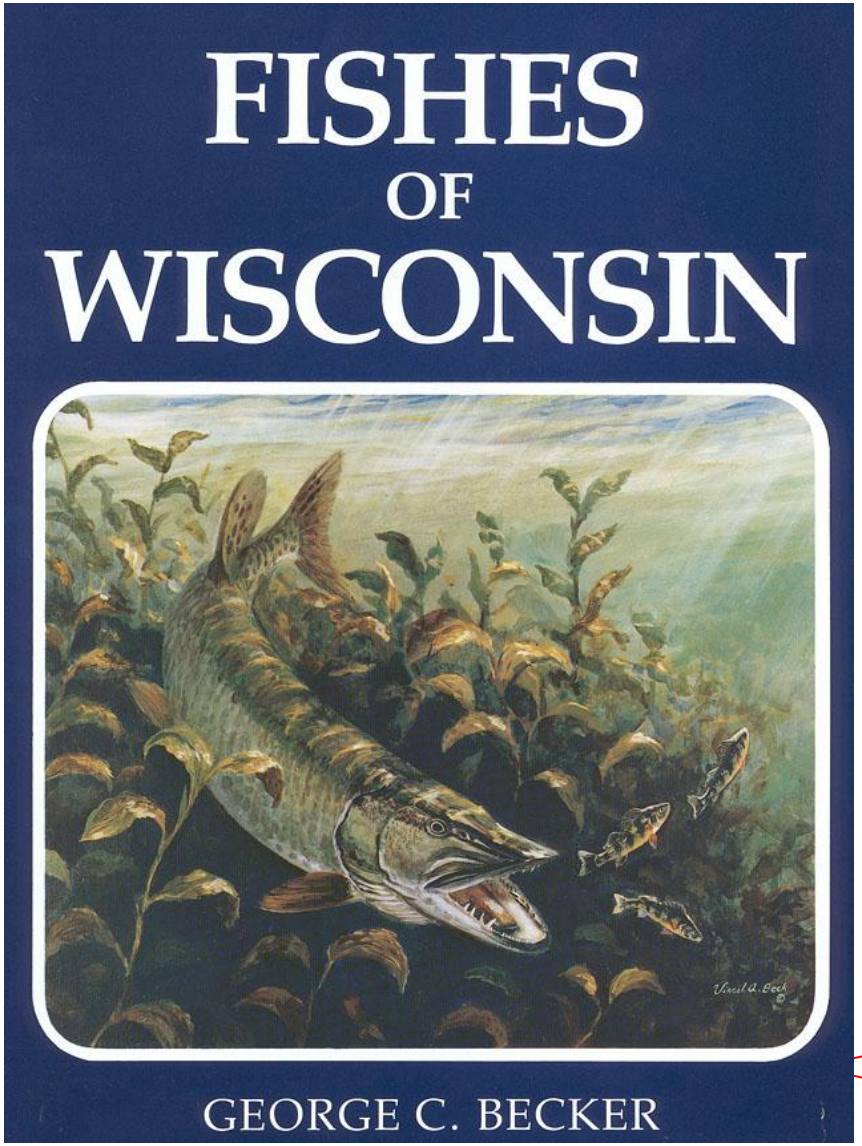


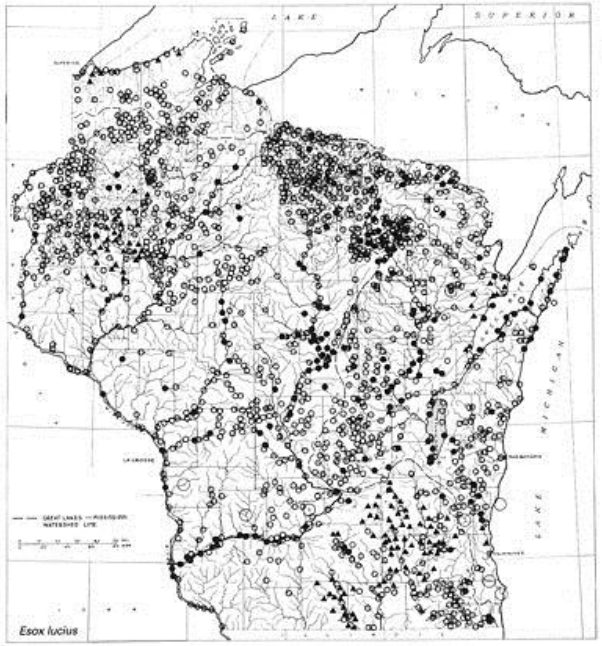


28077 tagged 4/6/90: 25.9”, 5 - 6 years old .

Returned ~~Feb 2010~~; 44.5” 25-26 years old

Life history





Range of the northern pike
- Specimens examined
- Wisconsin Fish Distribution Study (1974–75)
- Literature and reports
- Greene (1935)

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, 30%; 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 (18%), rubble (11%), 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, Carbine 1942). Spawning sites are located in shallow, flooded marshes associated with lakes or with inlet streams to those lakes. Spawning runs into a slough in Minnesota occurred at water temperatures between 1.1 and 4.4°C (34 and 40°F), but 2.2–2.8°C (36–37°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 temperatures, 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 Priegel 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

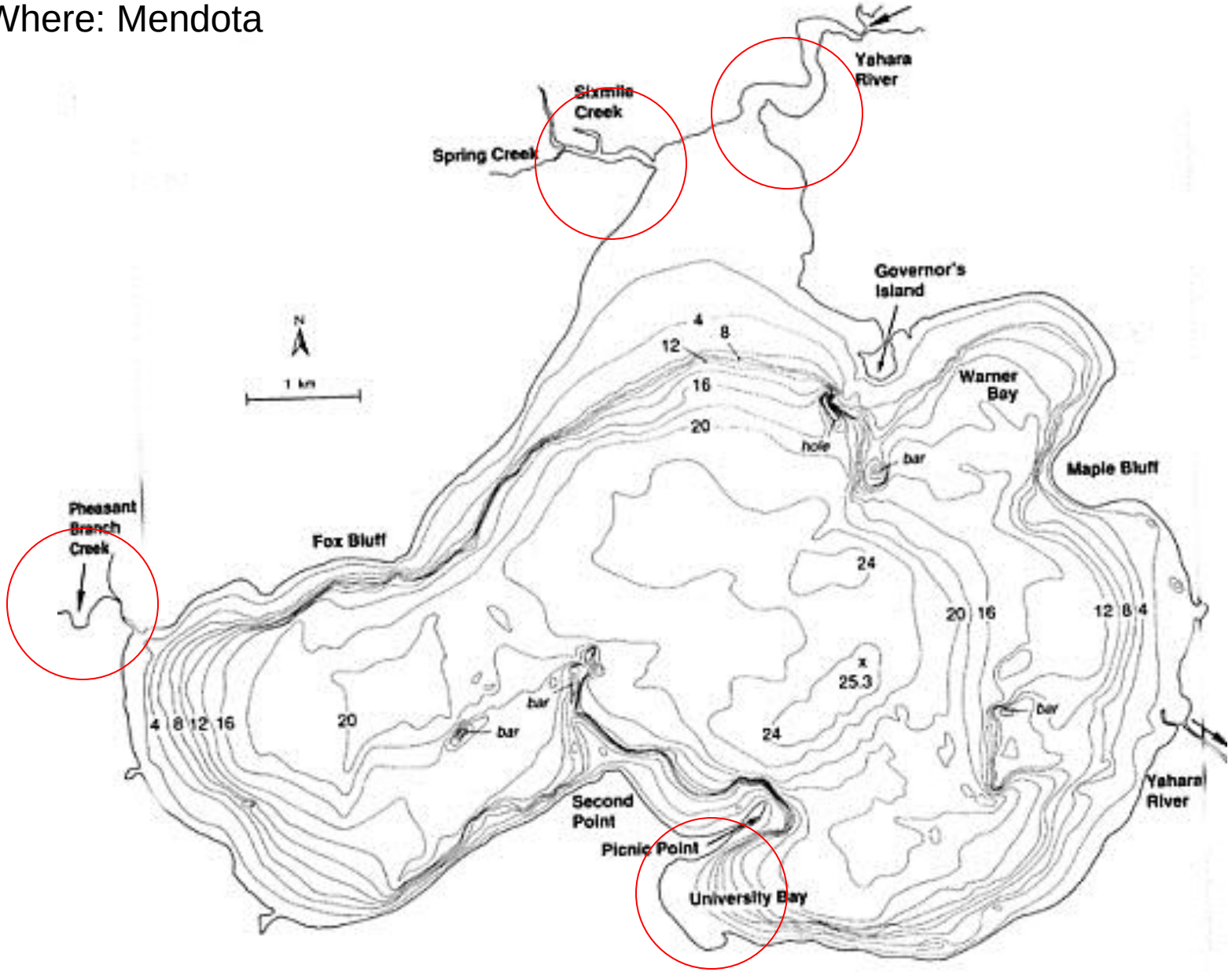
-Undercut banks with overhanging vegetation or that are vegetated above

-Areas of lake or streambed where fish nests are visible

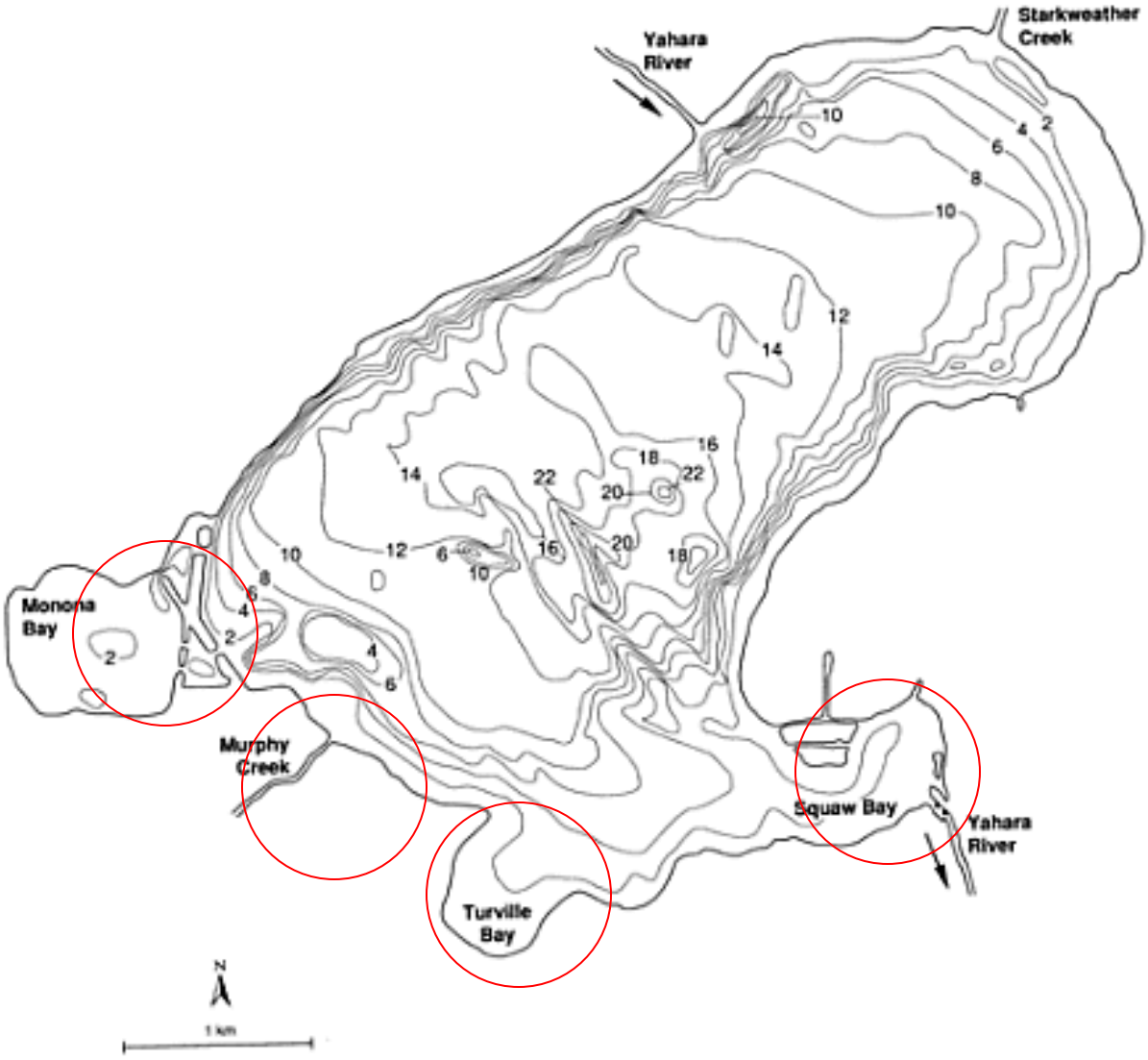
-Large woody debris

Highest priority habitat areas

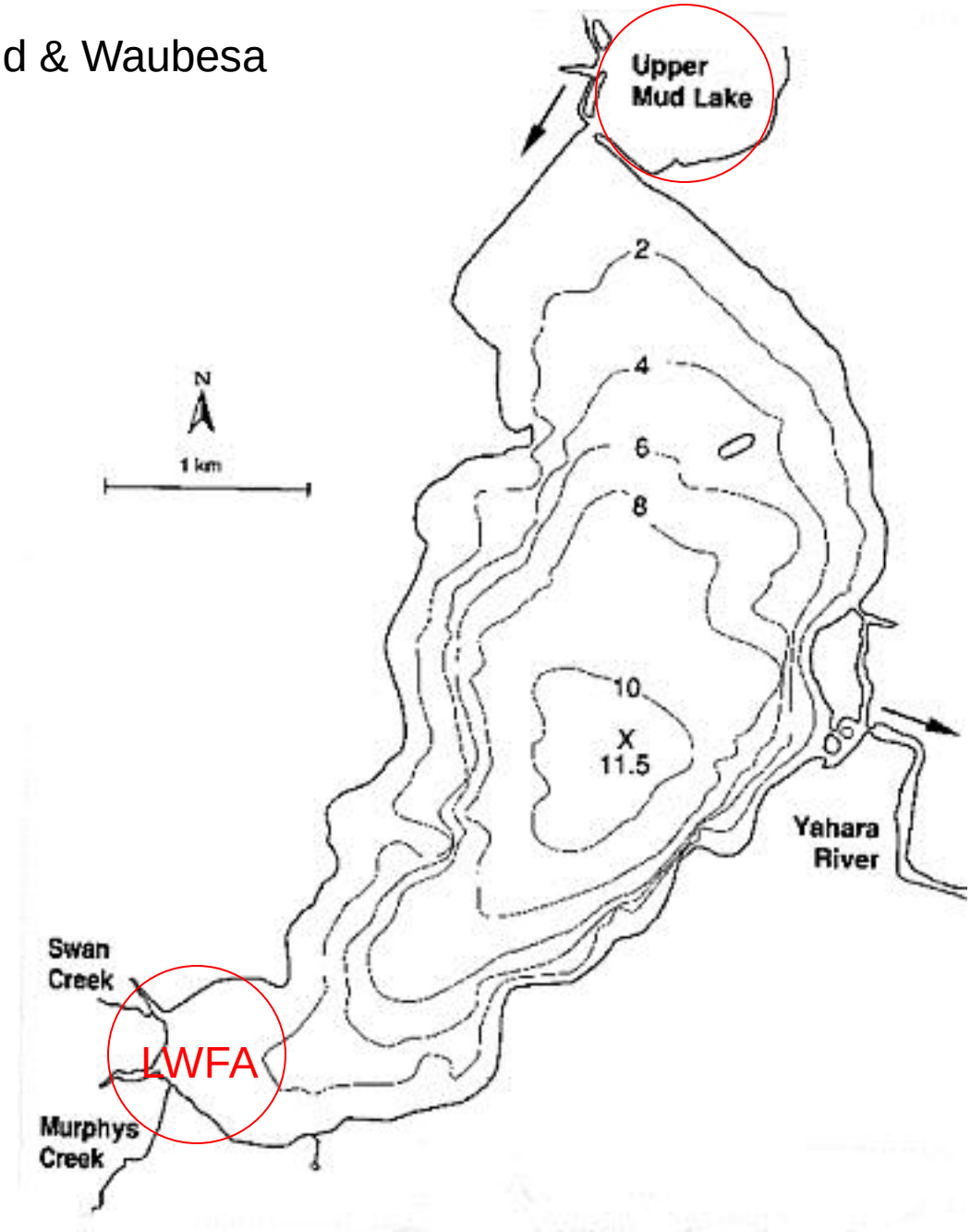
Where: Mendota



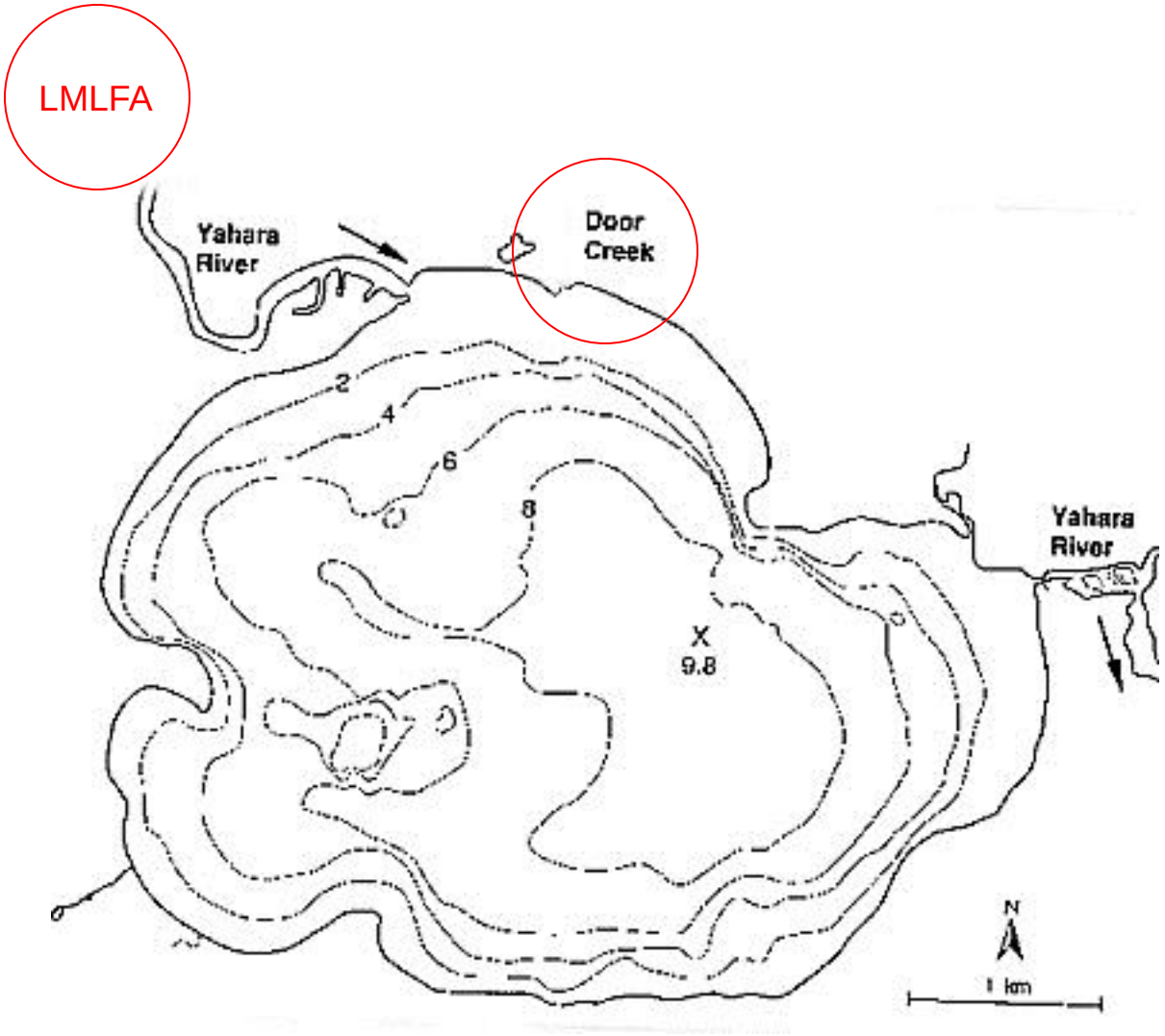
Where: Monona



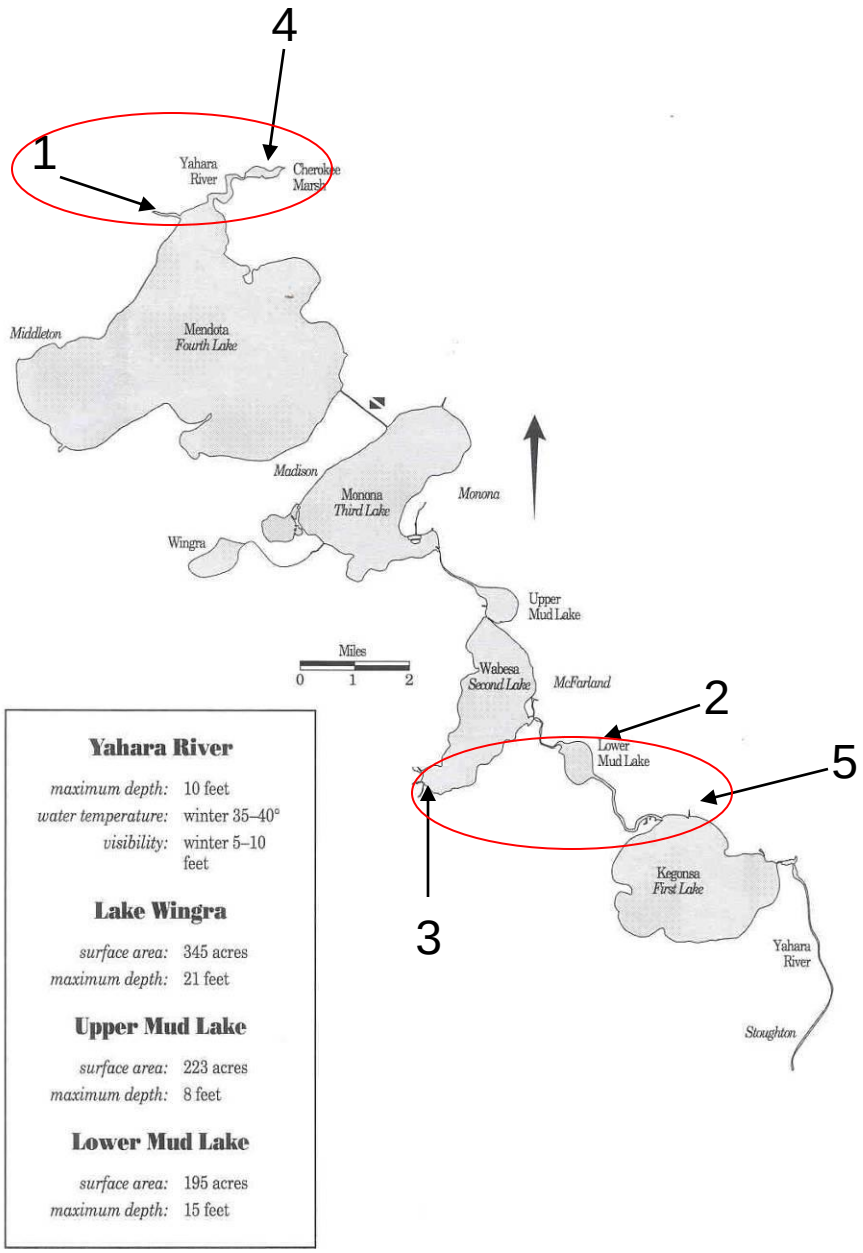
Where: Upper Mud & Waubesa



Where : Lower Mud & Kegonsa



Where: System



Lower Mud 4/1/04

Bible Camp 4/1/06

Watts parcel 3/28/09

L. Monona 4/20/11

Water levels on 3/1/01 - 3/1/11

	Mendota	
SMIN	**849.6**	
2011	848.91	0.69
2010	848.37	1.23
2009	849.43	0.17
2008	849.41	0.19
2007	849.03	0.57
2006	849.10	0.5
2005	850.00	-0.4
2004	849.16	0.44
2003	848.67	0.93
2002	849.24	0.36
2001	848.66	0.94

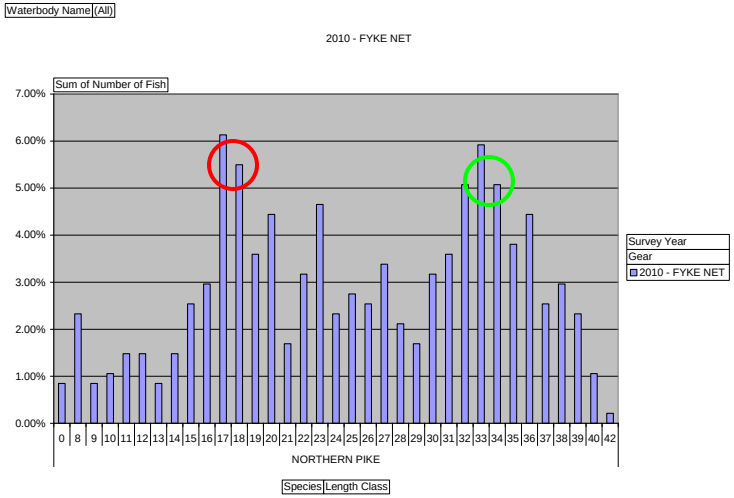

IDEAL

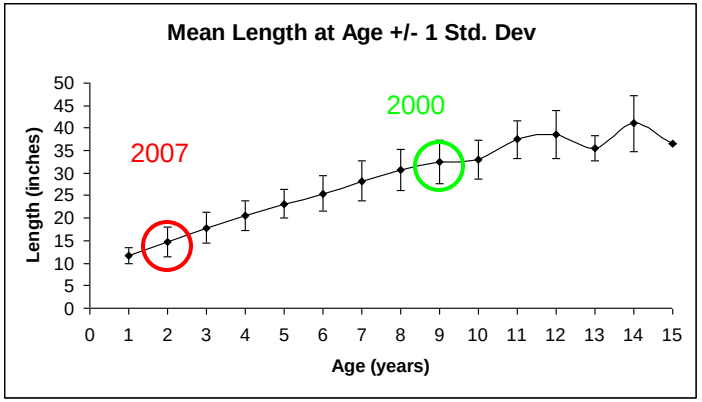

14 15 16 17 18 19 20 21 22

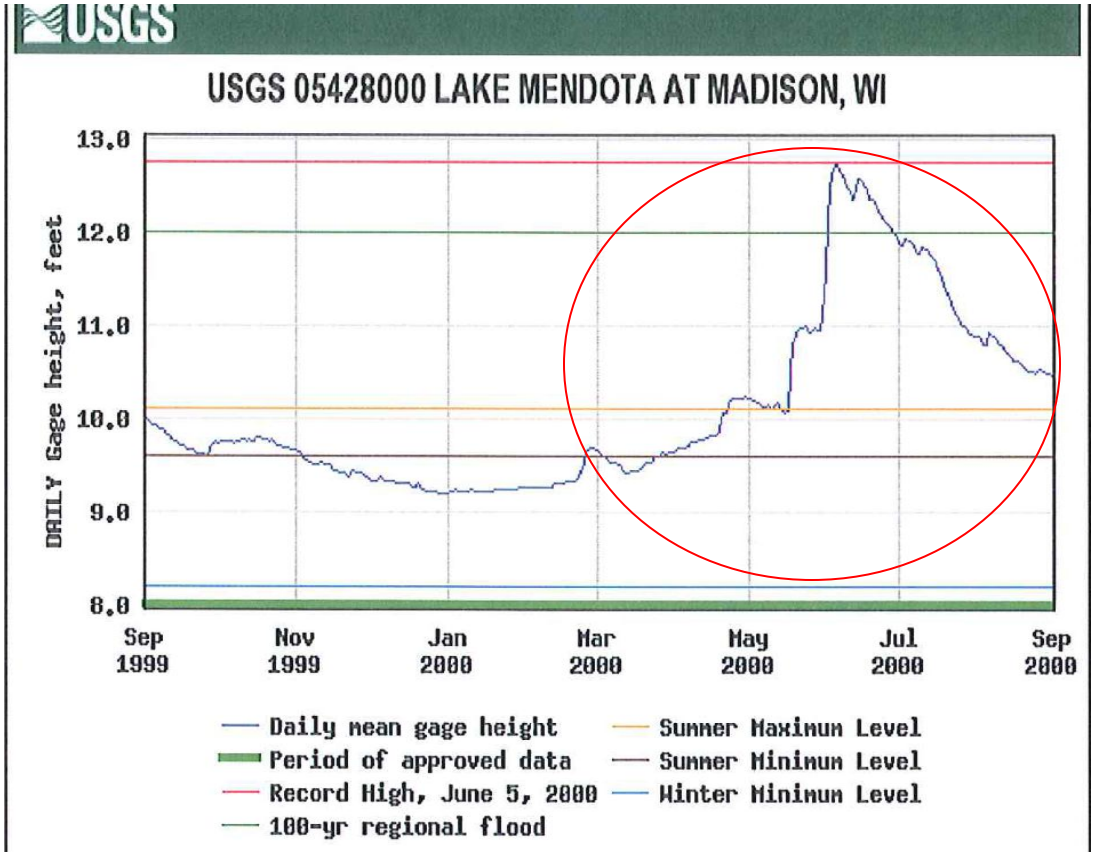
FAQ'S

Q: Can you tie fish production to water elevation ? Do high water years equate with good spawning success ?

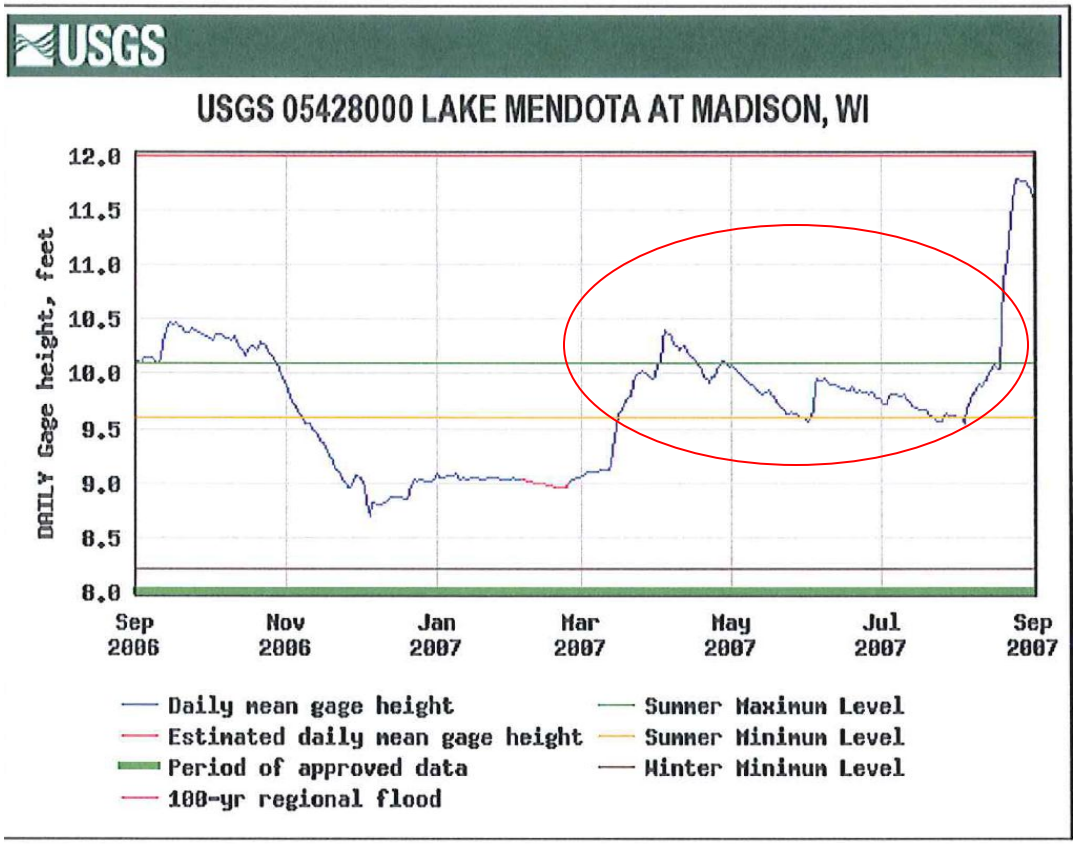
A; It ain't that easy. I do not know the age of fish from the size with any great certainty …remember the 44. 5 " fish ? Which is to say I can't assign "success" from presence/absence. There are other drivers, especially as fish mature. Need known age fish AND NP are cryptic as YOY so traditional assessment doesn't work.






USGS
USGS 05428000 LAKE MENDOTA AT MADISON, WI
DAILY Gage height, feet
13.0
12.0
11.0
10.0
9.0
8.0
Sep 1999
Nov 1999
Jan 2000
Mar 2000
May 2000
Jul 2000
Sep 2000
Daily mean gage height
Period of approved data
Record High, June 5, 2000
100-yr regional flood
Summer Maximum Level
Summer Minimum Level
Winter Minimum Level

Well…yes


USGS
USGS 05428000 LAKE MENDOTA AT MADISON, WI
DAILY Gage height, feet
12.0
11.5
11.0
10.5
10.0
9.5
9.0
8.5
8.0
Sep 2006
Nov 2006
Jan 2007
Mar 2007
May 2007
Jul 2007
Sep 2007
Daily mean gage height
Estimated daily mean gage height
Period of approved data
100-yr regional flood
Summer Maximum Level
Summer Minimum Level
Winter Minimum Level

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