

The Management of Fisheries

The objective of the Department's fisheries program for the Madison lakes is to provide a full suite of angling opportunities while maintaining and enhancing quality fish populations. That goal is complex as our lakes have discreet identities in terms of their condition, limitations, and potential. All lakes cannot be all things to all anglers. We manage within the range of realistic and measurable expectations.

Any sample, in any season, by any gear offers a very narrow look at the entire fish resource. As such, it represents a piece of the entire story, at a point in time. It is not, therefore, absolute. Samples can be influenced by weather, visibility, crew experience, and water temperature. For these reasons, DNR looks at trends or comparisons over successive years. Rotational sampling connects the individual pieces into a larger understanding of the whole lake. No one gear answers all questions or measures all rates. Some fish are easier to catch than others, as are some sizes or ages.

The management of any fishery requires a knowledge of three *dynamic rates*: **Recruitment** (what is coming in as young), **Growth & Age** (what is happening to the fish while they are swimming around as potentially harvestable fish), and **Mortality** (which fish are dying, at what age and size, and from what cause). The balance between these rates helps us determine appropriate actions like stocking (influences recruitment) or size and bag limits (influences growth and mortality).



Did You Know?

- Current survey information can be found on the web at :
<http://www.dnr.wi.gov/org/water/fhp/fish/pages/reports/final.html>
- Great fish viewing opportunities exist at the MGE discharge on Lake Monona (spring musky), the Wingra dam (spring musky), and the Yahara River bridges in McFarland (spring walleye run).
- Lake Mendota is managed as a *Trophy Northern Pike Lake*, a 40 inch minimum length is geared toward producing more large fish.
- Large walleye spawning areas on Lake Mendota are along the University of Wisconsin campus and the north shore of Second Point.
- Largemouth bass virus has been detected in Lakes Monona and Waubesa, causing an increased stress during summer high water temperatures.
- Lake Wingra has one of the highest musky densities in the state (4x the northern wisconsin average of 0.3 musky / acre)
- All musky in the Madison chain are stocked as 9-12 inch fingerlings, no natural reproduction has been observed.
- Northern pike are stocked as fry and released as 3 inch fingerlings in rearing marshes surrounding the lakes.
- Panfishing represents the largest portion of angler hours spent on all Madison lakes.

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Fisheries Management of the Madison Lakes



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Yahara Chain of Lakes



The Yahara chain consists of five lakes (Mendota, Monona, Wingra, Waubesa, and Kegonsa) connected by the Yahara River. The Yahara River is part of the Lower Rock River drainage basin.

Lake Mendota:

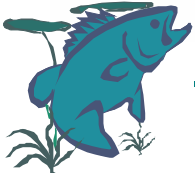
Area: 9,842 acres, Max Depth: 82 ft.,
Mean Depth: 42 ft., Shoreline Length: 21 miles,
Drainage Area: 13,590 acres

Lake Monona:

Area: 3,274 acres, Max Depth: 64 ft.,
Mean Depth: 27 ft., Shoreline Length: 13 miles,
Drainage Area: 25,700 acres

Lake Wingra:

Area: 345 acres, Max Depth: 21 ft.,
Mean Depth: 8 ft., Shoreline Length: 3.7 miles,
Drainage Area: 3,460 acres



Lake Waubesa:

Area: 2,080 acres, Max Depth: 34 ft.,
Mean Depth: 16 ft., Shoreline Length: 8.6 miles,
Drainage Area: 28,170 acres

Lake Kegonsa:

Area: 3,209 acres, Max Depth: 31 ft.,
Mean Depth: 17 ft., Shoreline Length: 9.4 miles,
Drainage Area: 34,840 acres

How does DNR evaluate the fishery?

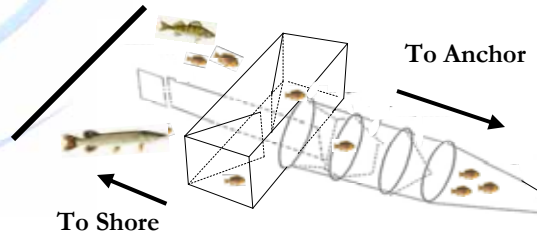
DNR uses two primary sampling methods in any given year to collect data on the gamefish and panfish of the Yahara lakes. The lakes are sampled in rotation. Each year, 1 lake receives intensive (comprehensive) netting and shocking effort. The other lakes get sub-sampled (index sampling) by electrofishing only.

Fyke Netting

In spring, intensive *fyke netting* is conducted to take advantage of schooling behavior associated with spawning northern pike, walleye and muskellunge. Fyke nets sample the *adult* component of the population. Captured fish are counted, measured, weighed, and given a fin clip or other visible mark.



The fyke net is set perpendicular to shore and fish swim into it as they cruise the shore looking for suitable habitat to spawn.



Electro-Fishing

Spring netting is followed by a late spring (end of May, early June) *electro-fishing* sample. This sample serves as a recapture run to collect fish marked during netting. This allows for a population estimate to be calculated. Spring electro-fishing also gives a quick look at bass and panfish numbers as these fish frequent shallow waters prior to spawning.

In October, shocking is repeated on the lakes. The “comprehensive” lake gets its entire shoreline shocked twice. The other lakes get a sub-sample of shoreline segments shocked. Fall shocking is useful in getting a feel for the success of the walleye spawn as small (8”) walleye are susceptible in the shallows in early fall. Additionally, it is a reasonable tool to look at the size structure and relative abundance of panfish, largemouth bass, and walleye.



Spring and fall sampling use electro-fishing to capture fish. Shocking is done at night as fish move into shallower water (< 5ft). DC current is sent into the water and fish are drawn to the anode (positive charge) that extends off the front of the boat. As they get closer to the anode their muscles relax for a few seconds, which allows us to net them. Fish are counted, measured, weighed, and examined for marks. **No** fish are killed during electro-fishing and all fish are **re-turned** to the water where they were collected.