

Working towards increased sustainability of panfish in Wisconsin

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Wisconsin DNR, Bureau of Science Services





Source: The Wisconsin Historical Society

Fishing is Big Business

- Anglers have >\$110B impact on USA economy, WI State impact = \$2.3B

- Supports 828K USA Jobs, WI State Jobs = 22,000



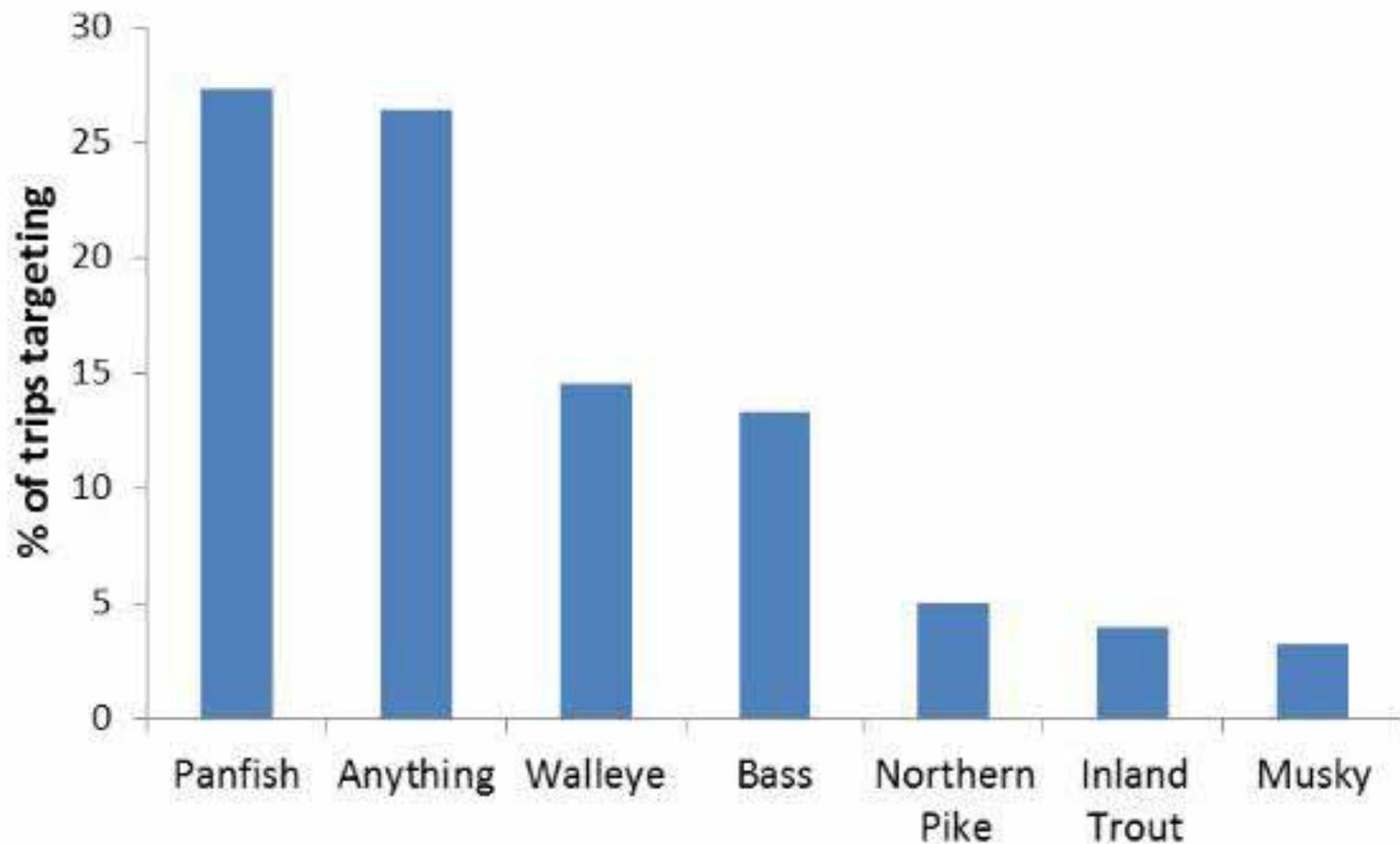
Economic Impact of Sportfishing by State, All Types of Fishing in 2011

	Retail Sales	Total Multiplier or Ripple Effect	Salaries and Wages	Jobs	Federal Tax Revenues	State and Local Tax Revenues
Alaska ¹	\$718,452,401	\$1,073,716,960	\$358,679,292	9,992	\$73,967,017	\$86,459,590
Alabama	\$736,194,640	\$1,103,378,857	\$320,214,191	10,489	\$70,940,169	\$61,164,997
Arkansas	\$517,264,731	\$740,783,174	\$232,580,542	7,801	\$51,806,775	\$50,109,458
Arizona	\$693,418,656	\$1,514,085,259	\$490,948,268	12,509	\$108,821,365	\$89,281,673
California	\$2,203,961,476	\$4,580,356,969	\$1,573,094,107	35,748	\$365,550,269	\$334,401,009
Colorado	\$857,405,955	\$1,350,633,649	\$430,026,121	10,338	\$102,804,411	\$83,185,649
Connecticut	\$446,137,179	\$762,966,357	\$273,332,655	6,825	\$66,287,470	\$53,723,252
Delaware	\$109,167,791	\$149,140,677	\$42,741,504	1,319	\$11,259,260	\$11,961,595
Florida	\$4,993,493,028	\$8,663,464,085	\$2,702,670,214	80,211	\$665,323,693	\$516,516,023
Georgia	\$1,206,690,305	\$2,104,417,672	\$622,480,242	15,644	\$147,791,801	\$109,281,377
Hawaii	\$238,713,712	\$331,198,373	\$108,579,841	3,007	\$21,786,329	\$22,394,047
Iowa	\$330,071,230	\$496,330,879	\$146,685,016	4,574	\$33,646,934	\$29,792,679
Idaho	\$548,292,876	\$756,594,527	\$229,664,505	7,252	\$54,084,065	\$49,541,983
Illinois	\$1,020,000,407	\$1,731,374,441	\$548,144,825	13,548	\$138,903,628	\$118,506,781
Indiana	\$693,739,202	\$1,056,572,919	\$325,000,798	10,293	\$78,919,848	\$76,365,973
Kansas	\$224,448,862	\$321,316,860	\$103,609,537	3,121	\$24,807,182	\$21,997,895
Kentucky	\$862,888,495	\$1,254,442,096	\$361,029,199	12,059	\$82,294,089	\$69,516,147
Louisiana	\$656,784,822	\$1,452,463,864	\$453,441,513	13,265	\$93,000,897	\$93,390,154
Massachusetts	\$475,486,261	\$829,874,861	\$303,259,366	7,213	\$72,009,674	\$55,746,533
Maryland	\$549,436,134	\$844,266,915	\$258,791,438	6,209	\$61,010,190	\$51,680,339
Maine	\$265,692,015	\$614,401,445	\$201,165,974	6,723	\$44,501,743	\$42,878,034
Michigan	\$2,465,625,795	\$4,270,036,036	\$1,447,918,090	37,969	\$335,597,718	\$287,082,977
Minnesota	\$2,440,230,389	\$4,199,672,948	\$1,311,490,021	35,482	\$319,557,705	\$264,335,621
Missouri	\$692,954,973	\$1,126,041,058	\$361,357,550	10,842	\$84,547,273	\$73,509,816
Mississippi	\$902,096,726	\$1,242,396,964	\$348,020,297	11,073	\$73,449,699	\$74,823,920
Montana	\$349,913,031	\$499,332,328	\$147,910,383	5,375	\$38,361,371	\$36,895,735
North Carolina	\$1,655,538,064	\$2,710,255,374	\$899,687,215	25,712	\$203,218,385	\$177,290,388
North Dakota ¹¹	\$74,100,583	\$105,958,178	\$34,809,486	1,210	\$7,626,233	\$6,436,565
Nebraska	\$217,640,644	\$335,625,429	\$106,275,569	3,230	\$23,561,091	\$21,225,298
New Hampshire	\$210,095,175	\$332,818,486	\$114,048,866	3,614	\$27,756,574	\$23,905,031
New Jersey	\$1,146,551,669	\$1,866,013,788	\$583,147,807	15,386	\$158,769,620	\$127,228,333
New Mexico	\$433,283,783	\$607,518,479	\$186,044,225	5,467	\$40,433,861	\$42,284,888
Nevada	\$189,689,911	\$279,450,004	\$92,700,327	2,268	\$21,025,417	\$16,507,952
New York	\$2,696,583,564	\$4,475,253,164	\$1,526,230,881	32,317	\$356,339,771	\$332,964,752
Ohio	\$1,903,619,503	\$2,925,344,790	\$789,311,723	26,354	\$208,530,370	\$203,191,366
Oklahoma	\$821,069,868	\$1,161,687,253	\$301,144,447	11,342	\$84,503,409	\$77,341,322
Oregon	\$680,636,132	\$1,172,481,577	\$382,802,979	11,043	\$91,781,493	\$72,381,359
Pennsylvania	\$502,996,175	\$853,281,964	\$303,917,251	9,567	\$72,812,796	\$59,880,258
Rhode Island	\$135,428,891	\$207,341,447	\$73,301,720	2,056	\$17,264,447	\$15,484,543
South Carolina	\$865,581,873	\$1,328,324,440	\$431,066,963	19,994	\$104,018,601	\$74,244,785
South Dakota	\$313,888,805	\$421,892,121	\$126,326,965	3,747	\$28,801,493	\$25,108,727
Tennessee	\$1,279,223,286	\$2,051,674,803	\$600,098,985	17,542	\$148,376,195	\$112,004,480
Texas	\$2,014,497,306	\$3,608,911,137	\$1,144,653,889	29,854	\$260,143,668	\$195,917,234
Utah	\$489,784,385	\$799,945,482	\$253,475,908	7,207	\$56,336,467	\$49,702,967
Virginia	\$1,407,011,422	\$2,136,776,268	\$642,302,699	18,672	\$164,573,465	\$139,406,127
Vermont	\$147,111,097	\$225,001,690	\$73,224,447	2,420	\$17,139,314	\$15,906,003
Washington	\$1,169,279,691	\$1,996,000,000	\$666,999,650	16,211	\$158,211,689	\$146,891,361
West Coast	\$1,458,882,024	\$2,267,459,700	\$667,112,559	21,542	\$186,477,700	\$148,968,219
West Virginia	\$438,000,692	\$636,433,343	\$199,013,402	7,209	\$45,428,326	\$44,299,085
Wyoming	\$419,706,900	\$606,267,286	\$204,162,961	6,006	\$34,026,020	\$29,392,282
United States¹¹¹	\$47,697,532,293	\$114,531,945,219	\$35,258,134,752	828,133	\$8,224,065,681	\$6,731,819,804

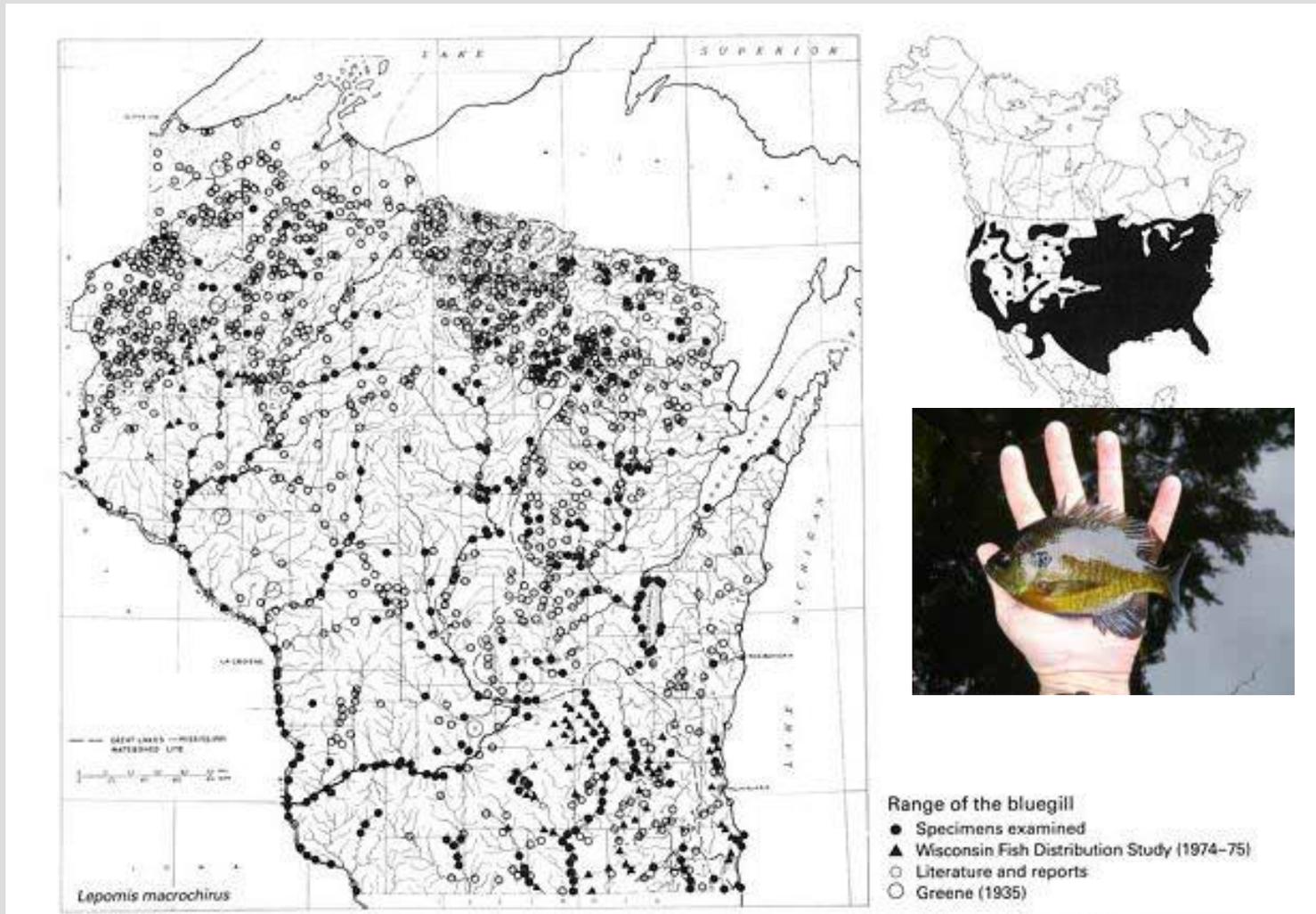
Source: American Sportfishing Association

¹ The Alaska Department of Fish and Game (ADF&G) has agreed corrections regarding the expenditures estimates from the USFWS National Survey. Readers may wish to refer to economic statistics on Alaska's website at <http://www.adfg.state.ak.us> for more information.
¹¹¹ The size of the states is about one percent less than the U.S. total. This difference comes from anglers unable to assign venue expenditures to any specific state. For example, an in-state purchase that is then used in multiple states.

Panfish are the most angled type of fish in Wisconsin



Panfish are everywhere



Source: Fishes of Wisconsin, George Becker

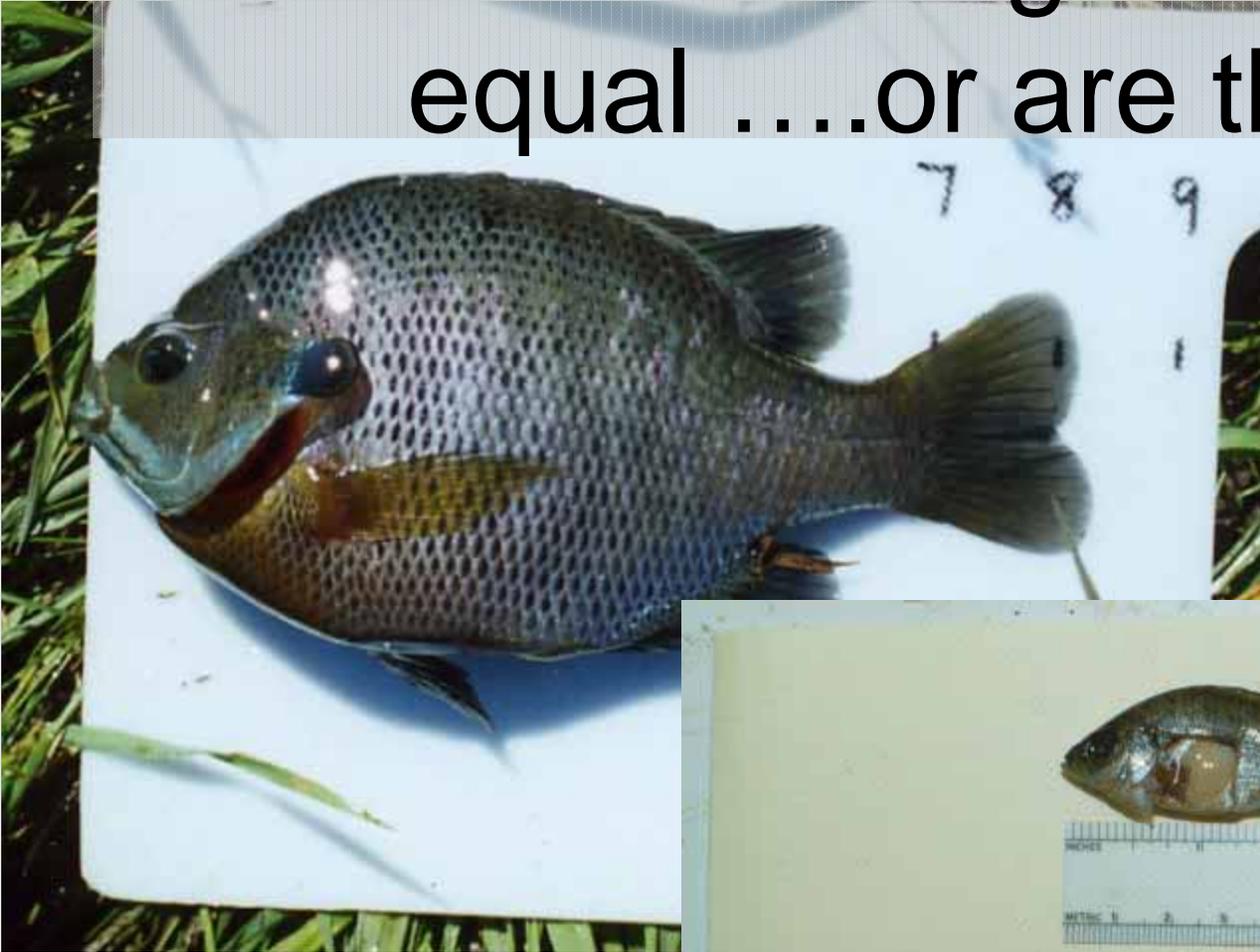
Wisconsin panfish



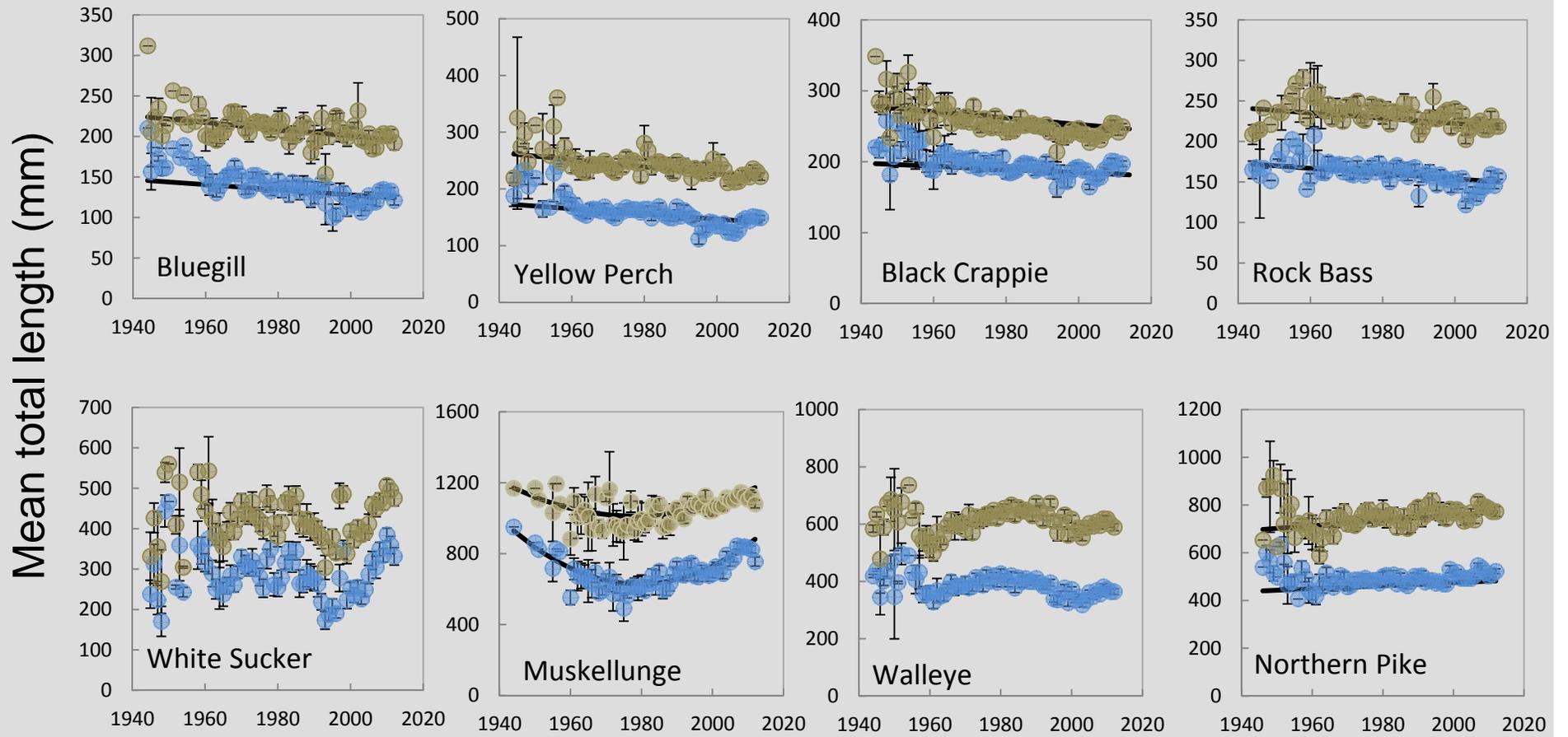
Wisconsin panfish (with special reference to bluegill)



Not all male bluegill are created equalor are they?



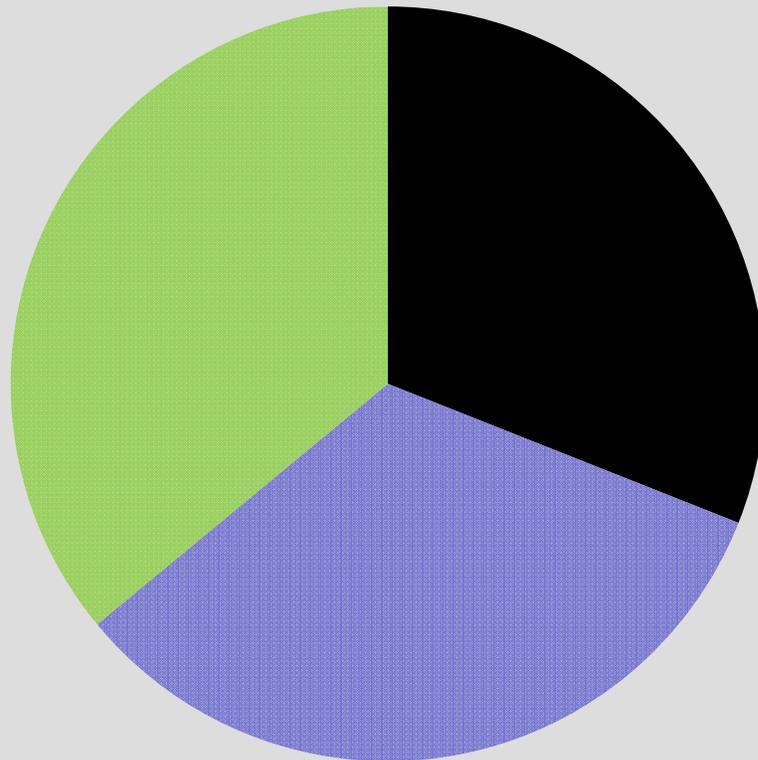
Credit: Jeff Kampa





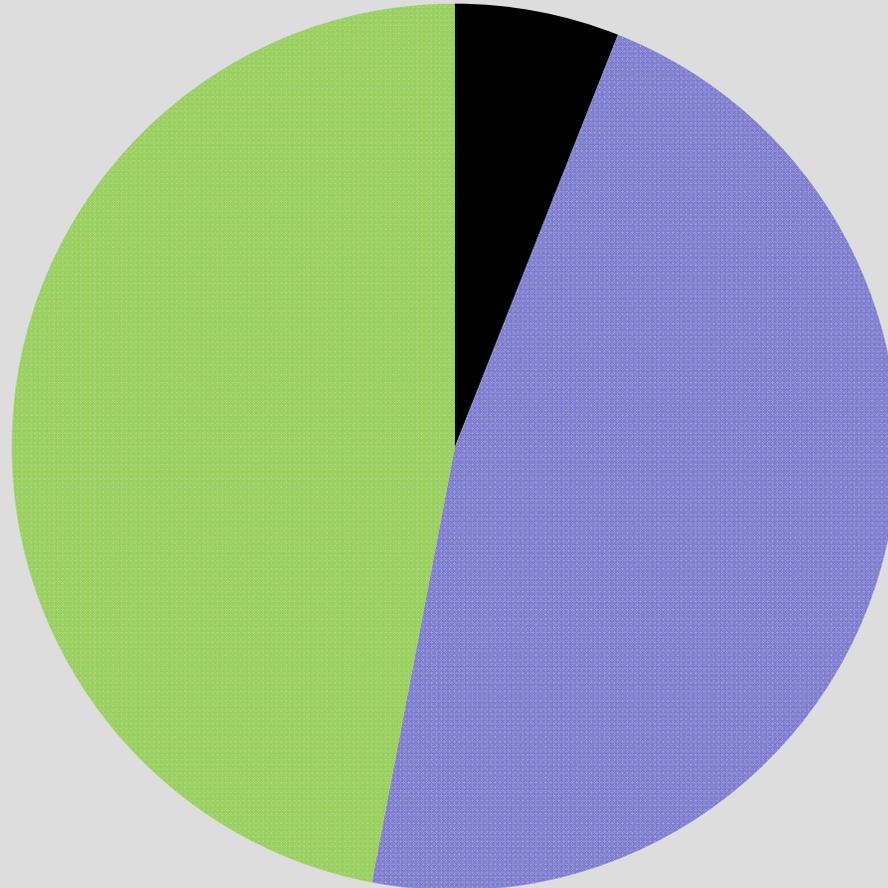
How satisfied are you with your favorite panfish?

- Dissatisfied
- Neither Satisfied nor dissatisfied
- Satisfied



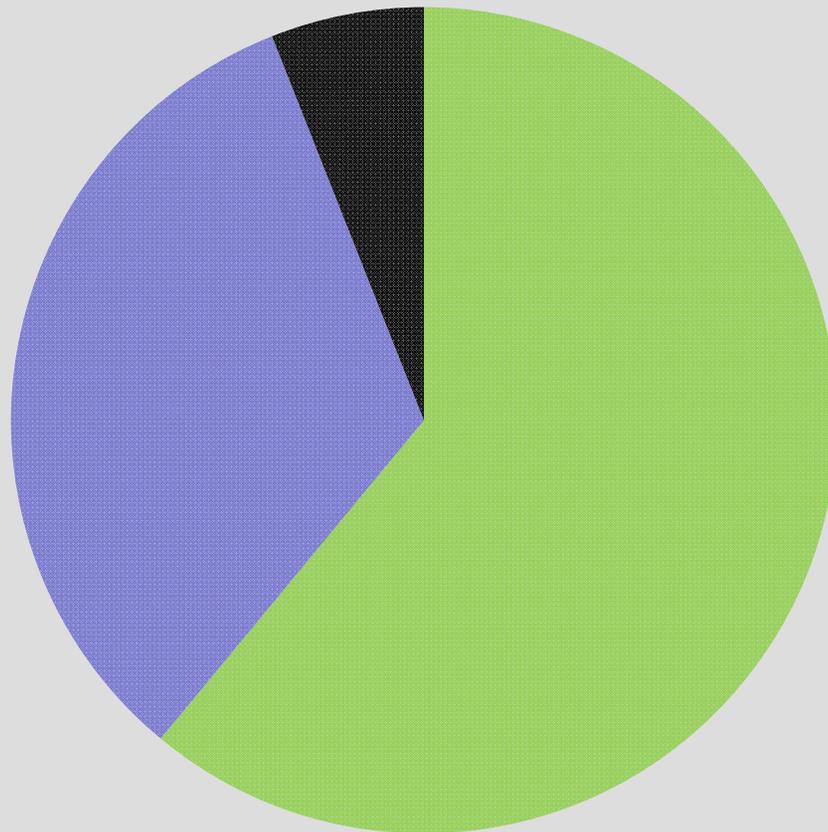
Would you like to see the daily bag limit increased, decreased or kept at 25?

■ Increased ■ Kept at 25 ■ Decreased



Would you prefer to catch and keep fewer panfish but larger in size?

- Catch fewer but larger panfish
- No change
- Catch and keep more fish of smaller size



Can reduced bag limits help improve bluegill size structure in Wisconsin?

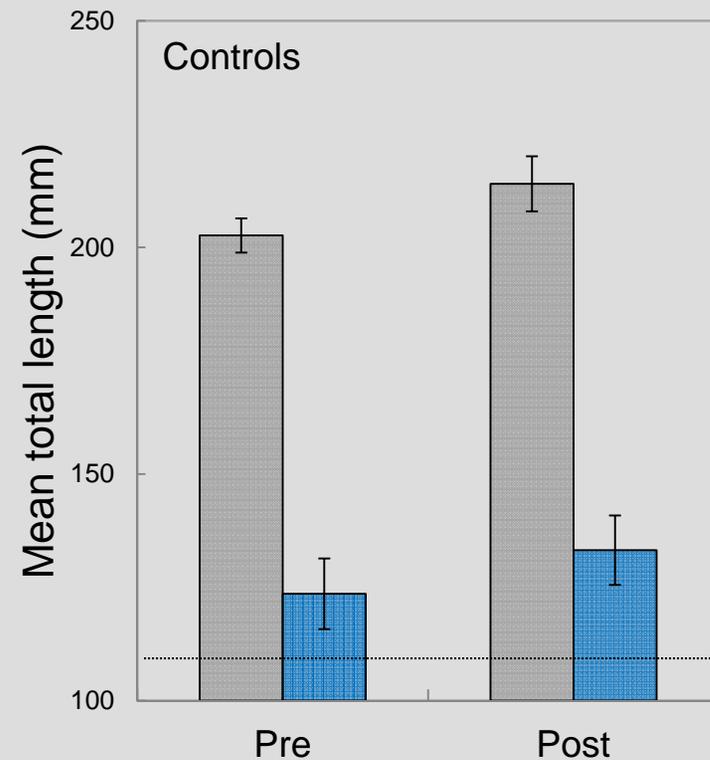
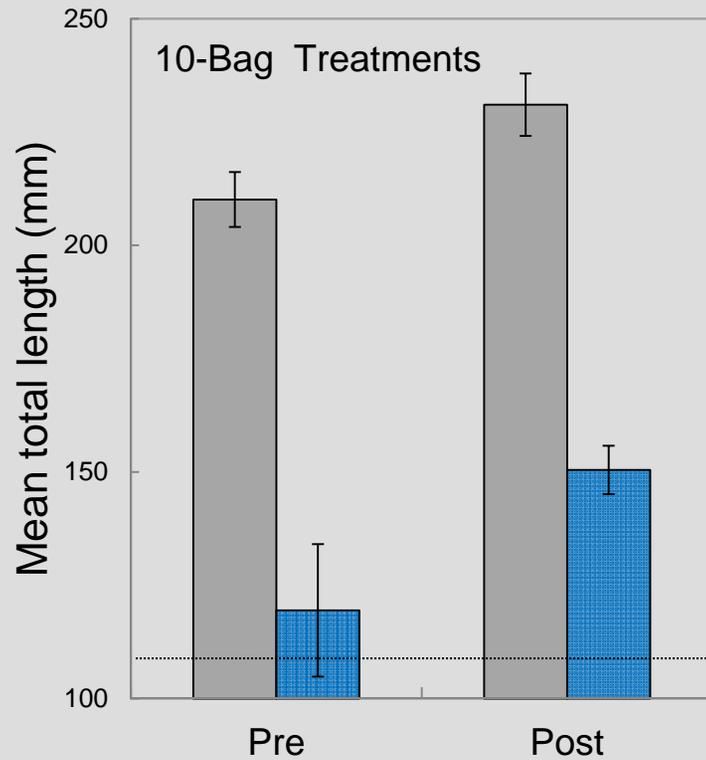


Wally Trudeau, Wisconsin
Conservation Congress delegate,
Polk County

Has fishing affected bluegill genetics?



The answer is....no!



Reduced bag =

0.8 inch increase in means size
0.5 inch increase in max size

An adaptive panfish management plan

In search of larger panfish Bringing better panfishing to Wisconsin anglers.

Between 2011 and 2014, fisheries biologists with the Department of Natural Resources solicited public input on all aspects of panfish management. They found that although anglers are not interested in sweeping changes to state-wide panfish regulations, they are interested in addressing specific lakes with overharvest issues. With this in mind, the Department developed a regulation package for 94 lakes where harvest appears to be a problem. The regulation package was supported at the 2015 spring hearings and will go into effect in 2016. A thorough evaluation will be conducted in 2021 and the findings shared with the public to decide what to do next.

What we know

- 1) The size of panfish has decreased over time, particularly on certain lakes (see Figure 1).
- 2) Many lakes in WI have great panfishing, yet many are full of small fish.
- 3) Studies in MN and WI show that reduced bag limits can increase the average size of bluegill, particularly in lakes with fast growth.

What we propose

A total of 94 lakes across the state were identified by biologists and anglers as underperforming - that is the mean length of bluegill and crappie is less than desirable but growth potential is good (See Figure 3 and Table 1 on back for complete list).

The goal is to determine the best regulation that will increase the average size of bluegill and crappie on the selected lakes. Ultimately, a single regulation will be chosen and used to address similar lakes not meeting panfish management goals.

Proposed regulations

An effective regulation has to be restrictive enough to affect harvest but still be socially acceptable. Finding a regulation that strikes the balance between effectiveness and angler acceptance can be very challenging.

The following three options explore that tradeoff and will be applied to 94 lakes (see back for details):

- 1 A total of 25 panfish but no more than 10 of any one species (25/10).
- 2 A total of 15 panfish but no more than 5 of any one species during May and June (15/5 seasonal) - 25 panfish in total the rest of the year.
- 3 A total of 15 panfish but no more than 5 of any one species (15/5).

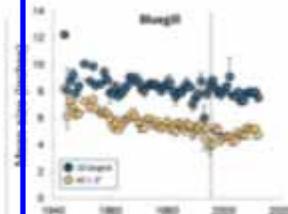


Figure 1. Decline in mean size of bluegill over time. Dashed vertical line indicates 1998 panfish bag limit change from 30 to 25.

NEXT STEPS and EVALUATION

Summer 2015 - Up to date baseline data collection where needed; electrofishing and angler surveys

April 1, 2016 - Regulations go into effect (pending HRB and governor approval)

2019 - 2021 - Regulation evaluation sampling; electrofishing and angler surveys

Fall/Winter 2021 - Initial evaluation complete, results distributed, public meetings held

CONSIDER THIS

Why are all the panfish so small?

There are two primary reasons why a panfish population is dominated by small fish:

1. Stunting = limited resources diagnosed by slow growth rates.
2. Overharvest = all the large individuals kept by anglers diagnosed by decent growth rates.

Even though anglers would take home fewer fish from some lakes, the expected increase in average size should result in the same amount of, or more, meat for the frying pan.



Figure 2. The number of bluegill by length that you would have to keep to equal 1/2 pound of fillets.

PANFISH STUDY LAKES



Figure 2. Distribution of 94 study lakes identified through fisheries biologists and angler surveys with populations of panfish that exhibited poor size and decent growth.

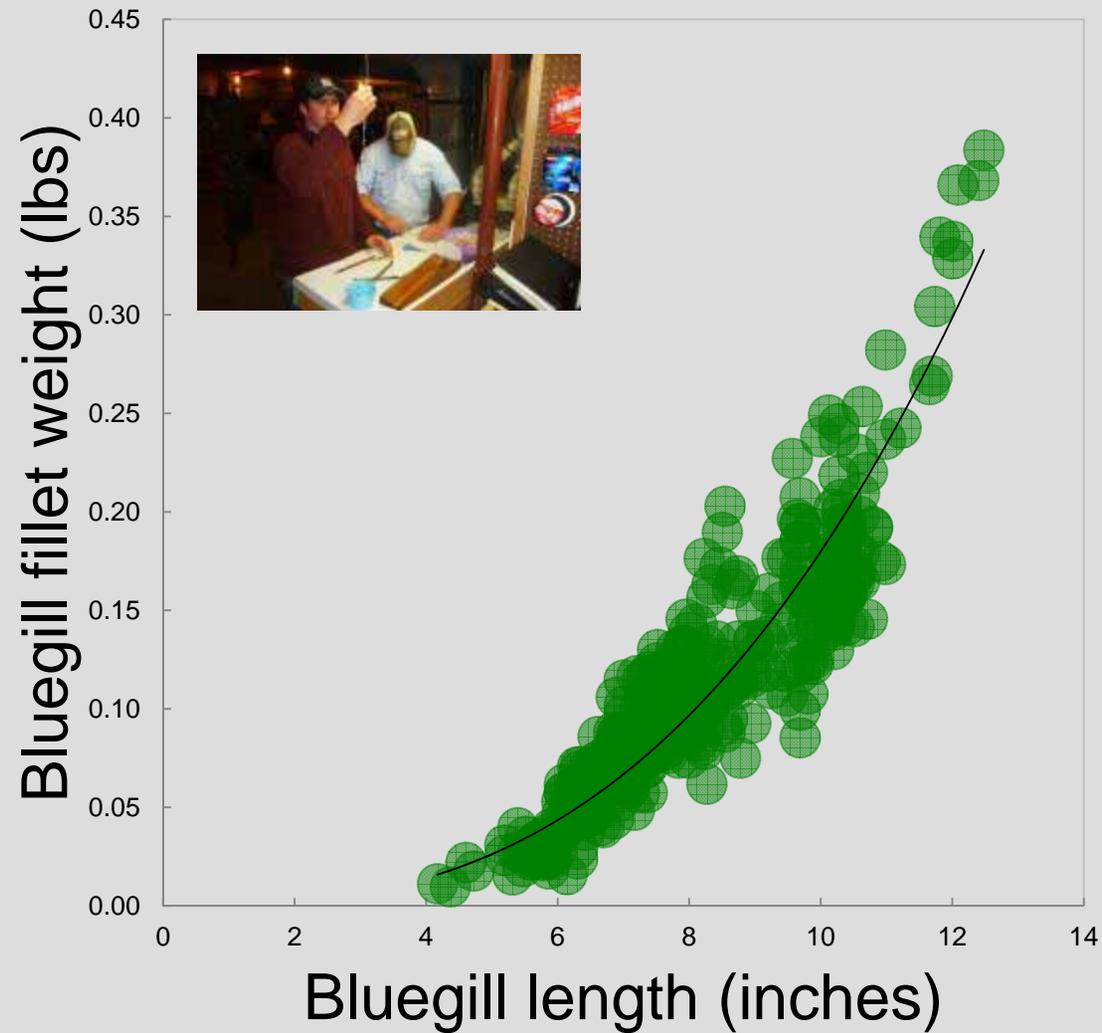
County	Lake/Chain Name	Regulation
Lincoln	Hilderbrand	15/5 Seasonal
Lincoln	Echo	15/5
Lincoln	Rice Reservoir Chain	25/10
Lincoln	HIBA	25/10
Lincoln	Pesaki	15/5 Seasonal
Manitowish	Bullhead	15/5 Seasonal
Manitowish	English	15/5
Manitowish	Long	15/5
Manitowish	Harp	25/10
Manitowish	Pigeon	25/10
Marathon	Pike	15/5 Seasonal
Marathon	Lake Waubesa	25/10
Marathon	Mud	15/5
Oconto	Calderon Falls	25/10
Oneida	Bloom-Rhineland	15/5 Seasonal
Oneida	Chain	15/5 Seasonal
Oneida	Gilmore	25/10
Oneida	Oneida	15/5
Oneida	Squire	15/5
Oneida	Maen Chain	25/10
Oneida	Carroll	25/10

County	Lake/Chain Name	Regulation
Vilas	Kentuck	25/10
Vilas	Little Saint Germain	25/10
Vilas	Palmer	25/10
Vilas	Pickert	25/10
Vilas	High, Fishtrap & Rush	15/5
Vilas	Partridge	15/5 Seasonal
Walworth	Tripp	25/10
Washington	Big Cedar	25/10
Washington	Little Cedar	25/10
Washington	Silver	15/5
Waupaca	Graham	15/5
Waupaca	Hartman	15/5
Waupaca	School Section	25/10
Waupaca	Stratton	25/10
Waupaca	White	25/10
Waupaca	Shadew	15/5 Seasonal
Waushara	Witters	15/5
Waushara	Big HIBA	25/10
Waushara	Ingami	15/5 Seasonal
Waushara	Russell Lake	15/5 Seasonal
Waushara	Peters	15/5

100 lakes study!
10 years!

For more detailed information and to keep up-to-date on panfish management in Wisconsin visit dnr.wisconsin.gov and search "panfish plan."

Less fish but more fillet meat?



Thank you!

- Funding: Wisconsin Department of Natural Resources, Federal Aid in Sport Fish Restoration, Grant F-95-P.
- An army of WDNR biologists over the last 70 years.
- WDNR Panfish team, especially Jon Hansen, Joanna Griffin and Max Wolters.
- The people and fisherman of Wisconsin.

