Inland Seas Angler

# GREAT LAKES BASIN REPORT©

**Special Report – Lake Michigan Part 1**

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# Highlights of the Annual Lake Committee Meetings

**Great Lakes Fishery Commission proceedings, Sault Ste. Marie, Ontario**

This third of a series of annual special reports is a two-part summary of Lake Michigan. This lake committee report is from the annual Lake Committee meetings hosted by the Great Lakes Fishery Commission in March/April 2018. We encourage reproduction with the appropriate credit to the GLSFC and the agencies involved. Our thanks to IL DNR; Brian Breidert, IN DNR; USFWS, and the many other DNR biologists who make this all happen, and also thanks to the staffs of the GLFC and USGS for their contributions to these science documents. Thanks also to the Great Lakes Fishery Commission, its staff, Bob Lamb & Marc Gaden, for their efforts in again convening and hosting the Upper Lake Committee meetings in Sault Ste. .Marie, Ontario.

## Lake Michigan – Part 1

***Index of Reports***



| Abbreviation | Expansion |
|---|---|
| CPH | Catch per hectare |
| CWT | Coded Wire Tag |
| KT | 1,000 metric tons |
| MDNR | MI Dept. of Natural Resources |
| SLCP | Sea Lamprey Control Program |
| USFWS | U.S. Fish and Wildlife Service |
| WTG | Walleye Task Group |
| YAO | Age 1 and older |
| YOY | Young of the year (age 0) |

# Highlights

- 1.37 million **Chinook salmon** were stocked, the lowest amount since the last lake wide stocking reduction in 2013.
- 1.01 million **Brown trout** were stocked lakewide in 2017, a 38% decrease from 2016.
- 2.77 million yearling **lake trout** were stocked in 2017, a decrease of 9.2% from 2016.
- 1.94 million **Rainbow trout** were stocked lakewide in 2017, a 5% increase from the recent 5 year mean in Wisconsin waters and a 28% increase from the recent 5 year mean in Michigan waters.
- 2.66 million **Coho salmon** were stocked lakewide, a 7% increase from the total stocked in 2016.
- Data assembled shows continuing low levels of adult **yellow perch** abundance for the past four to five years.
- Abundance of 2015 Age-0 **yellow perch** in Illinois waters was substantially greater than in recent history.
- The '05 year-class of yellow perch was largest ever recorded and the '09 and '10 year-classes also were higher than average.
- No age-0 **yellow perch** were caught in 2017, indicating a weak year-class.
- Lake-wide biomass of **alewives** was estimated at 0.09 kilotonnes, a record low, and 75% lower than in 2016.
- No **alewives** older than age 5 were caught in the acoustics survey in 2017.
- **Round goby** biomass declined by more than half from 1.1 kt in 2016 to 0.5 kt in 2017.
- **Rainbow smelt** biomass increased twofold up to 0.6 kt in 2017, but was still under 1 kt for the eighth straight year.
- **Slimy sculpin** biomass decreased from 0.8 kt in 2016 to 0.2 kt in 2017.
- Overall, lake-wide prey fish biomass estimate (sum of alewife, bloater, smelt, deepwater sculpin, slimy sculpin, round goby, and ninespine stickleback) in 2017 was 13.3 kt, roughly a 20% increase over the 2016.
- In 2017, **bloater and deepwater sculpin**, two native fishes, constituted nearly 90% of this total.
- Total prey fish biomass was estimated to be 13.3 kt, a 17% increase over 2016.
- **Alewife** comprised 55% of total prey fish biomass.
- No new aquatic invasive fish species were detected in Lake Michigan in 2017.
- Wild **lake Trout** accounted for 58% of lake trout in Illinois waters, 10 – 24% in Wisconsin and Michigan waters.
- Lake Michigan has 511 tributaries, Lampricide applications were conducted in 42 streams.

# Summary of 2017 Salmonine Stocking in Lake Michigan, (USFWS)

A total of 9.72 million salmonines were stocked into Lake Michigan in 2017, the lowest number stocked since 1972. The USFWS stocked most of the lake trout while state agencies stock all Pacific salmon, brown trout, and a small percentage of lake trout.

## Lakewide salmonine stocking trends

**Chinook salmon**

In 2017, 1.37 million were stocked, the lowest amount since the last lake wide stocking reduction in 2013. Since 2013, the annual average number of Chinook salmon stocked has been 1.70 million fish.

**Brown trout**

1.01 million were stocked lakewide in 2017, a 38% decrease from 2016, a 52% decrease from the recent 5- year mean in Wisconsin waters and an 8% increase from the recent 5-year mean in Michigan waters.

**Lake trout**

2.77 million yearlings were stocked in 2017, a decrease of 9.2% from 2016. While lake trout stocking exceeded the Implementation Strategy interim 2.74 million target by 1.1%, it was within the allowable +/- 10% of the stocking target.

**Number of trout and salmon stocked in Lake Michigan, 1995-2017**

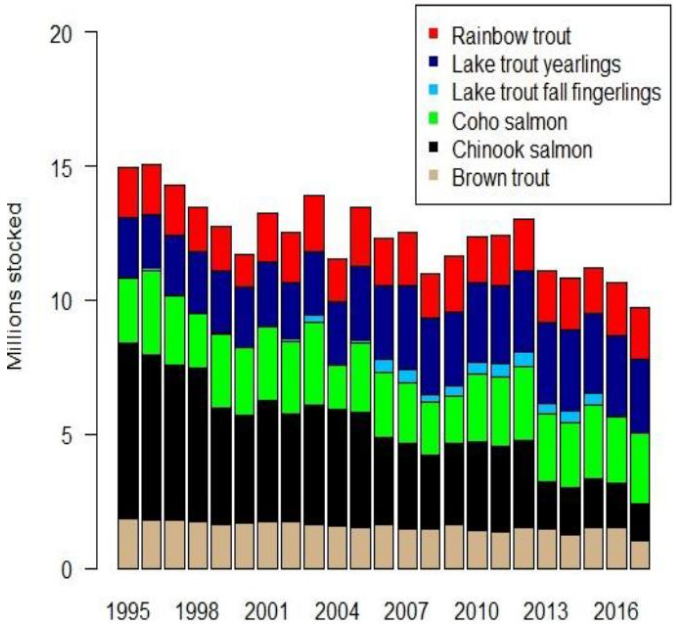



***Fig 1: Numbers of trout and salmon stocked in Lake Michigan, 1995-2017.***

**Rainbow trout**
1.94 million were stocked lakewide in 2017, a 5% increase from the recent 5 year mean in Wisconsin waters and a 28% increase from the recent 5 year mean in Michigan waters.

**Coho salmon**
2.66 million were stocked lakewide in 2017, a 7% increase from the total stocked in 2016.

## Chinook salmon equivalents

Salmonine stocking directly influences predator-prey ratios in Lake Michigan and this is important to tract in light of long-term declines in the forage base. Salmonids differ in species-specific prey consumption and total prey consumption over their life span. Therefore, we also report salmonid stocking in terms of "chinook salmon equivalents", a standardized metric that expresses total salmonid stocking in terms of their demand on the forage base.

Species-specific conversion values (number of fish required to equal the prey consumption of 1 Chinook salmon) for each species stocked are as follows:
- 3.2 Coho salmon
- 2.4 rainbow trout
- 2.3 yearling lake trout
- 5.8 fall fingerling lake trout
- 2.2 brown trout.

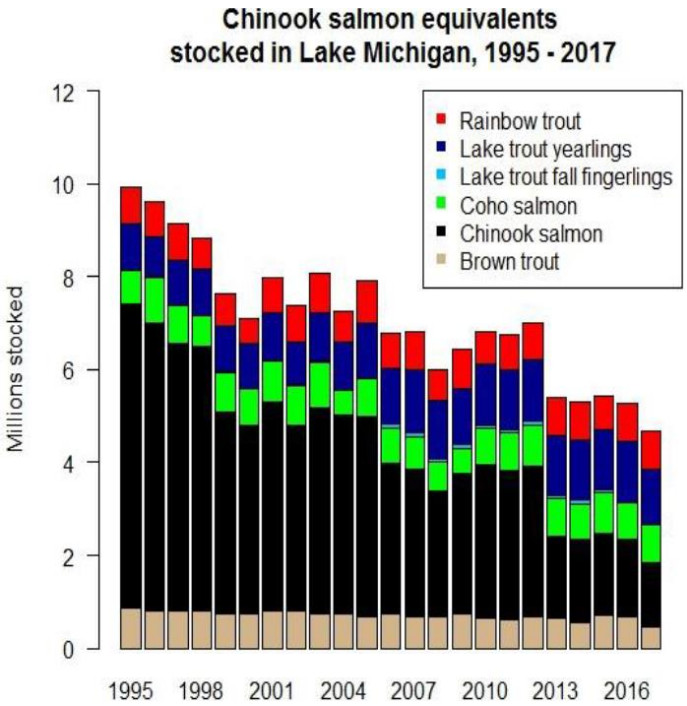



***Fig 2- Numbers of Chinook salmon equivalents for the primary species of trout and salmon stocked in Lake Michigan,1995-2017.***

For example, the consumption potential of one Chinook salmon is equal to 2.4 rainbow trout. Chinook equivalents of all trout and salmon stocked in a given year are equal to the total number of each species stocked divided by its conversion factor.

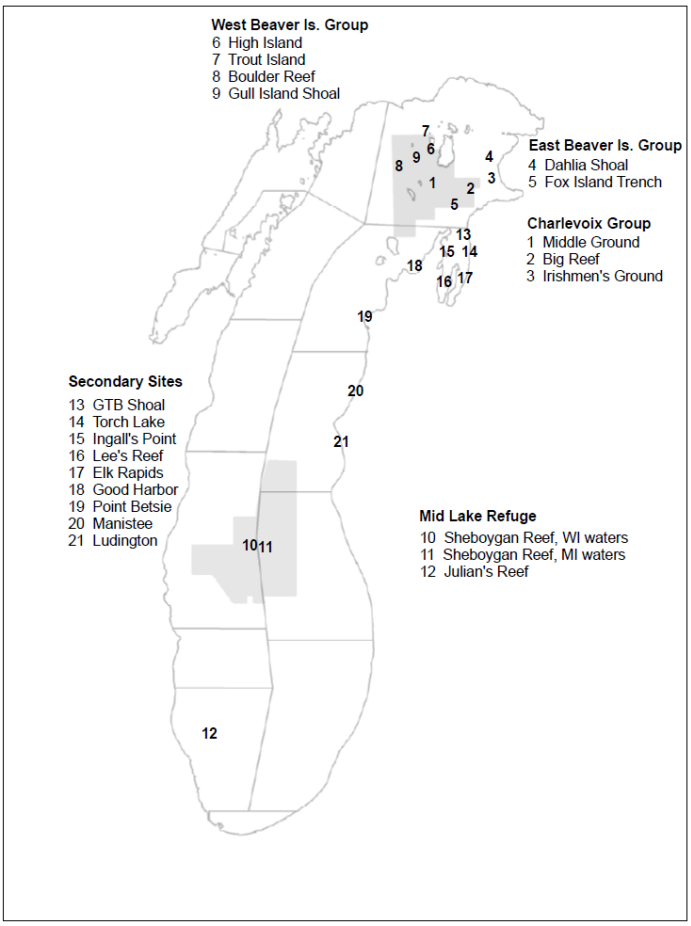
In 2017, 9.72 million salmonids were stocked, but this number is roughly halved when expressed as Chinook equivalents. In 2017, stocking of 4.67 million chinook equivalents was the lowest number since 1972 and should result in decreased consumption of the forage base. Conversion values are currently being reassessed with more contemporary diet, stable isotope data and bio-energetic model simulations.

## Lake trout stocking locations

Per the *Implementation Strategy*, roughly 2/3 of the lake trout are stocked offshore in 1st Priority areas for rehabilitation efforts. These areas include reefs within the Northern Refuge (West Beaver, East Beaver, and Charlevoix Reef Complex groupings) and the Mid Lake Refuge. The remaining 1/3 are stocked in 2nd Priority nearshore areas to support both recreational fisheries and rehabilitation efforts **(Map 1).**

In 2017, 1.44 million yearling lake trout were stocked in the Northern 1st Priority sites and 0.72 million yearlings in the mid-lake refuge 1st Priority sites. Nearshore areas (2nd Priority) received an additional 0.58 million yearlings. In 2017, the FWS stocked 2.73 million lake trout yearlings in first and second priority sites, with an additional 39,300 by the Michigan DNR in non-priority tributaries connected to Lake Michigan not included in **Map 1.**

Since 2010, all stocked lake trout have been marked with an adipose clip and a coded wire tag (CWT) was implanted in the fish's snout. For all lake trout a unique CWT code was used for each strain and stocking location. All 1st Priority sites have distinct CWT's as do all 2nd priority sites within each statistical district. The current tagging plan was designed to measure the movement, growth, and relative survival of among genetic strains, year classes, and stocking locations from subsequent recoveries in assessment surveys, and commercial and recreational fisheries.




***Map 1. First and 2nd priority areas as described in A Fisheries Management Implementation Strategy for the Rehabilitation of Lake Trout in Lake Michigan. Northern and Mid Lake Refuges are indicated with shading and the gray lines subdivide the lake into statistical districts. In 2017, stocking efforts ended at Hog Island Reef and Ile aux Galets in the East River Island Group (NOT ON MAP) and began at Fox Island Trench to avoid excessive by-catch from commercial fishing.✧***

# Harvest of Fishes from Lake Michigan during 2017

**Fig 1-Total Harvest of Fish by Method From Lake Michigan, 1985- 2017.**

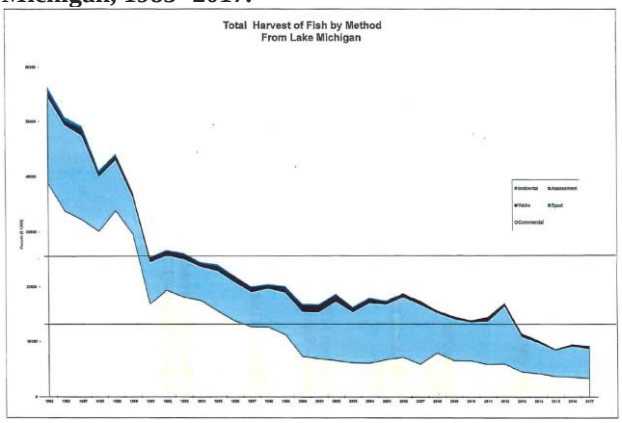



**Fig 2-Harvest of Benthivore Fishes From Lake Michigan, 1985-2017.**

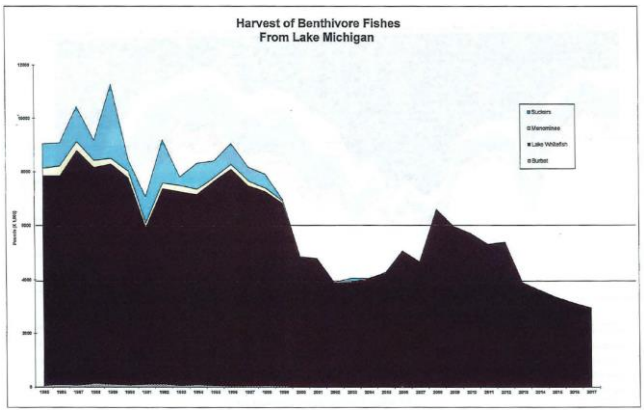



**Fig 3-Harvest of Salmonine Fishes From Lake Michigan, 1985-2017, Sport, Commercial, Assessment, and Weir.**

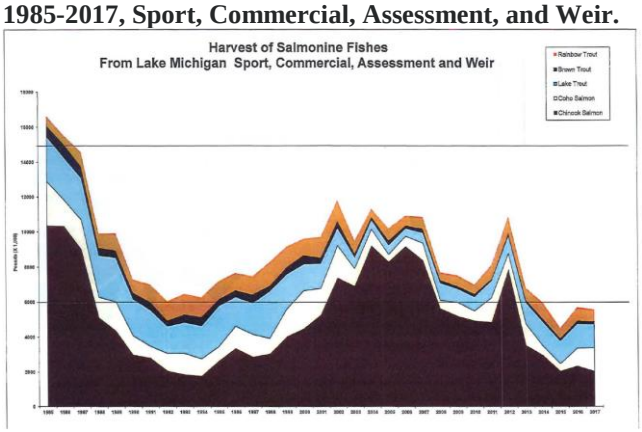



**Fig 4-Harvest of Inshore Fishes From Lake Michigan, 1985-2017.**

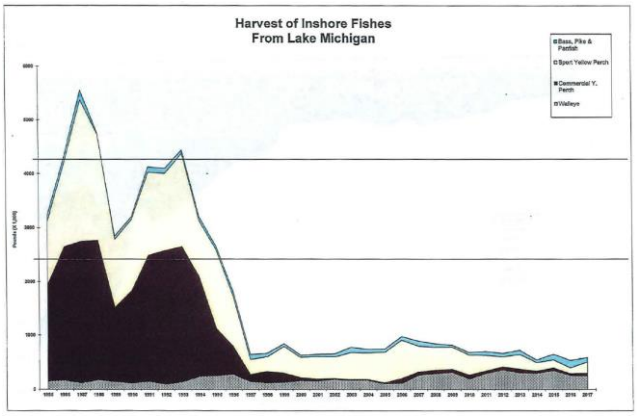
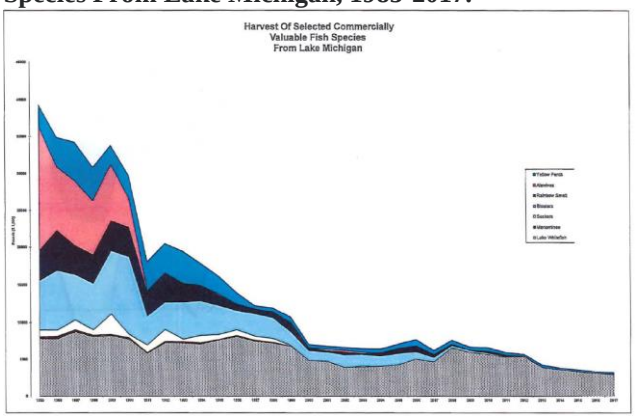



**Fig 5-Harvest of Selected Commercially Valuable Fish Species From Lake Michigan, 1985-2017.**



| FIGURE 1. | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | 38793.8 | 33812.1 | 32272.3 | 30117.4 | 33877.2 | 29641.2 | 16857.6 | 19373 | 18156.1 | 17508 | 15561.43 | 13779.79 | 12679.9 |
| Sport | 15787.48 | 15584.65 | 15216.65 | 9923.226 | 9154.657 | 6704.035 | 7680.261 | 6393.237 | 6946.551 | 6211.409 | 7387.109 | 7126.884 | 6376.512 |
| Weirs | 1140.5 | 724 | 1130.7 | 534.8 | 717.7 | 641.6 | 696.5 | 683.9 | 753.3 | 522.352 | 698.52 | 885.5 | 740.5 |
| Assessment | 58.8 | 59.4 | 59.1 | 70.5 | 84.8 | 56.7 | 73.7 | 65.8 | 60.9 | 53.074 | 55.136 | 90.534 | 54.643 |
| Incidental | 498.6 | 645.3 | 540.6 | 456.2 | 231.7 | 205 | 98.2 | 199.707 | 261.6 | 199.7 | 414.2 | 110.5 | 130.5 |
| Total | 56279.18 | 50825.45 | 49219.35 | 41102.13 | 44066.06 | 37248.54 | 25406.26 | 26715.64 | 26178.45 | 24494.54 | 24116.4 | 21993.21 | 19982.05 |

| FIGURE 2. | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Burbot | 49.4 | 96.5 | 69.3 | 141.6 | 109.7 | 71.7 | 103.4 | 120.2 | 52.25 | 84.22 | 54.4 | 31.52 | 38.8 |
| Lake Whitefish | 7802.4 | 7756.7 | 8732.1 | 8023.8 | 8189.5 | 7695.2 | 5822.3 | 7248.1 | 7199.1 | 7062.752 | 7609.864 | 8063.126 | 7447.29 |
| Menominee | 284 | 366 | 329.4 | 260.5 | 200.8 | 254.8 | 147.4 | 223.6 | 253.9 | 196.1 | 118.4 | 184.4 | 183.303 |
| Suckers | 905.8 | 859.1 | 1313.4 | 744.5 | 2773.1 | 416.8 | 983.3 | 1599.5 | 292.3 | 973.532 | 621.25 | 774.91 | 505.93 |
| Total | 9041.6 | 9078.3 | 10444.2 | 9170.4 | 11273.1 | 8438.5 | 7056.4 | 9191.4 | 7797.55 | 8316.604 | 8403.914 | 9053.956 | 8175.323 |

| FIGURE 3. | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chinook Salmon | 10335.76 | 10312.38 | 8994.268 | 5116.938 | 4351.454 | 2977.711 | 2822.937 | 2059.618 | 1842.279 | 1762.109 | 2627.977 | 3353.066 | 2859.061 |
| Coho Salmon | 2564.587 | 1515.623 | 1696.118 | 1167.456 | 1664.531 | 1101.644 | 676.445 | 1018.48 | 1229.13 | 1003.687 | 826.997 | 1269.251 | 1295.416 |
| Lake Trout | 2570.738 | 2461.434 | 2427.063 | 2382.343 | 2512.094 | 2084.818 | 2057.36 | 1542.95 | 1775.482 | 1875.4 | 2302.307 | 1667.49 | 1785.474 |
| Brown Trout | 629.498 | 740.519 | 664.47 | 430.281 | 413.378 | 366.829 | 452.44 | 321.987 | 444.134 | 510.368 | 381.538 | 372.338 | 473.206 |
| Rainbow Trout | 548.295 | 512.3 | 788.187 | 801.528 | 971.126 | 757.881 | 991.562 | 1112.673 | 1168.025 | 1115.302 | 1037.888 | 996.283 | 1044.925 |
| Total | 16648.88 | 15542.25 | 14570.11 | 9898.546 | 9912.583 | 7288.883 | 7000.744 | 6055.708 | 6459.05 | 6266.866 | 7176.707 | 7658.428 | 7458.082 |
| % Lake Trout | 0.154409 | 0.15837 | 0.166578 | 0.240676 | 0.253425 | 0.286027 | 0.293877 | 0.254793 | 0.274883 | 0.299256 | 0.320803 | 0.217733 | 0.239401 |

| FIGURE 4. | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Walleye | 147.496 | 163.105 | 114.945 | 170.239 | 137.712 | 112.679 | 143.926 | 89.544 | 138.563 | 234.704 | 246.427 | 274.482 | 139.144 |
| Commercial Y. Perch | 1795.2 | 2483.4 | 2634.9 | 2596.8 | 1379.6 | 1719.3 | 2348.8 | 2490.1 | 2513 | 1865.5 | 877.03 | 517.04 | 136.196 |
| Sport Yellow Perch | 1151.504 | 1538.677 | 2624.872 | 1967.633 | 1266.549 | 1315.172 | 1533.716 | 1426.183 | 1728.177 | 1033.422 | 1476.855 | 938.086 | 277.95 |
| Bass, Pike & Panfish | 119.1 | 112.7 | 181.9 | 20.343 | 61.422 | 49.864 | 102.788 | 93.145 | 64.891 | 74.827 | 61.747 | 87.069 | 90.805 |
| Total | 3213.3 | 4297.882 | 5556.617 | 4755.015 | 2845.283 | 3197.015 | 4129.23 | 4098.972 | 4444.631 | 3208.453 | 2662.059 | 1816.677 | 644.095 |

| FIGURE 5. | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lake Whitefish | 7802.4 | 7756.7 | 8732.1 | 8023.8 | 8189.5 | 7695.2 | 5822.3 | 7248.1 | 7199.1 | 7062.752 | 7609.864 | 8063.126 | 7447.29 |
| Menominee | 284 | 366 | 329.4 | 260.5 | 200.8 | 254.8 | 147.4 | 223.6 | 253.9 | 196.1 | 118.4 | 184.4 | 183.303 |
| Suckers | 905.8 | 859.1 | 1313.4 | 744.5 | 2773.1 | 416.8 | 983.3 | 1599.5 | 292.3 | 973.532 | 621.25 | 774.91 | 505.93 |
| Bloaters | 6524.6 | 7919.4 | 5987.1 | 6138.7 | 8360.7 | 10342.3 | 3885.7 | 3630.2 | 4971.2 | 4631.98 | 3890.64 | 2567.71 | 3030.94 |
| Rainbow Smelt | 4028.4 | 5421.1 | 3876.1 | 3847.6 | 4070.3 | 4017.6 | 3246.6 | 3845 | 2491.7 | 2049.661 | 1422.35 | 889.31 | 663.44 |
| Alewives | 16802.4 | 8539.4 | 8743.9 | 7268.5 | 7579.9 | 3934.9 | 76.6 | 40.9 | 3.5 | 9.38 | 101.757 | 1.16 | 5.5 |
| Yellow Perch | 2952.504 | 4028.077 | 5265.372 | 4568.133 | 2650.749 | 3038.772 | 3886.516 | 3920.583 | 4244.877 | 2899.722 | 2354.485 | 1458.99 | 416.586 |
| Total | 39300.1 | 34889.78 | 34247.37 | 30851.73 | 33825.05 | 29700.37 | 18048.42 | 20507.88 | 19456.58 | 17823.13 | 16118.75 | 13939.61 | 12252.99 |

| FIGURE 1. | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | 12641.45 | 11256.38 | 7333.937 | 6893.822 | 6583.917 | 6164.763 | 6111.18 | 6735.312 | 7180.809 | 5943.786 | 7955.726 | 6603.572 | 6572.605 |
| Sport | 7095.2 | 7746.965 | 8143.368 | 8515.9 | 10739.96 | 9204.677 | 10941.46 | 10061.5 | 10990.32 | 10832.7 | 7348.65 | 7560.966 | 7006.4 |
| Weirs | 515.268 | 840.701 | 1124 | 1100.048 | 1210.463 | 688.937 | 746.908 | 442.572 | 603.323 | 518.467 | 314.06 | 386.1 | 225.63 |
| Assessment | 29.4646 | 39.884 | 34.856 | 38.8249 | 34.981 | 33.612 | 35.6 | 34.701 | 41.358 | 32.963 | 30.017 | 30.704 | 38.535 |
| Incidental | 178.94 | 229.7 | 231.445 | 192.42 | 129 | 133.6 | 130 | 175.4 | 0 | 104.2 | 32.37 | 0 | 0 |
| Total | 20460.32 | 20113.63 | 16867.61 | 16741.01 | 18698.32 | 16225.59 | 17965.14 | 17449.49 | 18815.81 | 17432.12 | 15680.82 | 14581.34 | 13843.17 |

| FIGURE 2. | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Burbot | 47.893 | 33.601 | 15.046 | 18.674 | 13.645 | 20.875 | 11.728 | 14.682 | 31.283 | 11.533 | 11.887 | 12.811 | 12.541 |
| Lake Whitefish | 7205.642 | 6793.035 | 4816.243 | 4745.976 | 3882.623 | 3909.841 | 4022.944 | 4215.897 | 5037.782 | 4660.22 | 6575.914 | 5945.74 | 5686.741 |
| Menominee | 135.347 | 85.75 | 27.154 | 12.515 | 8.651 | 6.715 | 21.093 | 12.702 | 1.36 | 2.21 | 7.654 | 9.286 | 6.881 |
| Suckers | 514.9876 | 47.899 | 8.962 | 17.711 | 7.111 | 125.931 | 3.481 | 29.414 | 6.769 | 4.574 | 4.209 | 2.681 | 6.239 |
| Total | 7903.87 | 6960.285 | 4867.405 | 4794.876 | 3912.03 | 4063.362 | 4059.246 | 4272.695 | 5077.194 | 4678.537 | 6599.664 | 5970.518 | 5712.402 |

| FIGURE 3. | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chinook Salmon | 3038.005 | 4008.256 | 4473.565 | 5252.121 | 7359.653 | 6886.199 | 9186.923 | 8273.101 | 9142.229 | 8367.931 | 5622.706 | 5192.508 | 4921.566 |
| Coho Salmon | 895.077 | 1582.163 | 2155.828 | 1509.109 | 1835.275 | 1012.308 | 952.387 | 423.76 | 595.326 | 985.842 | 466.296 | 784.87 | 570.662 |
| Lake Trout | 2666.321 | 1987.835 | 1518.253 | 1436.249 | 1010.683 | 633.752 | 523.389 | 533.263 | 447.684 | 581.214 | 990.346 | 771.485 | 800.803 |
| Brown Trout | 317.836 | 407.701 | 513.562 | 330.12 | 392.858 | 222.207 | 183.797 | 260.806 | 158.108 | 231.861 | 176.22 | 146.06 | 155.39 |
| Rainbow Trout | 1353.609 | 1161.788 | 928.576 | 1167.748 | 1173.176 | 711.085 | 456.905 | 679.921 | 561.825 | 656.847 | 420.75 | 596.31 | 515.75 |
| Total | 8270.848 | 9147.743 | 9589.784 | 9695.347 | 11771.65 | 9465.551 | 11303.4 | 10170.85 | 10905.17 | 10823.7 | 7676.318 | 7491.233 | 6964.171 |
| % Lake Trout | 0.322376 | 0.217303 | 0.15832 | 0.148138 | 0.085857 | 0.066954 | 0.046304 | 0.052431 | 0.041052 | 0.053698 | 0.129013 | 0.102985 | 0.114989 |

| FIGURE 4. | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Walleye | 121.649 | 125.465 | 158.091 | 152.546 | 181.167 | 162.272 | 164.94 | 101.064 | 111.14 | 257.115 | 286.646 | 311.946 | 188.319 |
| Commercial Y. Perch | 211.052 | 176.65 | 57.98 | 38.99 | 19.99 | 19.349 | 17.981 | 23.575 | 90.695 | 65.296 | 69.109 | 62.276 | 75.994 |
| Sport Yellow Perch | 270.54 | 492.937 | 375.741 | 415.375 | 399.814 | 503.87 | 492.97 | 563.92 | 708.86 | 478.981 | 424.29 | 408.51 | 376.47 |
| Bass, Pike & Panfish | 65.145 | 48.045 | 41.208 | 44.768 | 56.235 | 92.779 | 65.668 | 56.05 | 67.582 | 92.67 | 61.24 | 35.92 | 42.49 |
| Total | 668.386 | 843.097 | 633.02 | 651.679 | 657.206 | 778.27 | 741.559 | 744.609 | 978.277 | 894.062 | 841.285 | 818.652 | 683.273 |

| FIGURE 5. | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lake Whitefish | 7205.642 | 6793.035 | 4816.243 | 4745.976 | 3882.623 | 3909.841 | 4022.944 | 4215.897 | 5037.782 | 4660.22 | 6575.914 | 5945.74 | 5686.741 |
| Menominee | 135.347 | 85.75 | 27.154 | 12.515 | 8.651 | 6.715 | 21.093 | 12.702 | 1.36 | 2.21 | 7.654 | 9.286 | 6.881 |
| Suckers | 514.9876 | 47.899 | 8.962 | 17.711 | 7.111 | 125.931 | 3.481 | 29.414 | 6.769 | 4.574 | 4.209 | 2.681 | 6.239 |
| Bloaters | 2817.428 | 1792.945 | 1335.534 | 1226.781 | 1701.834 | 1626.466 | 1385.654 | 1531.916 | 986.635 | 583.809 | 304.347 | 246.756 | 137.779 |
| Rainbow Smelt | 701.48 | 1336.399 | 387.918 | 251.244 | 452.632 | 184.766 | 408.929 | 676.416 | 836.38 | 428.76 | 179.28 | 44.745 | 325.034 |
| Alewives | 92.903 | 16.857 | 48.904 | 109.097 | 200.129 | 97.6 | 63.81 | 44.262 | 28.774 | 20.321 | 62.489 | 6.487 | 17.356 |
| Yellow Perch | 484.249 | 680.803 | 437.909 | 460.711 | 421.802 | 526.103 | 513.301 | 591.831 | 802.854 | 546.654 | 495.391 | 472.712 | 454.202 |
| Total | 11952.04 | 10753.69 | 7062.624 | 6824.035 | 6674.782 | 6477.422 | 6419.212 | 7102.438 | 7700.554 | 6246.548 | 7629.284 | 6728.407 | 6634.232 |

| FIGURE 1. | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| Commercial | 5907.782 | 5970.909 | 4507.774 | 4202.217 | 3682.144 | 3563.444 | 3334.374 |
| Sport | 7788.191 | 10530.17 | 6391.274 | 5609.4 | 4791.533 | 5623.861 | 5406.011 |
| Weirs | 711.898 | 437.589 | 514.826 | 314.13 | 68.608 | 208.332 | 376.32 |
| Assessment | 38.5699 | 34.633 | 38.034 | 33.2601 | 44.5023 | 54.464 | 47.372 |
| Incidental | 0 | 0 | 0 | 0 | 15.6 | 12.405 | 10.44 |
| Total | 14446.44 | 16973.3 | 11451.91 | 10159.01 | 8602.387 | 9462.506 | 9174.517 |

| FIGURE 2. | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| Burbot | 19.054 | 13.131 | 10.59 | 9.075 | 10.209 | 10.32 | 11.62 |
| Lake Whitefish | 5282.207 | 5367.268 | 3890.744 | 3594.493 | 3315.897 | 3099.86 | 2927.267 |
| Menominee | 11.088 | 4.809 | 2.704 | 4.161 | 5.53 | 4.317 | 5.315 |
| Suckers | 3.321 | 3.738 | 8.6294 | 15.1144 | 18.405 | 22.719 | 17.82 |
| Total | 5315.67 | 5388.946 | 3912.667 | 3622.843 | 3350.041 | 3137.216 | 2962.022 |

| FIGURE 3. | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| Chinook Salmon | 4835.711 | 7818.958 | 3525.012 | 2954.228 | 2037.314 | 2339.382 | 2035.075 |
| Coho Salmon | 1405.332 | 925.7438 | 1220.322 | 530.56 | 441.2033 | 1025.979 | 1341.957 |
| Lake Trout | 972.607 | 1006.715 | 1231.361 | 1372.295 | 1296.934 | 1397.374 | 1360.915 |
| Brown Trout | 77.0645 | 143.001 | 147.055 | 194.745 | 146.296 | 174.295 | 157.532 |
| Rainbow Trout | 814.08 | 921.736 | 645.482 | 901.17 | 574.917 | 757.621 | 665.007 |
| Total | 8104.795 | 10816.15 | 6769.232 | 5952.998 | 4496.664 | 5694.651 | 5560.486 |
| % Lake Trout | 0.120004 | 0.093075 | 0.181906 | 0.230522 | 0.288421 | 0.245384 | 0.244747 |

| FIGURE 4. | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| Walleye | 291.279 | 359.151 | 302.12 | 293.0571 | 345.478 | 254.376 | 243.479 |
| Commercial Y. Perch | 50.789 | 59.672 | 77.484 | 46.884 | 55.151 | 36.961 | 52.01 |
| Sport Yellow Perch | 291.486 | 184.629 | 270.35 | 157.84 | 148.126 | 107.57 | 211.076 |
| Bass, Pike & Panfish | 69.33 | 64.348 | 75.742 | 45.6 | 104.156 | 138.063 | 79.909 |
| Total | 702.884 | 667.8 | 725.696 | 543.3811 | 652.911 | 536.97 | 586.474 |

| FIGURE 5. | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| Lake Whitefish | 5282.207 | 5367.268 | 3890.744 | 3594.493 | 3315.897 | 3099.86 | 2927.267 |
| Menominee | 11.088 | 4.809 | 2.704 | 4.161 | 5.53 | 4.317 | 5.315 |
| Suckers | 3.321 | 3.738 | 8.6294 | 15.1144 | 18.405 | 22.719 | 17.82 |
| Bloaters | 48.358 | 24.291 | 19.535 | 33.317 | 71.917 | 54.618 | 14.867 |
| Rainbow Smelt | 270.524 | 32.004 | 1.947 | 0.013 | 0.515 | 0.11 | 0.096 |
| Alewives | 0.996 | 42.565 | 5.948 | 0.37 | 7.572 | 3.741 | 0.23 |
| Yellow Perch | 343.019 | 245.149 | 348.728 | 205.376 | 203.802 | 145.276 | 263.455 |
| Total | 5959.513 | 5719.824 | 4278.235 | 3852.844 | 3623.638 | 3330.641 | 3229.05 |

## Summary Of Lakewide Harvest For All Agencies In 1000's Of Pounds; This Includes Commercial, Sport, Weir, Assessment And Incidental Catch, (X 1,000 Pounds) -- 1 of 3

| SPECIES | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| chinook salmon | 10335.76 | 10312.38 | 8994.268 | 5116.938 | 4351.454 | 2977.711 | 2822.937 | 2059.618 | 1842.279 | 1762.109 | 2627.977 | 3353.066 | 2859.061 |
| coho salmon | 2564.587 | 1515.623 | 1696.118 | 1167.456 | 1664.531 | 1101.644 | 676.445 | 1018.48 | 1229.13 | 1003.687 | 826.997 | 1269.251 | 1295.416 |
| pink salmon | 2.4 | 0.1 | 6.5 | 0 | 2 | 0 | 0.1 | 0 | 0.2 | 0 | 0 | 0 | 0 |
| lake trout | 2570.738 | 2461.434 | 2427.063 | 2382.343 | 2512.094 | 2084.818 | 2057.36 | 1542.95 | 1775.482 | 1875.4 | 2302.307 | 1667.49 | 1785.474 |
| brook trout | 8.9 | 9.681 | 2.944 | 7.029 | 4.061 | 9.551 | 5.601 | 16.08 | 5.306 | 9.62 | 2.385 | 0.732 | 0.669 |
| brown trout | 629.498 | 740.519 | 664.47 | 430.281 | 413.378 | 366.829 | 452.44 | 321.987 | 444.134 | 510.368 | 381.538 | 372.338 | 473.206 |
| rainbow trout | 548.295 | 512.3 | 788.187 | 801.528 | 971.126 | 757.881 | 991.562 | 1112.673 | 1168.025 | 1115.302 | 1037.888 | 996.283 | 1044.925 |
| walleye | 147.496 | 163.105 | 114.945 | 170.239 | 137.712 | 112.679 | 143.926 | 89.544 | 138.563 | 234.704 | 246.427 | 274.482 | 139.144 |
| yellow perch | 2952.504 | 4028.077 | 5265.372 | 4568.133 | 2650.749 | 3038.772 | 3886.516 | 3920.583 | 4244.877 | 2899.722 | 2354.485 | 1458.99 | 416.586 |
| smb, musky, northern | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pike, and panfish | 119.1 | 112.7 | 181.9 | 20.343 | 61.422 | 49.864 | 102.788 | 93.145 | 64.891 | 74.827 | 61.747 | 87.069 | 90.805 |
| burbot | 49.4 | 96.5 | 69.3 | 141.6 | 109.7 | 71.7 | 103.4 | 120.2 | 52.25 | 84.22 | 54.4 | 31.52 | 38.8 |
| lake whitefish | 7802.4 | 7756.7 | 8732.1 | 8023.8 | 8189.5 | 7695.2 | 5822.3 | 7248.1 | 7199.1 | 7062.752 | 7609.864 | 8063.126 | 7447.29 |
| menominee | 284 | 366 | 329.4 | 260.5 | 200.8 | 254.8 | 147.4 | 223.6 | 253.9 | 196.1 | 118.4 | 184.4 | 183.303 |
| sturgeon | 0 | 0.437 | 0.882 | 0.836 | 0.73 | 0.686 | 1.186 | 1.784 | 1.414 | 1.071 | 1.883 | 1.371 | 1.552 |
| suckers | 905.8 | 859.1 | 1313.4 | 744.5 | 2773.1 | 416.8 | 983.3 | 1599.5 | 292.3 | 973.532 | 621.25 | 774.91 | 505.93 |
| alewives | 16802.4 | 8539.4 | 8743.9 | 7268.5 | 7579.9 | 3934.9 | 76.6 | 40.9 | 3.5 | 9.38 | 101.757 | 1.16 | 5.5 |
| bloaters | 6524.6 | 7919.4 | 5987.1 | 6138.7 | 8360.7 | 10342.3 | 3885.7 | 3630.2 | 4971.2 | 4631.98 | 3890.64 | 2567.71 | 3030.94 |
| lake herring | 2.9 | 10.9 | 25.4 | 11.8 | 12.8 | 14.8 | 0.1 | 1.6 | 0.2 | 0.1 | 0.1 | 0 | 0.01 |
| rainbow smelt | 4028.4 | 5421.1 | 3876.1 | 3847.6 | 4070.3 | 4017.6 | 3246.6 | 3845 | 2491.7 | 2049.661 | 1422.35 | 889.31 | 663.44 |
| TOTAL | 56545.1 | 50825.45 | 49219.35 | 41102.13 | 44066.06 | 37248.54 | 25406.26 | 26885.94 | 26178.45 | 24494.54 | 23662.4 | 21993.21 | 19982.05 |

## 2 of 3

| SPECIES | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| chinook salmon | 3038.005 | 4008.256 | 4473.565 | 5252.121 | 7359.653 | 6886.199 | 9186.923 | 8273.101 | 9142.229 | 8367.931 | 5622.706 | 5192.508 | 4921.566 |
| coho salmon | 895.077 | 1582.163 | 2155.828 | 1509.109 | 1835.275 | 1012.308 | 952.387 | 423.76 | 595.326 | 985.842 | 466.296 | 784.87 | 570.662 |
| pink salmon | 0 | 0 | 0 | 0.05 | 0.041 | 0 | 0.01 | 0 | 0 | 0 | 0 | 0 | 0 |
| lake trout | 2666.321 | 1987.835 | 1518.253 | 1436.249 | 1010.683 | 633.752 | 523.389 | 533.263 | 447.684 | 581.214 | 990.346 | 771.485 | 800.803 |
| brook trout | 0.667 | 0.648 | 0.633 | 1.163 | 0.411 | 0.5 | 0 | 0 | 0.051 | 0.1 | 0 | 0 | 0 |
| brown trout | 317.836 | 407.701 | 513.562 | 330.12 | 392.858 | 222.207 | 183.797 | 260.806 | 158.108 | 231.861 | 176.22 | 146.06 | 155.39 |
| rainbow trout | 1353.609 | 1161.788 | 928.576 | 1167.748 | 1173.176 | 711.085 | 456.905 | 679.921 | 561.825 | 656.847 | 420.75 | 596.31 | 515.75 |
| walleye | 121.649 | 125.465 | 158.091 | 152.546 | 181.167 | 162.272 | 164.94 | 101.064 | 111.14 | 257.115 | 286.646 | 311.946 | 188.319 |
| yellow perch | 484.249 | 680.803 | 437.909 | 460.711 | 421.802 | 526.103 | 513.301 | 591.831 | 802.854 | 546.654 | 495.391 | 472.712 | 454.202 |
| smb, musky, northern | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pike, and panfish | 65.145 | 48.045 | 41.208 | 44.768 | 56.235 | 92.779 | 65.668 | 56.05 | 67.582 | 92.67 | 61.24 | 35.92 | 42.49 |
| burbot | 47.893 | 33.601 | 15.046 | 18.674 | 13.645 | 20.875 | 11.728 | 14.682 | 31.283 | 11.533 | 11.887 | 12.811 | 12.541 |
| lake whitefish | 7205.642 | 6793.035 | 4816.243 | 4745.976 | 3882.623 | 3909.841 | 4022.944 | 4215.897 | 5037.782 | 4660.22 | 6575.914 | 5945.74 | 5686.741 |
| menominee | 135.347 | 85.75 | 27.154 | 12.515 | 8.651 | 6.715 | 21.093 | 12.702 | 1.36 | 2.21 | 7.654 | 9.286 | 6.881 |
| sturgeon | 2.031 | 3.523 | 0 | 4.322 | 0 | 6.038 | 0.151 | 4.3 | 0.03 | 0.01 | 0.03 | 0 | 0.02 |
| suckers | 514.9876 | 47.899 | 8.962 | 17.711 | 7.111 | 125.931 | 3.481 | 29.414 | 6.769 | 4.574 | 4.209 | 2.681 | 6.239 |
| alewives | 92.903 | 16.857 | 48.904 | 109.097 | 200.129 | 97.6 | 63.81 | 44.262 | 28.774 | 20.321 | 62.489 | 6.487 | 17.356 |
| bloaters | 2817.428 | 1792.945 | 1335.534 | 1226.781 | 1701.834 | 1626.466 | 1385.654 | 1531.916 | 986.635 | 583.809 | 304.347 | 246.756 | 137.779 |
| lake herring | 0.05 | 0.92 | 0.22 | 0.11 | 0.394 | 0.152 | 0.033 | 0.1 | 0 | 0.445 | 15.418 | 1.025 | 1.397 |
| rainbow smelt | 701.48 | 1336.399 | 387.918 | 251.244 | 452.632 | 184.766 | 408.929 | 676.416 | 836.38 | 428.76 | 179.28 | 44.745 | 325.034 |
| TOTAL | 20460.32 | 20113.63 | 16867.61 | 16741.01 | 18698.32 | 16225.59 | 17965.14 | 17449.49 | 18815.81 | 17432.12 | 15680.82 | 14581.34 | 13843.17 |

## 3 of 3

| SPECIES | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| chinook salmon | 4835.711 | 7818.958 | 3525.012 | 2954.228 | 2037.314 | 2339.382 | 2035.075 |
| coho salmon | 1405.332 | 925.7438 | 1220.322 | 530.56 | 441.2033 | 1025.979 | 1341.957 |
| pink salmon | 0 | 0 | 0 | 0 | 0.032 | 0 | 0.108 |
| lake trout | 972.607 | 1006.715 | 1231.361 | 1372.295 | 1296.934 | 1397.374 | 1360.915 |
| brook trout | 0 | 0 | 1.2 | 0 | 0 | 0 | 0 |
| brown trout | 77.0645 | 143.001 | 147.055 | 194.745 | 146.296 | 174.295 | 157.532 |
| rainbow trout | 814.08 | 921.736 | 645.482 | 901.17 | 574.917 | 757.621 | 665.007 |
| walleye | 291.279 | 359.151 | 302.12 | 293.0571 | 345.478 | 254.376 | 243.479 |
| yellow perch | 343.019 | 245.149 | 348.728 | 205.376 | 203.802 | 145.276 | 263.455 |
| smb, musky, northern | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pike, and panfish | 69.33 | 64.348 | 75.742 | 45.6 | 104.156 | 138.063 | 79.909 |
| burbot | 19.054 | 13.131 | 10.59 | 9.075 | 10.209 | 10.32 | 11.62 |
| lake whitefish | 5282.207 | 5367.268 | 3890.744 | 3594.493 | 3315.897 | 3099.86 | 2927.267 |
| menominee | 11.088 | 4.809 | 2.704 | 4.161 | 5.53 | 4.317 | 5.315 |
| sturgeon | 0.02 | 0.004 | 0 | 0 | 0 | 0 | 0 |
| suckers | 3.321 | 3.738 | 8.6294 | 15.1144 | 18.405 | 22.719 | 17.82 |
| alewives | 0.996 | 42.565 | 5.948 | 0.37 | 7.572 | 3.741 | 0.23 |
| bloaters | 48.358 | 24.291 | 19.535 | 33.317 | 71.917 | 54.618 | 14.867 |
| lake herring | 2.45 | 0.689 | 14.789 | 5.433 | 22.21 | 34.455 | 49.865 |
| rainbow smelt | 270.524 | 32.004 | 1.947 | 0.013 | 0.515 | 0.11 | 0.096 |
| TOTAL | 14446.44 | 16973.3 | 11451.91 | 10159.01 | 8602.387 | 9462.506 | 9174.517 |

## Commercial Harvest for all Agencies In 1000's Of Pounds; This Includes Illinois, Indiana, Michigan, Tribal Fisheries, And Wisconsin, (X 1,000 Pounds)-- 1 of 3

| SPECIES | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| chinook salmon | 11.6 | 18.7 | 142.1 | 512.7 | 535.5 | 442.1 | 20.6 | 9 | 4.8 | 39.9 | 82.4 | 46.6 | 17.7 |
| coho salmon | 0.7 | 4 | 3 | 29.3 | 31.1 | 23.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pink salmon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| lake trout | 894 | 664.2 | 576.3 | 627 | 680.9 | 751.8 | 303.9 | 382.5 | 411.8 | 616.8 | 626.8 | 748.3 | 694.7 |
| brook trout | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| brown trout | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| rainbow trout | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| walleye | 11.5 | 12.5 | 6.6 | 7.7 | 19.7 | 6.1 | 1.8 | 1.7 | 3.8 | 3.7 | 1.1 | 3 | 8.5 |
| yellow perch | 1795.2 | 2483.4 | 2634.9 | 2596.8 | 1379.6 | 1719.3 | 2348.8 | 2490.1 | 2513 | 1865.5 | 877.03 | 517.04 | 136.196 |
| smb, musky, northern | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pike, and panfish | 11 | 6 | 6.8 | 5.7 | 1.2 | 0.3 | 1 | 0.7 | 0 | 0 | 0 | 0 | 0 |
| burbot | 48.9 | 94 | 65.1 | 137.2 | 105 | 68.9 | 98.2 | 117.7 | 50.7 | 83.1 | 53.6 | 27.5 | 36.4 |
| lake whitefish | 7520.7 | 7587.2 | 8682 | 7996.1 | 8158.6 | 7671.4 | 5795.4 | 7235.2 | 7189.6 | 7045.1 | 7596.8 | 8033.7 | 7414.28 |
| menominee | 258.2 | 322.5 | 298.9 | 254.7 | 191.3 | 249.3 | 144.4 | 222.3 | 245.6 | 195.4 | 118.1 | 184.3 | 182.2 |
| sturgeon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| suckers | 903.4 | 858.4 | 1312.7 | 743.7 | 2772.2 | 415.7 | 968.9 | 1598.2 | 287.3 | 972.9 | 621.1 | 774.6 | 505 |
| alewives | 16801.5 | 8536.2 | 8739.1 | 7265.2 | 7577.3 | 3933 | 68.6 | 38.3 | 2.1 | 8.7 | 0 | 0.15 | 3.8 |
| bloaters | 6507.5 | 7906.6 | 5979.6 | 6129 | 8342.9 | 10328.4 | 3861 | 3602.1 | 4956.6 | 4627.3 | 3708.1 | 2555.4 | 3017.9 |
| lake herring | 2.9 | 10.9 | 25.4 | 11.8 | 12.8 | 14.8 | 0.1 | 1.6 | 0.1 | 0.1 | 0.1 | 0 | 0 |
| rainbow smelt | 4026.7 | 5307.5 | 3799.8 | 3800.5 | 4069.1 | 4017 | 3244.9 | 3843.9 | 2490.7 | 2049.5 | 1422.3 | 889.2 | 663.22 |
| TOTAL | 38793.8 | 33812.1 | 32272.3 | 30117.4 | 33877.2 | 29641.2 | 16857.6 | 19373 | 18156.1 | 17508 | 15561.43 | 13779.79 | 12679.9 |

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| SPECIES | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| chinook salmon | 27.432 | 8.25 | 34.78 | 29.11 | 15.747 | 2.949 | 1.307 | 4.036 | 5.623 | 3.893 | 137.963 | 3.073 | 2.382 |
| coho salmon | 0 | 0 | 0 | 0 | 0 | 0 | 0.005 | 0 | 0.007 | 0 | 2.32 | 0 | 0 |
| pink salmon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| lake trout | 902.723 | 979.39 | 622.29 | 490.52 | 290.329 | 182.378 | 169.916 | 198.288 | 236.563 | 270.301 | 651.175 | 391.213 | 425.699 |
| brook trout | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| brown trout | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.008 | 0 | 0 | 0 |
| rainbow trout | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| walleye | 1.55 | 1.33 | 12.72 | 12.86 | 15.235 | 9.141 | 21.968 | 17.851 | 2.536 | 20.223 | 62.157 | 11.117 | 9.447 |
| yellow perch | 211.052 | 176.65 | 57.98 | 38.99 | 19.99 | 19.349 | 17.981 | 23.575 | 90.695 | 65.296 | 69.109 | 62.276 | 75.994 |
| smb, musky, northern | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pike, and panfish | 0 | 0 | 0 | 0 | 0 | 0.01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| burbot | 47.529 | 32.39 | 12.8 | 17 | 11.95 | 19.7 | 10.84 | 13.634 | 13.316 | 10.8 | 11.075 | 12.2 | 12 |
| lake whitefish | 7196.453 | 6782.548 | 4789.295 | 4703.814 | 3869.955 | 3893.483 | 4010.202 | 4192.007 | 4979.796 | 4642.753 | 6483.964 | 5815.437 | 5558.974 |
| menominee | 134.807 | 85.57 | 26.51 | 10.526 | 8.065 | 6.116 | 20.616 | 11.753 | 0.989 | 1.919 | 7.259 | 8.933 | 6.687 |
| sturgeon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| suckers | 514.559 | 47.252 | 7.845 | 8.558 | 2.23 | 125.1 | 2.401 | 24.503 | 0.687 | 0.208 | 2.912 | 1.918 | 4.999 |
| alewives | 89.9 | 15 | 47.4 | 106 | 197.4 | 96 | 62.5 | 42.9 | 28.1 | 0 | 30.825 | 5.4 | 16.1 |
| bloaters | 2814.035 | 1790.858 | 1334.278 | 1225.153 | 1700.122 | 1625.785 | 1384.801 | 1530.865 | 986.227 | 499.25 | 302.639 | 246.49 | 137.276 |
| lake herring | 0.048 | 0.92 | 0.22 | 0.11 | 0.394 | 0.152 | 0.032 | 0 | 0 | 0.435 | 15.108 | 0.815 | 0.047 |
| rainbow smelt | 701.359 | 1336.225 | 387.819 | 251.181 | 452.5 | 184.6 | 408.611 | 675.9 | 836.27 | 428.7 | 179.22 | 44.7 | 323 |
| TOTAL | 12641.45 | 11256.38 | 7333.937 | 6893.822 | 6583.917 | 6164.763 | 6111.18 | 6735.312 | 7180.809 | 5943.786 | 7955.726 | 6603.572 | 6572.605 |

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| SPECIES | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| chinook salmon | 6.662 | 3.427 | 3.177 | 0.598 | 0.286 | 3.06 | 7.37 |
| coho salmon | 0.398 | 0 | 0.093 | 0 | 0.004 | 0.004 | 0.06 |
| pink salmon | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| lake trout | 487.775 | 506.513 | 657.808 | 668.876 | 443.102 | 551.3 | 549.06 |
| brook trout | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| brown trout | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| rainbow trout | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| walleye | 9.274 | 9.148 | 10.418 | 7.307 | 5.41 | 7.14 | 3.46 |
| yellow perch | 50.789 | 59.672 | 77.484 | 46.884 | 55.151 | 36.961 | 52.01 |
| smb, musky, northern | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pike, and panfish | 0 | 0 | 0.05 | 0 | 0.035 | 0 | 0.04 |
| burbot | 18.27 | 12.032 | 9.448 | 8.418 | 0.258 | 0.14 | 0.14 |
| lake whitefish | 5007.474 | 5274.197 | 3714.599 | 3418.841 | 3078.979 | 2880.884 | 2681.413 |
| menominee | 9.664 | 4.327 | 2.336 | 3.769 | 5.04 | 3.959 | 5.11 |
| sturgeon | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| suckers | 2.242 | 2.793 | 3.5414 | 13.3594 | 15.375 | 21.3 | 16.63 |
| alewives | 0.5 | 42 | 5.3 | 0 | 0 | 0 | 0 |
| bloaters | 48.194 | 24.272 | 19.352 | 33.294 | 71.11 | 53.976 | 14.111 |
| lake herring | 0.04 | 0.528 | 2.227 | 0.863 | 6.894 | 4.72 | 4.97 |
| rainbow smelt | 266.5 | 32 | 1.941 | 0.008 | 0.5 | 0 | 0 |
| TOTAL | 5907.782 | 5970.909 | 4507.774 | 4202.217 | 3682.144 | 3563.444 | 3334.374 |

## Sport Harvest for all State Agencies In 1000's Of Pounds; This Includes Illinois, Indiana, Michigan and Wisconsin, (X 1,000 Pounds)-- 1 of 3

| SPECIES | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| chinook salmon | 9539.863 | 9731.578 | 8003.968 | 4098.538 | 3378.054 | 2068.011 | 2314.737 | 1587.318 | 1414.179 | 1412.814 | 2148.767 | 2769.766 | 2404.061 |
| coho salmon | 2029.587 | 1200.923 | 1294.818 | 949.156 | 1284.431 | 850.744 | 445.745 | 759.773 | 844.33 | 771.257 | 501.043 | 913.751 | 959.226 |
| pink salmon | 2.4 | 0.1 | 6.5 | 0 | 2 | 0 | 0.1 | 0 | 0.2 | 0 | 0 | 0 | 0 |
| lake trout | 1362.438 | 1318.034 | 1432.163 | 1431.243 | 1640.494 | 1177.718 | 1673.36 | 999.45 | 1161.082 | 1061.26 | 1537.489 | 772.53 | 983.374 |
| brook trout | 7.9 | 8.881 | 2.744 | 6.929 | 3.861 | 9.051 | 5.401 | 15.78 | 3.006 | 8.214 | 2.385 | 0.732 | 0.669 |
| brown trout | 615.398 | 711.919 | 646.67 | 420.281 | 403.478 | 344.529 | 436.74 | 307.487 | 424.134 | 507.558 | 377.275 | 365.738 | 466.706 |
| rainbow trout | 537.695 | 499.1 | 772.687 | 795.228 | 965.326 | 754.081 | 984.262 | 1103.273 | 1152.325 | 1099.182 | 1024.154 | 981.283 | 1029.745 |
| walleye | 128.296 | 146.605 | 104.245 | 161.639 | 111.112 | 106.079 | 142.026 | 87.844 | 134.763 | 231.004 | 245.327 | 271.382 | 130.524 |
| yellow perch | 1151.504 | 1538.677 | 2624.872 | 1967.633 | 1266.549 | 1315.172 | 1533.716 | 1426.183 | 1728.177 | 1033.422 | 1476.855 | 938.086 | 277.95 |
| smb, musky, northern | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pike, and panfish | 107.8 | 106.4 | 174.8 | 14.543 | 60.122 | 49.464 | 101.788 | 92.445 | 64.891 | 74.827 | 61.747 | 87.069 | 90.795 |
| burbot | 0 | 0 | 0 | 0 | 0.3 | 0.2 | 0.7 | 0 | 0.05 | 0 | 0 | 0 | 0 |
| lake whitefish | 278.6 | 167 | 48 | 25.9 | 29 | 23 | 25.8 | 11.9 | 7.4 | 10.8 | 10.184 | 25.176 | 31.61 |
| menominee | 25 | 42.7 | 29.6 | 5.1 | 9 | 5 | 2 | 0 | 7.1 | 0 | 0 | 0 | 0 |
| sturgeon | 0 | 0.437 | 0.882 | 0.836 | 0.73 | 0.686 | 1.186 | 1.784 | 1.414 | 1.071 | 1.883 | 1.371 | 1.552 |
| suckers | 0 | 0 | 0 | 0 | 0.2 | 0.3 | 12.7 | 0 | 3.4 | 0 | 0 | 0 | 0.3 |
| alewives | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| bloaters | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| lake herring | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |
| rainbow smelt | 1 | 112.3 | 74.7 | 46.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 15787.48 | 15584.65 | 15216.65 | 9923.226 | 9154.657 | 6704.035 | 7680.261 | 6393.237 | 6946.551 | 6211.409 | 7387.109 | 7126.884 | 6376.512 |

## 2 of 3

| SPECIES | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| chinook salmon | 2738.134 | 3520.723 | 4055.161 | 4618.725 | 6591.548 | 6306.87 | 8503.02 | 7820.87 | 8567.94 | 8015.651 | 5227.47 | 4909.8 | 4751.05 |
| coho salmon | 615.953 | 1191.972 | 1397.491 | 1003.436 | 1353.335 | 875.344 | 858.2 | 350.15 | 559.21 | 818.272 | 409.61 | 680.2 | 512.71 |
| pink salmon | 0 | 0 | 0 | 0.05 | 0.041 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| lake trout | 1614.825 | 796.891 | 667.415 | 752.582 | 600.404 | 328.28 | 239.71 | 233.82 | 195.29 | 295.847 | 322.59 | 362.77 | 354.41 |
| brook trout | 0.667 | 0.648 | 0.633 | 1.163 | 0.411 | 0.5 | 0 | 0 | 0.051 | 0.1 | 0 | 0 | 0 |
| brown trout | 313.331 | 407.158 | 511.898 | 329.143 | 391.308 | 221.78 | 183.35 | 253.87 | 157.42 | 231.486 | 176.1 | 145.86 | 155.05 |
| rainbow trout | 1347.189 | 1152.596 | 922.039 | 1157.826 | 1166.406 | 702.55 | 450.2 | 674.42 | 556.49 | 649.547 | 414.89 | 589.81 | 512.56 |
| walleye | 120.096 | 124.055 | 145.355 | 139.6 | 165.697 | 152.87 | 142.845 | 83.1 | 108.36 | 236.599 | 224.42 | 300.4 | 178.5 |
| yellow perch | 270.54 | 492.937 | 375.741 | 415.375 | 399.814 | 503.87 | 492.97 | 563.92 | 708.86 | 478.981 | 424.29 | 408.51 | 376.47 |
| smb, musky, northern | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pike, and panfish | 65.145 | 48.045 | 41.128 | 44.768 | 56.215 | 92.71 | 65.56 | 55.95 | 67.58 | 92.58 | 61.08 | 35.7 | 42.05 |
| burbot | 0 | 0 | 1.362 | 0.5 | 0.3 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 |
| lake whitefish | 7.289 | 8.417 | 25.145 | 39.91 | 10.08 | 14 | 5.6 | 18.2 | 47.7 | 10 | 88.2 | 127.916 | 120.5 |
| menominee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| sturgeon | 2.031 | 3.523 | 0 | 4.322 | 0 | 5.903 | 0 | 4.1 | 0 | 0 | 0 | 0 | 0 |
| suckers | 0 | 0 | 0 | 8.5 | 4.3 | 0 | 0 | 3.1 | 4.421 | 3.637 | 0 | 0 | 0 |
| alewives | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| bloaters | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| lake herring | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.1 |
| rainbow smelt | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| TOTAL | 7095.2 | 7746.965 | 8143.368 | 8515.9 | 10739.96 | 9204.677 | 10941.46 | 10061.5 | 10990.32 | 10832.7 | 7348.65 | 7560.966 | 7006.4 |

## 3 of 3

| SPECIES | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| chinook salmon | 4299 | 7510.306 | 3190.229 | 2689.32 | 1997.106 | 2239.533 | 1870.182 |
| coho salmon | 1222.319 | 796.5398 | 1038.121 | 485.37 | 416.387 | 916.55 | 1126.527 |
| pink salmon | 0 | 0 | 0 | 0 | 0.032 | 0 | 0.108 |
| lake trout | 466.736 | 477.4982 | 556.306 | 683.24 | 824.79 | 811.536 | 778.924 |
| brook trout | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| brown trout | 76.75 | 142.423 | 146.65 | 194.43 | 145.793 | 173.265 | 156.542 |
| rainbow trout | 807.815 | 916.502 | 636.54 | 894.9 | 570.467 | 751.561 | 658.036 |
| walleye | 281.4 | 349.622 | 291.03 | 285.55 | 339.587 | 246.214 | 239.42 |
| yellow perch | 291.486 | 184.629 | 270.35 | 157.84 | 148.126 | 107.57 | 211.076 |
| smb, musky, northern | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pike, and panfish | 69.085 | 64.143 | 75.61 | 45.29 | 103.799 | 137.586 | 79.511 |
| burbot | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| lake whitefish | 267.6 | 88.507 | 170.321 | 169.11 | 230.268 | 210.411 | 240.94 |
| menominee | 0 | 0 | 0 | 0 | 0.101 | 0.05 | 0 |
| sturgeon | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| suckers | 0 | 0 | 3.89 | 0 | 0 | 0 | 0 |
| alewives | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| bloaters | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| lake herring | 2 | 0 | 12.227 | 4.35 | 15.077 | 29.585 | 44.745 |
| rainbow smelt | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 7788.191 | 10530.17 | 6391.274 | 5609.4 | 4791.533 | 5623.861 | 5406.011 |

✧

# Status of Yellow Perch in Lake Michigan 2016-2017

Yellow perch assessment activity is occurring throughout the lake, with numerous agency and university personnel sampling perch utilizing various gear types in different seasons.

### Abundance of adult yellow perch

The data assembled were collected with either gill nets or bottom trawls (**Fig 1 to 6**). Generally, this information shows continuing low levels of adult yellow perch abundance in Lake Michigan for the past four to five years. For example, gill net catches are well below 100 fish per net night in all reported assessments. Data from common gear types (graded-mesh gill net) fished in all jurisdictions are presented in **Fig 6;** these index data show that current abundance remains well below the historically observed abundance of the late 1980s and early 1990s

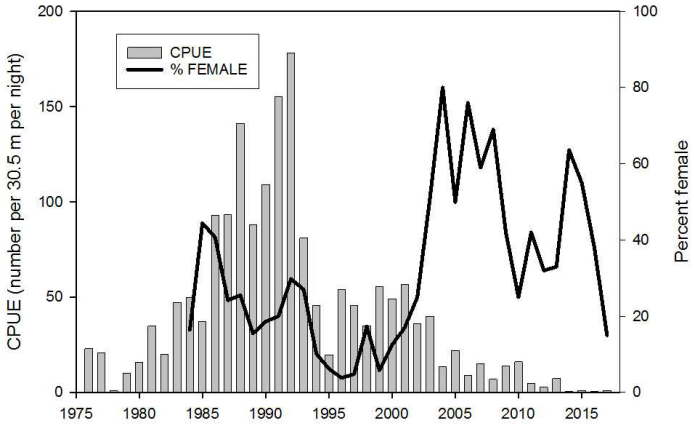


**Fig 1-Adult yellow perch abundance and percent female from Illinois waters of Lake Michigan. 1976– 2017.**

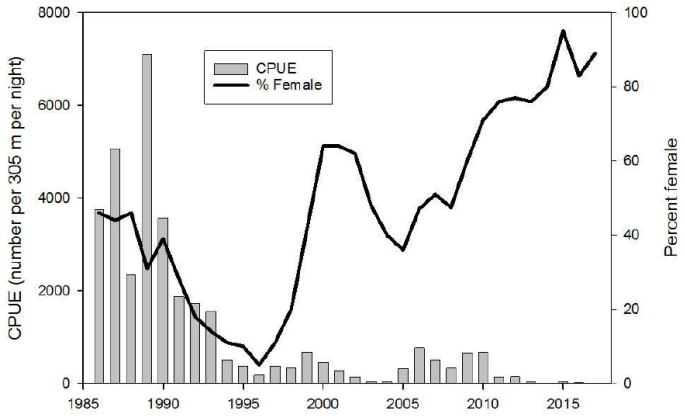


**Fig. 2- Adult yellow perch gill net CPUE and percent female from Wisconsin waters of Lake Michigan, 1986 to 2017**

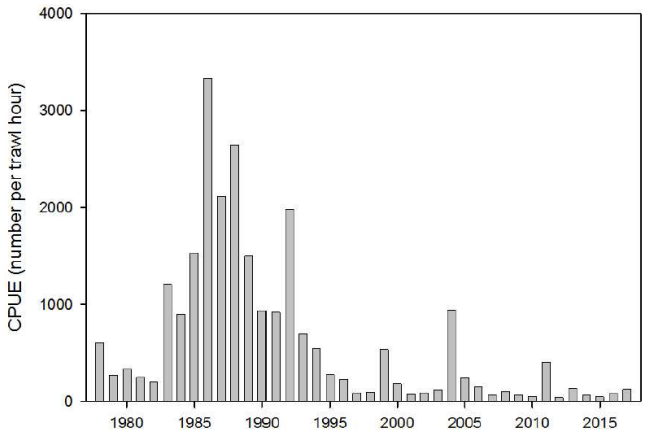


**Fig.3-Adult yellow perch trawl CPUE from Wisconsin waters of Green Bay, Lake Michigan, 1978 to 2017**

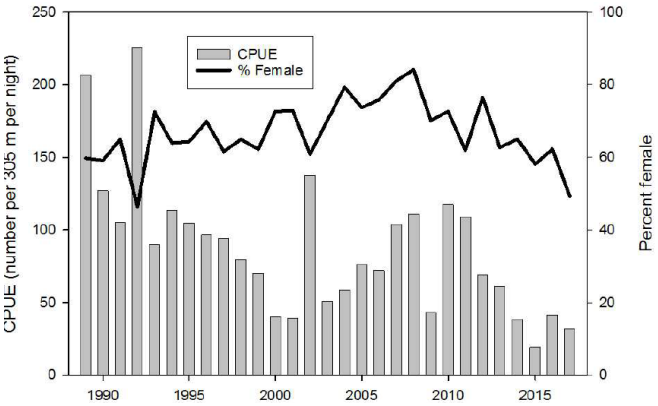


**Fig. 4-Adult yellow perch gill net CPUE and percent female from Michigan waters of Bays de Noc, 1989 to 2017**

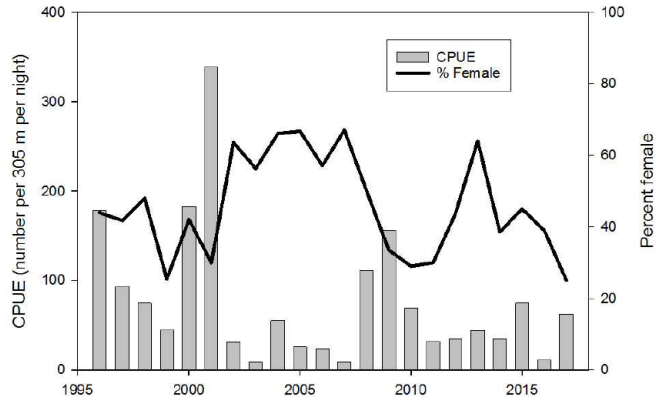


**Fig. 5-Adult yellow perch gill net CPUE and percent females from Michigan waters of Lake Michigan, 1996 to 2017**

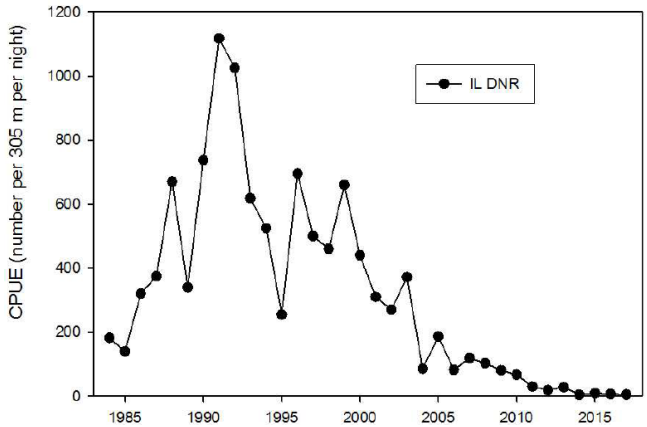


**Fig. 6-Standard mesh (51, 64, 76-mm stretched mesh) gill net CPUE of adult yellow perch from Illinois waters, 1984 to 2017**

## Population Age Structure

The yellow perch adult population age structure was determined by evaluating otoliths or spines. The 2015 year class comprised a significant part (50-80%; **Figs 7 and 8**) of catches in Illinois, and in Wisconsin waters of Green Bay. Older fish were predominant in catches from Michigan waters, with greater than 50% of fish captured in 2016 from the 2010 and 2012 year classes, **(Figs 9-10**). In western Lake Michigan (WDNR, Milwaukee), samples sizes from 2016 and 2017 collections were too low to adequately assess year class strength.

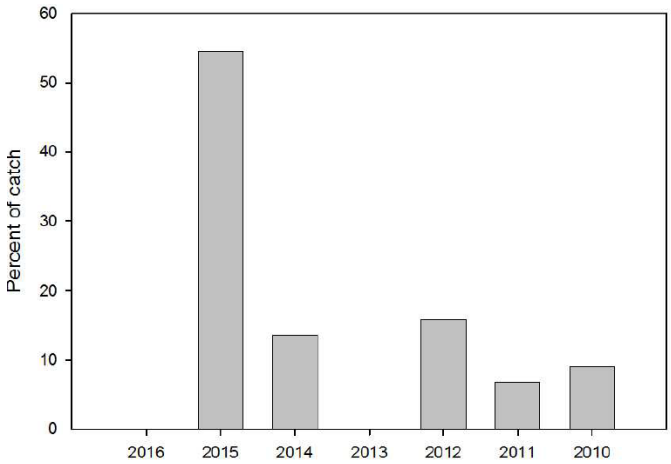


**Fig. 7-Yellow perch age structure from gill net assessment in Illinois waters of Lake Michigan, 2017**

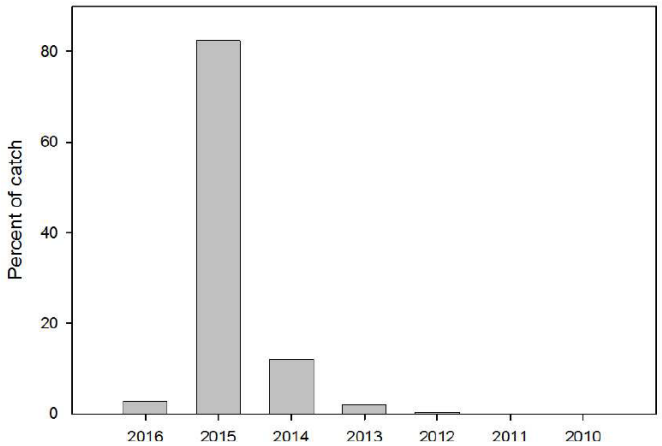


**Fig. 8-Yellow perch age structure from commercial harvest in Wisconsin waters of Green Bay, Lake Michigan, 2017**

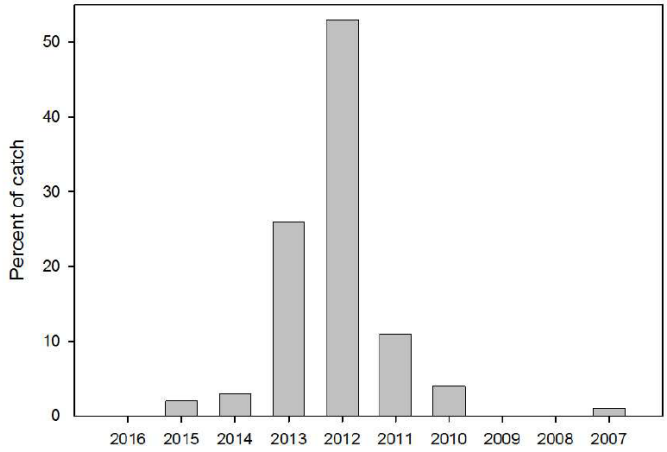


**Fig. 9-Yellow perch age structure from gill net assessment in Michigan waters of Bays de Noc, Lake Michigan, 2016**

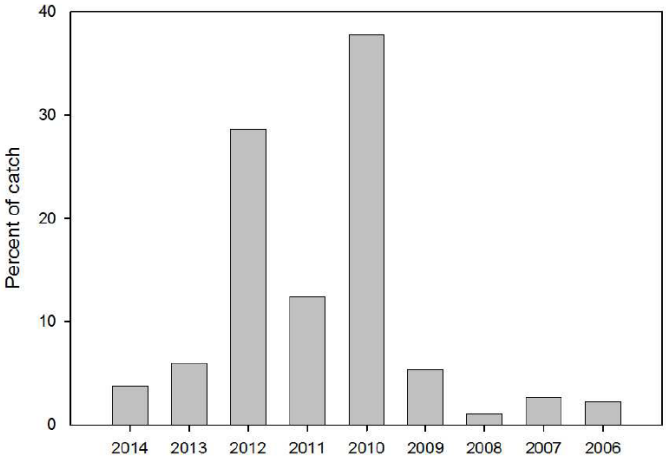


**Fig. 10-Yellow perch age structure from gill net assessment in Michigan waters of Lake Michigan, 2016**

## Estimates of juvenile recruitment

Having a reliable indicator of future inputs to an adult population is vital to understanding the dynamics of the fish population and helping predict changes in abundance. An early indicator of recruitment is most beneficial to managers. In Lake Michigan, indicators of yellow perch recruitment have traditionally been collected using bottom trawls or beach seines. Data collected using these traditional gears indicated minimal production of young-of-year yellow perch occurred in all areas of Lake Michigan in 2016 and 2017. Recent observations of lack of production of YOY yellow perch have been consistent around the lake; indices of YOY yellow perch production have been at low levels in nearly all jurisdictions since 2011 (with a couple of exceptions – Indiana and Illinois in 2015 – noted in the 2016 report).

The YPTG agreed to implement a lakewide summer "micromesh" gill net assessment (beginning in summer 2007) to standardize assessment of young-of-year yellow perch production, especially in areas where standard trawl and seine surveys cannot be implemented. Preliminary evaluation of five years of data from this assessment were included in the 2012 report; this survey is continuing, and additional data analyses are ongoing.

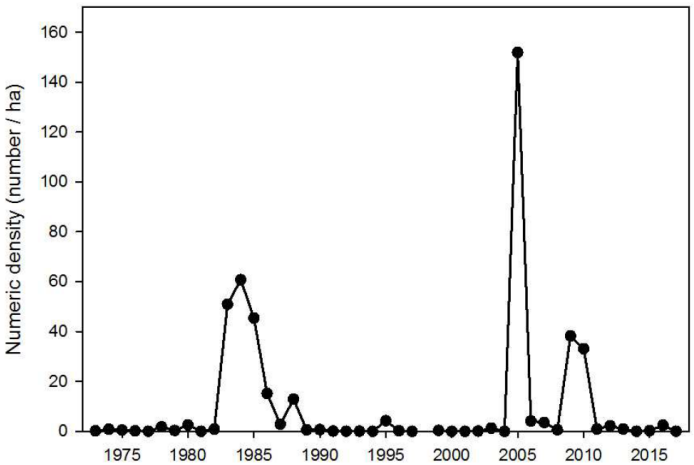


**Fig. 11-Density of age-0 yellow perch, lakewide, 1973 to 2017 (USGS, data from fall bottom trawl assessments)**

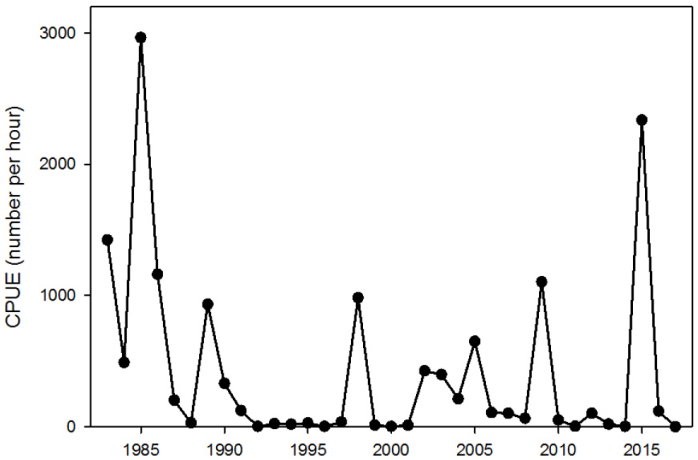


**Fig. 12-Age-0 yellow perch trawl CPUE from Indiana waters of Lake Michigan, from summer trawl assessments, 1983 to 2017**

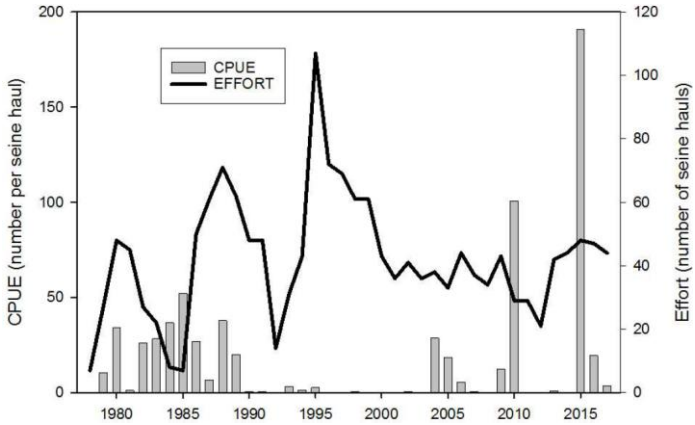


**Fig. 13-Age-0 yellow perch seine CPUE from Illinois waters of Lake Michigan, from summer beach seining, 1978 to 2017**

Abundance of 2015 Age-0 yellow perch in Illinois waters was substantially greater than in recent history.

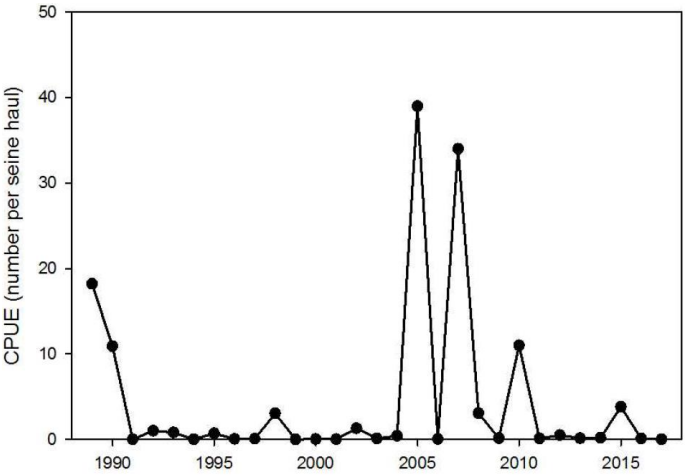


**Fig. 14-Age-0 yellow perch seine CPUE from Wisconsin waters of Lake Michigan, summer beach seine assessments, 1989 to 2017**

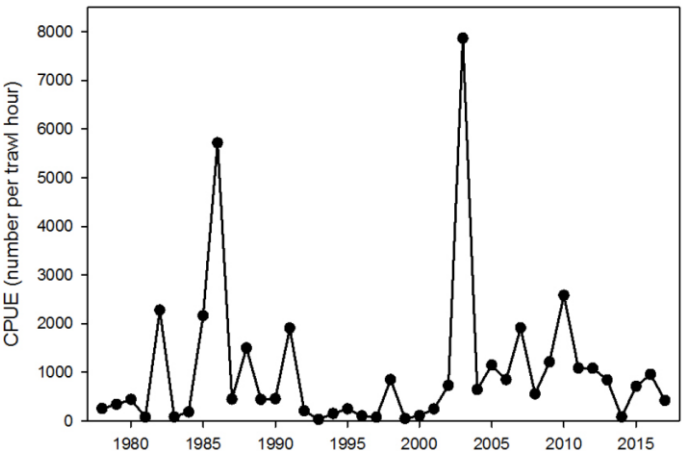


**Fig. 15-Age-0 yellow perch trawl CPUE from Wisconsin waters of Green Bay, from summer trawl assessments, 1978 to 2017**

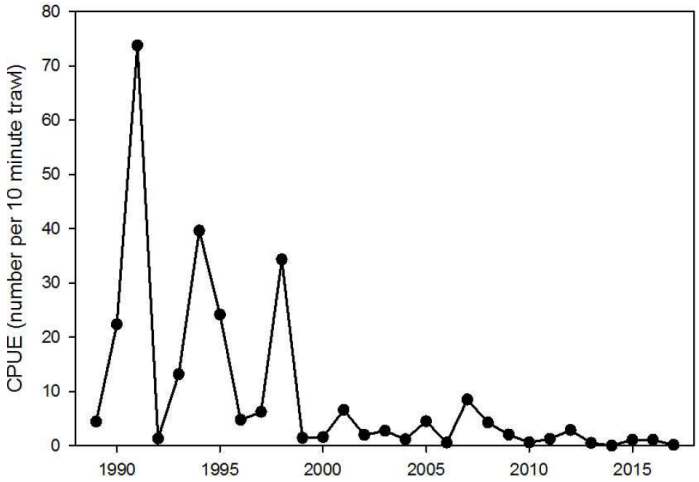


**Fig. 16-Age-0 yellow perch trawl CPUE from Michigan waters of Bays de Noc, summer bottom trawl data, 1989 to 2017**

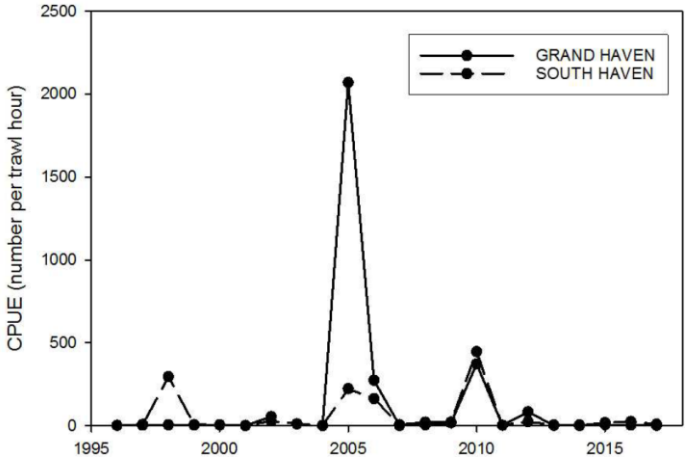


**Fig. 17-Age-0 yellow perch trawl CPUE from Michigan waters of Lake Michigan, bottom trawl data,1996 to 2017**

## 2018 Yellow Perch Regulations and Harvest Trends

Sportfishing regulations:

Illinois

- May 1 through June 15; closed to sportfishing for yellow perch
- Daily bag limit 15 fish

Indiana

- No closed season for yellow perch
- Daily bag limit 15 fish

Michigan

- No closed season for yellow perch
- Daily bag limit; 35 fish (south of the 45th parallel) / 50 fish (north of 45th parallel and Grand Traverse Bays)

Wisconsin (Lake Michigan)

- May 1 through June 15; closed to sportfishing for yellow perch
- Daily bag limit 5 fish

Wisconsin (Green Bay)

- March 16 through May 19; closed to sportfishing for yellow perch
- Daily bag limit 15 fish

Commercial regulations:

- Illinois perch fishery remained closed
- Indiana perch fishery remained closed
- Michigan does not allow a commercial harvest (outside of 1836 Treaty waters)
- Wisconsin perch fishery remained closed (outside of Green Bay, where quota for 2018 is 100,000 lbs)

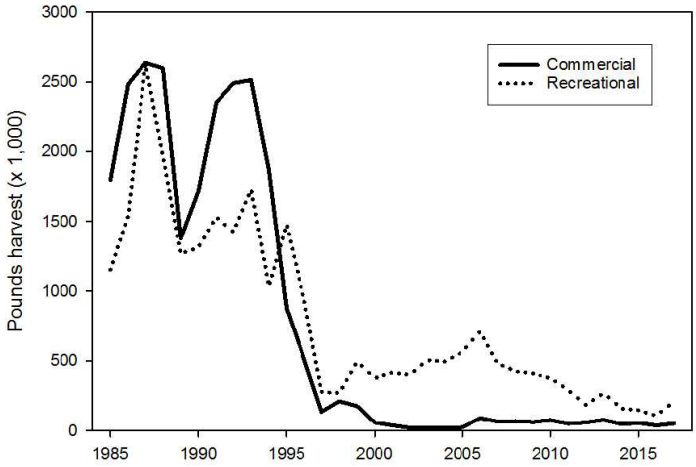


**Fig. 18-Lake Michigan harvest (lakewide) of yellow perch by commercial and recreational fisheries, 1985-2017. (All jurisdictions)** ✧

End Lake Michigan Part 1