

Illinois Department of Natural Resources
Division of Fisheries

Charter Boat Fishing in Lake Michigan: 2024 Illinois Reported Harvest

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Lake Michigan Program
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Executive Summary

Illinois charter boat operator permits were issued to 80 individuals in 2024. Most of the harvest (99%) and effort (99%) from charter fishing trips in Illinois waters of Lake Michigan was directed at salmon and trout. Illinois residents accounted for approximately 72% of the 12,031 sport anglers who fished on charter boats targeting salmon and trout in Illinois. Combined harvest by resident and non-resident anglers was 41,574 salmonids. Additionally, 27 charter anglers harvested 228 Yellow Perch during seven (7) non-salmonid charter fishing excursions. Coho Salmon (73%) comprised the greatest portion of charter boat angler harvest. Lake Trout (16%), Chinook Salmon (7%), Rainbow Trout (4%), Brown Trout (<1%), Pink Salmon (<1%) and Atlantic Salmon (<1%) constituted smaller percentages of the harvest. The percentage of Coho Salmon in the 2024 harvest was significantly higher than the long-term average (1979-2024 average 64%; range 43-83%). Total effort and harvest in 2024 increased compared to 2023. Additionally, the 2024 harvest rate for salmon and trout (71 fish per 100 angler-hours) was well above the long-term average (1979-2024) of 45 fish per 100 angler-hours and tied the second highest harvest rate in the time series, which occurred in 1997.

Introduction

Stocked salmonids are an integral part of the Lake Michigan fish community and the sport fishery. Pacific salmon and various trout species have been stocked in Lake Michigan since the late 1960s. Approximately 12 million salmonid fingerlings were annually stocked lakewide during 1976-2012; the current stocking target calls for approximately 10.3 million salmon and trout. Chinook Salmon comprised the greatest portion of salmonids stocked in Lake Michigan until 2005, after which stocked Chinook Salmon and Lake Trout numbers were similar. However, in 2023 Chinook Salmon stocking was increased and has surpassed the number of Lake Trout stocked. Lake Trout, which are native to Lake Michigan, also are stocked to meet criteria set forth by *A Stocking Strategy and Evaluation Objectives for the Rehabilitation of Lake Trout in Lake Michigan* and to achieve the Salmonine Objective of the Fish Community Objectives for Lake Michigan. Salmonid stocking in Illinois waters (Table 1) constitutes approximately 8% of the salmonids stocked lakewide.

The purposes for stocking these fish are to provide sport fishing opportunities for Illinois and non-resident anglers, re-establish self-sustaining Lake Trout populations, and enhance naturalized populations of other stocked salmon and trout. The expansion of the Welland Canal at the turn of the century provided a bypass of Niagara Falls, which previously acted as a natural barrier to aquatic invaders from the Atlantic Ocean. Parasitic Sea Lamprey gained access to Lake Michigan and wreaked havoc on native predator populations. Alewife, another fish native to the Atlantic Ocean that was first discovered in Lake Michigan during 1950, drastically altered the food web and negatively impacted native fishes. Without predatory controls, Alewife populations reached nuisance levels of abundance. The original introduction of Pacific salmon in the 1960s was intended to take advantage of the abundant Alewife population by creating a popular sport fishery, while helping to control this overabundant non-native prey fish.

Charter boat operators receive a fee to provide sport anglers access to offshore fishing opportunities for salmonids. A catch reporting system is mandated through Illinois statutes governing charter boat licensees that engage in such activities in Illinois waters (Fish and Aquatic Life Code of Illinois, 515 Section 5/10-135). This report summarizes the reported charter boat angler effort and harvest from the Illinois waters of Lake Michigan in 2024.

Methods

Lake Michigan Charter Boat Operator permits were issued to 80 individuals in 2024. All operators received standardized catch report forms (Appendix). Additionally, an equivalent electronic report form designed in the ArcGIS SURVEY123 program was successfully trialed with a subset of captains in 2024. Thus, we hope to get more permitted captains reporting via the electronic system in 2025. Data requested on the catch report included: date of fishing trip, jurisdictional grid fished, number of resident and non-resident sport anglers, number of fishing lines used, total number of hours fished (excluding running time), and number and species of harvested fish. State regulations require that charter boat operators submit these completed catch reports monthly March through November, even when no charter fishing trips occur within a given month.

Harvest and fishing effort data from 2,421 charter boat excursions in 2024 were summarized by season, month, and statistical grid, and trends in harvest and effort were compared to previous years. The 2024 harvest data reported fishing effort by 8,684 Illinois residents and 3,347 non-residents during 2,414 charter trips targeting salmonids in the Illinois waters of Lake Michigan. Additionally, a total of 15 Illinois residents and 12 non-residents were reported charter fishing for Yellow Perch during seven (7) excursions. Since the number of fishing lines per angler was not equivalent among trips, fishing effort was instead expressed as angler-hours and calculated by multiplying the total number of anglers by number of hours fished per trip. Seasonal harvest rate was calculated by dividing the total harvest of all salmonids by total effort for the season. Harvest rate for each statistical grid within Illinois waters (map in Appendix) was based on total number of salmonids harvested within the grid divided by the fishing effort reported within the same grid. All harvest rates for salmonids were then standardized to 100 angler-hours because harvest rates are typically less than one (1) fish per angler-hour.

Results and Discussion

Consistent with most years, the majority of salmonids harvested from Illinois waters of Lake Michigan were Coho Salmon (Figure 1). Coho Salmon accounted for 73% of the 2024 salmonid harvest and have comprised the greatest portion of the salmonid harvest since 1979 (64%; average 1979-2023). Lake Trout (16%), Chinook Salmon (7%), Rainbow Trout (4%), Brown Trout (<1%), Pink Salmon (<1%), and Atlantic Salmon (<1%) constituted smaller percentages of the

2024 charter fishing harvest. Harvest of all salmon and trout increased 38% compared to 2023. The number of Coho Salmon harvested increased by 56% and Chinook Salmon harvest increased 49% compared to last year. Rainbow Trout (+9%) and Brown Trout (+130%) harvest also increased, but Lake Trout harvest declined by 10% compared to 2023. Nine (9) Pink Salmon and two (2) Atlantic Salmon were also reported in the 2024 harvest.

Like increases in harvest, charter boat angler effort (58,936 angler-hours) increased by 5% compared to 2023. Prior to 1999, charter boat sportfishing accounted for approximately 21% (1988-1998 average) of the total fishing effort directed at salmonids in Illinois waters of Lake Michigan. Then, that proportion increased to 29% (average 1999-2019) of the total angler effort for salmonids, due to a slow decline in shore-based salmon fishing after 1988 and a decline in non-charter boat effort after 1998. During the last four years, charter boat sportfishing accounted for 22-24% (2021-2024) of total directed effort for salmonids (Figure 2).

Annual charter boat harvest rate for salmon and trout in 2024 (71 fish per 100 angler-hours) was higher than that in 2023 (54 fish per 100 angler-hours) and the long-term average (1979-2024) of 45 fish per 100 angler-hours. The harvest rate of anglers fishing on charter boats was approximately 1.4 times higher than that of anglers fishing on non-chartered boats (Figure 3).

Forty-eight percent of charter fishing trips occurred during the months of May and June with an additional 22% of trips in July. The typical spring Coho Salmon season was prolonged in 2024 as harvest did not start to trail off until August; 44% of Coho Salmon were harvested in May with an additional 29% and 15% harvested in June and July (Table 2). Chinook Salmon harvest was seasonally typical; most of the Chinook Salmon harvest was nearly evenly divided between July and August. Lake Trout were harvested March through November, but most of the harvest occurred during July and August. Rainbow Trout harvest was highest in July and Brown Trout harvest was highest in April. Overall, salmonid harvest peaked in May (32% of total harvest) and remained relatively high in June (25%) and July (20%) primarily due to the harvest of Coho Salmon.

No salmonid fishing was reported in six (6) statistical grids. Approximately 51% of salmonids were harvested from Grid 2302 which also coincided with 47% of the fishing effort (Table 3). In general, harvest and effort are usually highest in the north and in grids closest to shore (i.e., 2302 and 2402). Harvest rates among grids where fishing occurred

in Illinois waters ranged from 31 to 90 fish per 100 angler-hours. A map of Illinois's Lake Michigan statistical grids is included within the Appendix.

A total of 228 Yellow Perch were harvested on charter trips during November and December. The harvest rate for Yellow Perch was 1.9 fish per angler-hour.

Literature Cited

Roswell, C. R., and S. J. Czesny. 2024. A survey of sport fishing in the Illinois portion of Lake Michigan: March through September 2023. INHS Technical Report 2024 (21). Illinois Natural History Survey. 48pp.

Acknowledgements

I wish to thank Pat Bevell for monitoring reporting compliance and Marc Cullerton for data entry. Special thanks are also extended to Steve Robillard for his past efforts on database development and management as well as writing support in previous versions of this annual report.

Table 1. Number of salmon and trout stocked in the Illinois waters of Lake Michigan, 2005-2024.

Year	Coho Salmon	Chinook Salmon	Lake Trout	Rainbow Trout (Arlee)	Rainbow Trout (Skamania)	Brown Trout	Total
2005	301,006	295,242	62,832	55,338	56,058	100,000	870,476
2006	304,242	242,542	67,849	49,462	55,201	93,000	812,276
2007	301,377	252,265	56,381	50,982	66,334	100,000	827,339
2008	282,201	253,809	126,631	51,003	56,040	100,144	817,297
2009	300,559	236,983	118,160	45,285	56,714	100,550	858,251
2010	308,805	255,752	120,166	51,156	61,132	104,953	904,964
2011	281,429	235,972	122,058	101,789	0	104,579	843,769
2012	300,748	253,244	125,692	49,261	52,160	99,460	874,873
2013	310,288	227,336	124,021	56,335	42,933	102,281	863,194
2014	311,184	236,625	123,784	60,409	58,528	111,397	901,927
2015	305,630	197,504	124,094	62,751	64,092	112,870	866,941
2016	299,396	231,378	123,120	60,068	54,432	110,791	879,185
2017	300,128	163,992	119,510	59,370	54,402	111,594	808,996
2018	258,505	172,642	120,485	57,284	52,422	96,038	757,376
2019	270,057	159,196	120,759	55,330	59,126	132,220	796,376
2020	317,577	185,734	0 ^a	60,092	88,297	120,095	771,795
2021	328,446	186,051	0 ^a	60,033	77,953	119,790	772,273
2022	270,074	210,070	121,563	60,371	79,854	123,760	865,692
2023	289,911	225,104	121,259	57,257	53,457	118,023	865,011
2024	100,887	87,890	121,171	295,721	132,596	126,578	864,843

^a Due to COVID-19 restrictions on operations, federally reared Lake Trout allocated to Illinois were stocked from shore in Wisconsin.

Table 2. Monthly fishing effort and salmonid harvest from the Illinois waters of Lake Michigan by charter boat anglers in 2024.

Month	Trips	Number residents	Number non-residents	Effort (angler -hours)	Coho Salmon	Chinook Salmon	Lake Trout	Rainbow Trout	Brown Trout	Pink Salmon	Atlantic Salmon	Total Catch
March	5	6	8	45	27	-	3	-	3	-	-	33
April	105	349	165	2,313	1,832	1	25	6	124	-	-	1,988
May	599	1,941	1,086	13,278	13,271	41	131	35	15	-	-	13,493
June	567	2,051	766	14,552	8,707	222	623	205	15	1	-	9,773
July	522	1,942	622	13,191	4,597	1,116	1,882	828	14	1	-	8,438
August	434	1,642	503	11,013	1,806	1,281	2,351	462	33	7	2	5,942
September	145	590	151	3,643	56	174	1,253	59	3	-	-	1,545
October	34	154	42	858	4	11	331	1	-	-	-	347
November	3	9	4	45	-	-	15	-	-	-	-	15
Total	2,414	8,684	3,347	58,936	30,300	2,846	6,614	1,596	207	9	2	41,574

Table 3. Number of salmonids, by Lake Michigan statistical grid ^a, harvested by charter boat anglers in 2024. No salmonids were harvested from grids 2305, 2306, 2405, 2406, 2506, and 2606.

Grid	Coho Salmon	Chinook Salmon	Lake Trout	Rainbow Trout	Brown Trout	Pink Salmon	Atlantic Salmon	Total harvest	Effort (angler-hours)	Harvest rate ^b
2302	16,207	1,548	2,627	855	40	4	-	21,281	27,401	78
2303	425	173	278	119	1	1	-	997	1,722	58
2304	12	5	-	2	-	-	-	19	27	70
2305	-	-	-	-	-	-	-	-	-	na
2306	-	-	-	-	-	-	-	-	-	na
2402	5,524	275	899	134	111	-	-	6,943	8,461	82
2403	884	296	645	124	7	-	-	1,956	2,756	71
2404	142	38	123	39	6	1	-	349	662	53
2405	-	-	-	-	-	-	-	-	-	na
2406	-	-	-	-	-	-	-	-	-	na
2502	69	8	46	8	-	-	-	131	211	62
2503	1,916	127	965	118	12	1	-	3,139	6,542	48
2504	793	129	667	109	2	2	2	1,704	3,389	50
2505	1	24	30	1	-	-	-	56	105	53
2506	-	-	-	-	-	-	-	-	-	na
2603	988	18	132	23	13	-	-	1,174	2,064	57
2604	2,140	160	59	42	10	-	-	2,411	3,289	73
2605	39	1	38	12	-	-	-	90	100	90
2606	-	-	-	-	-	-	-	-	-	na
2703	9	-	1	-	1	-	-	11	36	31
2704	840	44	67	10	3	-	-	964	1,481	65
2705	311	-	37	-	1	-	-	349	692	50

^a See Appendix for grid map of Illinois waters.

^b Harvest rate (fish per 100 angler-hours) = total harvest / effort x 100.

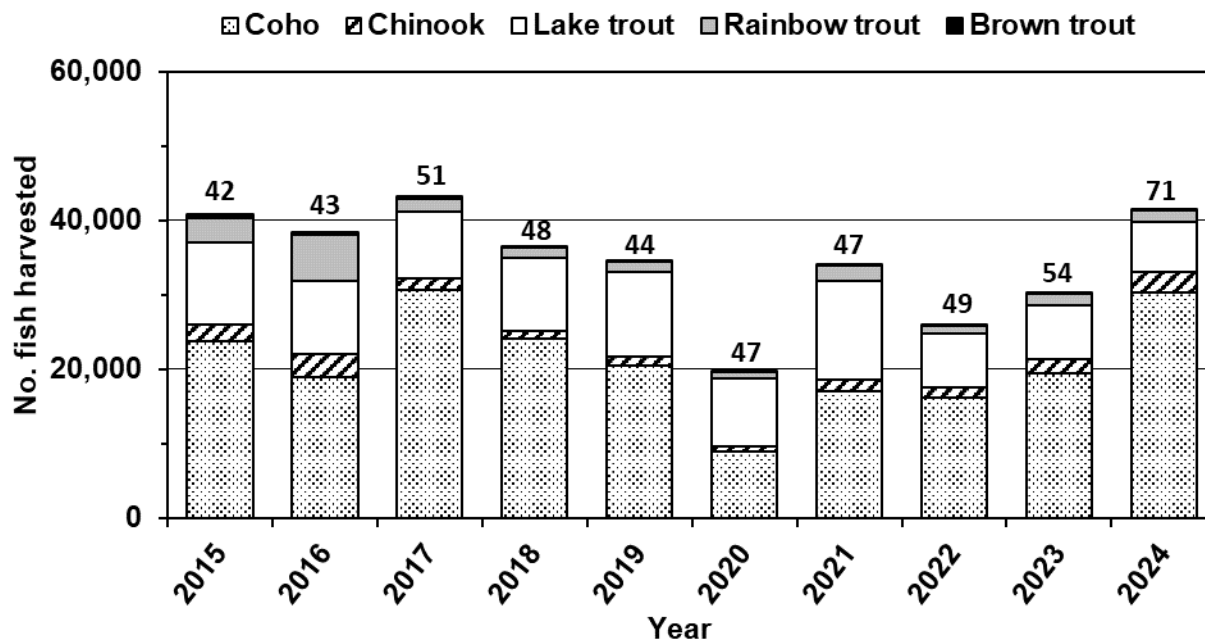


Figure 1. Reported harvest of salmon and trout by charter boat sport anglers, 2015-2024. The numbers above each column indicate the charter boat angler catch rate (number of salmonids per 100 angler-hours) in each year.

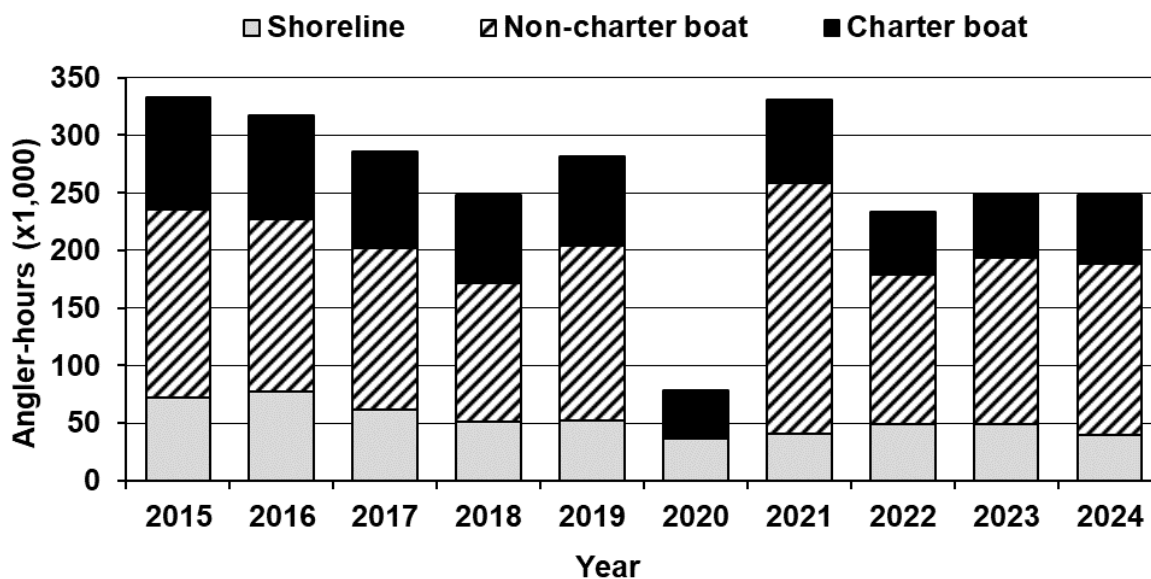


Figure 2. Salmonid fishing effort (angler-hours) by anglers fishing from shore, non-charter boats, and charter boats, 2015-2024. Non-charter effort estimates from Roswell and Czesny (2024); *no directed angler effort for salmonids available in 2020 due to Covid related restrictions.

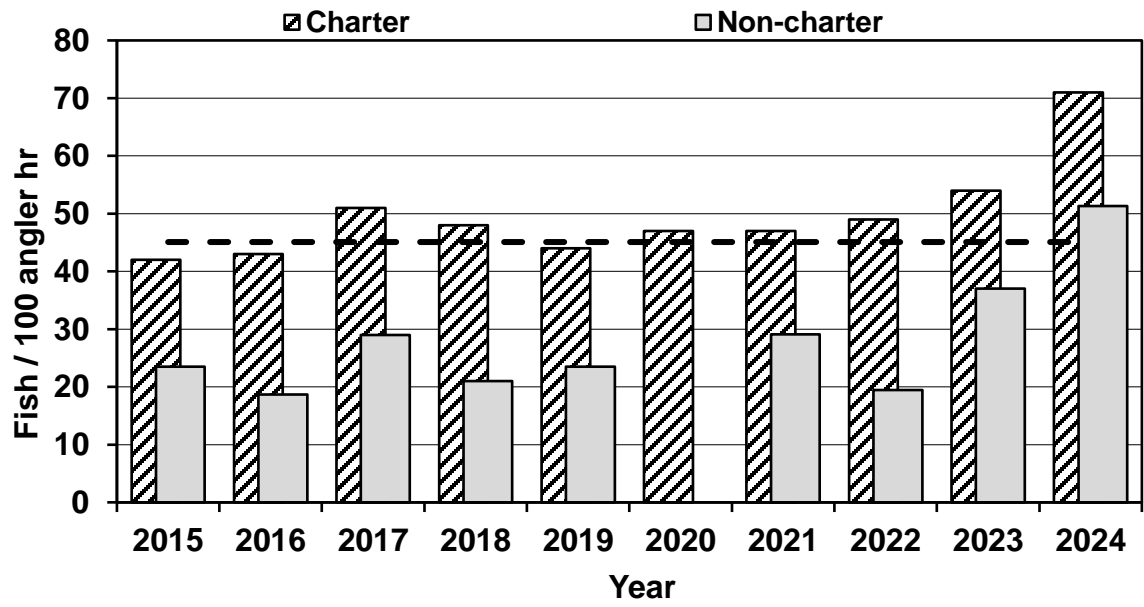


Figure 3. Illinois charter boat and non-charter boat harvest rates for all salmonids, 2015-2024. The dashed line represents the long-term average (1979-2024) charter boat harvest rate. Non-charter boat harvest rate estimates from Roswell and Czesny (2024).

The Illinois Department of Natural Resources is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined in the Fish Code of Illinois, Section 5/10-135. Disclosure of this information is required by law. Failure to provide such information could result in the denial of future charter boat permits under Section 5/20-35. This form has been approved by the Forms Management Center. Information given on this report is confidential and no information revealing private enterprise will be given out.

Reports must be submitted for EACH month (March through November) and received on or before the 15th day of the following month, whether fishing occurred or not.

When no more fishing will occur for the season, the report must be submitted stating “NO MORE FISHING FOR CURRENT YEAR”, and reports will NOT have to be submitted for subsequent months.

INSTRUCTIONS FOR PREPARING REPORT

CHARTER BOAT OPERATOR PERMIT NUMBER – Enter your **current** Illinois operator permit number.

PORT – Enter the port of your **departure**.

MONTH – Name of the month (and year) for which the report is being prepared.

DATE – Enter the date on which the fishing occurred. **Use a separate line for each trip.**

LOCATION BY GRID NUMBER – Refer to the lake chart below and determine the number of the grid in which most of the fishing was done. Enter this number in the space provided.

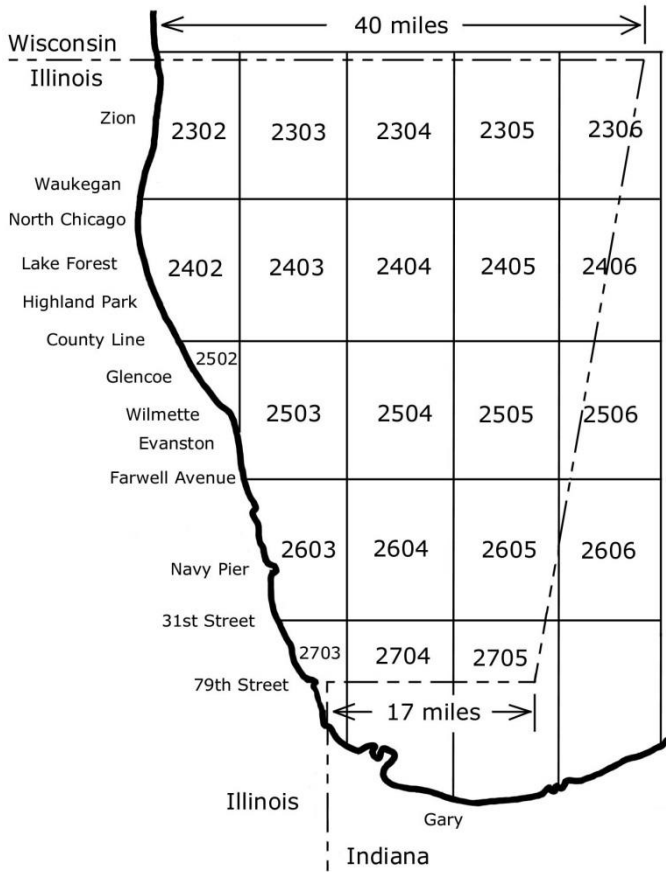
NUMBER OF ANGLERS, RESIDENT AND NON-RESIDENT – Enter the number of **Illinois** residents and non-resident anglers in the fishing party and include crew members if they fished.

NUMBER OF LINES – Enter the number of lines being fished from the boat.

HOURS FISHED – Enter the number of hours in which the party was engaged in fishing. **Do not include running time.**

CATCH DATA – Enter the number of fish of each species **kept** during the trip. Enter the color and number on any tags observed on those fish caught during the trip.

Preparer of form must sign and date on the bottom of the form in the space provided.



Mail completed forms to:

Illinois Department of Natural Resources
 Division of Fisheries
 Lake Michigan Program
 9511 Harrison Street
 Des Plaines, IL 60016

Unusual observations, comments, and requests for additional forms may be noted in the space below.

REMARKS:

Questions regarding this form? (847) 294-4134