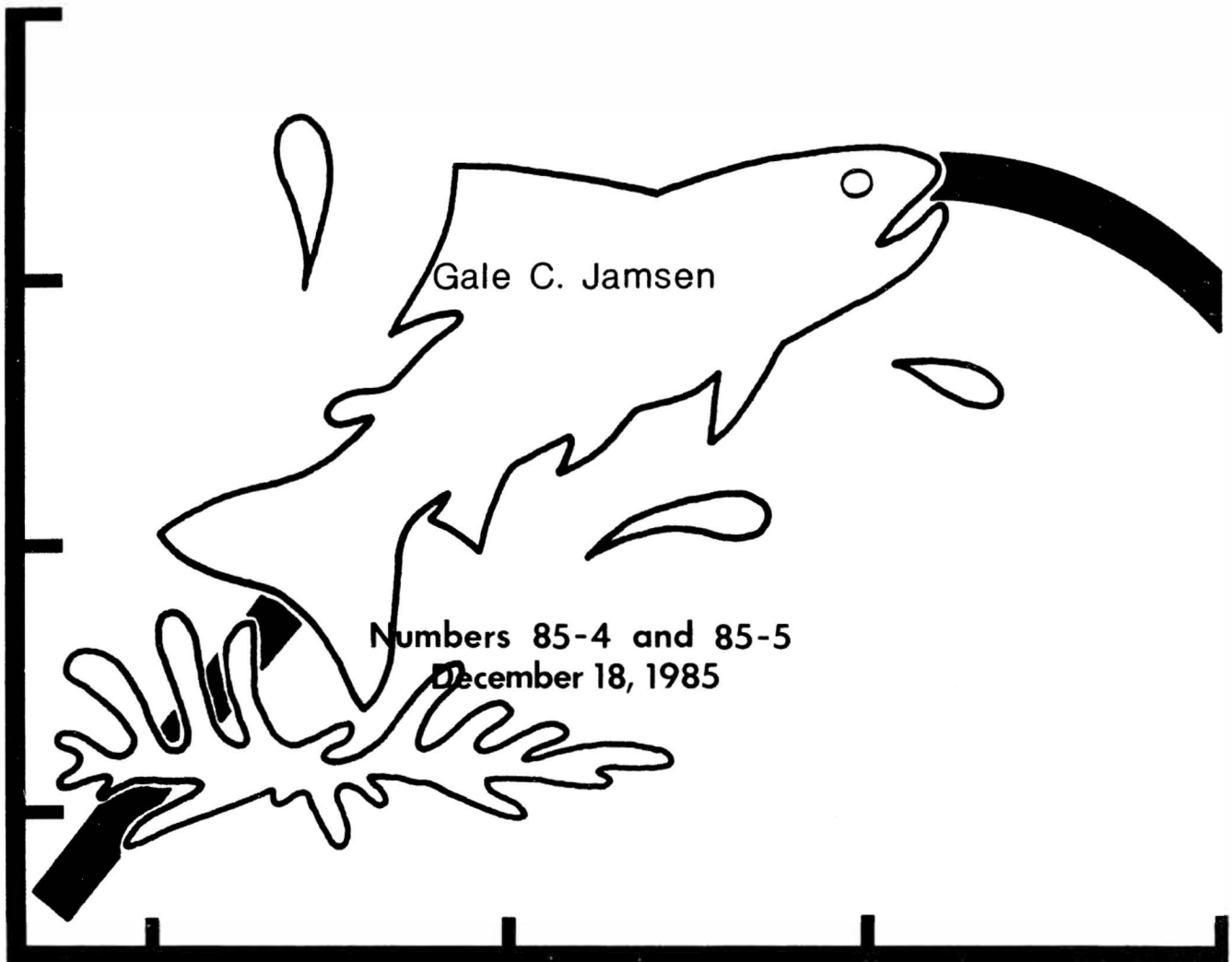


85-4
85-5

FISHERIES DIVISION

TECHNICAL REPORT

Michigan's 1981 and 1982 Sport Fishery



Michigan Department of
Natural Resources

**MICHIGAN DEPARTMENT OF NATURAL RESOURCES
FISHERIES DIVISION**

**Fisheries Technical Reports No. 85-4 and No. 85-5
December 18, 1985**

MICHIGAN'S 1981 AND 1982 SPORT FISHERY

Gale C. Jansen¹

¹A contribution of Federal Aid in Fisheries Restoration, Michigan Project F-40-R.

**MICHIGAN DEPARTMENT OF NATURAL RESOURCES
FISHERIES DIVISION**

Fisheries Technical Report No. 85-4

December 18, 1985

MICHIGAN'S 1981 SPORT FISHERY

Gale C. Jansen

SUMMARY

In 1981 licensed anglers spent approximately 23.4 million days fishing in Michigan. Great Lakes fishing (all species) and anadromous salmonid fishing accounted for approximately 38% of the total effort or about 9 million angler days. Inland lake and stream fishing accounted for nearly 14.4 million angler days.

INTRODUCTION

In 1981 a stratified sample of licensed anglers was questioned by mail about their sportfishing activity. The survey objective was to assess benefits in angler days resulting from recreational fishing in Michigan by location and type of fishing.

SURVEY PROCEDURES

The survey samples were selected for the first time from computer files listing nearly 1.4 million licensed anglers. Spouses of resident license holders and young people under 17 years of age were again excluded because they did not need to purchase licenses. The survey sample was stratified by residence to obtain better estimates of angling in the northern region of the state. Residents of Minnesota, Wisconsin, and Michigan, with zip codes ranging from 49701 through 49972, were sampled randomly at a 4% rate. The second stratum was formed from a 2% random sample of the remaining license holders.

SURVEY RESULTS

Estimates of sportfishing effort (angler days) were stratified by Fisheries Management District (Fig. 1) and Great Lakes (Tables 1 and 2). They continue to serve as an index of program benefits provided by fisheries management in Michigan.

In the past, catch estimates also were presented. However, since upward bias is believed to be significant in the mail survey catch estimates, field interviews (Great Lakes monitoring program) are now being used for determining catch rates. If the bias in mail survey catch can be assumed constant across species groupings, some observations can be made about its composition.

For the state as a whole, salmon accounted for 69% of the Great Lakes open-water salmonid catch with nearly equal numbers of coho and chinook salmon represented. Lake trout, steelhead, and brown trout accounted for 19%, 7%, and 5% of the total, respectively. Yellow perch, walleye, and panfish comprised 72%, 10%, and 9%, respectively, of the non-salmonid catch from the Great Lakes.

Inland lake fishing accounted for 73% of the estimated 14.4 million angler days of total inland fishing. About 50% of the inland fishing occurred in the southern one-half of the Lower Peninsula where 88% of the population reside. Panfish (bluegill, sunfish, crappie, etc.), perch, and bass comprised 62%, 20%, and 6% of the inland lake catch, respectively. The remainder of the catch consisted mostly of northern pike, walleye, trout, bullhead, suckers, and carp.

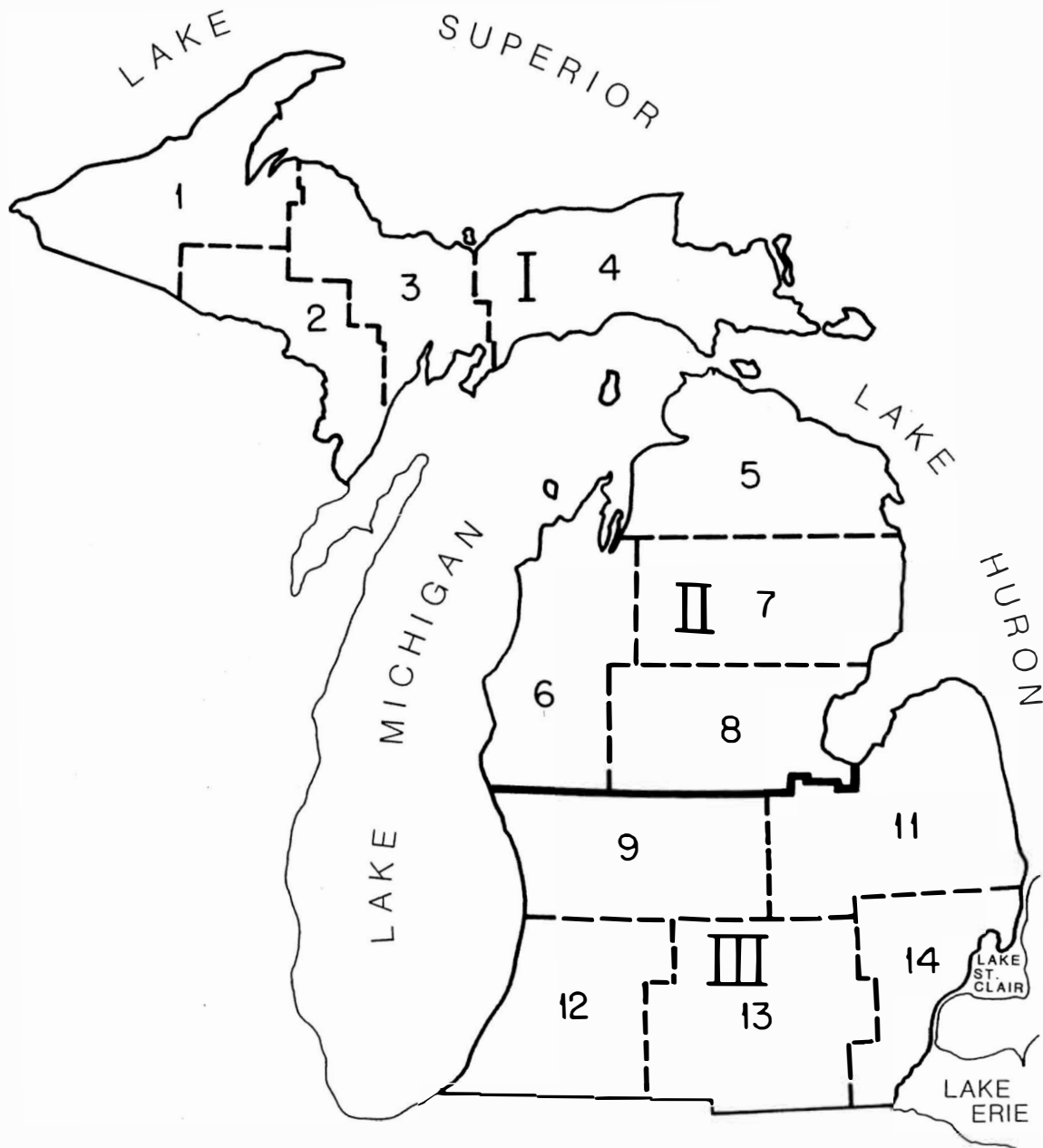


Figure 1. Michigan fisheries management regions (I-III) and districts (1-14).

Table 1. Estimated angler days (thousands) of fishing effort by management district and type of fishery, 1981.

District	Great Lakes			Inland		Total
	Salmonid	Anadromous	Non-salmonid	Trout	Non-trout	
1	122	62	20	142	298	644
2	22	10	14	74	287	407
3	108	49	213	163	247	780
4	70	29	364	93	335	891
5	147	147	127	242	1,072	1,735
6	798	703	235	417	1,599	3,752
7	233	186	207	465	1,286	2,377
8	75	35	317	168	911	1,506
9	392	274	285	176	1,142	2,269
11	166	18	1,138	9	587	1,918
12	403	201	99	180	1,924	2,807
13	8	15	428	62	1,367	1,880
14	28	4	1,243	56	1,083	2,414
Total	2,572	1,733	4,690	2,247	12,138	23,380

Table 2. Angler days (thousands) of fishing effort for Great Lakes fish by lake and watershed, 1981.

Location	Salmonid	Non-salmonid	Stream salmonid	Total
Lake Michigan	1,730	906	1,328	3,964
Lake Huron	554	1,305	275	2,134
Lake St. Clair	59	1,892	1	1,952
Lake Erie	9	513	12	534
Lake Superior	220	74	117	411
Total	2,572	4,690	1,733	8,995

**MICHIGAN DEPARTMENT OF NATURAL RESOURCES
FISHERIES DIVISION**

**Fisheries Technical Report No. 85-5
December 18, 1985**

MICHIGAN'S 1982 SPORT FISHERY

Gale C. Jansen

SUMMARY

In 1982 licensed anglers spent approximately 20.8 million days fishing in Michigan. Great Lakes and anadromous salmonid fishing accounted for approximately 40% of the fishing effort or about 8.2 million angler days.

INTRODUCTION

Licensed anglers were surveyed by mail to learn about their sportfishing activity in 1982. Survey objectives were to measure annual and seasonal benefits (angler days) resulting from recreational fishing in Michigan, by location and type of fishing, and to investigate sampling bias.

SURVEY PROCEDURES

The survey samples were selected in the same manner as in 1981, except a series of five experimental seasonal surveys were made in addition to the usual annual survey. Residents of Wisconsin, Minnesota, and the northern one-third of Michigan were sampled at a 2% rate and the remaining license holders sampled at a 1% rate. This stratification of the nearly 1.4 million licensed anglers was done to improve the precision of estimates for the upper Great Lakes and the more lightly fished lakes and streams in the Upper Peninsula. Spouses of resident license holders and young people under 17 were again excluded because they did not need to purchase fishing licenses.

SURVEY RESULTS

The annual survey indicated that total angling effort (angler days) declined 11% from 1981, but was close to the level estimated for 1980. Sportfishing effort estimates, stratified by type within Fisheries Management Districts (Fig. 1) and by Great Lakes are given in Tables 1 and 2). They continue to serve as an index of program benefits provided by fisheries management in Michigan; however, the fish harvest estimates are, again, not presented because they are believed to be significantly biased upward. Instead, catch rates are being determined from field interviews at selected locations by the Great Lakes Monitoring Program.

The series of five experimental seasonal surveys produced the monthly distribution of fishing effort given in Table 3. Nearly two-thirds of the angling occurred from June through September, the peak time for tourism in the state.

Annual surveys were discontinued in 1983-85 due to concerns about nonsampling bias in the estimates. Experimental seasonal surveys were continued into 1984 to assess the role of bias. The findings from the bias evaluation will be given in another report. Based on these findings, angler mail surveys are expected to resume in 1986.

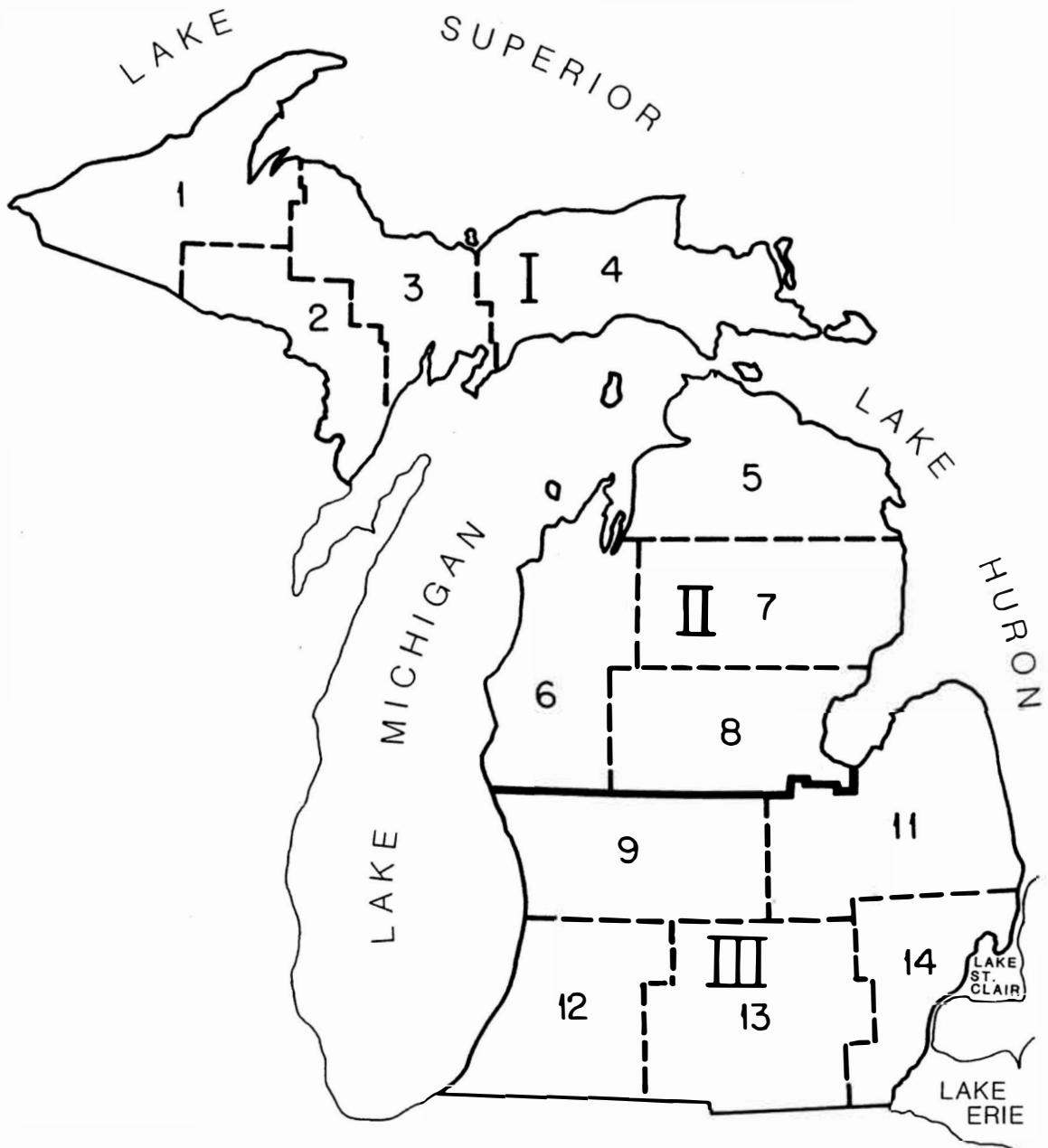


Figure 1. Michigan fisheries management regions (I-III) and districts (1-14).

Table 1. Estimated angler days (thousands) of fishing effort stratified by species sought and management district, 1982.

District	Great Lakes salmon and trout	Inland trout	Other	Total
1	171	122	376	669
2	33	85	372	490
3	181	233	455	869
4	82	60	626	768
5	290	193	966	1,449
6	1,133	261	1,288	2,682
7	345	350	1,291	1,986
8	79	94	1,172	1,345
9	490	77	1,560	2,127
11	264	6	1,662	1,932
12	349	60	1,697	2,106
13	12	13	1,868	1,893
14	74	37	2,403	2,514
Total	3,503	1,591	15,736	20,830

Table 2. Angler days (thousands) of fishing effort for salmon and trout on the upper Great Lakes, 1980-82.

Location	1980	1981	1982
Lake Michigan	1,287	1,730	1,326
Lake Huron	502	554	547
Lake Superior	222	220	196
Total	2,011	2,504	2,069

Table 3. Distribution (percent) of sportfishing effort by month and fishery type, 1982.

Month	Great Lakes	Inland	Total
January	2	3	3
February	2	3	3
March	2	3	2
April	4	5	5
May	10	10	10
June	12	13	13
July	15	16	15
August	17	16	16
September	23	17	19
October	8	9	9
November	3	2	2
December	2	3	3
Total	100	100	100

Report approved by W. C. Latta

Typed by G. M. Zurek