The 1973-75 Salmon Runs: New York's Salmon River Sport Fishery, Angler Activity, and Economic Impact

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One view of Pulaski, New York during salmon season

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This publication is a sequel to *The 1973 Salmonid Run: New York's Salmon River Sport Fishery, Angler Activity, and Economic Impact.* For further information on the development of this fishery, the study area, and methodology, see Sea Grant publication NYSSGP-RS-75-024.

CONTENTS

FIGURE AND TABLES

IMPLICATIONS

New York Sea Grant Institute funded studies examining New York's Salmon River fishery from 1973 through 1975, largely because of the importance of that fishery as an indicator of the potential of the entire Lake Ontario system to provide millions of angler days of salmonid fishing, and exert a statewide economic impact This report draws upon three years of field research, in addition to historical research into the conception and early implementation of this fishery, which began in 1968.

A growing, developing salmonid fishery in Lake Ontario was stymied in the 1976 fall season by findings of unacceptable levels of the chemicals mirex and PCBs (polychlorinated biphenyls) in certain fish species. As a result of these findings, on 14 September 1976, joint rulings by the NYS Departments of Environmental Conservation and Health banned possession and consumption of Lake Ontario coho and chinook salmon and lake trout, plus non-salmonid species including brown bullhead, catfish, smallmouth bass, and members of the alewife-herring family. On 30 September 1976, the possession regulation was relaxed in the case of salmonids to allow possession of up to three trophy-sized fish.

While the full impact of these regulations on angling pressure and the economy of the Salmon River area has not been fully assessed, an attempt by creel census to determine the number of of anglers fishing the Salmon River during the peak fishing period, the first two weekends of October, showed that fishing pressure on these two weekends in 1976 was only 30 percent of the 1975 level. Reduced fishing of this magnitude over the course of a season would mean a loss of over $300,000 in receipts to Pulaski-area businesses.

New York anglers, who previously had extremely limited experience with Pacific salmon, were reacting favorably to Lake Ontario salmonid fishing through 1975, despite relatively slow biological development of the fishery, limited public access

and facilities, and unfavorable concentrations of PCBs in the salmon (the public was not aware of mirex until shortly before the ban was announced). Significant increases each year in fishing pressure from anglers who reside farther distances from the Salmon River, and increasing angler expenditures demonstrate that large numbers of anglers can be attracted to salmonid fishing, and their expenditures can have important impacts on Lake Ontario communities.

For this fishery to approach its projected prominence, however, substantial effort is needed on several fronts, in addition to alleviating the problems of chemical contaminants in Lake Ontario. From the biological perspective, growth of coho and chinook salmon has been impressive, but mortality of these species has been unacceptably high. Problems in diet and strains of diseases imported from other states, plus a persistent sea lamprey problem, combined with limited hatchery capacity until a new one is constructed, have kept salmonids at such a level that they have not been harvested from Lake Ontario proper with any degree of success. This, in combination with a limited number of stocked tributaries, has limited the time and space parameters of most salmonid fishing to stocked tributaries during the fall runs. This problem saw some alleviation in the spring of 1975 and 1976, when salmon were caught offshore along several regions of Lake Ontario. Also, the NYS Department of Environmental Conservation (DEC) data showing reduced lamprey scars, in combination with increased numbers of advanced-age chinook salmon, suggest recent progress in this area.

Thus, increased survival of the salmonids, combined with reduced PCB concentration, is essential for growth of the fishery and expansion to a year-round, lakewide fishery. Increased survival also seems important for a more immediate reason, however. There is evidence that sportsmen view the degree of harvest of fish or game during the season just past as an important factor in their decision to buy a license and continue participating in the upcoming season (Brown and Wilkins 1975). Overall, catch per hour and catch per trip ratios dropped from 1974 to 1975. While the 1974 ratio of

0.50 per trip was very good for species as large as Pacific salmon, the fact that this ratio dropped to 0.31 in 1975 is cause for concern. Any further lowering of this ratio could affect the number of returning anglers, and the image of the fishery imparted to their peers.

While this research has focused upon the Pacific salmonid introductions, it should be pointed out that DEC views coho and chinook stocking as only one part of a larger salmonid program that also includes stocking of lake, brown and brook trout, rainbow (steelhead) trout, and Atlantic salmon. Stockings of this combination of species are designed to promote year-round fisheries on the Great Lakes and tributaries. While quantitative research efforts have not been carried out, significant progress has been reported in the growth of these fisheries, and future research should examine their impact as well as that of Pacific salmon.

The relatively slow biological development of the coho and chinook fishery has been accompanied by numerous problems related to servicing the anglers and sightseers attracted to the fishery. Public access to streams has been scarce, and trespassing over private lands has frequently resulted. There are few public boat launching ramps along eastern Lake Ontario, and the supply of boats for rent is limited. The supply of winterized motel units is also small, and while anglers have not complained about a shortage of rooms, the Pulaski area operated near peak capacity in the fall of 1975. Parking areas have also been scarce, but substantial progress has been made in this area. Further expansion of each of these facilities and services will be needed as the fishery continues to develop.

Before New York can expect a Great Lakes fishery approaching the importance of Lake Michigan's, fish populations must grow to the point that there is successful fishing in Lake Ontario proper. When this is achieved, anglers can take advantage only if there are additional safe harbors from which they can launch their own boats, or from which commercial charter boats can take them fishing. Problems of coordination between

agencies involved, raising local and state shares of construction costs, and accelerating federal construction timetables have to date delayed construction of badly needed harbors of refuge until 1980, and construction could take an additional two to three years. Quite possibly, the fishery could support limited charter fishing (an important revenue-generating activity) before safe harbors permit charter boats to operate in areas where fish can be caught.

It is too early to project accurately the cost/benefit ratio of this fishery, in the author's opinion. Very little attention should be attached to costs *v.* benefits to date because the costs to date, especially those to New York State, have been minimal compared to the $9.7 million that will be spent for the new hatchery. At this time, best estimates of economic feasibility of salmonid fishing in New York are still best derived by comparing New York's situation to that of Michigan, which has been well researched.

Ellefson (1973) estimated that the net economic value of Michigan's 1974 salmon and steelhead sport fishery to resident fishermen to be $8.34 million. That is, without the 1.76 million angler days generated by Michigan's salmon-steelhead fishery, resident anglers would have spent this $8.34 million for other purposes, or saved a portion of it. Capitalized at 7 percent of interest, the total value of the fishery to resident anglers over time was estimated at $119 million.

Since Lake Michigan's shoreline within the state of Michigan is greater than the New York portion of both Lake Ontario and Lake Erie, a greater resident resource potential exists in Michigan than in New York. In addition, the number of licensed freshwater anglers in Michigan exceeded the New York total in federal fiscal year 1975 by about 28 percent (US Department of the Interior, n.d.). Somewhat offsetting these factors, New York has a greater population than Michigan within a one-hour drive of its Great Lakes.

As of 1970, total capital investment in the Michigan program was $10.93 million, including $8.69 million (state and federal funds) for an anadromous fish hatchery and an additional $2.24 million for such improvements as fishing piers, fish passageways, dam removal, and land acquisition. Annual operating costs were estimated at $1.62 million per year, including $430,000 for hatchery operation. Discounting benefits and costs over a 30-year period, it is estimated that Michigan's benefit/cost ratio, in terms of angler expenditures *v.* public expenditures, is 11 to 1 (Ellefson 1972). Dollars accruing to the economy of local communities were not estimated in Michigan.

New York's costs will certainly exceed those reported in Michigan in 1970, but this may be largely a factor of inflation. As a result, similar increases in benefits may be noted. If so, provided that biological development of New York's Lake Erie and Lake Ontario fisheries is successful, a positive benefit/cost ratio (angler economic value *v.* public expenditures) seems probable, although it may be less than Michigan's 11 to 1 ratio. Of course, the chemical problems in Lake Ontario must first be overcome, but the author questions charging this expenditure, whatever its magnitude, against the salmonid project, for several reasons: 1) the cause was completely external to the salmonid project; 2) species other than salmonids are also affected by mirex and PCBs; and 3) ridding the lake of these chemicals means public benefits other than fishing.

Demonstrating a favorable benefit/cost ratio does not in itself justify a project. Legislators may decide that the public treasury cannot bear the expense, or that other expenditures have higher priority. On-site and en route expenditures of anglers, with the exception of tax dollars generated (which usually are not segregated for angling-related use) may exceed the cost of building and maintaining a new hatchery, for example, but they do not reimburse taxpayers, including non-anglers, for the cost of the hatchery. However, given the seven percent state and local sales tax that exists in many New York counties (it is only four percent in Oswego County) and a benefit/cost ratio of 11 to 1, 77 percent of development

and maintenance costs could be recovered from tax funds. The willingness to supplement these tax funds with a salmon stamp, combined with the tax multiplier effect, could actually approximate total public expenditures for a salmonid program. This, in conjunction with the benefit of the 1 million or more angler days potentially provided by the fishery and the economic impact on coastal communities, suggests that if biologically feasible, the project has positive overall merit.

METHODOLOGY UPDATE

The roving creel census, begun in 1973, was continued in 1974 and 1975 on the Salmon River (Fig. 1) for obtaining angler data on point of origin, catch, and catch per angler trip. The investigators were not satisfied with the possible bias introduced in estimating angler expenditures from creel census data (Brown 1975), and it also appeared that more accurate estimates of total angler trips could be made from complete trip data. To obtain additional information and more accurate economic data, beginning in 1974, creel census data were supplemented with mail questionnaires.

Names and addresses of anglers were obtained by creel census clerks, and sent to the project leader daily as they were compiled. Follow-up questionnaires were then mailed immediately, so that anglers typically received a questionnaire within a week of the time they were interviewed on the Salmon River. In 1974, every second angler interviewed was sent a questionnaire, while in 1975 approximately 25 percent of those interviewed received mail questionnaires. After the original questionnaire and cover letter, plus two reminders, a response rate of approximately 80 percent was achieved in both 1974 and 1975, resulting in 733 responses in 1974, and 546 in 1975.

The decision to use mail questionnaires in 1974 and 1975 allowed a systematic means of obtaining important additional information on angler trips to the Salmon River. Thus, additional data on lengths of trips, number of overnight trips, type of lodging used, and services reported to be crowded or unavailable were obtained for those years.

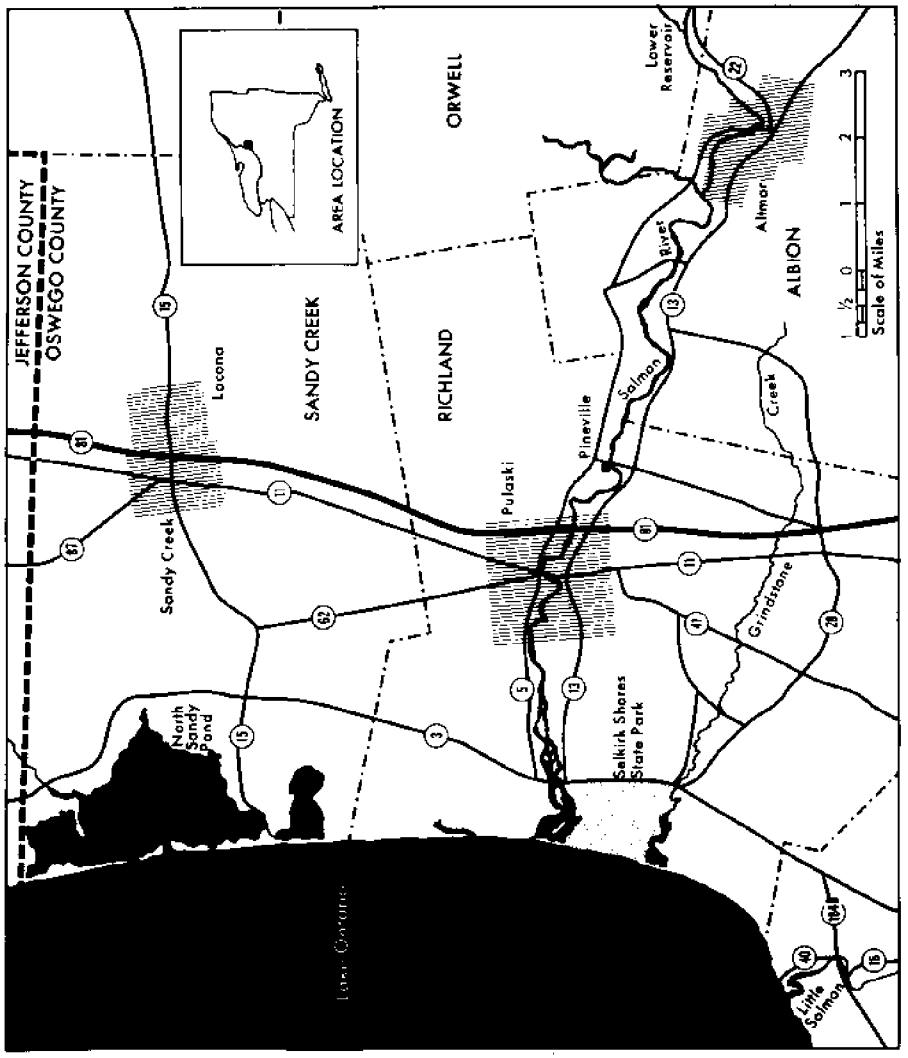

Figure 1 The Salmon River Corridor and Impact Area

FISHING ACTIVITY AND SUCCESS

Angler Trips and Point of Origin

The total number of daytime autumn angler trips to the Salmon River quadrupled from 1973 to 1975, increasing from 5,680 to 22,640. The largest portion of this increase occurred in 1974, when a total of 16,420 angler trips occurred (Table 1). Considerable night fishing also occurred in 1975, but this was not measured.

As the Salmon River salmonid fishery has become more widely publicized, anglers have been attracted from further distances. In 1973, 73 percent of all angler trips were taken by non-Oswego County residents. This proportion of nonresident angler trips increased to 77 percent in 1974, and to 87 percent in 1975.

The attraction of the Salmon River fishery has also expanded beyond the neighboring metropolitan centers of Syracuse and Utica-Rome. Two-thirds (67 percent) of all 1973 angler trips originated from the Oswego-Oneida-Onondaga tri-county area. This proportion decreased to 60 percent in 1974, and to 49 percent in 1975. While this increased distance of angler origin is still largely confined to within New York State, out-of-state participation increased from 1 percent in 1973 to 9 percent in 1975.

The number of non-Oswego County angler trips increased substantially in both 1974 and 1975, more than tripling in 1974, and increasing an additional 55 percent in 1975. Oswego County angler trips increased almost two and one-half times from 1973 to 1974, but declined from 3,720 trips in 1974 to 2,890 trips in 1975 (Table 2).

Length of Stay

While the majority of 1975 angling trips were still one-day excursions, duration of trips increased since 1973, when 88

TABLE 1 *Origin of Salmon River Angling Trips, 1973-75*

	County	Percent of Total Trips	Number of Trips
1973	Onondaga	31	1,760
	Oswego	27	1,540
	Oneida	9	510
	Monroe	5	290
	St. Lawrence	4	230
	Broome	4	230
	Chemung	4	220
	Other New York Counties	15	840
	Out of State	1	60
	TOTAL	100	5,680
1974	Onondaga	24	3,680
	Oswego	23	3,720
	Oneida	13	2,190
	Monroe	5	820
	Jefferson	4	620
	Cortland	4	610
	Broome	3	460
	Other New York Counties	22	3,750
	Out of State	2	390
	TOTAL	100	16,420
1975	Onondaga	23	5,320
	Oneida	13	2,900
	Oswego	13	2,890
	Broome	5	1,210
	Madison	4	960
	Herkimer	4	810
	Other New York Counties	29	6,620
	Out of State	9	1,930
		100	22,640

TABLE 2 *Trips and Hours of Salmon River Anglers, 1973-75*

	Category	1973	1974	1975
TOTALS				
	Trips	5,680	16,420	22,640
	Angler Hours	25,580	74,170	121,060
	Hours per Angler Trip	4.5	4.5	5.3
OSWEGO COUNTY RESIDENTS				
	Trips	1,540	3,720	2,890
	Angler Hours	6,260	13,930	14,710
	Hours per Angler Trip	4.1	3.7	4.4
NON-OSWEGO COUNTY RESIDENTS				
	Trips	4,130	12,700	19,750
	Angler Hours	19,360	60,250	106,350
	Hours per Angler Trip	4.7	4.7	5.4

percent of anglers planned to stay only one day, and another 7 percent planned to stay only two days. Post-trip questionnaire results show that by 1975, 24 percent of all trips were at least two days long. The total number of angler days, approximately 6,910 in 1973, increased to 19,810 in 1974, and to 32,330 in 1975 (Table 3).

It is noteworthy that while the greater increase in angler trips occurred from 1973 to 1974 (Table 2), a much larger increase in angler days and overnight trips occurred from 1974 to 1975. Assuming the ratio of day trips to overnight trips was similar in 1973 and 1974 (overnight trips were not recorded in 1973), approximately 2,250 overnight trips occurred in 1973. This figure doubled to 5,000 overnight trips in 1974, and the 1974 figure increased by a factor of 2.8 to 13,870 overnight trips in 1975 (Table 4). In 1975, 35 percent of all non-Oswego County visits involved overnight stays. The magnitude of the 1975 figure reflects the increasing distance of anglers' point of origin in 1975, and also the fact that anglers were increasingly taking weekend or extended weekend fishing excursions.

TABLE 3 *Number of Days Spent per Visit* by Salmon River Anglers, 1974-75*

Number of Days	1974 Percent of Total Visits	1974 Number of Visits	1975 Percent of Total Visits	1975 Number of Visits
1	86	14,150	76	17,190
2	10	1,630	12	2,720
3	2	360	8	1,710
4	2	250	3	660
5	0	0	1	150
6	0	0	0	90
7	0	0	0	80
8 or more	0	40	0	10
TOTAL ANGLER VISITS		16,430		22,610
TOTAL VISITOR DAYS		19,810		32,330

* Because we have previously defined an angler trip as fishing done by one individual during a one-day period, we will refer to the entire length of stay of one angler as an angler visit.

TABLE 4 *Number of Nights Spent per Trip by Salmon River Anglers, 1974-75*

Number of Nights	1974 Percent of Total Visits	1974 Number of Visits	1975 Percent of Total Visits	1975 Number of Visits
0	82	13,690	69	15,610
1	10	1,710	12	2,770
2	4	710	11	2,490
3	2	300	5	1,210
4	1	90	1	330
5	0	80	0	100
6	0	0	0	40
7	0	0	0	50
8 or more	0	20	0	10
TOTAL OVERNIGHT TRIPS		2,910		7,000
TOTAL NUMBER OF NIGHTS		4,950		13,870

Type of Lodging

Noting the type of lodging used by anglers staying overnight in the Salmon River area is important in at least two ways: for providing the type of lodging sought by anglers, and for determining the resulting economic impact. Since few anglers complained of unavailable facilities (see Tables 9 and 10), we can assume the data collected on type of lodging generally reflect the first preference of Salmon River anglers.

Fifty-five percent of overnight trips to the Salmon River area generated income from lodging expenditures. About 18 percent of overnight anglers stayed at motels, 17 percent stayed at state park campsites or cabins, and 15 percent camped at a commercial facility, while 9 percent rented private cabins or rooms (Table 5). The remaining 41 percent of overnight anglers stayed with friends or relatives; stayed in their vehicles along the river, on the street, or at a parking lot; or stayed at property they or friends owned in the Pulaski area.

TABLE 5 *Type of Lodging Used by Salmon River Anglers, 1974-75*

Type of Lodging	1974 Overnight Trips Percent	1974 Overnight Trips Number	1975 Overnight Trips Percent	1975 Overnight Trips Number
Motel	26	770	18	1,270
State Park Campground	4	120	16	1,140
Commercial Campground	14	410	15	1,090
Cabin, State Park	2	50	1	90
Other Cabin or Room Rental	7	200	9	680
Friend or Relative	15	450	17	1,250
Vehicle	22	630	17	1,210
Other	10	300	7	510
TOTAL	100	2,930	100	7,240

Catch and Success Ratios

Creel census estimates show that the total sunrise-to-sunset catch of salmonids during the approximately 11-week fall run increased from only 890 in 1973 to approximately 8,220 in 1974,

but dropped somewhat to 7,060 in 1975 (Table 6). Two factors indicate that the 1975 estimate is somewhat conservative, however, in relation to 1973 and 1974 estimates. First, as previously noted, night fishing--not covered by creel census estimates--occurred in 1975. Night fishing also occurred in 1974, but the general consensus is that the amount was much less than in 1975. Second, the salmonid runs began unexpectedly early in 1975, and catches were observed a full week in advance of creel census initiation. Considering these factors, it appears that in terms of total numbers, the 1974 and 1975 fall salmonid runs were of similar magnitude.

Regardless of the exact number of fish caught in 1974 *v.* 1975, the average total salmonid harvest per angler trip dropped from 0.50 in 1974 to 0.31 in 1975. This appears to be largely due to a somewhat smaller chinook run in 1975. The number of coho salmon harvested increased from 1,160 in 1974 to 1,710 in 1975, resulting in a very slight increase in coho catch per trip. The steelhead catch and catch per trip dropped slightly in 1975, but because the steelhead season extends well beyond the end of the creel census, there is insufficient data to compare 1974 and 1975 catch parameters for this species.

Economic Impact

Largely because of the proportional increase in overnight angler trips, but also because of increased sales of gear to new salmon anglers, total angler expenditures increased at a faster rate than angler trips between 1974 and 1975. Questionnaire results show that total expenditures, which amounted to $62,100 in 1973, almost tripled to $181,400 in 1974, and increased again approximately 2.5 times to $444,000 in 1975 (Table 7).

Proportional increases in non-Oswego County resident expenditures were relatively constant over the three-year period. The increase from $56,200 in 1973 to $158,200 in 1974 is almost threefold, and the subsequent increase to $411,800 in 1975 is about 2.6-fold. Oswego County expenditures directly attributable to the fishery rose fourfold from 1973 to 1974, but increased by a factor of only 1.4, from $23,000 in 1974 to $32,200

TABLE 6 *Salmonid Catch and Effort Data on the Salmon River, 1973-75*

	1973	1974	1975
TOTALS			
TOTAL SALMONIDS			
Catch	890	8,220	7,060
Catch per Trip	.16	.50	.31
CHINOOK			
Catch	660	4,950	3,540
Catch per Trip	.12	.30	.16
COHO			
Catch	*	1,160	1,710
Catch per Trip	*	.07	.08
STEELHEAD			
Catch	*	690	612
Catch per Trip	*	.04	.03
OSWEGO COUNTY RESIDENTS			
TOTAL SALMONIDS			
Catch	210	1,800	530
Catch per Trip	.14	.48	.18
CHINOOK			
Catch	190	1,250	190
Catch per Trip	.13	.34	.07
COHO			
Catch	*	330	80
Catch per Trip	*	.09	.03
STEELHEAD			
Catch	*	50	50
Catch per Trip	*	.01	.02
NON-OSWEGO COUNTY RESIDENTS			
TOTAL SALMONIDS			
Catch	680	6,420	6,530
Catch per Trip	.16	.51	.33
CHINOOK			
Catch	470	3,700	3,350
Catch per Trip	.11	.29	.17
COHO			
Catch	*	830	1,640
Catch per Trip	*	.07	.08
STEELHEAD			
Catch	*	650	560
Catch per Trip	*	.05	.03

* Too small for accurate estimates

TABLE 7 *Expenditures Generated in Oswego County by Salmon River Anglers in the Fall of 1973-75*

	Revenue Sectors	1973	1974	1975
TOTALS				
	Marina/Sporting Goods	$15,300	$64,300	$175,000
	Automotive Services	19,300	45,900	100,300
	Restaurant/Bar	10,700	40,400	90,500
	Lodging/Camping	7,400	10,100	24,400
	Groceries	4,700	9,100	35,000
	Miscellaneous	4,700	11,600	18,800
	TOTALS	$62,100	$181,400	$444,000
OSWEGO COUNTY RESIDENTS				
	Marina/Sporting Goods	$ 5,600	$21,800	$32,200
	Miscellaneous	200	1,500	0
	TOTALS	$ 5,800	$23,300	$32,200
NON-OSWEGO COUNTY RESIDENTS				
	Marina/Sporting Goods	$ 9,700	$42,500	$142,800
	Automotive Services	19,200	45,900	100,300
	Restaurant/Bar	10,700	40,400	90,500
	Lodging/Camping	7,400	10,100	24,400
	Groceries	4,700	9,100	35,000
	Miscellaneous	4,500	10,200	18,800
	TOTALS	$56,200	$158,200	$411,800

* Expenditures estimated for Oswego County residents were limited to those attributable to the fishery.

in 1975. The increase in Oswego County expenditures is directly due to greater expenditures per angler trip, for Oswego County angler trips decreased by 22 percent from 1974 to 1975.

The contribution of increases in daily angler expenditures to these increased total revenues can be discerned in Table 8. Per diem expenditures of all anglers, which were within a few cents of $11.00 in both 1973 and 1974, increased substantially to $19.61 in 1975. Additional expenditures for boat rentals, fishing tackle, and related items were larger than increases in other sectors. Nevertheless, sizable proportional increases resulted in the automotive services, restaurant/bar, lodging/camping, and grocery sectors.

The daily expenditure rate of $19.61 for the 1975 Salmon River salmonid fishery makes it one of the leading per diem revenue-generating fisheries known. This is considerably higher than

TABLE 8 *Oswego County Angler Day Expenditures for All Trips to the Salmon River, 1973-75*

	Revenue Sectors	1973	1974	1975
TOTALS				
	Marina/Sporting Goods	$2.70	$3.91	$7.73
	Automotive Services	3.40	2.80	4.43
	Restaurant/Bar	1.88	2.46	4.00
	Lodging/Camping	1.31	0.62	1.08
	Groceries	0.82	0.55	1.55
	Miscellaneous	0.82	0.71	0.83
	TOTALS	$10.93	$11.05	$19.61
OSWEGO COUNTY RESIDENTS*				
	Marina/Sporting Goods	$3.67	$5.84	$11.15
	Miscellaneous	0.13	0.39	0
	TOTALS	$3.80	$6.24	$11.15
NON-OSWEGO COUNTY RESIDENTS				
	Marina/Sporting Goods	$2.34	$3.34	$7.23
	Automotive Services	4.66	3.62	5.08
	Restaurant/Bar	2.58	3.18	4.59
	Lodging/Camping	1.80	0.80	1.24
	Groceries	1.13	0.71	1.77
	Miscellaneous	1.08	0.79	0.95
	TOTALS	$13.59	$12.46	$20.85

* Expenditures estimated for Oswego County residents were limited to those attributable to the fishery.

the $12.52 average statewide daily expenditure for New York anglers in 1973 (from a Sea Grant-DEC sponsored survey, as yet unpublished), and is far higher than the 1970 national average of $7.02 per day (US Department of Interior 1972).

To determine whether all expenditures of non-Oswego County anglers could legitimately be attributed to the fishery, anglers were asked if they came to Oswego County primarily to fish, or for other reasons. For those who were in Oswego County for other reasons, expenditures such as food, lodging, and travel costs were not attributed to the fishery. Of the $412,000 spent in Oswego County by non-county residents, approximately 92 percent, or $379,000, was new income to the county, in that those anglers would not have been in the county except for the salmon fishery. The vast majority of this revenue accrues to the Pulaski-Port Ontario area. As in 1973, the area economically impacted by the fishery is too small, and the interdependence of

the economic sectors is too low to justify a multiplier of the magnitude reported in other countywide and regional studies. Thus we will retain the estimate of 1.20 used in 1973. Multiplying this factor by the $379,000 new income to the county yields a total of $455,000 revenue generated by the fishery.

While the economic impact of the Salmon River fishery was obvious in terms of increased business for the recreation service sector in 1974, the first new jobs attributable to the fishery occurred in 1975, when two new sporting goods stores opened, one expanded, and one restaurant that was previously open only on weekends during the fall opened on a daily basis. This activity resulted in the creation of the equivalent of five full-time year-round jobs, and five additional full-time seasonal jobs in the private sector. In addition, the equivalent of two and one-half full-time seasonal police jobs were required of local government to handle the influx of anglers into the Pulaski area.

Availability of Facilities and Services

The timing of the fall salmon runs is favorable in terms of the ability of the northern Oswego County recreation service industry to meet the needs of these anglers. Labor Day weekend, which traditionally marked the end of the tourist season, now marks the beginning of the salmon runs. Because the salmon runs do not overlap with summer tourism, Salmon River communities have generally been able to provide the services and facilities desired by anglers.

In 1974 and 1975, only about 17 percent of anglers indicated difficulty in finding services and facilities of any type (Table 9). Public parking, the service most frequently listed as lacking, was mentioned by only 4.5 percent of anglers. Almost as many anglers (4.0 percent) indicated the need for a 24-hour diner.

Similarly, only 10 percent of 1974 anglers, and 16 percent of 1975 anglers, complained of crowded conditions during the fall salmon run (Table 10). In 1975, the 3.9 percent who

TABLE 9 *Salmon River Anglers Unable to Find Services, 1974-75*

Service	1974		1975	
	Anglers	Percent	Anglers	Percent
No Complaint	13,600	83.1	18,560	82.4
Public Parking	240	1.4	1,010	4.5
24-Hour Diner	420	2.6	900	4.0
Salmon Info--Maps and Phone	430	2.7	310	1.4
Lake Dock and Launch	0	0.0	290	1.3
Boat Launch	50	0.3	270	1.2
Public Restrooms	190	1.1	200	0.9
24-Hour Gas	90	0.5	160	0.7
High Water Warning	320	2.0	150	0.6
Police	10	0.0	150	0.6
Boat Rental	0	0.0	120	0.5
More Free River Access	180	1.1	60	0.3
Motel	100	0.6	40	0.2
Trash Cans	120	0.7	30	0.1
Open Tackle/Supplies at Night	190	1.2	30	0.1
Fish Cleaning Areas	40	0.3	0	0.0
Ice	20	0.1	0	0.0
Tackle Repair	40	0.3	0	0.0
Lure Only Area*	50	0.3	0	0.0
Boat Docking	70	0.4	0	0.0
Other	210	1.3	250	1.1
TOTALS	16,370	100.0	22,530	100.0

* A "lure only" area, where snagging is not permitted, was opened in 1975.

TABLE 10 *Services Reported As Crowded by Salmon River Anglers, 1974-75*

Service	1974		1975	
	Anglers	Percent	Anglers	Percent
No Complaint	14,620	89.5	18,920	84.3
Restaurant	360	2.2	870	3.9
Diner	200	1.2	620	2.7
Boat Launch	70	0.4	450	2.0
Boat Rentals	0	0.0	440	2.0
Public Parking	290	1.7	390	1.8
Sporting Goods/Tackle	190	1.2	290	1.3
Fishing Areas	0	0.0	170	0.8
Roads in Town	20	0.1	150	0.6
Motel	0	0.0	70	0.3
Gas Station	50	0.3	20	0.1
River Access	540	3.3	10	0.1
Other	10	0.1	50	0.2
TOTALS	16,350	100.0	22,450	100.0

indicated restaurants were crowded comprised a greater number of anglers than those who complained of any other type of crowding.

Although the proportion of anglers finding facilities crowded or unavailable is small, it points to problems that will increase as the fishery continues to grow.

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