Federal Aid in Sport Fish Restoration F16AF00354 F-57-R-35 Annual Performance Report

2016-17

Connecticut Fisheries Division

Lake and Large River Angler Surveys





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State of Connecticut Department of Energy and Environmental Protection Bureau of Natural Resources Fisheries Division



Grant Title: Inland Fisheries Research and Management

Study 2: Warmwater Fisheries Management Job 2: Lake and Large River Angler Surveys

Period Covered: April 1, 2016 to March 31, 2017

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Date Submitted: September 4, 2017

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Cover photo: Cassie Ganio with a Largemouth Bass caught on the Bantam River in Torrington, CT. Photo by Christian Anderson.

Summary

The Connecticut Department of Energy and Environmental Protection Fisheries Division (FD) conducted angler surveys on seven Connecticut lakes during 2016-17: Mohawk Pond, Mount Tom Pond, Coventry Lake, Moodus Reservoir, Pickerel Lake, Lake Zoar, and Mansfield Hollow Reservoir. These surveys collected data on fishing effort, catch and harvest of various fish species, and angler opinions on FD management practices. Most open water fishing effort was by anglers targeting either bass, trout (where stocked) or "anything" they could catch. At Coventry, a Walleye Management Lake, 6% of open water anglers targeted Walleye. Periods of safe ice were relatively brief (approx. one month or less) at most lakes surveyed during both winters of 2016 and 2017, with the exception of Mansfield Hollow Reservoir, which had approximately two months of intermittent safe ice. Fisheries created by FD stockings of Northern Pike attracted the majority of ice angler participation on Mansfield Hollow Reservoir. At other lakes surveyed, ice anglers targeted either trout or "anything" the majority of the time.

Background

Angler surveys are an indispensable component of Fisheries Division (FD) management programs. These surveys provide vital information on angler use of various fisheries and angler feedback on current management practices. The FD has a long history of conducting angler surveys on lakes and large rivers, but these surveys were typically conducted under the auspices of individual management and monitoring projects. In 2011, FD initiated a centralized Lake and Large River Angler Survey Job that was charged with collecting and archiving angler survey data from lakes and large rivers using standardized survey methods that ensures comparability of data across locations and years. This report details work conducted by the Lake and Large River Angler Survey Job during the winter of 2016 through the winter of 2017.

Note: The Connecticut DEEP Inland and Marine Fisheries Divisions were merged into a single Fisheries Division in January of 2017. Although the majority of the work for this report was conducted while we were still Inland Fisheries, the new designation has been incorporated herein.

Approach

FD staff members create a prioritized list of potential survey sites annually. As many waterbodies as resources permit are surveyed within a given year. Lake surveys employ a standardized stratified random roving design (Malvestuto et al. 1978). Large river surveys are

often customized and may employ roving designs, access point designs (Pollock et al. 1994), or some combination of the two approaches. Standard open water surveys are typically conducted from Opening Day of trout season (2rd Saturday in April) until the end of October during the daylight hours between dawn and dusk. Ice season surveys are conducted from dawn to dusk during periods of safe ice, which typically occur from mid-December through the beginning of March. Open water and ice surveys are occasionally conducted after dark at lakes that support night fisheries for species such as Walleye and Channel Catfish. On a given day, survey clerks travel to the waterbody, count the number of anglers present, and then interview anglers using a standardized questionnaire. All survey data are entered into centralized databases.

All surveys quantify angler effort (expressed as "angler-hrs", or hours of fishing that occur over the course of the season; one angler-hr = one angler fishing for one hour, two anglers fishing for three hours = six angler-hrs, etc.) as well as catch (numbers of fish caught by anglers) and harvest (numbers of fish caught that are kept). Surveys also quantify directed effort (percentage and/or number of angler-hrs spent in pursuit of particular species) and catch rates (the number of a species caught per angler-hr of fishing). Anglers may also be asked questions to assess their avidity (number of fishing trips taken annually to the waterbody), monetary expenditures for their fishing trip, and opinions of current or prospective FD management programs.

Key Findings

The FD conducted angler surveys on two lakes during the 2016 ice season and five lakes during 2016-17 open water and ice seasons (Fig. 1, Appendix 1). Mohawk Pond (2016), Mount Tom Pond (2016) and Mansfield Hollow Reservoir (2016-17) were only surveyed during the ice fishing season; whereas, Moodus Reservoir, Pickerel Lake (2016) and Lake Zoar (2016) were only surveyed during the open water season. Coventry Lake was surveyed during both the open water and ice seasons of 2016-17. An attempt was made to survey Moodus during the winter of 2016-17, but safe ice never set up. Angler effort, catch and harvest, and directed effort at each lake are shown in Appendices 2-4.

Lakes surveyed during 2016-17 were chosen for varied reasons (Appendix 1), which included:

Mohawk Pond: a survey was conducted in part to assess a new experimental initiative.
 Large broodstock Brook Trout were stocked into two waterbodies; Mohawk Pond and
 Black Pond (Woodstock). Each lake received approximately 200 fish with the intensions
 of providing anglers the opportunity to catch large brookies in a relatively pristine
 setting.

- Mount Tom Pond: a survey was conducted to assess the developing Walleye fishery (see Walleye Management Annual Performance Report: Warmwater Job 6, 2016-17) as well as assess the stocking of 125 broodstock Atlantic Salmon in the fall of 2015.
- Coventry Lake: a survey was conducted to compile more data on the Walleye fishery that has been struggling to produce legal size (18-inch) fish since stocking began in 2001 (see Walleye Management Annual Performance Report: Warmwater Job 6, 2016-17).
- For both Moodus Reservoir and Pickerel Lake, surveys were conducted to add to the long-term historical dataset for these important warmwater fisheries that are also Bass Management Lakes.
- Lake Zoar: a survey was conducted to assess the developing Walleye fishery (which began in 2011), as well as determine the extent of the pike and bass fisheries.
- Mansfield Hollow Reservoir: a survey was conducted to assess the status of the pike fishery at this lake and assess the relative performance and contribution to the fishery of two stocked pike size classes (fingerlings vs. yearlings, see Northern Pike Annual Performance Report: Warmwater Job 5, 2016-17 for details).

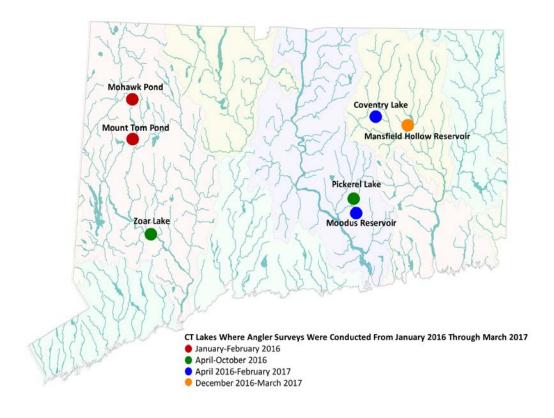


Figure 1. Connecticut lakes where angler surveys were conducted January 2016 - March 2017.

Total open water angler effort at lakes surveyed during 2016 ranged from 3,925 angler-hrs at Pickerel Lake to 18,993 angler-hrs at Lake Zoar (Appendix 2). Boat effort was substantially higher than shore effort at all four lakes surveyed. Bass (Largemouth and Smallmouth) were the most targeted fish during the open water season, ranging from 37% to 70% of total effort among the lakes surveyed (Appendix 4a). Open water angler effort directed toward Walleye was relatively low at Coventry and Zoar lakes (6% and <1%); however, estimated Walleye catch (121 and 198 fish) was near average for a Walleye Management Lake (WML) (Avg = 178 for nine WMLs surveyed between 2010 and 2014). Directed toward pike at Lake Zoar was low (1% of total effort). Generalist "anything" anglers accounted for a substantial portion (21-40%) of total fishing effort among the lakes surveyed during the open water season (Appendix 4a).

Periods of safe ice were relatively short during the January-February 2016 season at Mohawk Pond (38 days) and Mount Tom (36 days, however, some of the pond remained ice free throughout the season) as well as during the 2016-17 season at Coventry Lake (22 days). At Mansfield Hollow Reservoir in 2016-17, safe ice came in three disjunct periods totaling 63 days among which the ice receded and refroze twice. At Mohawk and Mount Tom ponds, salmonids were the most popular target species during the ice season (directed effort = 70% for trout at Mohawk, and 35% for trout and 20% for Atlantic Salmon at Mount Tom, Appendix 4b). Generalist anglers made up the next largest category of directed effort at Mohawk and Mount Tom (28% and 35%). At Coventry Lake, generalist anglers accounted for 91% of the directed ice effort (Appendix 4b) and despite being a WML, none of the 18 anglers interviewed targeted Walleye. Pike was the most popular target species for ice anglers at Mansfield Hollow Reservoir accounting for 92% of directed effort (Appendix 4b).

Gamefish catch and harvest rates (percentages of fish caught that are kept) varied by species among the sites during the open water surveys (see Appendix 3a). Bass (Largemouth and Smallmouth) and sunfish were the species caught most frequently in Coventry and Zoar Lakes during the open water period; whereas, Chain Pickerel and bass dominated the catch at Moodus and Pickerel Lakes. Harvest rates for Largemouth and Smallmouth Bass, Chain Pickerel and Walleye were 8% or less at most lakes. Conversely, harvest rates for trout species in aggregate ("All trout" harvest estimates in Appendix 3a) ranged from 55 to 84% among lakes. Harvest rates for "panfish" such as Yellow Perch, Black Crappie, White Perch, Rock Bass, catfish species, and sunfish species ranged from 0% to 100%, with the highest rates found at Pickerel Lake and Lake Zoar. Despite low directed effort, an estimated 121 pike were caught during the open water period at Lake Zoar. However, none of these fish were caught by anglers targeting pike.

Catch during the ice fishing season (Appendix 3b) varied among sites, but in general Yellow Perch, Largemouth Bass and Chain Pickerel were the species most caught. No Walleye were reported caught at Coventry Lake; however, this may have little significance because the short ice season resulted in only 18 anglers being interviewed during eight visits to the lake. At

Mohawk Pond, the trout catch was low during the short ice season there (of 40 trout anglers interviewed, only one brown and one brook trout were caught). At Mount Tom Pond, the Atlantic Salmon that were stocked during the fall of 2015 provided the majority of the catch, with an estimated 57 fish caught, 56% of which were harvested. At Mansfield Hollow Reservoir, Northern Pike were one of the most commonly caught species during the ice fishing season (an estimated 194 caught). Harvest rates (Appendix 3b) at the four lakes surveyed during the ice season followed the same general pattern as observed for open water (low for bass, moderate for panfish, and high for trout).

Discussion

Angler surveys conducted during 2016-17 highlight the diversity of inland fishing opportunities available in Connecticut. This Job is important to Fisheries Management in providing valuable catch, harvest and effort data to base management decisions upon. Many of the lakes surveyed during 2016-17 demonstrate the success of FD stocking programs in creating diversified fisheries throughout the state, but it has also brought to light some fisheries that require further investigation as to how to improve them. These include the Walleye program in Coventry Lake, which appears to have only a small fishable population of Walleye despite being stocked for 16 years (see Walleye Management Report Study 2 Job 6 2016-17 for specific details).

The success of the Brook Trout stocking program at Mohawk Pond is unclear based alone on the low catches encountered during the short 2016 ice fishing season. However, anecdotal reports indicate that some anglers caught fish during open water prior to the ice season as well as during the ice season. Moreover, this lake appears to have a large contingent of anglers that target trout.

It is apparent from the ice survey results at Mount Tom Pond that the salmon stocking was a success. Unlike the excellent pike fishery upstream at Lake Lillinonah (McDowell et al. 2013), pike appear to be only incidentally caught in Lake Zoar and are likely not present in high densities.

Expenditures

Total Cost: 101,510 Federal Share: 76,132 State Share: 25,377

References

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Acknowledgements

We would like to thank all of the DEEP Fisheries staff who helped out in the collection of this angler survey data. We would also like to thank all the Seasonal Research Assistants who participated in the collection of these data: William Henly, Jason Jaffee, Ryan Johnson, Erin McGrath, Max Nyquist, Jodi Pinder, Andrew Ransom, Steve Rogers, and Michael Steeves. Special thanks to Pete Aarrestad and Bill Hyatt for reviewing the document and to the U.S. Fish and Wildlife Service, Federal Aid in Sport Fish Restoration for providing most of the funding.

Appendices

Appendix 1. Lakes where the Fisheries Division conducted angler surveys during 2016-17.

Lake	Towns	Area (acres)	Public Boat Access	Public Shore Access	Special Management	Prior Angler Surveys?	Primary Rationale	Comments
Coventry Lake	Coventry	373	Paved ramp, parking for 26 cars.	Restricted to launch area	Walleye Management Lake ¹ Bass Management Lake ²	Multiple surveys dating back to 2002	Walleye assessment	6 mph speed limit from sunset to one hour after sunrise all days and on Sundays from noon to 4 pm; May 15 to September 15 and from noon to 2pm on July 4. 40 mph at other times.
Mansfield Hollow Reservoir	Mansfield, Windham	460	Paved ramp, parking for 50 vehicles.	Excellent - entire shoreline is open to public	Bass Management Lake ² , Northern Pike Management Lake ³	Multiple surveys dating back to 1993	Northern Pike assessment	8 mph speed limit. Ice season survey only in 2016-17.
Mohawk Pond	Cornwall, Goshen	16	Parking for 8 vehicles.	Many areas inaccessible due to thick vegetation and wetland habitat	Statewide regulations apply for all species.	None	Brook Trout stocking assessment	Use of all motors prohibited. Ice season survey only in 2016.
Moodus Reservoir (upper)	East Haddam	486	Paved ramp, parking for 10 vehicles.	Limited. Access is the causeway that separates the two basins	Trophy Bass Management Lake ²	Multiple surveys dating back to 1986	Long term warmwater fisheries monitoring	8 mph speed limit from 9:00am-8:00am, 35 mph at all other times.
Mount Tom Pond	Litchfield, Morris, Washington	56	Undeveloped. Car-top boats, parking for 9 vehicles. A parking fee charged: Memorial Day- Labor Day.	Limited to state park boundaries	Statewide regulations apply for all species.	None	Walleye and Atlantic Salmon assessment	Gas motors prohibited. Ice season survey only in 2016.
Pickerel Lake	Colchester, East Haddam	82	Paved ramp with parking for 10 cars.	Restricted to launch area	Bass Management Lake ²	Multiple surveys dating back to 1986	Long term warmwater fisheries monitoring	8 mph speed limit except for the period June 15 to first Sunday after Labor Day 11am to 6 pm. Open water survey only in 2016.
Zoar Lake	Monroe, Newtown, Oxford, Southbury	909	Paved ramp, parking for 60 cars.	Kettletown State park on the eastern shore	Statewide regulations apply for all species.	None	Northern Pike and Walleye assessment	45mph daytime speed limit; 25 mph ½ hour after sunset to ½ hour before sunrise. Open water survey only in 2016.

¹ Walleye Management Lakes are stocked annually with Walleye fingerlings; see Walleye Management Report Study 2 Job 6 2016-17.

² Bass Management Lakes are managed with specialized bass regulations; see Bass Management Report Study 2 Job 3 2016-17.

³ Northern Pike Management Lakes are stocked annually with Northern Pike fingerlings; see Northern Pike Management Report Study 2 Job 4 2016-17.

Appendix 2. Estimated <u>angler effort</u> (angler-hrs) at lakes surveyed during the 2016 ice fishing season (periods of safe ice from 1/14-2/22/16); the 2016 open water season (4/9-10/31/16) and subsequent 2016-17 ice fishing season. The ± 95% confidence limits around effort estimates are shown in parentheses, expressed as a percentage of the effort estimate (e.g. an entry of "1,000 (50%)" represents an effort estimate of 1,000 angler-hrs with a 95% confidence limit of ± 500 angler-hrs). The columns labeled "Eff/acre" contain the open water or ice angler effort per acre for each lake. The column labeled "Ice Days" contains the number of days of safe ice at each lake during the ice fishing season. Entries of "n.a." indicate the lake was not surveyed during that season.

			Open Water Se	Ice Season				
Lake	Area (AC)	Boat	Shore	Total	Eff/acre	lce	Eff/acre	Ice Days
¹ Coventry Lake	373	4,711(24%)	1,440(40%)	6,150(20%)	13	432(259%)	1	22
² Mansfield Hollow Res.	460	n.a.	n.a.	n.a.	n.a.	2,866(37%)	6.2	61
³ Mohawk Pond	16	n.a.	n.a.	n.a.	n.a.	605(62%)	37	38
⁴ Moodus Reservoir	486	7,816(20%)	2,222(31%)	10,038(16%)	16	-	-	No Safe Ice
⁵ Mount Tom Pond	56	n.a.	n.a.	n.a.	n.a.	1506(56%)	27	36
⁶ Pickerel Lake	82	2,717(25%)	1,209(68%)	3,925(26%)	33	n.a.	n.a.	n.a.
⁷ Zoar Lake	909	10,391(20%)	8,542(19%)	18,933(15%)	11	n.a.	n.a.	n.a.

¹Coventry Lake was surveyed during the 2016 open water period (4/9-10/31/16) and the 2016-17 ice fishing season (2/4/-2/25/17).

² Mansfield Hollow Res. was surveyed during three disjunct safe ice periods during the 2016-17 ice fishing season (12/15/16-1/22/17 & 2/4-2/25/17 & 3/17-3/18/17).

³ Mohawk Pond was surveyed during the 2016 ice fishing season (1/14-2/21/16).

⁴Moodus Reservoir was surveyed during the 2016 open water period (4/9-10/31/16). A survey during the 2016-17 ice fishing season was attempted, but no safe ice formed.

⁵Mount Tom Pond was surveyed during the 2016 ice fishing season (1/14-2/22/16).

⁶Pickerel Lake was surveyed during the 2016 open water period (4/9-10/31/16).

⁷Zoar Lake was surveyed during the 2016 open water period (4/9-10/31/16).

Appendix 3a. Estimated catch (number of fish), harvest (number of fish), and harvest rate (percent of fish caught that were harvested) at lakes surveyed during the 2016 open water season (4/9-10/31/16). The ± 95% confidence interval (C.I.) around catch or harvest estimates are shown in parentheses, expressed as a percentage of the catch or harvest estimate (e.g. an entry of "1,000 (50%)" represents an estimate of 1,000 fish caught or harvested with a 95% confidence interval of ± 500 fish). Catch of individual catfish species are not reported because most anglers cannot reliably identify catfish to species. When observed by angler survey clerks, catch of various sunfish species is reported, but most time anglers cannot reliably identify individual sunfish species and so the generic category of "sunfish" is included. In lakes with relatively low estimated trout catches, catch and harvest of individual trout species are not reported separately. "NP" means this species is not present in the lake.

Open Water Season Catch, Harvest and Harvest Rates

		Coventry		Mood	us Reservoir (up	per)		Pickerel Lake			Zoar Lake	
Species	Catch	Harvest	Harvest	Catch	Harvest	Harvest	Catch	Harvest	Harvest	Catch	Harvest	Harvest
	(95% C.I.)	(95% C.I.)	Rate	(95% C.I.)	(95% C.I.)	Rate	(95% C.I.)	(95% C.I.)	Rate	(95% C.I.)	(95% C.I.)	Rate
Largemouth Bass	1,933(52%)	0(0%)	0%	3,547(35%)	30(152%)	8%	1,340(36%)	49(159%)	4%	3,273(35%)	89(228%)	3%
Smallmouth Bass	764(90%)	83(206%)	11%	76(105%)	0(0%)	0%	NP	NP	NP	7,663(36%)	4(208%)	5%
Walleye	121(96%)	0(0%)	0%	NP	NP	NP	NP	NP	NP	198(121%)	9(200%)	4%
Northern Pike	NP	NP	NP	NP	NP	NP	NP	NP	NP	121(141%)	0(0%)	0%
Chain Pickerel	124(83%)	0(0%)	0%	5,431(36%)	163(144%)	3%	1,953(54%)	0(0%)	0%	6(204%)	0(0%)	0%
All trout	876(57%)	480(65%)	55%	NP	NP	NP	NP	NP	NP	148(110%)	124(128%)	84%
Black Crappie	636(132%)	209(206%)	33%	-	-	-	261(87%)	73(173%)	28%	459(127%)	0(0%)	0%
Yellow Perch	639(56%)	0(0%)	0%	482(77%)	20(141%)	4%	356(70%)	21(146%)	6%	615(55%)	316(96%)	51%
All catfish ¹	-	-	-	-	-	-	14(209%)	14(209%)	100%	23(166%)	5(200%)	22%
All sunfish ²	4,118(122%)	47(206%)	1%	2,221(52%)	261(199%)	12%	920(62%)	39(204%)	4%	3,501(41%)	766(67%)	22%
Common Carp	2(206%)	0(0%)	0%	NP	NP	NP	NP	NP	NP	230(114%)	94(208%)	41%

¹ Anglers reported catching Channel and White Catfish, and Brown and Yellow Bullheads.

² Anglers reported catching Bluegills, Pumpkinseeds and "sunfish".

Appendix 3b. Estimated catch (number of fish), harvest (number of fish), and harvest rate (percent of fish caught that were harvested) at lakes surveyed during the 2016 ice fishing season (periods of safe ice 1/14-2/22/16) and the 2016-17 ice fishing season (periods of safe ice from 12/15/16-3/18/17). The ± 95% confidence interval (C.I.) around catch or harvest estimates are shown in parentheses, expressed as a percentage of the catch or harvest estimate (e.g. an entry of "1,000 (50%)" represents an estimate of 1,000 fish caught or harvested with a 95% confidence interval of ± 500 fish). Catch of individual catfish species are not reported because most anglers cannot reliably identify catfish to species. When observed by angler survey clerks, catch of various sunfish species is reported, but most time anglers cannot reliably identify individual sunfish species and so the generic category of "sunfish" is included. In lakes with relatively low estimated trout catches, catch and harvest of individual trout species are not reported separately. "NP" means this species is not present in the lake.

Ice Fishing Season Catch, Harvest and Harvest Rates

Species		Coventry		Mansfield Hollow Reservoir			Mohawk Pond			Mount Tom Pond		
	Catch	Harvest	Harvest	Catch	Harvest	Harvest	Catch	Harvest	Harvest	Catch	Harvest	Harves
	(95% C.I.)	(95% C.I.)	Rate	(95% C.I.)	(95% C.I.)	Rate	(95% C.I.)	(95% C.I.)	Rate	(95% C.I.)	(95% C.I.)	Rate
Largemouth Bass	112(270%)	0(0%)	0%	135(100%)	3(208%)	2.2%	40(163%)	0(0%)	0%	-	-	-
Walleye	-	-	-	NP	NP	NP	NP	NP	NP	-	-	-
Chain Pickerel	22(267%)	11(267%)	50%	178(81%)	10(210%)	6%	18(155%)	0(0%)	0%	15(222%)	15(222%)	100%
Northern Pike	NP	NP	NP	194(83%)	0(0%)	0%	NP	NP	NP	-	-	-
All trout	9(267%)	9(267%)	100%	NP	NP	NP	15(114%)	11(153%)	73%	-	-	-
Brook Trout	-	-	-	NP	NP	NP	7(221%)	7(221%)	100%	-	-	-
Atlantic Salmon	NP	NP	NP	NP	NP	NP	NP	NP	NP	57(99%)	32(155%)	56%
Black Crappie	11(267%)	11(267%)	100%	24(172%)	10(210%)	42%	7(221%)	0(0%)	0%	2(227%)	0(0%)	0%
Yellow Perch	232(148%)	131(326%)	56%	207(93%)	37(95%)	18%	109(134%)	6(226%)	5%	-	-	-
All catfish ¹	-	-	-	4(208%)	0(0%)	0%	-	-	-	-	-	-
Rock Bass	11(267%)	11(267%)	100%	NP	NP	NP	-	-	-			
All sunfish ²	11(267%)	11(267%)	100%	24(217%)	0(0%)	0%	13(221%)	0(0%)	0%	-	-	-

¹ Anglers reported catching Channel Catfish, White Catfish, and Brown Bullheads.

² Anglers reported catching Bluegills, Pumpkinseeds, Redbreast and "sunfish".

Appendix 4a. <u>Directed effort</u> (angler-hrs) for various species at lakes surveyed during the 2016 open water season (4/9-10/31/16). "Bass" directed effort includes all effort targeting Largemouth Bass and/or Smallmouth Bass. "Trout", "Catfish", and "Sunfish" directed effort includes all effort targeting all trout species, all catfish species and all sunfish species, respectively. "Anything" directed effort reflects generalist angler effort not directed towards any particular species (i.e. anglers who are fishing for "anything", "whatever they can catch", etc.). "Effort (%)" columns may sum to slightly more or less than 100% due to rounding.

	Cove	entry	Mod	odus	Pick	erel	Zoar		
Species	Effort (Hrs)	Effort (%)	Effort (Hrs)	Effort (%)	Effort (Hrs)	Effort (%)	Effort (Hrs)	Effort (%	
Bass	-	-	-	-	-	-	11,410	60	
Largemouth Bass	2,356	38	7,111	71	2,657	68	-	-	
Smallmouth Bass	13	<1	-	-	-	-	-	-	
Walleye	409	7	-	-	-	-	25	<1	
Northern Pike	-	-	-	-	-	-	134	1	
Chain Pickerel	-	-	75	1	38	1	-	-	
All trout	510	8	-	-	-	-	61	<1	
Black Crappie	-	-	440	4	47	1	-	-	
Yellow Perch	143	2	-	-	-	-	106	1	
White Perch	-	-	-	-	-	-	263	1	
All catfish	-	-	2	<1	-	-	100	<1	
All sunfish	187	3	248	2	209	5	51	<1	
Common Carp	59	1	-	-	-	-	1,405	7	
Anything	2,473	40	2,161	21	973	25	5,377	28	

Appendix 4b. <u>Directed effort</u> (angler-hrs) for various species at lakes surveyed during the 2016 ice fishing season (periods of safe ice 1/14-2/22/16) and the 2016-17 ice fishing season (periods of safe ice from 12/15/16-3/18/17). "Trout", "Catfish", and "Sunfish" directed effort includes all effort targeting all trout species, all catfish species and all sunfish species, respectively. "Anything" directed effort reflects generalist angler effort not directed towards any particular species (i.e. anglers who are fishing for "anything", "whatever they can catch", etc.). "Effort (%)" columns may sum to slightly more or less than 100% due to rounding.

	Ice Season Directed Effort												
	Coventi	y Lake	Mansfield Resei		Mohaw	k Pond	Mount Tom Pond						
Species	Effort (Hrs)	Effort (%)	Effort (Hrs)	Effort (%)	Effort (Hrs)	Effort (%)	Effort (Hrs)	Effort (%					
Largemouth Bass	-	-	68	2	0.1	<1	-	-					
Walleye	-	-	-	-	-	-	68	4					
Northern Pike	-	-	2,630	92	-	-							
Chain Pickerel	-	-	-	-	-	-	87	6					
Atlantic Salmon	-	-	-	-	-	-	294	20					
All trout	-	-	-	-	437	70	529	35					
Brook Trout					18	3	-	-					
Yellow Perch	29	7	25	1	-	-	-	-					
All sunfish	10	2	5	<1	-	-	-	-					
Anything	393	91	138	5	168	27	529	35					