

2016 Opening Day Trout Angler Survey Report

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**2016 New Jersey Division of Fish and Wildlife
Opening Day Angler Survey Report
by Ross Shramko, Senior Fisheries Biologist**



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What are Angler Surveys?

Angler (or sometimes referred to as “creel”) surveys are one device utilized by Fisheries Managers to help protect and enhance freshwater fishing opportunities. An angler survey is a widely applied and broad term that simply refers to methods of sampling used to collect recreational fishing information.

Many anglers who fish on Opening Day of trout season may already be familiar with the Bureau of Freshwater Fisheries use of angler surveys given that this tool has been utilized since 2004 on about 120 trout stocked locations throughout the Garden State. So, if you fish on Opening Day, you may have a good chance of having your voice heard and taking part in the management of New Jersey’s freshwater fisheries.

The Bureau of Freshwater Fisheries (BFF) relies on anglers to gather information about angler success, fishing preferences, interests, and attitudes, not only about trout stocking, but also about the Division’s Freshwater Fisheries program. The BFF collects angler information through multiple formats: phone, online, angler logbooks, or on-site surveys. The type of angler survey that is used on Opening Day is referred to as an “On-Site Creel Survey”

because surveys or interviews are conducted at the time the angler is fishing. Traditionally, anglers kept their catch in a wicker basket, also known as a creel. Even though anglers commonly opt to store their catch on a stringer or in a cooler, the term creel still refers to what an angler has caught. The intent of this type of data is to provide the Division with information to better understand anglers, provide better service, and ultimately improve fishing throughout New Jersey.

The Opening Day Angler Survey has two main objectives: (1) to record angler presence or turnout on specific waterbodies and (2) to determine angler success. This data is gleaned from casual interviews with anglers. Data about specific species catch, waterbody conditions, cormorant activity, and other pertinent information is also collected to enable the Bureau of Freshwater Fisheries to better manage the waterbodies that are being stocked with trout. The emphasis of the opening day survey is usually on lakes and ponds because of the difficulty in obtaining and assessing accurate angler turnout and success on streams. This year, however, a greater emphasis was placed on obtaining information on rivers and streams particularly those that have both wild and stocked populations of trout.

How are the opening day surveys conducted?

Wildlife Conservation Corps (WCC) volunteers assist Fish and Wildlife staff in conducting surveys on various waterbodies on Opening Day of trout season. Each volunteer, or angler survey clerk, is assigned a waterbody and given written instructions to be reviewed before Opening Day so questions or concerns about the survey can be addressed. A total of 29 survey clerks conducted surveys this year.



Rosedale Lake, Wesley R. VanPelt on 4/4/2015
Photo Credit: Caitie Caroleo, WCC

All individuals fishing are counted by survey clerks to help determine angler turnout. Counts are conducted hourly from 8 a.m. until noon. From the five counts made, the highest number of anglers is used as the indicator of angler turnout. One limitation in hourly counts is that turnover is not taken into account. For example, if 10 anglers leave the waterbody, and 10 new anglers arrive, the count would still be 10.



Grenloch Lake, 4/4/2015
Photo credit: Jeff Bower, WCC

However, survey clerks would have a difficult time keeping track of all anglers coming and going, especially on large waterbodies, as they drove between different locations interacting with anglers.

In-between hourly counts, survey clerks record angler catches, what successful anglers are using to catch trout, observations about the fishing action in general, and any other pertinent information supplied by the anglers or observed by the survey clerk.

Data is recorded on supplemental data forms and submitted to Bureau of Freshwater Fisheries staff to be compiled and analyzed. Lakes and streams are analyzed separately because of the difficulty in counting total anglers fishing on a given stream stretch at one particular point in time.

Results of the 2016 Opening Day Angler Survey

The Opening Day of the 2016 trout season was Saturday, April 9th. The weather was cold with overcast skies and snow showers in many locations. Some parts of the state received upwards of 3 inches of snow by 12:00 p.m. Of the 37 surveys conducted, 18 were on lakes and ponds. On the 18 lakes and ponds surveyed, 664 anglers were observed fishing (an average of ~37 anglers per waterbody). This number is down from last year's opening day when 2,109 anglers were observed on 33 lakes and ponds surveyed (an average of ~64 anglers per waterbody). It is important to note, that the waterbodies selected to survey are not random. This year a number of waterbodies were selected due to consistent poor angler turnout in previous years which would affect the overall number of anglers recorded. In addition, to the effect of less than desirable weather. Also, as noted above, the counts do not account for turnover over the course of the day. For example, a volunteer survey clerk at a waterbody may record 100 anglers on any given hour, then, they count 100 anglers the next hour; this second count does not take into account anglers that may have left or arrived within that time interval. By making counts using these methods (number of

anglers counted every hour and using the highest number) there is a potential for underestimating the number of anglers that actually fished on a given waterbody.

Trout-stocked Lakes and Ponds

In some locations trout fishing was fantastic. Several anglers proclaimed this was the best opening day ever while many more said they are happy to see the trout stocking program back to where it was prior to the disease issues at the Pequest Trout Hatchery in 2014. Mac's Pond (Monmouth), Manny's Pond (Hunterdon), Nomahegan Park Pond (Union) had the highest catch rates per angler at 1.78 fish per angler, 1.74 fish per angler and 0.93 fish per angler respectively. In fact, anglers at Mac's Pond caught an astonishing 72% of the total trout stocked in the pond before 12:00pm!



Anglers this year braved harsh conditions in search of their share of the 360 trout stocked in Grenloch Lake.

Photo Credit: Ronald Mares, 04/09/2016

Unfortunately, trout were not as cooperative in other lakes and ponds. The cold air temperatures (lower 30's) and cold water temperatures (mid-30's to mid-40's) appeared to keep the fish from biting, frustrating anglers and sending them home early in multiple locations. Many clerks reported the number of anglers at a waterbody was highest at 8 a.m. or sometimes 9 a.m. but dropped heavily by 10 a.m. and throughout the rest of the day because of the weather, especially on the waterbodies where snow fell.

The following waterbodies had a total of five or fewer trout reportedly caught by all anglers. The number of anglers ranged from 106 to 19.

- Amwell Lake – 19 anglers caught 4 trout
- Colonial Lake – 50 anglers caught 0 trout
- Grenloch Lake – 21 anglers caught 5 trout
- Mt. Hope Pond – 58 anglers caught 0 trout
- Pohatcong Lake – 27 anglers caught 0 trout
- Sylvan Lake – 106 anglers caught 5 trout
- Tuckahoe Lake – 24 anglers caught 0 trout

The following waterbodies also reportedly caught five trout or less, but had considerable fewer anglers (2-7 anglers total):

- Clinton Reservoir – 6 anglers caught 0 trout, but it is unknown how many of these anglers were targeting trout
- Green Turtle Pond – 5 angler caught 0 trout
- Heritage Park Pond – 7 anglers caught 0 trout
- Mountain Lake – 2 anglers caught 4 trout



Two young anglers show off their catch at Hakihohake Creek.
 Photo Credit: Heather Aupperle, 4/09/2016

Angler success rate data has been collected and calculated per waterbody starting in 2008. Since then, the division has had the ability to compare one year’s opening day’s success to another year’s opening day success. Even with the waterbodies mentioned above that had very poor results, the overall success rate per anglers surveyed in 2016 was right on the average compared with previous opening days. 2016 had a success rate per angler of 0.57 fish per angler or just over 1 fish for every 2 anglers. The most successful opening day was in 2008 when 0.73 trout were caught per angler, while 2011 and 2015 are tied for the least successful with 0.46 trout per angler. See table below for more detail.

Table 1: Yearly comparison of angler success rate

		2008	2009	2010	2011	2012	2013	2014	2015	2016	AVERAGE
Total	Anglers	1115	853	1095	1462	1675	1918	1830	2100	664	1412
	# Trout	814	485	551	669	1107	1354	996	960	380	813
	Trout/Angler	0.73	0.57	0.50	0.46	0.66	0.71	0.54	0.46	0.57	0.58

Some waterbodies have been producing consistently bad opening day success rates. The following waterbodies in Table 2 will continue to be monitored, but if their success doesn't change, they could in the future be dropped from the trout stocking program.

A complete list of the 2016 Opening Day angler success on the lakes and ponds can be found in Table 3 along with trout catch information.



Jonathan Paterno holds one of the coveted broodstock from South Vineland Park Pond.

Photo Credit: Tito Gonzalez, 04/09/2016.

Table 2: Waterbodies with consistent poor angler success.

County	Waterbody	Acres		2010	2011	2012	2013	2014	2015	2016	<u>AVERAGE</u>
Mercer	Colonial Lake	10	Anglers	58			50	22	28	50	41.6
			# Trout	4			8	0	2	0	2.8
			Trout/Angler	0.07			0.16	0	0.07	0	0.07
Atlantic	Heritage Park Pond	6	Anglers					14	25	7	15
			# Trout					1	3	0	1
			Trout/Angler					0.07	0.12	0	0.09

Table 3: 2016 Opening Day Angler Survey – Lakes & Ponds.

Waterbody	County	BB ¹	Total # of Anglers	Total # of Trout Caught	Trout Caught/ Angler	Allocated Trout Species	Allocated # of Trout	Percent of Allocation Caught
Amwell Lake	Hunterdon		19	4	0.21	RBT	370	1.08
Clinton Reservoir	Passaic		6	0	0.00	RBT	370	0.00
Colonial Lake	Mercer	X	50	0	0.00	RBT	370	0.00
Englishtown Mill Pond	Monmouth		18	8	0.44	RBT	430	1.86
Green Turtle Pond	Passaic		5	0	0.00	RBT	480	0.00
Grenloch Lake*	Gloucester	X	21	5	0.24	RBT	360	1.39
Heritage Park Pond	Atlantic		7	0	0.00	RBT	430	0.00
Lake Ocquittunk	Sussex	X	81	52	0.64	RBT	360	14.44
Lower Echo Park Pond	Union		50	35	0.70	RBT	390	8.97
Mac's Pond	Monmouth	X	73	130	1.78	RBT	180	72.22
Manny's Pond	Hunterdon	X	39	68	1.74	RBT	280	24.29
Mountain Lake	Warren		2	4	2.00	RBT	600	0.67
Mt. Hope Pond	Morris	X	58	0	0.00	RBT	410	0.00
Nomahegan Park Pond	Union	X	60	56	0.93	RBT	390	14.36
Pohatcong Lake	Ocean		27	0	0.00	RBT	610	0.00
South Vineland Park Pond	Cumberland	X	18	13	0.72	RBT	450	2.89
Sylvan Lake	Burlington		106	5	0.05	RBT	420	1.19
Tuckahoe Lake	Cape May		24	0	0.00	RBT	540	0.00
Total			664	380	0.57		7440	5.11

BB¹ - [Bonus Broodstock Program](#)

Trout-stocked Streams and Rivers

Typically, Opening Day Trout Angler Survey may only have a few streams or rivers as part of the survey because angler counts and success on streams and rivers is difficult to assess. The distance that has to be covered and the movement in and out of fishing spots by anglers makes it difficult to get accurate quantitative data from the survey. This year, fisheries staff focused on streams that have both wild and stocked trout, so more surveys on streams and rivers were done this year than in previous years. As such, streams selected were generally smaller and narrower, with shorter trout stocked sections helping offset limitations typically encountered when conducting angler surveys on streams.

Angler surveys and counts were conducted on 19 streams or stream sections. A total of 302 anglers were surveyed and 607 trout were caught. The catch rate was 2.01 trout per angler. This data shows that of the streams and stream sections surveyed, anglers did very well. Anglers had the highest catch rates on the following streams:

- Big Flat Brook – 67 trout caught by 31 anglers (2.16 trout per angler)
- Capoolong Creek – 25 trout caught by 11 anglers (2.27 trout per angler)
- Franklin Pond Creek – 76 trout caught by 31 anglers (2.45 trout per angler)
- Lopatcong Creek – 43 trout caught by 11 anglers (3.91 trout per angler)
- Mulhockaway Creek – 42 trout caught by 21 anglers (2.00 trout per angler)
- Spruce Run Creek – 42 trout caught by 20 anglers (2.20 trout per angler)
- South Branch Raritan River (Upper Section) – 160 trout caught by 37 anglers (4.32 trout per angler)

A complete list of Opening Day angler counts on streams and rivers can be found in Table 4.

Interestingly, only 12 out of the 607 trout caught in this year's survey were Brook or Brown Trout. These 12 trout were likely wild trout as the Division has stocked only Rainbow Trout in these waterbodies over the last two years with few private stockings occurring on the surveyed waterbodies. This shows that the wild Brook Trout and Brown Trout are harder to catch than stocked Rainbow Trout and suggests that angler harvest of wild trout on opening day may not be as impactful to the wild trout population as one would anticipate based on sheer numbers of anglers fishing on opening day. Although it is acknowledged that there are a few instances where private landowners or private clubs stock Brown Trout or Brook Trout and that the Brown Trout and Brook Trout caught were possibly misidentified as wild trout.

Table 4: 2016 Opening Day Angler Survey – Streams & Rivers

Streams/Rivers						
Waterbody	County	BB ¹	Total # of Anglers	Total # of Trout Caught	Trout Caught/Angler	Allocated Trout Species
Big Flat Brook	Sussex		31	67	2.16	RBT
Beaver Bk	Hunterdon		5	11	2.20	RBT
Capoolong Ck	Hunterdon		11	25	2.27	RBT
Franklin Pond Creek	Sussex		31	76	2.45	RBT
Furnace Brook	Warren		2	5	2.50	RBT
Hakihokake Ck	Hunterdon		14	25	1.79	RBT
India Bk	Morris		14	6	0.43	RBT
Jacksonburg Creek*	Warren		3	unk		RBT
Lopatcong Creek	Warren		11	43	3.91	RBT
Mulhockaway Creek	Hunterdon		21	42	2.00	RBT
Paulins Kill*	Sussex/Warren		43	71	1.65	RBT
Pequannock River TCA	Passaic		15	2	0.13	RBT
Pequest*	Warren		10	6	0.60	RBT
Pond Brook*	Sussex		15	11	0.73	RBT
S/br Raritan River (Upper S)	Morris		37	160	4.32	RBT
S/br Rockaway Ck	Hunterdon		6	7	1.17	RBT
Spruce Run Ck	Hunterdon		20	42	2.10	RBT
Trout Brook (Middleville)	Sussex		3	0	0.00	RBT
Whippany River	Morris		10	8	0.80	RBT
Total	*incomplete surveys		302	607	2.01	RBT

BB¹ - [Bonus Broodstock Program](#)

In Summary

Opening Day success in 2016 was varied. The cold weather and up to 3 inches of snow in areas definitely had a negative effect on the number of anglers and the success rate at many waterbodies. However, some waterbodies still showed a strong angler contingent, and many waterbodies produced a much higher than average angler success rate. Anglers fishing streams were far more successful than anglers fishing lakes and ponds. The average angler's catch rate on streams was 2.01 fish per angler compared to 0.57 fish per angler fishing ponds and lakes. Streams flows were lower than average for this time of year, but still had plenty of water for anglers to enjoy.



Angler William Gunderman proudly holds his first trout of the season, caught at Franklin Pond Creek.

Photo Credit: Lisa Kisch, 04/09/2016

The overall number of opening day anglers counted in this year's survey was down from recent years. No doubt the cold weather and snowy forecast kept many anglers indoors, but numbers were also lower due to division biologists focusing more on lakes and ponds with historically poor turnout and success rates, and more on streams and rivers which can be difficult to assess good angler numbers. For those who braved the elements, Sylvan Lake had the largest showing of anglers with 107 individuals fishing. But the place to be was Mac's Pond in Monmouth County as nearly 75% of the trout stocked in the pond were caught in the first 4 hours of the season.

Despite the overall average to slow start to the spring trout fishing season on many waterbodies, anglers will be more successful as the season progresses, when warmer waters and mild days prevail.

Reports and detailed results noted by volunteer survey clerks for each waterbody surveyed can be found in the appendix of this report.

Acknowledgements

New Jersey Division of Fish and Wildlife's Bureau of Freshwater Fisheries staff would like to thank the following Volunteers and DEP staff who make this project possible every year. Together with NJDFW staff angler counts were conducted on 37 waterbodies across the state. A special note of thanks is also extended to Fisheries Technician Chuck Sedor for coordinating the volunteer efforts.

Survey Clerks			
Name	Affiliation	Name	Affiliation
Allegra Mitchell	WCC	Tom Karakowski	WCC
Caitlyn Takacs	WCC	Wayne Hullfish	WCC
Gene Herre	WCC	Mitch Smith	Volunteer
Heather Aupperle	WCC	Andrea Zasoski	DEP
Hung Le	WCC	Daniel Faith	DEP
Jeff Kurt	WCC	Mike Lentine	DEP
Jim Velcheck	WCC		
Joe DeFelice	WCC		
Joseph Russell	WCC		
Karen Young	WCC		
Lisa Kisch	WCC		
Mike Sankowich	WCC		
Ramiro Gonzalez Jr	WCC		
Ronald Mares	WCC		
Frank Chiofalo	WCC		

Appendix 1-1: Complete information and details included from opening day angler surveys.

County	Waterbody	Lake/ River Conditions	# of Cormorants Present	Time	# of Shoreline anglers		# of Boat anglers		Total # of anglers	Brook Trout caught				Brown Trout caught				Rainbow Trout caught				Total trout caught	Angler comments / Interviewer observations		
					adult	child	adult	child		<14 in		>14 in		<14 in		>14 in		<14 in		>14 in					
										kept	rel	kept	rel	kept	rel	kept	rel	kept	rel	kept	rel				
Atlantic	Heritage Park Pond		8	8:00	3	0	0	0	3														No cormorants prior to stocking. 6 Catfish caught. 3 inches of snow in afternoon. -- Mitch Smith, Volunteer		
				9:00	0	0	0	0	0																
				10:00	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
				11:00	0	0	0	0	0																
				12:00	0	0	0	0	0																
Burlington	Crystal Lake	Choppy/ Clear	0	8:00	X	X	X	X	X																
				9:00	69	17	18	2	106	0	0	0	0	0	0	0	0	0	5	0	0	0		5	
				10:00	X	X	X	X	X																
				11:00	X	X	X	X	X																
				12:00	X	X	X	X	X																
Cape May	Tuckahoe Lake	Calm, clear	0	8:00	12	3	6	3	24																
				9:00	7	4	6	2	19																
				10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
				11:00	0	0	0	0	0																
				12:00	0	0	0	0	0																
Cumberland	South Vineland Park Pond	Cloudy/Muddy	0	8:00	7	1	8	0	16														For such a cloudy day, I thought the turnout was good. Everyone I spoke to including the conservation officer seemed in good spirits and excited about the day. Most stayed clear of me at first until word spread that I was just here to help and collect data. By the end of shift I actually had anglers tracking me down to take photos of their		
				9:00	10	0	8	0	18	0	0	0	0	0	0	0	0	6	1	6	0	13			
				10:00	8	0	10	0	18																
				11:00	6	0	2	0	8																
				12:00	2	0	0	0	2																
Gloucester	Grenloch Lake	Clear/Choppy	0	8:00	X	X	X	X	X														Fishing was slow. Anglers relied on spinners and lures. Despite their best efforts to catch fish, it seems that the local fishermen were not satisfied. Some fishermen caught none, while others caught only a few. -- Ronald S Mares, WCC Volunteer		
				9:00	X	X	X	X	X	0	0	0	0	0	0	0	0	5	2	0	0	7			
				10:00	X	X	X	X	X																
				11:00	1	1	9	0	11																
				12:00	10	2	9	0	21																
Hunterdon	Amwell Lake	Calm, clear	5	8:00	16	1	0	0	15														Fish aren't biting, lake usually busy w/people on boats, slow cause of weather. Anglers usually report lake is successful. Fish biting intermittently. --Andrea Zasoski		
				9:00	17	2	0	0	19	0	0	0	0	0	0	0	3	0	1	0	4				
				10:00	16	2	0	0	18																
				11:00	X	X	X	X	X																
				12:00	X	X	X	X	X																
Hunterdon	Manny's Pond		0	8:00	X	X	X	X	X																
				9:00	X	X	X	X	X																
				10:00	31	8	0	0	39	0	0	0	0	0	0	0	41	26	1	0	68				
				11:00	X	X	X	X	X																
				12:00	X	X	X	X	X																

Appendix 1-2: Complete information and details included from opening day angler surveys.

County	Waterbody	Lake/ River Conditions	# of Cormorants Present	Time	# of Shoreline anglers		# of Boat anglers		Total # of anglers	Brook Trout caught				Brown Trout caught				Rainbow Trout caught				Total trout caught	Angler comments / Interviewer observations
					adult	child	adult	child		<14 in		>14 in		<14 in		>14 in		<14 in		>14 in			
										kept	rel	kept	rel	kept	rel	kept	rel	kept	rel	kept	rel		
Mercer	Colonial Lake	Clear, Choppy	0	8:00	38	12	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	Saw no fish of any species caught. Anglers all said they're not biting. 3 Blue herrons eating fingerlings.
				9:00	35	3	0	0	38														
				10:00	24	2	0	0	26														
				11:00	17	0	0	0	17														
				12:00	21	0	0	0	21														
Monmouth	Englishtown Mill Pond	Muddy	4	8:00	8	1	1	0	10	0	0	0	0	0	0	0	0	7	3	1	1	12	4 Cormorants in tree. One angler was n't happy, thinks birds get more fish than them. Feels the birds are cleaning fish out of the lake, leaving less for the anglers. This angler wants the state to stock the lake with more trout. -- Patricia Walker, WCC Volunteer
				9:00	9	1	1	0	11														
				10:00	10	1	1	0	12														
				11:00	14	4	0	0	18														
				12:00	4	2	0	0	6														
Monmouth	Mac's Pond	Clear	0	8:00	55	18	0	0	73	0	0	0	0	0	0	0	0	35	47	32	16	130	Anglers annoyed that it was so packed, lines crossed and tangled very often. Anglers had a lot of fun and brought kids out. Once the rain started, everyone started leaving. A lot of species in the pond surprised anglers. Some anglers annoyed that lake Tacanassee is still not being stocked. Many said it was their first time fishing this
				9:00	48	12	0	0	60														
				10:00	45	10	0	0	55														
				11:00	35	8	0	0	43														
				12:00	20	7	0	0	27														
Morris	Mount Hope Pond		5	8:00	40	7	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	Cormorants feeding on fish, no bites.
				9:00	44	14	0	0	58														
				10:00	20	9	0	0	29														
				11:00	21	11	0	0	32														
				12:00	20	7	0	0	27														
Ocean	Lake Pohatcong	Clear	22	8:00	21	6	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	Cormorants were feeding early in the morning. Extremely windy, hard to stand. Comments from most anglers focused on the wnd. They blamed the lack of biting fish on the wnd. Anglers changed position because of wind but still no success. (Joanna Peluso, WCC)
				9:00	11	6	0	0	17														
				10:00	4	0	0	0	4														
				11:00	5	0	0	0	5														
				12:00	0	0	0	0	0														
Passaic	Clinton Reservoir	Clear	0	8:00	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	9-10: No angler to talk with, all on boats out on reservoir, can't tell what they're targeting. 10:30: two anglers came back to boat launch, targeted trout but caught none. Caught 2lb. Really slow, but further investigation on actual holdover trout here is the primary interest. -- Scott Collenburg, Fisheries Biologist.	
				9:00	0	0	6	0	6														
				10:00	0	0	4	0	4														
				11:00	0	0	3	0	3														
				12:00	0	0	3	0	3														
Passaic	Green Turtle Pond	Clear, Low water	0	8:00	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	Drove around Green Turtle Pond and observed two anglers. There was no safe place to park, so do not know if any fish were caught. Also, they had crossed approximately 12 feet of water to get to the berm they were fishing on. At least that was the only visual place I could see how they got to where they were. --Karen Young, WCC Volunteer
				9:00	1	0	2	0	3														
				10:00	3	0	2	0	5														
				11:00	3	0	2	0	5														
				12:00	X	X	X	X	X														

Appendix 1-3: Complete information and details included from opening day angler surveys.

County	Waterbody	Lake/ River Conditions	# of Cormorants Present	Time	# of Shoreline anglers		# of Boat anglers		Total # of anglers	Brook Trout caught				Brown Trout caught				Rainbow Trout caught				Total trout caught	Angler comments / Interviewer observations	
					adult	child	adult	child		<14 in		>14 in		<14 in		>14 in		<14 in		>14 in				
										kept	rel	kept	rel	kept	rel	kept	rel	kept	rel	kept	rel			
Sussex	Lake Ocquittunk	Clear, Low water	0	8:00	66	10	4	1	81	0	0	0	0	0	0	0	0	0	44	5	2	1	52	Most of the people fishing were either young or new to trout fishing, so the amount of fish caught was less than the Big Flatbrook for that reason as well as the fact the fish had a whole lake to swim in compared to a condensed stream.
				9:00	65	8	5	1	79															
				10:00	40	9	1	0	50															
				11:00	45	8	3	1	57															
				12:00	36	4	2	0	42															
Union	Echo Lake Pond		0	8:00	30	12	0	0	42	0	0	0	0	0	0	0	0	0	27	6	2	0	35	Tough conditions. Being a county park pond in Union County, the majority of anglers were not "hard-core" fishermen, and didn't hang out too long in the cold and raw conditions. Majority of fish caught in first hour then slowed up --Tom Karakowski
				9:00	35	15	0	0	50															
				10:00	26	9	0	0	35															
				11:00	15	11	0	0	26															
				12:00	10	7	0	0	17															
Union	Nomahegan Pond	Muddy	0	8:00	60	13	0	0	73	0	0	0	0	0	0	0	0	0	36	20	0	1	57	12 Largemouth bass caught. 4 Crappie caught. Numerous sunfish caught. Only one broodstock was landed, two were lost. Most anglers fishing were there because of the broodstock fish! --Gene Here, WCC Volunteer
				9:00	57	8	0	0	65															
				10:00	55	4	0	0	59															
				11:00	53	3	0	0	56															
				12:00	49	3	0	0	52															
Streams																								
County	Waterbody	Lake/ River Conditions	# of Cormorants Present	Time	# of Shoreline anglers		# of Boat anglers		Total # of anglers	Brook Trout caught				Brown Trout caught				Rainbow Trout caught				Total trout caught	Angler comments / Interviewer observations	
					adult	child	adult	child		<14 in		>14 in		<14 in		>14 in		<14 in		>14 in				
										kept	rel	kept	rel	kept	rel	kept	rel	kept	rel	kept	rel			
Hunterdon	Beaver Brook	Clear	0	8:00	5	0	0	0	5	0	0	0	0	0	0	0	0	0	1	10	0	0	11	
				9:00	4	0	0	0	4															
				10:00	0	0	0	0	0															
				11:00	0	0	0	0	0															
				12:00	0	0	0	0	0															
Hunterdon	Capoolong Creek	Clear	0	8:00	9	0	0	0	9	0	0	0	0	0	0	0	0	0	7	18	0	0	25	Water said to be 31F
				9:00	6	0	0	0	6															
				10:00	11	0	0	0	11															
				11:00	8	1	0	0	9															
				12:00	9	0	0	0	9															
Hunterdon	Hakihokake Creek	Clear	0	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10	5	0	25	Fly fishing, not catching. Noted they are n't biting. Fresh beer bottles by stream. Lots of fish in flat areas. Swimming but not as hungry as usual. Noticed more beer bottles, concerned about people starting a few days before opening day.
				9:00	4	3	0	0	7															
				10:00	2	1	0	0	3															
				11:00	5	1	0	0	6															
				12:00	0	0	0	0	0															

Appendix 1-4: Complete information and details included from opening day angler surveys.

County	Waterbody	Lake/ River Conditions	# of Cormorants Present	Time	# of Shoreline anglers		# of Boat anglers		Total # of anglers	Brook Trout caught				Brown Trout caught				Rainbow Trout caught				Total trout caught	Angler comments / Interviewer observations
					adult	child	adult	child		<14 in		>14 in		<14 in		>14 in		<14 in		>14 in			
										kept	rel	kept	rel	kept	rel	kept	rel	kept	rel	kept	rel		
Hunterdon	Mullhockaway	Clear, low water	0	8:00	17	1	0	0	18	0	0	0	0	0	5	0	0	12	25	0	0	42	One angler who was one of the two fishing at the Feinstein bridge on Van Syckle's Rd was leaving location #2 at 8:25 after not catching anything. He was upset because he said that 2 men were fishing at the bridge this past Tuesday drinking beer and keeping many fish. The four anglers who fished all morning a location 2 have been fishing
				9:00	15	2	0	0	17														
				10:00	20	1	0	0	21														
				11:00	15	0	0	0	15														
				12:00	5	0	0	0	4														
Hunterdon	South Branch Rockaway Creek	Clear	0	8:00	4	2	0	0	6	0	0	0	0	0	2	0	0	2	3	0	0	7	
				9:00		X	X	X	X														
				10:00	X	X	X	X	X														
				11:00	X	X	X	X	X														
				12:00	5	1	0	0	6														
Hunterdon	Spruce Run Creek	Low Water	9	8:00	16	4	0	0	20	0	0	0	0	0	0	0	0	27	15	0	0	42	
				9:00	X	X	X	X															
				10:00	12	2	0	0	14														
				11:00	X	X	X	X															
				12:00	7	1	0	0	8														
Morris	India Brook		0	8:00	12	4	0	0	16	0	0	0	0	0	0	0	0	1	5	0	0	6	
				9:00	10	5	0	0	15														
				10:00	5	0	0	0	5														
				11:00	0	0	0	0	0														
				12:00	2	0	0	0	2														
Morris	Upper South Branch Raritan River	Clear	0	8:00	21	6	6	0	27	0	1	0	0	1	0	0	0	151	4	3	0	160	There was not a lot of angler turnover, most anglers from the morning stuck around, with the exception of a few groups that left after catching their limit. A few more people trickled in throughout the day and as the weather got a little worse around 11 (rain/snows started), some groups began to leave. Many of the anglers noted that,
				9:00	27	0	10	0	37														
				10:00	25	0	5	0	30														
				11:00	22	0	4	0	26														
				12:00	18	0	2	0	20														
Morris	Whippany River	Clear, low water, heavy sedimentation	0	8:00	8	1	0	0	9	0	0	0	0	1	0	0	1	6	0	0	0	8	
				9:00	8	1	0	0	9														
				10:00	5	1	0	0	6														
				11:00	4	1	0	0	5														
				12:00	1	1	0	0	2														
Passaic	Pequannock River TCA	Clear - 6C	0	8:00	7	4	0	0	11	0	0	0	0	0	0	0	0	2	0	0	0	2	Saw trout surfacing at 8am. Angler commented water was probably too cold. Angler planned to be at Flatbrook at 8am, but weather report scared them off. They left for Flatbrook.
				9:00	4	1	0	0	5														
				10:00	11	4	0	0	15														
				11:00	3	1	0	0	4														
				12:00	2	0	0	0	2														

Appendix 1-5: Complete information and details included from opening day angler surveys.

County	Waterbody	Lake/ River Conditions	# of Cormorants Present	Time	# of Shoreline anglers		# of Boat anglers		Total # of anglers	Brook Trout caught				Brown Trout caught				Rainbow Trout caught				Total trout caught	Angler comments / Interviewer observations	
					adult	child	adult	child		<14 in		>14 in		<14 in		>14 in		<14 in		>14 in				
										kept	rel	kept	rel	kept	rel	kept	rel	kept	rel	kept	rel			
Sussex	Franklin Pond Creek	Clear, low water	0	8:00	30	1	0	0	31	0	0	0	0	0	0	0	0	0	51	18	7	0	76	Not all of the anglers were willing to answer my questions, either ignored me or said "I came to fish not answer questions" -- Lisa Kisch, WCC Volunteer
				9:00	30	1	0	0	31															
				10:00	23	2	0	0	25															
				11:00	18	1	0	0	19															
				12:00	18	1	0	0	19															
Sussex	Big Flat Brook	Clear, low water	0	8:00	31	0	0	0	31	0	0	0	0	0	0	0	0	0	45	13	9	0	67	Most complaints were of the crowded are under the stone bridge. At 10:00 it started snowing causing a sharp drop in people fishing.
				9:00	26	3	0	0	29															
				10:00	18	2	0	0	20															
				11:00	12	2	0	0	14															
				12:00	X	X	X	X	X															
Sussex	Trout Brook		0	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
				9:00	3	0	0	0	0															
				10:00	0	0	0	0	0															
				11:00	X	X	X	X	X															
				12:00	X	X	X	X	X															
Warren	Lopatcong Creek	Clear, low water	0	8:00	14	4	0	0	18	0	0	0	0	1	1	0	0	30	11	0	0	43	Total number of anglers observed, from 8am to noon. The two brown trout were wild (saw one, didn't see the other released). All anglers I spoke to were spin fishing and all were using bait except one inexperienced angler at the end of the day. Some anglers moved around to different locations. All anglers interviewed were fishing	
				9:00	X	X	X	X	X															
				10:00	X	X	X	X	X															
				11:00	X	X	X	X	X															
				12:00	X	X	X	X	X															
Warren	Furnace Brook	Water low, clear, 43F		8:00	2	0	0	0	2	0	0	0	0	0	0	0	0	0	5	0	0	0	5	Left at 9:30 when no other anglers showed up. Siltation bad in this section --Jeff Kurt, WCC volunteer
				9:00	2	0	0	0	2															
				10:00	X	X	X	X	X															
				11:00	X	X	X	X	X															
				12:00	X	X	X	X	X															
Spot Checks																								
County	Waterbody	Lake/ River Conditions	# of Cormorants Present	Time	# of Shoreline anglers		# of Boat anglers		Total # of anglers	Brook Trout caught				Brown Trout caught				Rainbow Trout caught				Total trout caught	Angler comments / Interviewer observations	
					adult	child	adult	child		<14 in		>14 in		<14 in		>14 in		<14 in		>14 in				
										kept	rel	kept	rel	kept	rel	kept	rel	kept	rel	kept	rel			
Warren	Pequest River	Clear	0	8:00						0	0	0	0	0	0	0	0	4	2	0	1	7	Near intersection of Rts 31 and 46, approx. 1.5 mile stretch	
				9:00																				
				10:00																				
				11:00																				
				12:00																				

Appendix 1-6: Complete information and details included from opening day angler surveys.

County	Waterbody	Lake/ River Conditions	# of Cormorants Present	Time	# of Shoreline anglers		# of Boat anglers		Total # of anglers	Brook Trout caught				Brown Trout caught				Rainbow Trout caught				Total trout caught	Angler comments / Interviewer observations		
					adult	child	adult	child		<14 in		>14 in		<14 in		>14 in		<14 in		>14 in					
										kept	rel	kept	rel	kept	rel	kept	rel	kept	rel	kept	rel				
Sussex	Pond Brook		0	8:00	3	0	0	0	3														Keen's Grist Mill		
				9:00	4	2																			
				10:00								0	0	0	0	0	0	0	0	1	1	0		0	2
				11:00																					
				12:00																					
Sussex	Pond Brook		0	8:00	28	0	0	0	28														Veterans Park		
				9:00																					
				10:00								0	0	0	0	0	0	0	0	7	3	0		0	0
				11:00																					
				12:00																					
Sussex/ Warren	Paulin's Kill		0	8:00	15	3			18														Sadle Back Rd		
				9:00	6	0																			
				10:00								0	0	0	0	0	0	0	0	0	25	0		0	0
				11:00																					
				12:00																					
Sussex/ Warren	Paulin's Kill		0	8:00																			Veterans Park		
				9:00	15	1			16																
				10:00								0	0	0	0	0	0	0	0	10	10	0		0	20
				11:00																					
				12:00																					
Sussex/ Warren	Paulin's Kill		0	8:00																			610 Bridge		
				9:00	9	0			9																
				10:00								0	0	0	0	0	0	0	0	7	2	0		0	9
				11:00																					
				12:00																					
Sussex/ Warren	Paulin's Kill		0	8:00																			Sharp's Farm		
				9:00																					
				10:00	1	0			1			0	0	0	0	0	0	0	0	1	1	0		0	2
				11:00																					
				12:00																					
Sussex/ Warren	Paulin's Kill			8:00																			Station Rd		
				9:00																					
				10:00								0	0	0	0	0	0	0	0	8	15	0		0	23
				11:00																					
				12:00	20				20																
Warren	Jacksonburg Creek		0	8:00																					
				9:00																					
				10:00								0	0	0	0	0	0	0	0	0	0	0		0	
				11:00	3				3																
				12:00																					