

Appendix B

**Pennsylvania Fish and Boat Commission
Bureau of Fisheries
Fisheries Management Division**

**Angler Use, Catch, Harvest, Opinion and Preference Survey on
Pine Creek (309A), Sections 11-13, April-October 2008**

Prepared by:

**David Kristine and Jason Detar
Fisheries Management, Area 3**

Introduction

The lower and perhaps most publically available portion of Pine Creek from Slate Run downstream to the mouth provides a variety of angling and outdoor recreational opportunities. The Pennsylvania Fish and Boat Commission (PFBC) manages the lower reach of Pine Creek as three distinct Sections for fisheries management purposes (Sections 11-13). Section 11, located from Slate Run downstream to 150 m upstream of Naval Run (1.9 km, 1.2 mi), is managed under Delayed Harvest Artificial Lures Only regulations and is stocked with adult hatchery trout. Section 12, located from 150 m upstream of Naval Run to the confluence with Little Pine Creek (24.3 km, 15.1 mi), is managed under statewide regulations as an Approved Trout Water and is stocked with adult hatchery trout. Section 13, located from the confluence with Little Pine Creek downstream to the mouth (22.4 km, 13.9 mi), is managed as a warmwater fishery under statewide regulations with no stocking of any species.

The only information concerning angler use in this portion of Pine Creek was reported by Hollender et al. (1982) who found angler use, harvest, and return of stocked trout to the creel in a portion of current Section 12 to be lower than anticipated. These results suggested too many trout were being allocated to one of the widest stocked streams in the state for the number of anglers fishing there. Hollender et al. (1982) recommended a reduction in the number of stocked trout allocated to Section 12 and the allocation was adjusted in subsequent years.

To gain contemporary insight into the varied fisheries in Pine Creek, an angler survey was conducted from April 5 - October 30, 2008 by the Department of Conservation and Natural Resources (DCNR) and Penn State University's Department of Recreation, Park, and Tourism Management (PSU). The angler survey was part of a larger outdoor recreational use survey conducted in the Pine Creek valley by Graefe et al. (2010). The angler survey was designed to estimate angler use, catch, and harvest and to assess angler opinions and preferences for Pine Creek Sections 11, 12, and 13. DCNR provided support for the angler survey in the form of three creel clerks and funding for PSU analysis and reporting. PFBC staff provided technical guidance and support for creel survey design. However, because PSU did not complete analysis of the angler survey data, PFBC staff was asked to complete the analyses including expanded effort, catch, and harvest estimation. Hence, this report will focus on the results of the angler survey analyses conducted by PFBC staff.

Methods

A direct contact "roving-roving" creel survey method (Pollock et al. 1994, Malvestuto 1996) was used to estimate angler effort (hours, trips), catch, and harvest for Pine Creek Sections 11, 12, and 13. Due to the length of the Sections 12 and 13 they were each divided into two subsections, totaling five study reaches (Table 1). The roving-roving method was combined with a stratified two-stage sampling design where primary sampling units were days-of-the-week (week-day or weekend-day) and secondary sampling consisted of part-of-a-day (am or pm shift). Every weekend-day was sampled and two of five week-days were randomly sampled. In addition, with the exception of the opening day of trout season, one of the parts-of-a-day were randomly chosen for a randomly chosen reach. PFBC Warmwater Unit staff generated a randomized schedule mostly without replacement where each of the five reaches was equally sampled for days-of-the-week and parts-of-a-day strata during the course of the survey.

Creel clerks counted and interviewed anglers at their assigned shift, day, and reach. During their seven hour shift, clerks made three progressive (considered instantaneous) counts at randomly chosen times. Between counts, clerks conducted interviews within their assigned reaches to gather information concerning angler use, catch, and harvest and a brief series of questions were asked to assess angler preference, specialization, and select opinions. It was assumed that cooperating anglers could differentiate between the different fish species reported caught and harvested and these anglers would relay correct information, to the best of their knowledge, regarding numbers caught and species. At the conclusion of the interview, anglers were asked to participate in a follow up mail questionnaire about their trip. Additional details concerning methodology and the follow up questionnaire and results can be found in Graefe et al. (2010).

While cursory summary information concerning angler use, catch, and harvest based only on angler interviews is reviewed by Graefe et al. (2010), PFBC Fisheries Management Area 3 staff computed expanded estimates and standard errors of fisheries statistics of interest by reach, by month, and by relevant species following procedures of Pollock et al. (1994) and Malevestuto (1996). Results and discussion concerning these expanded estimates are presented by fisheries management section below.

Results and Discussion

Section 11 - Delayed Harvest Artificial Lures Only (DHALO)

**Limits: Slate Run downstream to 150 m upstream of
Naval Run (1.9 km, 1.2 mi)**

There were an estimated total of 8,400 hours expended in 2,817 trips to Pine Creek, Section 11 during the course of the survey from April 5 to October 30, 2008 (Tables 2 and 3). Anglers caught an estimated 1,626 brown trout, 5,452 rainbow trout, 215 smallmouth bass, 64 walleye, and 58 other (chubs, fallfish, rock bass, carp, and catfish) species combined (Tables 4, 5, 6, 7, and 8). An estimated total of 234 brown trout, 374 rainbow trout, and 57 smallmouth bass were harvested by anglers fishing in Section 11 (Tables 9, 10, and 11). Thus, harvest rates were estimated to be 14% for brown trout, 7% for rainbow trout, and 27% for smallmouth bass. When trout species are combined, harvest rate was 9%.

Peak angler use occurred in Section 11 during May with 3,514 hours expended or about 42% of the total effort during the survey period. Additionally, 1,095 trips occurred in May or about 39% of the total trips during the survey period. Correspondingly, angler catch was highest in May, with 2,707 trout (brown and rainbow combined) caught, or about 38% of the total catch for the survey period. Angler use and catch decreased substantially from July-October, with only 432 trips (15%) occurring during the summer and fall. Zero trout were reported caught during the July-October period.

Assuming that anglers could differentiate between trout species, it is interesting to note the number of brown trout caught in this management section considering the very low number of brown trout stocked by the PFBC in 2008 (5 brown trout, Table 13). Explanations include the possible migration into the section from upstream or downstream stockings of PFBC hatchery brown trout, a portion of these fish may have been of wild origin, and/or fish were the result of stocking of hatchery brown trout by local sportsmens groups and businesses. Local sportsmen and businesses are known to purchase trophy-size brown trout (perhaps one hundred or more) in some years, thus it is expected that at least a portion of the catch can be contributed to these stockings.

The DHALO regulations were established on this section in January 2007 and it appears anglers were still adjusting to the recently established regulations as anglers reported harvesting trout during the no harvest period (day after Labor Day until June 15) in April and May 2008 (Tables 9 and 10). A total of 608 trout were harvested in April and May, which comprised about 12% of the total catch during the two month period. Zero trout were reported harvested during the open harvest period (June 15 - Labor Day). With the exception of the illegal harvest prior to June 15, results suggest that anglers utilizing this special regulation area primarily practice catch and release and harvest is a minor component of the overall angling experience.

Angler use of 712 hours/ha was below the 1,359 hours/ha program objective for DHALO waters and was also below the average use of 1,868 hours/ha for other DHALO waters reported by Greene and Weber (1995). However, 1.1 trips/stocked trout met program objectives of one angler trip/trout stocked (PFBC 2009; Table 14). Angler catch rate for all trout species combined was 0.84 trout/hr, which is slightly below program guidelines of ≥ 1.0 trout/hr (PFBC 2009). Angler catch rates for other DHALO waters surveyed averaged 1.03 trout per hour (Greene and Weber 1995). Angler use of Section 11 during April, May, and June combined was 618 hours/ha, 202 trips/ha, and 0.95 trips per stocked trout compared to the average of 874 hour/ha, 304 trips/ha, and 0.62 trips per stocked trout for 30 stocked trout waters during a similar time frame in 2005 (Greene et al. 2006). While only one month (October) of the typical fall period (October and November) was evaluated during this survey, angler use of 36 hours/ha and 0.6 trips per stocked trout were well below program guidelines for fall stocking of 371 hours/ha and one angler trip generated per trout stocked and anglers interviewed reported catching no fish of any species in Section 11 during this month.

Section 11, managed under DHALO regulations since January 1, 2007 appears to be marginally meeting program guidelines based on the 2008 creel survey. The rapid warming of water temperatures in Pine Creek during most years likely limits the spring stocked trout fishery to March - late May or early June. This was evidenced by no trout being reported caught from July - October. Angler use estimates on a per area basis are negatively influenced by the greater width of Pine Creek compared to other

waters that have been surveyed. In addition, the DHALO area (Section 11) generates higher angler use than the conventionally managed adjacent stream section (Section 12, Table 14). While trips per stocked trout may be meeting certain program guidelines, hatchery fish stocked other than by PFBC were not taken into account and these indices may be inflated when compared to other similar waters not receiving supplementary stockings. Changes to the management of Section 11 could include stocking a high percentage of the total allocation during the preseason period since Section 11 is open for angling during this time and making the inseason plant soon after opening day in late April to maximize angling opportunities and return on product prior to stream temperatures increasing. A reduction to the inseason plant may also be warranted since trout cannot legally be harvested until June 15 and it appears that supplemental stockings may be occurring by sportsmen/businesses during the inseason period. Reducing the inseason plant size may also help to reduce conflicts with congregation of hatchery trout during summer months at coldwater refugia (Detar et al. 2006), especially Slate Run and Little Slate Run.

***Section 12 - Approved Trout Water, Statewide Regulations
Limits: 150 m upstream of Naval Run to the
confluence with Little Pine Creek (24.3 km, 15.1
mi)***

There were an estimated total of 30,759 hours expended in 9,854 trips to Pine Creek, Section 12, during the course of the survey from April 5 to October 30, 2008 (Tables 2 and 3). Anglers caught an estimated 2,252 brown trout, 21,515 rainbow trout, 2,954 smallmouth bass, 558 walleye, and 2,502 other species (chubs, fallfish, rock bass, carp, and catfish) combined (Tables 4, 5, 6, 7, and 8). An estimated total of 626 brown trout, 5,936 rainbow trout, 60 smallmouth bass, and 478 walleye were harvested by anglers fishing in Section 11 (Tables 9, 10, 11, and 12). Thus, harvest rates were estimated to be 28% for brown trout, 28% for rainbow trout, 2% for smallmouth bass, and 86% for walleye.

Peak angler use occurred in Section 12 during April with 17,633 hours expended or about 57% of the total effort during the survey period. Additionally, 5,318 trips occurred in April or

about 54% of the total trips during the survey period. Correspondingly, angler catch was highest in April, with 18,437 trout (brown and rainbow combined) caught, or about 78% of the total catch for the survey period. Angler use and catch decreased substantially from July-October, with only 780 trips (8%) occurring during the summer and fall. Zero trout were reported caught during the July-October period.

Section 12 of Pine Creek is classified as a 1L river section based on stream width for PFBC hatchery trout management and angler use of 183 hours/ha was well below the program objective of 494 hours/ha for river sections (PFBC 2009) and was below the average level of use of 309 hours/ha for other 1L sections reported by Greene and Weber (1993). In addition, 0.6 trips per stocked trout over the course of the survey were also below program objectives of one angler trip per trout stocked (PFBC 2009, Table 14). Angler catch rate for all trout species combined was 0.77 trout per hour and is greater than the average of 0.39 trout per hour and 0.24 trout per hour reported by Greene and Weber (1993) for other similar waters for the inseason and preseason evaluations, respectively. Angler use of Section 12 during April, May, and June was 170 hours/ha, 54 trips/ha, and 0.59 trips per stocked trout compared to the average of 874 hour/ha, 304 trips/ha, and 0.62 trips per stocked trout for 30 stocked trout waters during a similar time frame in 2005 (Greene et al. 2006). While only one month (October) of the typical fall period (October and November) was evaluated during this survey, angler use of 2.7 hours/ha and 0.2 trips per stocked trout were substantially below program guidelines of 371 hours/ha and one angler trip generated per trout stocked for fall stocking. Anglers interviewed reported catching no fish of any species in Section 12 during October.

Similar to results reported by Hollender et al. (1982), results of the 2008 angler survey of this portion of Pine Creek suggest that angler use in Section 12 is lower than anticipated; suggesting too many trout are being stocked in one of the widest stocked stream sections in the state. While use is comparatively low, catch rates for anglers tend to be above normal and similar to findings of Greene et al. (2006) for other statewide waters. There appears to be a high level of recycling of stocked trout based on a 72% release rate. Section 12 of Pine Creek is characterized by warmwater conditions as evidenced by the catches of smallmouth bass, walleye, and other species. Management options include reductions in overall stocking rates of PFBC adult hatchery trout may be warranted due to relatively low angler use, high levels of voluntary catch and release, and

to reduce conflicts with congregation of hatchery trout during summer months at coldwater refugia (Detar et al. 2006), especially Naval Run and Trout Run (Camal). Similar to Section 11, the inseason plant should be made soon after opening day in late April to maximize angling opportunities and return on product prior to stream temperatures warming. The fall stocking program should be closely evaluated and potentially eliminated due to extremely low use. The warm/coolwater component of the fishery should be reexamined as it has been 25-30 years since the last fisheries survey was conducted in Section 12 and based on angler catches in 2008 warm/coolwater species appear to be an important component to the overall management.

***Section 13 - Statewide Regulations, No stocking of any species,
Warm/Coolwater fishery
Limits: Confluence with Little Pine Creek
downstream to the mouth (22.4 km, 13.9 mi)***

There were an estimated total of 2,294 hours expended in 869 trips to Pine Creek, Section 13 during the course of the survey from April 5 to October 30, 2008 (Tables 2 and 3). Anglers caught an estimated 37 brown trout, 97 rainbow trout, 2,639 smallmouth bass, and 2,705 other species (chubs, fallfish, rock bass, carp, and catfish) combined (Tables 4, 5, 6, and 8). Interestingly, no walleye were reported caught in Section 13. An estimated total of 17 brown trout, 81 rainbow trout, and 105 smallmouth bass were harvested by anglers fishing in Section 11 (Tables 9, 10, and 11). Thus, harvest rates were estimated to be 46% for brown trout, 84% for rainbow trout, and 4% for smallmouth bass.

Section 13 of Pine Creek represents the only warmwater stream or small river not stocked with hatchery trout in Pennsylvania where angler use information has ever been collected by the PFBC. Thus, there is little information for comparison of angler use or catch. While much larger in size, angler use and harvest data was also collected on the West Branch Susquehanna River, Sec 06, during 2008. Catch rate (1.2 fish/hr) of smallmouth bass in Pine Creek, Section 13, exceeded those estimated on the West Branch Susquehanna River, Sec 06, in 2008 of 0.75 fish/hr, while harvest rates were similar (4% on Pine Creek, 0% on West Branch Susquehanna River). The inclusion of Section 13 provided an excellent opportunity to capture a glimpse into angler use on an unknown resource of the Commonwealth which may be underutilized. Creel survey statistics should be provided to PFBC Warmwater Unit for incorporation into the Angler Use and Harvest Compendium (Lorantas 2010).

During June 2003, smallmouth bass abundance of Pine Creek Section 13 was evaluated at two sites using mini-boom daytime boat electrofishing as part of an effort to characterize warmwater stream sections across the state (Hollender and Wilson 2003). Mean electrofishing catch rates were 93.7 total smallmouth bass per hour and 6.7 smallmouth bass \geq 300 mm (12 inches) per hour. Median catch rates for all other waters sampled with similar gear in the West Branch Susquehanna River drainage are 40.9 total smallmouth bass per hour and 2.3 smallmouth bass \geq 300 mm (12 inches) per hour. The Pine Creek catch rates for all smallmouth bass and smallmouth bass \geq 300 mm (12 inches) rank in the top 20% for all other waters sampled with similar gear in the West Branch Susquehanna River watershed. Thus, the relatively high angler catch rates of 1.2 smallmouth bass/hr are not surprising.

Angler use of 13.8 hours/ha for section 13 is well below use generated for upstream Pine Creek sections which are well promoted and stocked with hatchery trout (Table 14). However, significant angling opportunities exist for warmwater species managed entirely by natural reproduction considering overall angler catch rates of 385 fish/ha, 2.3 fish/hour, and 1.2 bass/hr when compared to overall survey catch rates from larger warm/coolwater systems (River category) of 73.6 fish/ha, 1.5 fish/hour, and 0.9 bass/hour (Lorantas 2010). Additional angler surveys for similar warmwater streams and small rivers would be useful for statewide management of this important resource.

Angler specialization, opinions, and preferences Sections 11-13

For the purposes of this report, all angler responses to interview questions and notations concerning specialization, opinions, and preferences were combined for all reaches and sections. More detailed examination for these items and follow up questionnaire results can be found in Graefe et al. (2010).

Most (99%) of the anglers interviewed were wading or fishing from shore. A substantial portion of anglers used flies (37%) followed by bait (26%) and lures (24%) as a terminal tackle type (Tables 15 and 16). Most (73%) of those anglers using bait preferred worms, larva, and salmon eggs (Table 17). As expected based on the results of total catch for sections 11-13, most (92%) of the anglers interviewed were targeting trout (Table

18). Responses varied when anglers were asked why they chose a particular spot to fish but the most common answer (26%) was tradition (Table 19).

When asked about their trip, most anglers (75%) indicated their trip length was less than 3 days, most (86%) were alone or with one or two other anglers, nearly 60% had fished Pine Creek ten times or fewer in the last 12 months, and the majority (74%) fished more than 10 times in Pennsylvania in the last 12 months (Tables 20, 21, 22, and 23).

A slight majority (52%) of anglers fishing in Sections 11-13 in 2008 indicated they pay close attention to water temperature when fishing for trout (Table 24). Most of the anglers interviewed (67%) were either neutral or disagreed with the statement "Trout that move into cold water near tributary mouths or spring seeps in summer months should be harvested because most will die anyway" (Table 25) but, most (62%) were either neutral or disagreed with the statement "The cold water near tributary mouths or spring seeps where trout gather in summer should be off-limits to fishing" (Table 26).

Summary

Pine Creek from the confluence with Slate Run downstream to the mouth (PFBC Fisheries Management Sections 11, 12, and 13) can be characterized as a transitional stream which eventually becomes a warmwater fishery. Anglers visiting this reach of water will find a diversity of angling opportunities for a variety of species as evidenced by the 2008 angler creel survey. While the level of angler use in Sections 11 and 12 seem low when compared to other waters managed with PFBC hatchery trout, one must keep in mind the larger mean width of these Pine Creek sections in comparison to other waters which have been evaluated and on which program guidelines are based. None-the-less, moderate reductions to inseason allocation of hatchery trout for Sections 11 and 12 seem warranted given high levels of catch and release and angler use levels substantially lower than most program objectives (PFBC 2009). In addition, moving the inseason stocking to late April and reducing inseason allocation may help to reduce social problems associated with the congregation of

hatchery trout near coldwater refugia during summer months for which there seem to be contrasting opinions within and among anglers and residents. Angler use of the fall stocking is very low, and should be considered for elimination, especially in Section 12.

Besides hatchery trout, other species currently managed solely on natural reproduction (i.e., walleye, smallmouth bass), are providing for angling in Sections 11-13 beyond the few months of stocked trout season. Plans should be made to document the current status of the warm/coolwater fishery, especially in Section 12 as there may be opportunity to enhance and promote these fisheries not only in Pine Creek but lower reaches of other important tributaries to the West Branch Susquehanna River such as Sinnemahoning Creek, Bald Eagle Creek, and Loyalsock Creek, among others.

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Table 1. Sampling reaches used for the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

Section/Reach	Management	Description	Length km (miles)
Sec 11 - Reach 1	DH	Slate Run downstream to 150 m upstream Naval Run	1.9 (1.2)
Sec 12-Reach 1	TSSR	150 m upstream Naval Run downstream to Ross Run	5.7 (3.5)
Sec 12-Reach 2	TSSR	Ross Run downstream to Jersey Mills	11.2 (7.0)
Sec 12-Reach 3	TSSR	Jersey Mills downstream to Little Pine Creek	7.4 (4.6)
Sec 13-Reach 4	WWCWSR	Little Pine Creek downstream to Gamble Run	11.6 (7.2)
Sec 13-Reach 5	WWCWSR	Gamble Run downstream to Tiadaghton Elm bridge	9.2 (14.0)

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WWCWSR - Warm/Coolwater Statewide Regulations

Table 2. Effort estimates (angler hours) and standard errors of estimates by month and for months combined on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

Section/Reach	Management	Estimate	April	May	June	July	August	September	October	Total Combined
Sec 11-Reach 1	DH	Effort	2336	3514	1440	172	242	273	423	8400
		SE	919	793	509	82	66	107	119	1330
Sec 12-Reach 1	TSSR	Effort	7345	4667	867	197	201	0	175	13453
		SE	3267	1207	249	113	113	0	76	3496
Sec 12-Reach 2	TSSR	Effort	7028	1978	865	355	164	119	76	10586
		SE	2156	311	207	134	52	85	47	2193
Sec 12-Reach 3	TSSR	Effort	3259	1873	877	197	271	30	214	6720
		SE	1796	441	405	68	96	18	74	1898
Section 12 Total	TSSR	Effort	17633	8519	2609	749	635	149	465	30759
		SE	4306	1322	518	188	157	87	104	4542
Sec 13-Reach 4	WVCWSR	Effort	228	137	221	351	149	83	104	1271
		SE	78	48	79	82	45	44	54	168
Sec 13-Reach 5	WVCWSR	Effort	90	103	241	265	94	140	90	1023
		SE	49	85	44	107	45	75	83	193
Section 13 Total	WVCWSR	Effort	317	240	462	616	243	223	194	2294
		SE	92	98	91	135	64	87	99	257

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WVCWSR - Warm/Coolwater Statewide Regulations

Table 3. Angler trip estimates and standard errors of estimates by month and for months combined on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

Section/Reach	Management	Estimate	April	May	June	July	August	September	October	Total Combined
Sec 11 - Reach 1	DH	Trips	726	1095	563	67	94	106	165	2817
		SE	293	251	199	32	26	42	46	441
Sec 12-Reach 1	TSSR	Trips	2168	1492	339	77	78	0	69	4223
		SE	676	402	97	44	44	0	28	795
Sec 12-Reach 2	TSSR	Trips	2109	644	338	139	64	47	30	3370
		SE	670	111	81	52	20	33	19	687
Sec 12-Reach 3	TSSR	Trips	1041	600	342	77	106	12	83	2261
		SE	552	133	158	27	37	7	29	592
Section 12 Total	TSSR	Trips	5318	2736	1019	293	248	58	181	9854
		SE	1100	438	203	73	61	34	44	1206
Sec 13-Reach 4	WVCWSR	Trips	86	52	84	133	56	32	39	482
		SE	30	18	30	31	17	17	21	64
Sec 13-Reach 5	WVCWSR	Trips	34	39	91	100	36	53	34	387
		SE	19	32	17	41	17	28	31	73
Section 13 Total	WVCWSR	Trips	120	91	175	233	92	85	73	869
		SE	35	37	34	51	24	33	37	97

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WVCWSR - Warm/Coolwater Statewide Regulations

Table 4. Angler catch estimates and standard errors of estimates by month and for months combined for brown trout on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

Section/Reach	Management	Estimate	April	May	June	July	August	September	October	Total Combined
Sec 11 - Reach 1	DH	Catch	1004	492	130	0	0	0	0	1626
		SE	396	111	46	0	0	0	0	413
Sec 12-Reach 1	TSSR	Catch	651	425	34	0	0	0	0	1110
		SE	341	122	10	0	0	0	0	362
Sec 12-Reach 2	TSSR	Catch	530	157	35	0	0	0	0	722
		SE	146	24	8	0	0	0	0	148
Sec 12-Reach 3	TSSR	Catch	229	156	35	0	0	0	0	420
		SE	109	45	16					119
Section 12 Total	TSSR	Catch	1409	738	104	0	0	0	0	2252
		SE	386	132	21	0	0	0	0	409
Sec 13-Reach 4	WWCWSR	Catch	14	10	0	0	0	0	0	24
		SE	5	3	0	0	0	0	0	6
Sec 13-Reach 5	WWCWSR	Catch	5	8	0	0	0	0	0	13
		SE	3	6	0	0	0	0	0	6
Section 13 Total	WWCWSR	Catch	19	18	0	0	0	0	0	37
		SE	5	7	0	0	0	0	0	9

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WWCWSR - Warm/Coolwater Statewide Regulations

Table 5. Angler catch estimates and standard errors of estimates by month and for months combined for rainbow trout on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey

Section/Reach	Management	Estimate	April	May	June	July	August	September	October	Total Combined
Sec 11 - Reach 1	DH	Catch	1494	2215	1743	0	0	0	0	5452
		SE	588	500	616	0	0	0	0	988
Sec 12-Reach 1	TSSR	Catch	7272	1932	329	0	0	0	0	9534
		SE	3369	508	95	0	0	0	0	3408
Sec 12-Reach 2	TSSR	Catch	6698	801	329	0	0	0	0	7828
		SE	1997	124	79	0	0	0	0	2003
Sec 12-Reach 3	TSSR	Catch	3058	763	332	0	0	0	0	4153
		SE	1637	186	154	0	0	0	0	1654
Section 12 Total	TSSR	Catch	17028	3496	991	0	0	0	0	21515
		SE	4244	555	197	0	0	0	0	4285
Sec 13-Reach 4	WWCWSR	Catch	10	47	0	0	0	0	0	57
		SE	3	16	0	0	0	0	0	17
Sec 13-Reach 5	WWCWSR	Catch	4	36	0	0	0	0	0	40
		SE	2	29	0	0	0	0	0	29
Section 13 Total	WWCWSR	Catch	14	83	0	0	0	0	0	97
		SE	4	33	0	0	0	0	0	34

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WWCWSR - Warm/Coolwater Statewide Regulations

Table 6. Angler catch estimates and standard errors of estimates by month and for months combined for smallmouth bass on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

Section/Reach	Management	Estimate	April	May	June	July	August	September	October	Total Combined
Sec 11 - Reach 1	DH	Catch	0	0	158	57	0	0	0	215
		SE	0	0	56	27	0	0	0	62
Sec 12-Reach 1	TSSR	Catch	1417	62	139	0	0	0	0	1618
		SE	998	15	40	0	0	0	0	999
Sec 12-Reach 2	TSSR	Catch	760	30	139	0	0	0	0	928
		SE	242	5	33	0	0	0	0	244
Sec 12-Reach 3	TSSR	Catch	241	27	140	0	0	0	0	408
		SE	61	5	65	0	0	0	0	89
Section 12 Total	TSSR	Catch	2418	118	417	0	0	0	0	2954
		SE	1029	17	83	0	0	0	0	1032
Sec 13-Reach 4	WWCWSR	Catch	0	0	293	992	106	0	59	1451
		SE	0	0	105	232	32	0	31	259
Sec 13-Reach 5	WWCWSR	Catch	0	0	321	750	67	0	51	1189
		SE	0	0	59	303	32	0	47	314
Section 13 Total	WWCWSR	Catch	0	0	614	1742	172	0	110	2639
		SE	0	0	121	382	45	0	56	407

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WWCWSR - Warm/Coolwater Statewide Regulations

Table 7. Angler catch estimates and standard errors of estimates by month and for months combined for walleye on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

Section/Reach	Management	Estimate	April	May	June	July	August	September	October	Total Combined
Sec 11 - Reach 1	DH	Catch	0	35	0	29	0	0	0	64
		SE	0	8	0	14	0	0	0	16
Sec 12-Reach 1	TSSR	Catch	0	0	131	0	52	0	0	183
		SE	0	0	37	0	29	0	0	48
Sec 12-Reach 2	TSSR	Catch	0	0	131	0	42	0	0	173
		SE	0	0	31	0	14	0	0	34
Sec 12-Reach 3	TSSR	Catch	0	0	132	0	71	0	0	202
		SE	0	0	61	0	25	0	0	66
Section 12 Total	TSSR	Catch	0	0	394	0	165	0	0	558
		SE	0	0	78	0	41	0	0	88
Sec 13-Reach 4	WWCWSR	Catch	0	0	0	0	0	0	0	0
		SE	0	0	0	0	0	0	0	0
Sec 13-Reach 5	WWCWSR	Catch	0	0	0	0	0	0	0	0
		SE	0	0	0	0	0	0	0	0
Section 13 Total	WWCWSR	Catch	0	0	0	0	0	0	0	0
		SE	0	0	0	0	0	0	0	0

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WWCWSR - Warm/Coolwater Statewide Regulations

Table 8. Angler catch estimates and standard errors of estimates by month and for months combined for other species (chubs, fallfish, rock bass, carp, and catfish) on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

Section/Reach	Management	Estimate	April	May	June	July	August	September	October	Total Combined
Sec 11 - Reach 1	DH	Catch	23	35	0	0	0	0	0	58
		SE	9	8	0	0	0	0	0	12
Sec 12-Reach 1	TSSR	Catch	661	297	199	0	0	0	0	1157
		SE	368	80	57	0	0	0	0	381
Sec 12-Reach 2	TSSR	Catch	502	119	199	0	0	0	0	820
		SE	134	18	48	0	0	0	0	143
Sec 12-Reach 3	TSSR	Catch	209	114	202	0	0	0	0	525
		SE	92	30	93	0	0	0	0	134
Section 12 Total	TSSR	Catch	1372	530	600	0	0	0	0	2502
		SE	402	87	119	0	0	0	0	429
Sec 13-Reach 4	WWCWSR	Catch	96	0	0	1027	131	0	298	1552
		SE	33	0	0	240	40	0	170	299
Sec 13-Reach 5	WWCWSR	Catch	38	0	0	777	83	0	256	1153
		SE	25	0	0	314	40	0	236	395
Section 13 Total	WWCWSR	Catch	133	0	0	1804	213	0	554	2705
		SE	41	0	0	395	56	0	291	496

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WWCWSR - Warm/Coolwater Statewide Regulations

Table 9. Angler harvest estimates and standard errors of estimates by month and for months combined for brown trout on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

Section/Reach	Management	Estimate	April	May	June	July	August	September	October	Total Combined
Sec 11 - Reach 1	DH	Harvest	234	0	0	0	0	0	0	234
		SE	92	0	0	0	0	0	0	92
Sec 12-Reach 1	TSSR	Harvest	283	45	0	0	0	0	0	328
		SE	182	16	0	0	0	0	0	183
Sec 12-Reach 2	TSSR	Harvest	178	30	0	0	0	0	0	208
		SE	48	7						49
Sec 12-Reach 3	TSSR	Harvest	65	25	0	0	0	0	0	90
		SE	21	5	0	0	0	0	0	21
Section 12 Total	TSSR	Harvest	527	100	0	0	0	0	0	626
		SE	189	19	0	0	0	0	0	190
Sec 13-Reach 4	WVCWSR	Harvest	0	10	0	0	0	0	0	10
		SE	0	3	0	0	0	0	0	3
Sec 13-Reach 5	WVCWSR	Harvest	0	7	0	0	0	0	0	7
		SE	0	6	0	0	0	0	0	6
Section 13 Total	WVCWSR	Harvest	0	17	0	0	0	0	0	17
		SE	0	7	0	0	0	0	0	7

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WVCWSR - Warm/Coolwater Statewide Regulations

Table 10. Angler harvest estimates and standard errors of estimates by month and for months combined for rainbow trout on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

Section/Reach	Management	Estimate	April	May	June	July	August	September	October	Total Combined
Sec 11 - Reach 1	DH	Harvest	93	281	0	0	0	0	0	374
		SE	37	63	0	0	0	0	0	73
Sec 12-Reach 1	TSSR	Harvest	1689	349	243	0	0	0	0	2281
		SE	641	97	70	0	0	0	0	652
Sec 12-Reach 2	TSSR	Harvest	1877	198	242	0	0	0	0	2317
		SE	641	42	58					645
Sec 12-Reach 3	TSSR	Harvest	919	173	245	0	0	0	0	1338
		SE	555	33	113	0	0	0	0	567
Section 12 Total	TSSR	Harvest	4485	720	731	0	0	0	0	5936
		SE	1063	111	145	0	0	0	0	1078
Sec 13-Reach 4	WVCWSR	Harvest	0	46	0	0	0	0	0	46
		SE	0	16	0	0	0	0	0	16
Sec 13-Reach 5	WVCWSR	Harvest	0	35	0	0	0	0	0	35
		SE	0	29	0	0	0	0	0	29
Section 13 Total	WVCWSR	Harvest	0	81	0	0	0	0	0	81
		SE	0	33	0	0	0	0	0	33

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WVCWSR - Warm/Coolwater Statewide Regulations

Table 11. Angler harvest estimates and standard errors of estimates by month and for months combined for smallmouth bass on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

Section/Reach	Management	Estimate	April	May	June	July	August	September	October	Total Combined
Sec 11 - Reach 1	DH	Harvest	0	0	0	57	0	0	0	57
		SE	0	0	0	27	0	0	0	27
Sec 12-Reach 1	TSSR	Harvest	0	0	0	0	0	0	0	0
		SE	0	0	0	0	0	0	0	0
Sec 12-Reach 2	TSSR	Harvest	0	0	0	0	0	0	0	0
		SE	0	0	0	0	0	0	0	0
Sec 12-Reach 3	TSSR	Harvest	0	0	0	0	0	0	0	0
		SE	0	0	0	0	0	0	0	0
Section 12 Total	TSSR	Harvest	0	0	0	0	0	0	0	0
		SE	0	0	0	0	0	0	0	0
Sec 13-Reach 4	WWCWSR	Harvest	0	0	0	60	0	0	0	60
		SE	0	0	0	13	0	0	0	13
Sec 13-Reach 5	WWCWSR	Harvest	0	0	0	45	0	0	0	45
		SE	0	0	0	18	0	0	0	18
Section 13 Total	WWCWSR	Harvest	0	0	0	105	0	0	0	105
		SE	0	0	0	22	0	0	0	22

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WWCWSR - Warm/Coolwater Statewide Regulations

Table 12. Angler harvest estimates and standard errors of estimates by month and for months combined for walleye on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

Section/Reach	Management	Estimate	April	May	June	July	August	September	October	Total Combined
Sec 11 - Reach 1	DH	Harvest	0	0	0	0	0	0	0	0
		SE	0	0	0	0	0	0	0	0
Sec 12-Reach 1	TSSR	Harvest	0	0	104	0	52	0	0	156
		SE	0	0	28	0	29	0	0	40
Sec 12-Reach 2	TSSR	Harvest	0	0	104	0	43	0	0	147
		SE	0	0	25	0	14	0	0	28
Sec 12-Reach 3	TSSR	Harvest	0	0	105	0	70	0	0	176
		SE	0	0	49	0	25	0	0	55
Section 12 Total	TSSR	Harvest	0	0	313	0	165	0	0	478
		SE	0	0	62	0	41	0	0	74
Sec 13-Reach 4	WWCWSR	Harvest	0	0	0	0	0	0	0	0
		SE	0	0	0	0	0	0	0	0
Sec 13-Reach 5	WWCWSR	Harvest	0	0	0	0	0	0	0	0
		SE	0	0	0	0	0	0	0	0
Section 13 Total	WWCWSR	Harvest	0	0	0	0	0	0	0	0
		SE	0	0	0	0	0	0	0	0

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WWCWSR - Warm/Coolwater Statewide Regulations

Table 13. Total number of adult hatchery trout stocked in Pine Creek, Sections 11 and 12 during 2008.

Section	Stocking Date	Brown Trout	Rainbow Trout	Total
11	3/4/2008	5	1,295	1,300
	5/5/2008	0	900	900
	10/3/2008	0	300	300
	Totals	5	2,495	2,500
12	3/5/2008	0	9,100	9,100
	4/18/2008	1,880	4,320	6,200
	10/3/2008	0	1,200	1,200
	Totals	1,880	14,620	16,500

Table 14. Angler use summary on the lower 48.5 km (30.1 mi), 344 ha (851 ac) of Pine Creek comprising Sections 11-13 during the April 5-October 30, 2008 angler creel survey.

	Management Section		
	11	12	13
Management Program:	DH	TSSR	WWCWSR
Total Effort (hours):	8400	30759	2294
Total Trips:	2817	9854	869
Section Length km (miles):	1.9 (1.2)	24.3 (15.1)	22.4 (13.9)
Section Area ha (acres):	11.8 (29.1)	168.2 (415.7)	166.5 (411.4)
Angler hours/ha (acre):	711.8 (288.6)	182.8 (74.0)	13.8 (5.6)
Angler trips/ha (acre):	238.7 (96.8)	58.6 (23.7)	5.2 (2.1)
Angler trips/km (miles):	1,482 (2,348)	406 (653)	39 (63)
Number of trout stocked:	2,500	16,500	0
Trips/Trout Stocked:	1.1	0.6	0
Total Trout Caught:	7078	23767	-
Overall Trout Catch/hr:	0.84	0.77	-

DH - Delayed Harvest

TSSR - Trout Stocked Statewide Regulations

WWCWSR - Warm/Coolwater Statewide Regulations

Table 15. Fishing mode of anglers interviewed during the 2008 Pine Creek Angler Survey.

Fishing Mode	Count	Percent
Shore	57	15
Wade	325	84
Boat	4	1
Total	386	100

Table 16. Terminal tackle used by anglers interviewed during the 2008 Pine Creek Angler Survey.

Terminal Tackle	Count	Percent
Flies Only	142	37
Lures Only	94	24
Bait Only	102	26
Flies and Lures	4	1
Flies and Bait	3	1
Lures and Bait	38	10
All Three	3	1
Total	386	100

Table 17. Type of bait used by bait-anglers interviewed during the 2008 Pine Creek Angler Survey.

Bait Type	Count	Percent
Worms: nightcrawlers/redworms	55	33
Larva: waxworms/mealworms	43	26
Salmon Eggs	24	14
Minnows: Redfins/Rosey Reds	27	16
Powerbait	9	5
Corn	3	2
Bugs: nymphs/hellgrammites	5	3
Total	166	100

Table 18. Response to 2008 Pine Creek Angler Survey question: "What are you fishing for today?"

Species	Count	Percent
Anything	9	2
Bass	11	3
Bass & Trout	5	1
Catfish	1	<1
Trout	353	92
Trout & Walleye	1	<1
Trout, Bass, & Walleye	1	<1
Walleye	4	1
Total	385	100

Table 19. Response to 2008 Pine Creek Angler Survey question:
 "Why did you chose this particular spot?"

Reason	Count	Percent
Tradition/been coming here for years	99	26
Cabin/camping nearby	69	18
Came with friends	36	9
Have had success here before	22	6
Physical characteristics of the stream	21	5
Recommendation	20	5
DHALO area	18	5
Accessible	17	4
Favorite spot	15	4
Because its stocked	14	4
Close to home	13	3
Other	11	3
No reason	9	2
Nobody was here	7	2
Popular spot	7	2
Convenient	6	2
Total	384	100

Table 20. Response to 2008 Pine Creek Angler Survey question:
 "How many days will you be fishing during this trip?"

Response	Count	Percent
1-3	272	75
4-10	87	24
>10	6	2
Total	365	100

Table 21. Response to 2008 Pine Creek Angler Survey question:
 "How many anglers rode in your vehicle today?"

Response	Count	Percent
0-1	89	24
2-3	229	62
4-5	46	13
>5	4	1
Total	368	100

Table 22. Response to 2008 Pine Creek Angler Survey question:
 "About how many times have you fished Pine Creek during
 the last 12 months?"

Response	Count	Percent
0-10	209	57
11-25	100	27
26-50	32	9
>50	27	7
Total	368	100

Table 23. Response to 2008 Pine Creek Angler Survey question:
 "About how many times have you fished in Pennsylvania
 during the last 12 months?"

Response	Count	Percent
0-10	93	25
11-25	81	22
26-50	89	24
>50	103	28
Total	366	100

Table 24. Response to 2008 Pine Creek Angler Survey question:
 "When I fish for trout, I pay close attention to the
 water temperature."

Response	Count	Percent
Strongly Agree	40	11
Agree	150	41
Neither	68	19
Disagree	89	24
Strongly Disagree	19	5
Total	366	100

Table 25. Response to 2008 Pine Creek Angler Survey question:
 "Trout that move into cold water near tributary mouths or spring seeps in summer months should be harvested because most will die anyway."

Response	Count	Percent
Strongly Agree	23	6
Agree	98	27
Neither	66	18
Disagree	138	38
Strongly Disagree	41	11
Total	366	100

Table 26. Response to 2008 Pine Creek Angler Survey question:
 "The cold water near tributary mouths or spring seeps where trout gather in summer should be off-limits to fishing."

Response	Count	Percent
Strongly Agree	48	13
Agree	91	25
Neither	55	15
Disagree	142	39
Strongly Disagree	30	8
Total	366	100