

## Evaluation of Recreational Fishing Activity at Fisherman's Park in Newfane, New York

### Introduction

This section of the baseline overview of the Watershed provides a summary and evaluation of recreational fishing activity for the Fisherman's Park fishing area located near Burt Dam on Eighteenmile Creek (See Picture Below). Fisherman's Park represents a publicly accessible outlet for fresh water anglers. Anglers pay a two dollar per person ticket fee to the Town of Newfane to fish at the Park.



The Town of Newfane keeps records of vehicles by license plate number, state of origin, and total dollars amounts collected for each day for the fall fishing season (spanning from October through November). These records enabled a census count of vehicles and angler trip days by residency to be completed. Supplemented with this analysis are estimates of fishing effort and economic impacts associated with this recreational activity. While not reflective of the entire

Source: Fisherman's Park, Town of Newfane, [http://olcott-newfane.com/html/burt\\_dam.html](http://olcott-newfane.com/html/burt_dam.html)

fishery resource available to anglers (i.e. the entire length of the Creek), the data from Fisherman's Park does provide an indication of the importance of this waterbody to the Watershed and New York State that can be compared to other angler surveys and reports for Lake Ontario tributaries. Eighteenmile Creek flows into Lake Ontario at Olcott. It should be noted that the Town of Newfane also provides boat access and collects ticket revenues associated with using the Marina and boat launch. These marina records have not yet been evaluated in this draft but are mentioned because fishing and boating activities at this public access site are popular and highlight the Creek's role in linking boaters and anglers to the Lake Ontario resource.

Eighteenmile Creek is a popular, highly productive tributary of Lake Ontario and is popular for Salmon, Steelhead and Trout fishing. The Creek will hold salmon and trout all through October and November. By December, the Creek will contain primarily Steelhead and Rainbow Trout (Town of Newfane). The Fall 2005 Lake Ontario Tributary Survey showed that Eighteenmile Creek was ranked number one in angler hours for all Non-Salmon River tributaries (2005, Prindle, Bishop, Penney). This section of the Watershed natural resource baseline first describes the Fisherman's Park dataset and then shows key angler activity summaries for 2004-2005. The dataset was then supplemented with other local data and surveys to estimate effort (angler hours) and economic impacts associated with this Park.

### Description of Dataset

The dataset was assembled from hard copy records maintained by the Town of Newfane reflecting Fall seasonal recreational fishing activity at Fisherman's Park. The records were entered into an MS Access database. The summaries produced from the records are meaningful because they depict two years of historical participation for a productive segment of the Creek, and can be compared to Lake Ontario tributary creel survey estimates as well as other estimates of recreational angler participation and fresh water fishing economic impact for New York State. The dataset contained a total of 11,111 records for the fishing period spanning October – November of 2004 and 2005. Each record consisted of a fishing date, a vehicle license plate number, the state of origin, and the total amount of ticket revenue paid by all fishermen over the age of 16 within the fishing party associated with the respective vehicle. The summarized records show that the Town of Newfane collected \$18,939 from Fisherman Park anglers in 2004. Collections grew by 9% to \$20,637 for 2005.

### Angler Residency

The majority of vehicles were from New York, Pennsylvania and Ohio. However, Fisherman's Park is a popular destination and attracts anglers from throughout the United States. It should be noted that Western New York was recently ranked as the number one fall fishing destination site for recreational fishing by Outdoor Life Magazine (Outdoor Life, ). Over the course of the two-year period evaluated, vehicles from a total of 41 of the 50 states in the U.S. visited Fisherman's Park, attesting to its popularity.

**Table 1**  
Summary of Vehicles By State\* for Fisherman's Park (18 Mile Creek)  
from Town of Newfane, NY License Records-In 2005 Descending Order Rank

	State/Province	2004	%	2005	%	Absolute Change 2004-2005	Percent Change 2004-2005
1	New York	736	38.3%	851	39.2%	115	16%
2	Pennsylvania	452	23.5%	459	21.2%	7	2%
3	Ohio	249	13.0%	217	10.0%	(32)	-13%
4	Ontario	98	5.1%	137	6.3%	39	40%
5	New Jersey	99	5.2%	123	5.7%	24	24%
6	Virginia	39	2.0%	84	3.9%	45	115%
7	West Virginia	64	3.3%	77	3.6%	13	20%
8	Maryland	33	1.7%	43	2.0%	10	30%
9	Massachusetts	23	1.2%	38	1.8%	15	65%
10	Connecticut	16	0.8%	32	1.5%	16	100%
11	No ST given	16	0.8%	30	1.4%	14	88%
12	Others	97	5.0%	78	3.6%	(19)	-20%
	<b>Total:</b>	<b>1,922</b>	<b>100%</b>	<b>2,169</b>	<b>100%</b>	<b>247</b>	<b>12.9%</b>

Note: \* Represents tally of unique license plates (vehicles) by state.

Table 1 summarizes the tally of unique license plates/vehicles traveling to Fisherman's Park in 2004-2005. Unique vehicles are not the same as vehicle counts (i.e. the same vehicle frequenting the Park at numerous dates - see below). New York accounted for 39.2% of the unique license plates/vehicles in 2005, while Pennsylvania and Ohio accounted for almost one third. The Province of Ontario accounted for 6.3% of the vehicles in 2005, and visitation grew by 40% between 2004 and 2005. The largest year to year percentage increases in visitation were recorded for the states of Virginia (115%) and Connecticut (100%). Table 1 shows an overall 13% increase in unique vehicles between 2004 and 2005 for the Park.

### Vehicle Trips

Vehicle trips represent a count of all days for each vehicle. [Figure 1](#) shows the distribution of vehicle trips by fishing party size associated with that vehicle. Most vehicles carried an average of two anglers to the Park. Vehicle trips represent the tally of license plates by state across all fishing days. In 2004, there were a total 5,410 vehicle trips to Fisherman's Park. Vehicle trips rose 5.4% to reach 5,701 in 2005.

Figure 1

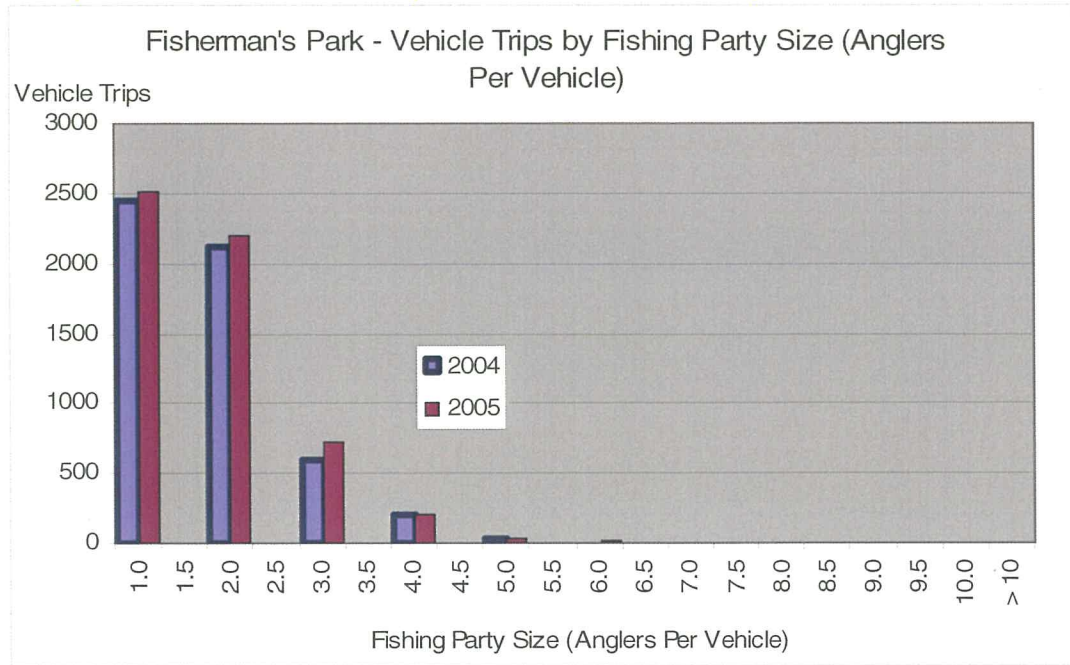
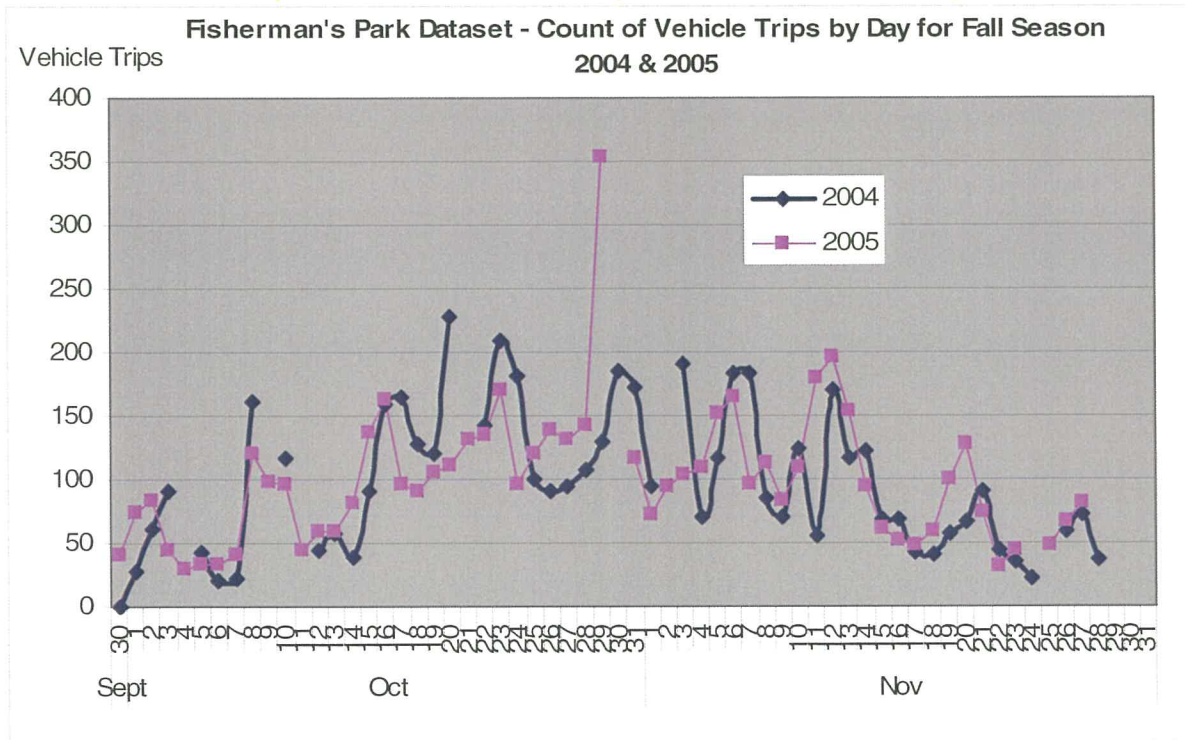


Figure 2 depicts the seasonal pattern of vehicle trips for each day within the Fall season records provided by the Town of Newfane. The height of the Fall fishing season for the Park spans the period from mid-October to mid-November after which participation declines. The spike visible for October 29, 2005 (354 vehicles), most likely represents a response by anglers to notice of a large run of fish (Wilson, 2007). The vehicle pattern on that day follows the most popular distribution of states by angler residency with a few notable exceptions. On this particular day while there were 220 vehicles from New York, 62 from Pennsylvania, and 22 from Ohio, there were also 11 cars from West Virginia, with two vehicles coming from as far away as Texas and Alabama.

Figure 2



Angler Trips by State

Angler fishing trips to the Park were estimated by dividing the total dollar amount of fees collected, per vehicle, by the \$ 2 dollar/person fee and summing over all records within the dataset. This estimate was based on inferring the number of anglers associated with the trip made and was used in the absence of fishing party size data that is not collected by the Town in their records. However, it should be noted that children under the age of 16 pay no fee so that the fishing party size calculated is an approximate estimate. It was not possible to estimate the unique number of anglers for the dataset, only unique license plates or vehicles.

**Table 2**  
 Estimated Number of Angler Trips by State/Province in Descending Order (2005)  
 Fisherman's Park, Newfane, NY

	State/Province	2004	%	Average Party Size	2005	%	Average Party Size	Absolute Change 2004-2005	Percentage Change 2004-2005
1	New York	4,974	52.4%	1.5	5,254	50.9%	1.6	280	5.6%
2	Pennsylvania	2,252	23.7%	2.1	2,296	22.3%	2.1	45	2.0%
3	Ohio	811	8.5%	2.2	734	7.1%	2.1	(77)	-9.4%
4	Ontario	299	3.1%	1.9	466	4.5%	2.0	167	55.7%
5	New Jersey	324	3.4%	2.3	378	3.7%	2.3	54	16.5%
6	West Virginia	189	2.0%	1.9	270	2.6%	2.3	81	42.9%
7	Virginia	98	1.0%	1.9	223	2.2%	2.2	126	128.7%
8	Not Provided	30	0.3%	1.9	183	1.8%	4.6	153	510.0%
9	Massachussetts	75	0.8%	2.2	116	1.1%	2.1	41	54.7%
10	Connecticut	47	0.5%	1.0	113	1.1%	2.7	66	140.4%
11	Maryland	140	1.5%	2.5	112	1.1%	2.1	(28)	-20.0%
12	Michigan	65	0.7%	1.7	62	0.6%	1.9	(3)	-4.6%
13	Others	193	2.0%	1.9	113	1.1%	1.7	(80)	-41.5%
	<b>Total:</b>	<b>9,496</b>	<b>100%</b>	<b>1.8</b>	<b>10,319</b>	<b>100%</b>	<b>1.8</b>	<b>823</b>	<b>8.7%</b>

In 2005 an estimated 10,319 angler trips were recorded at Fisherman's Park over the two month October through November season. The 2005 angler trip estimate was 9% above 2004's level of 9,496. About one half of the angler trips (51%, 5254 angler trips) were recorded for New York State residents while 49% are from out of state. Outside of New York, most anglers (22.3%, 2296 angler trips) traveled from Pennsylvania. Virginia, the Province of Ontario and Connecticut showed the greatest year to year growth in angler visitation between 2004 and 2005. The average party size is about 2 persons.

The estimated 5,024 angler trips originating from outside of the state illustrate that Eighteenmile Creek serves to attract a large number of seasonal visitors and with them associated "new spending" to the Olcott/Town of Newfane area. To place the perennial non-resident visitation in perspective, the total population of the Town of Newfane was 9,657 in 2000, so the seasonal increase in non-resident visitation (5024) represents 52% of the estimated permanent resident population.

Angler Effort Measured in Hours

Using a sample survey, the Fall 2005 Lake Ontario Tributary Angler Survey estimated a total of 32,295 angler trips, and 69,111 angler hours. In this survey, angler trips were estimated by dividing the estimates of angler hours by the mean length of the completed trips for the tributary, or 2.14 hours. For vehicles, the creel survey measured angler hours by taking the product of vehicles, mean size of the angler party and daylength. Daylength was the number of hours from ½ hour before sunrise to ½ hour after sunrise on the respective day (Prindle, Bishop, Penny, 2005).

To measure the daylength associated with each fishing day within the Town of Newfane's Fisherman's Park dataset, a dataset from the U.S. Naval Observatory Astronomical Observations Department was obtained. This dataset recorded historical daily sunrise and sunset times for Olcott, NY for 2004 and 2005. Daylength was calculated by subtracting the sunrise times in hours and minutes from the sunset times. Each fishing day within the Town of Newfane database was then assigned a daylength in hours and minutes from the U.S. Naval Observatory dataset for Olcott. A range of angler hours was estimated since this information is not directly available within the Town's records. Average angler trip hours were calculated by multiplying the number of angler trips by the mean trip length taken from the 2005 Creel Survey of 2.14 hours. This first estimate of effort was compared to a maximum or ceiling angler hours in a fishing day that was calculated using the total daylength using the following equation:

$$\text{Maximum Angler Hours} = \sum_{i=1}^n \left( \frac{[\text{Amount Collected per Vehicle}]_{i,j}}{[\text{per person fee, \$2}]} \times \text{daylength}_{i,j} \right)$$

, where  $i$  represents the number of fishing trip days in a year and  $j$  represents the particular state of residency. The two measures are shown in [Table 3](#) below.

**Table 3**  
Estimated Angler Hours for Fisherman's Park, 2004-2005

1	State	Average Hours			Maximum Potential Hours		
		2004	2005	% Change 2004-05	2004	2005	% Change 2004-05
2	New York	10,644	11,243	5.6%	52,135	54,889	5.3%
3	Pennsylvania	4,818	4,913	2.0%	23,534	23,951	1.8%
4	Ohio	1,734	1,571	-9.4%	8,530	7,699	-9.7%
5	Prov. of Ontario	640	996	55.7%	2,892	4,627	60.0%
6	New Jersey	693	808	16.5%	3,313	3,813	15.1%
7	West Virginia	404	578	42.9%	2,004	2,807	40.0%
8	Virginia	209	477	128.7%	1,006	2,319	130.6%
9	Not Provided	64	392	510.0%	306	1,926	530.2%
10	Massachussetts	161	248	54.7%	755	1,161	53.8%
11	Connecticut	101	242	140.4%	463	1,157	149.9%
12	Maryland	300	240	-20.0%	1,483	1,146	-22.8%
13	Michigan	139	133	-4.6%	695	644	-7.4%
14	Florida	32	39	20.0%	156	187	20.0%
15	Colorado	156	34	-78.1%	731	158	-78.3%
16	New Hampshire	13	30	133.3%	62	139	125.6%
17	Others	212	139	-34.3%	1,025	678	-33.9%
18	<b>Total</b>	<b>20,320</b>	<b>22,082</b>	<b>8.7%</b>	<b>99,090</b>	<b>107,302</b>	<b>8.3%</b>

Average angler hours were 20,320 in 2004, and grew by 9% to 22,082 in 2005. Given the number of anglers and the maximal day lengths the maximum potential fishing hours grew to 107,302 in 2005.

#### Estimated Catch and Harvest

The 2005 Lake Ontario Tributary Survey contained estimated catch and harvest rates for 2005 for Eighteenmile Creek. The catch and harvest rates reflected the fishing period covering September 19, through November 30<sup>th</sup>, a time period that dovetails with the Fisherman's Park records provided by the Town of Newfane. [Table 4](#) applies the 2005 catch and harvest rates to the estimated angler hours shown in [Table 3](#) above.

**Table 4**  
Estimated Catch and Harvest for Eighteenmile Creek's Fisherman's Park

Species	2004		2005		2005 Rates
	Average	Maximum	Average	Maximum	
Chinook salmon					
Catch	3,962	19,323	4,306	20,924	0.195
Harvest	101.6	495.4	110.4	536.5	0.005
Steelhead					
Catch	2,093	10,206	2,274	11,052	0.103
Harvest	244	1,189	265	1,288	0.012

Brown Trout					
Catch	6,665	32,501	7,243	35,195	0.328
Harvest	508	2,477	552	2,683	0.025

Direct Economic Impact

The direct economic impact can be estimated by using data compiled for a 2003 study of the economic impact associated with Lake Erie tributaries from Erie County, Pennsylvania (Erie, 2004). This study focused on trip spending by Erie Steelhead anglers and contained expenditure data for lodging, transportation, food, and bait and gear for “out of county” and “in-county” anglers. The out of county total spending per trip was updated to 2004 and 2005 prices and applied to the estimated non-resident trips associated with Fisherman’s Park (Eighteenmile Creek), while the in-county per trip spending was also escalated to later years and applied to resident New York State angler trips. The estimated economic impacts do not consider the complete multiplicative impacts associated with this spending on other firms, suppliers, industries and establishments in Olcott, Newfane, or Niagara County.

Table 5 shows the results of the impact estimates. Fishing activity at Fisherman’s Park resulted in at least \$366,000 in direct fishing trip related expenditures in 2005.

**Table 5**  
Estimated Direct Expenditures Associated with Angler  
Trip Spending at Fisherman's Park

	<b>2004</b>	<b>2005</b>
Resident trips	\$33,703	\$36,804
Non-resident trips	\$284,410	\$329,391
Total:	\$318,112	\$366,195