

STUDY PERFORMANCE REPORT

State: Michigan

Project No.: F-53-R-15

Study No.: 427

Title: Measurement of sportfishing harvest in lakes Michigan, Huron, Erie, and Superior

Period Covered: April 1, 1998 to September 30, 1999

Study Objective: To obtain a continuous record of sport catch, catch rates, and catch composition in the Great Lakes (Superior, Michigan, Huron, and Erie) and anadromous river fisheries.

Summary: During the 1998 angling season the Michigan Department of Natural Resources (MDNR) conducted creel surveys at key ports and fishing areas on lakes Michigan, Huron, Erie, and Superior. On Lake Michigan, 23 areas were sampled from New Buffalo to Harbor Springs in the Lower Peninsula, and from Menominee to Big Bay de Noc in the Upper Peninsula. On Lake Huron, 16 areas were sampled from Lexington to Rogers City. Lake Erie creel survey operations covered the area from Point Mouillee to the Michigan-Ohio state line. Seven areas were sampled on western and central Lake Superior.

A total of 71,281 anglers were interviewed at the conclusion of their fishing trips during the 1998 open water season (April-October). The number of anglers interviewed by lake was: Lake Michigan, 29,152; Lake Huron, 27,088; Lake Erie, 10,686; and Lake Superior, 4,355.

Anglers spent an estimated 5.3 million angler hours fishing at all sites sampled in 1998. This amounted to 1.2 million individual fishing trips or 1.1 million angler days.

A total of 2.3 million fish were harvested at all sample areas combined (counting the 15 species that were on the survey data form; angler party interview form). Yellow perch was the most abundant species in the catch with an estimated harvest of 1.6 million fish. Over 176,000 walleye were estimated as harvested by the sport fishery in all sample areas combined in 1998. Salmonines were also an important part of the Great Lakes sport harvest. During 1998, over 505,000 were estimated harvested from all sample areas. Important species of salmonines and their estimated harvest in numbers of fish were: chinook salmon, 225,000; lake trout, 162,000; rainbow trout, 47,000; and coho salmon, 33,000.

New estimation software is being developed for use in 1999. The software will handle estimation of catch rates as recommended by Lockwood (1997). The software will also allow reporting of targeted effort as well as targeted catch rates by species, and estimates of caught and released fish.

The angler party interview form was re-designed for 1999 and the new form was put in service January 1, 1999 in time for the winter ice creel survey. The new form has space for an additional 15 kept species well as eight species that anglers may have caught and released (legal size fish).

Job 1. Title: Initiate air flight boat counts.

Findings: During the 1998 open-water season, air flights were utilized to count boats on Lake Erie. Boats, and shore and pier anglers were also counted using air flights on Saginaw Bay and Lake Huron from Tawas to Harbor Beach.

All air flights were conducted using stratified random sampling schedules. At each survey area flights were attempted on each weekend day and three on randomly selected weekdays per week. Random take off times were used to insure that fishing pressure counts were made at various times during daylight hours each month.

Mean monthly counts for weekdays and weekend days by mode of fishing (i.e. boat, shore, or pier) were combined with angler catch rates using a computer program written by MDNR personnel to make monthly catch and effort estimates by port or sample area.

During the 1999 open-water season, angler effort was additionally surveyed via air flights on the St. Mary's River system. The St. Mary's River creel survey is a joint project with the St. Mary's River Task Group of the Lake Huron Technical Committee of the Great Lakes Fisheries Commission. Members of the Task Group included the Bay Mills Indian Community (U.S.), the Ontario Ministry of Natural Resources, the Batchewana First Nation of Ojibways (Canada), the Garden River First Nation of Ojibways (Canada) and the MDNR.

Job 2. Title: Monitor Great Lakes and anadromous sport fisheries.

Findings: Personnel from watershed management unit offices and research stations monitored the sport fisheries in their respective Great Lakes shoreline areas. All census clerks used stratified random work schedules specifically designed for the areas in which they were sampling.

Throughout the season creel clerks sent completed data forms to the Charlevoix Fisheries Research Station every two weeks for computer entry. Redesigned count and interview forms were implemented at the beginning (April 1) of the 1997 season. The forms were designed to be optically scanned, eliminating the need for hand data entry. Data entry was completed by the middle of November, 1998 for all open water sample areas surveyed in 1998. Summaries of catch estimates by sample area were generated for all sites by the end of November, 1998. Data entry (optical scanning) for the 1999 season is ongoing.

A total of 71,282 anglers were interviewed at the conclusion of their fishing trips during the 1998 open water season (April-October). The number of anglers interviewed by lake was: Lake Michigan, 29,152; Lake Huron, 27,088; Lake Erie, 10,686; and Lake Superior, 4,355.

Lake Michigan.—Twenty-three ports and fishing areas from New Buffalo to Harbor Springs in the Lower Peninsula and Big Bay de Noc to Menominee in the Upper Peninsula were sampled on Lake Michigan during 1998.

Lake Michigan anglers spent an estimated 2.5 million hours fishing the ports and areas sampled during 1998 (Table 1). This amounted to an estimated 579,000 individual fishing trips. The total estimated harvest at all sample areas was 624,000 fish of the 15 species on the survey form. (Table 1). Yellow perch were the most abundant species in the catch with an estimated harvest of 286,000. Salmonines were also an important part of the Lake Michigan sport harvest. During 1998 an

estimated 115,000 chinook salmon, 80,300 lake trout, 39,600 rainbow trout, 30,000 coho salmon and 22,800 brown trout were harvested from the survey areas (Table 1).

Lake Huron.—Lake Huron was surveyed from Lexington to Rogers City in 1998. One new port, Presque Isle, was added to the survey schedule. Lake Huron anglers spent an estimated 2.1 million hours and made an estimated 450,000 fishing trips during the 1998 season (Table 2). The total estimated harvest was 1.1 million fish with yellow perch making up 75% of the harvest. In addition to yellow perch, other important species in the Lake Huron sport harvest included; 108,000 chinook salmon, 82,000 walleye, 62,000 lake trout, 6,900 rainbow trout, and 3,700 brown trout.

Lake Erie.—The Lake Erie boat fishery was sampled from Point Mouillee to the Michigan-Ohio state line during mid-April through October, 1998. Lake Erie anglers spent an estimated 513,000 hours fishing the Michigan waters of Lake Erie (Table 3). Anglers harvested an estimated 621,000 fish. Yellow perch (555,000) and walleye (66,500) were the most numerous species in the catch.

Lake Superior.—Seven areas in western and central Lake Superior were surveyed in 1998. Lake Superior anglers at these locations fished an estimated 145,000 angler hours and made 35,000 fishing trips (Table 4). The total sport harvest was over 32,000 fish. Lake trout was the most abundant (21,200) species of salmonine in the catch. The harvest also included 4,000 siscowet lake trout, 2,400 coho salmon, 1,500 lake whitefish, and 550 chinook salmon.

Winter survey.—During the 1998-99 winter, creel surveys were conducted on Saginaw Bay, Lake Huron, Little Bay de Noc, and the Menominee area of Green Bay on Lake Michigan and Keweenaw, Marquette and Munising Bays on Lake Superior. Data entry has been completed for the winter ice fishery, however catch estimates have been delayed due to the change over to the new software. It is expected that the catch estimates will be completed by early fall, 1999.

1999 creel survey.—Creel surveys of the Great Lakes areas mentioned above commenced during the spring of 1999 and are ongoing. In addition to the above areas, several new creel surveys were approved for the 1999 season. New projects were begun on the Muskegon, Manistee, Saginaw/Tittabawassee and St. Mary's Rivers. The new areas required the addition of 6 seasonal creel survey clerks and the transfer of one position from western Lake Superior. This marked the first meaningful expansion of the program since 1992.

Job 3. Title: Quality control checks.

Findings: Throughout the field season data forms were scrutinized at the Charlevoix Fisheries Research Station prior to data entry (optical scanning). During 1999, I developed new data-editing routines using Microsoft Access queries which allows for additional error checking and has improved the speed of editing errors. The data-editing queries employ range checks on various fields and looks for illegal values for each count and interview record.

Frequent contact and communications were necessary to field questions, check progress, and head off problems. When consistent errors by certain employees were noted, those personnel were contacted to rectify the problem.

Frequent trips were made by the project biologist or his assistant to meet creel clerks to discuss the creel survey methods, and to solicit comments and ideas on how the program could be more efficiently carried out. Also during May 1999, a one day training session was conducted for all creel survey personnel.

Job 4. Title: Prepare succeeding years sampling schedules.

Findings: Sampling schedules were prepared for the 1999 open water season to cover the following areas: Lake Erie, 24 sites on Lake Michigan, 16 sites on Lake Huron including Saginaw Bay, 6 sites on western and central Lake Superior, the St. Mary's River system (for all agencies involved) and for the new river surveys (Muskegon, Manistee, Saginaw/Tittabawassee Rivers).

Job 5. Title: Prepare status report summarizing results.

Findings: Summaries in tabular form of the catch and effort estimates for all sites sampled during 1998 were disseminated to the watershed management and research station offices during January, 1999.

The preparation of technical reports are on hold due to the fact that all historical (1985-98) creel survey data will may be re-estimated using the new software package.

Job 6. Title: Analyze and evaluate data.

Findings: Lake trout harvest statistics for lakes Michigan, Huron, and Superior are provided annually to the Lake Technical Committees of the Great Lakes Fishery Commission (GLFC). The GLFC formulates policy recommendations for lake trout on the upper Great Lakes through the lake committees to the State agencies.

The Lake Erie sport catch estimates and biological data for walleye and yellow perch are used annually by the Lake Erie Technical Committee of the GLFC to set harvest quota limits for the various state and provincial commercial and sport fisheries. Members of the committee include the Ohio Department of Natural Resources, Pennsylvania Fish Commission, New York Department of Environmental Conservation, Ontario Ministry of Natural Resources, and MDNR. All agencies contributed their sport and commercial assessment data to this modeling effort.

During 1997, under the direction of the Great Lakes Fishery Commission's Lake Michigan Technical Committee, an ad hoc committee was assigned the task of making predator stocking recommendations for Lake Michigan. I was a member of this committee which included representatives of the State agencies (Michigan, Indiana, Illinois, Wisconsin), the U. S. Fish and Wildlife Service and the Indian Tribes (Chippewa-Ottawa Treaty Fishery Management Authority). Among other important inputs, the group utilized the creel survey data which have been collected over the years by all State agencies on Lake Michigan to develop a computer model called CONNECT. The model was then used to test various stocking scenarios of five species of salmonines in Lake Michigan and their probable impact on the lake wide forage base. The results of the committee's work was presented to the Lake Michigan Technical Committee in January, 1997. As a result of this exercise, chinook stocking was reduced by all agencies on Lake Michigan in the spring of 1999. Chinook stocking was also reduced by MDNR in Lake Huron in 1999.

During 1994, I chaired a committee made up of internal research personnel and a university research biologist. The charge to the committee was to review the present Great Lakes creel survey methods and to recommend improvements to the overall program. The committee's recommendations were accepted by the Fisheries Division Management Team during August, 1995.

The recommendations included: 1) the annual reporting of targeted fishing effort and targeted catch rates for important species complexes, such as salmonines, yellow perch and walleye; 2) the

estimation of caught and released fish; 3) inclusion of important river fisheries in the annual creel survey.

Work continued on this project during 1998-99. Rewriting of the estimation software continues into 1999 and is projected to be completed by the end of September 1999. The new software will handle estimation of catch rates as recommended by Lockwood (1997). The software will also allow the reporting of targeted effort for salmonines, yellow perch and walleye as well as targeted catch rates by species. In addition, the software will calculate estimates for caught and released fish.

Literature Cited:

Lockwood, R. N. 1997. Evaluation of catch rate estimators from Michigan access point angler surveys. *North American Journal of Fisheries Management* 17(3):611-620

Prepared by: Gerald P. Rakoczy

Dated: September 30, 1999

Table 1.-Estimated catch per hour, number caught, and effort (angler hours, trips, and days) for all Lake Michigan sample areas (23) combined, by all modes of sportfishing (non-charter), 1998. Two standard errors in parentheses.

Species	Total catch per hour	Month										Season
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct			
Pink salmon	0.0000 (0.0000)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	49 (82)	6 (12)	0 (0)	55 (83)		
Coho salmon	0.0118 (0.0023)	1,209 (494)	5,273 (3,386)	3,625 (1,513)	1,144 (599)	2,528 (1,262)	4,193 (1,294)	11,405 (3,573)	639 (348)	30,016 (5,524)		
Chinook salmon	0.0452 (0.0060)	23 (30)	1,795 (1,074)	23,535 (8,161)	12,378 (3,887)	35,362 (8,224)	26,945 (5,520)	13,362 (3,172)	1,878 (773)	115,278 (13,843)		
Rainbow trout	0.0155 (0.0021)	112 (145)	2,149 (1,177)	1,903 (624)	8,857 (2,178)	13,496 (3,401)	7,134 (1,951)	3,326 (1,296)	2,680 (1,006)	39,657 (4,960)		
Brown trout	0.0089 (0.0013)	120 (99)	10,602 (2,132)	2,854 (1,058)	1,141 (665)	5,140 (1,572)	2,087 (817)	457 (227)	420 (263)	22,821 (3,062)		
Lake trout	0.0315 (0.0037)	0 (0)	2,614 (1,282)	16,241 (3,579)	17,574 (4,103)	26,422 (5,088)	14,403 (2,929)	3,091 (1,046)	6 (12)	80,351 (8,176)		
Splake	0.0026 (0.0007)	0 (0)	5,337 (1,575)	29 (45)	218 (222)	766 (403)	292 (258)	0 (0)	0 (0)	6,642 (1,662)		
Lake herring	0.0006 (0.0005)	0 (0)	590 (1,139)	576 (727)	0 (0)	64 (129)	105 (163)	183 (182)	0 (0)	1,518 (1,379)		

(Table 1.--continued.)

Species	Total catch per hour	Month												Season
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct					
Smallmouth bass	0.0029 (0.0013)	0 (0)	0 (0)	652 (675)	3,303 (2,765)	2,217 (1,580)	492 (341)	430 (314)	231 (331)	7,325 (3,305)				
Yellow perch	0.1122 (0.0295)	0 (0)	32,748 (13,801)	100,306 (63,206)	23,512 (12,159)	49,979 (20,494)	21,070 (9,725)	24,020 (16,749)	34,810 (17,071)	286,445 (73,620)				
Walleye	0.0102 (0.0028)	0 (0)	1,193 (1,372)	10,103 (4,176)	2,665 (1,831)	3,900 (2,579)	5,539 (3,956)	1,863 (1,579)	872 (614)	26,135 (6,917)				
Lake whitefish	0.0033 (0.0011)	462 (263)	2,662 (906)	1,449 (1,184)	499 (618)	712 (1,037)	1,580 (1,912)	483 (512)	645 (364)	8,492 (2,793)				
Total	0.2448 (0.0329)	1,926 (587)	64,963 (14,736)	161,273 (64,016)	71,291 (14,027)	140,586 (23,228)	83,889 (12,621)	58,626 (17,580)	42,181 (17,142)	624,735 (76,250)				
Angler hours	6,047 (1,434)	210,032 (22,734)	320,828 (42,383)	332,718 (37,161)	613,372 (89,559)	580,815 (76,289)	353,473 (56,278)	134,882 (11,817)	2,552,167 (144,374)					
Angler trips	1,761 (441)	53,698 (5,499)	71,780 (8,770)	73,579 (7,440)	134,287 (18,041)	127,348 (15,079)	80,985 (11,866)	35,796 (2,932)	579,234 (29,410)					
Angler days	1,711 (433)	48,964 (5,342)	68,557 (8,495)	69,211 (7,187)	123,854 (16,356)	114,483 (13,214)	73,312 (11,062)	32,066 (2,795)	532,158 (26,923)					

Table 2.—Estimated catch per hour, number caught, and effort (angler hours, trips, and days) for all Lake Huron sample areas (16) combined, by all modes of sportfishing (non-charter), 1998. Two standard errors in parentheses.

Species	Total catch per hour	Month								Season
		Apr	May	Jun	Jul	Aug	Sep	Oct		
Pink salmon	0.0004 (0.0002)	0 (0)	168 (193)	318 (299)	283 (169)	109 (104)	36 (57)	0 (0)	0 (0)	914 (411)
Coho salmon	0.0006 (0.0002)	189 (156)	253 (202)	368 (283)	268 (186)	216 (196)	28 (33)	0 (0)	0 (0)	1,322 (468)
Chinook salmon	0.0508 (0.0050)	1,048 (419)	7,992 (3,312)	15,174 (2,797)	37,060 (5,938)	26,039 (3,658)	14,791 (3,422)	6,287 (1,585)	108,391 (9,046)	
Rainbow trout	0.0032 (0.0006)	876 (409)	1,225 (826)	1,423 (471)	2,230 (608)	683 (228)	125 (90)	355 (244)	6,917 (1,249)	
Atlantic salmon	0.0000 (0.0000)	12 (23)	9 (18)	25 (45)	0 (0)	0 (0)	0 (0)	2 (3)	48 (54)	
Brown trout	0.0017 (0.0004)	889 (601)	661 (370)	523 (340)	1,356 (522)	154 (130)	68 (72)	47 (63)	3,698 (955)	
Brook trout	0.0000 (0.0000)	0 (0)	0 (0)	0 (0)	0 (0)	10 (21)	0 (0)	0 (0)	10 (21)	
Lake trout	0.0289 (0.0053)	0 (0)	16,989 (7,441)	20,627 (7,112)	17,031 (3,283)	6,654 (1,457)	427 (272)	0 (0)	61,728 (10,905)	

(Table 2--continued.)

Species	Total catch per hour	Month								Season
		Apr	May	Jun	Jul	Aug	Sep	Oct		
Smallmouth bass	0.0010 (0.0010)	0 (0)	1,081 (1,896)	273 (316)	313 (337)	13 (27)	511 (749)	0 (0)	2,191 (2,090)	
Yellow perch	0.3675 (0.0540)	5,338 (3,408)	15,021 (16,106)	103,677 (42,620)	212,682 (57,922)	195,995 (55,131)	181,132 (44,352)	70,974 (35,320)	784,819 (108,150)	
Walleye	0.0383 (0.0058)	1,065 (724)	4,246 (1,892)	15,513 (4,486)	46,320 (9,856)	13,194 (3,777)	1,373 (1,039)	94 (78)	81,805 (11,693)	
Lake whitefish	0.0000 (0.0000)	0 (0)	0 (0)	64 (96)	0 (0)	0 (0)	37 (47)	0 (0)	101 (107)	
Total	0.4926 (0.0572)	9,417 (3,587)	47,645 (18,271)	157,985 (43,539)	317,543 (59,152)	243,067 (55,401)	198,528 (44,503)	77,759 (35,357)	1,051,944 (109,732)	
Angler hours		78,772 (8,963)	220,371 (48,622)	316,490 (41,056)	671,634 (61,304)	447,690 (48,138)	301,736 (39,421)	98,980 (13,537)	2,135,673 (109,283)	
Angler trips		23,202 (2,788)	47,950 (8,920)	67,197 (8,161)	129,617 (11,435)	89,264 (9,328)	68,199 (8,388)	24,597 (3,249)	450,026 (21,275)	
Angler days		19,765 (2,274)	44,799 (8,580)	62,323 (7,455)	123,378 (10,789)	84,268 (8,896)	62,704 (7,769)	22,322 (3,087)	419,559 (19,995)	

Table 3.-Estimated catch per hour, number caught, and effort (angler hours, trips, and days) for the Lake Erie boat fishery (non-charter), 1998. Two standard errors in parentheses.

Species	Total catch per hour	Month										Season
		Apr	May	Jun	Jul	Aug	Sep	Oct				
Rainbow trout	0.0000 (0.0000)	0 (0)	6 (13)	10 (21)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	16 (25)	
Smallmouth bass	0.0006 (0.0005)	0 (0)	0 (0)	13 (20)	95 (70)	123 (226)	6 (12)	47 (79)	284 (251)			
Yellow perch	1.0809 (0.2664)	60 (105)	4,916 (2,538)	5,285 (2,451)	43,079 (20,432)	166,787 (36,999)	243,336 (77,992)	91,115 (51,524)	554,578 (102,647)			
Walleye	0.1297 (0.0403)	651 (730)	15,352 (5,825)	26,142 (9,418)	23,261 (13,685)	907 (724)	183 (161)	74 (151)	66,570 (17,636)			
Total	1.2112 (0.2830)	711 (738)	20,274 (6,354)	31,450 (9,732)	66,435 (24,592)	167,817 (37,007)	243,525 (77,992)	91,236 (51,524)	621,448 (104,151)			
Angler hours	9,677 (4,999)	93,020 (23,763)	81,066 (23,843)	135,318 (67,970)	81,380 (16,835)	74,636 (22,898)	37,971 (19,680)	513,068 (83,505)				
Angler trips	2,400 (1,196)	18,115 (4,676)	16,658 (4,721)	27,578 (13,316)	18,406 (3,687)	15,527 (4,687)	8,399 (4,270)	107,083 (16,634)				
Angler days	2,373 (1,196)	17,456 (4,500)	15,936 (4,488)	26,642 (13,251)	17,966 (3,589)	15,108 (4,552)	8,210 (4,160)	103,691 (16,380)				

Table 4.-Estimated catch per hour, number caught, and effort (angler hours, trips, and days) for all Lake Superior sample areas (7) combined by all modes of sportfishing (non-charter), 1998. Two standard errors in parentheses.

Species	Total catch per hour	Month								Season
		Apr	May	Jun	Jul	Aug	Sep	Oct		
Pink salmon	0.0004 (0.0005)	0 (0)	3 (6)	0 (0)	0 (0)	38 (77)	0 (0)	23 (34)	64 (84)	
Coho salmon	0.0165 (0.0048)	1,138 (610)	583 (267)	64 (53)	27 (28)	69 (57)	297 (134)	211 (91)	2,389 (690)	
Chinook salmon	0.0038 (0.0015)	125 (82)	148 (116)	100 (107)	32 (35)	35 (60)	104 (87)	7 (15)	551 (210)	
Rainbow trout	0.0019 (0.0009)	183 (115)	55 (48)	5 (10)	9 (19)	8 (12)	0 (0)	20 (29)	280 (130)	
Brown trout	0.0017 (0.0010)	156 (124)	59 (58)	11 (24)	5 (9)	0 (0)	17 (34)	3 (6)	251 (143)	
Lake trout	0.1468 (0.0154)	1,233 (538)	3,925 (871)	4,215 (821)	4,098 (1,018)	5,076 (923)	2,164 (563)	550 (252)	21,261 (1,998)	
Splake	0.0046 (0.0020)	223 (119)	29 (49)	307 (254)	0 (0)	24 (38)	82 (68)	3 (7)	668 (295)	
Siscowet	0.0277 (0.0069)	615 (521)	998 (447)	780 (462)	446 (232)	784 (408)	282 (177)	112 (150)	4,017 (979)	
Lake herring	0.0002 (0.0003)	30 (47)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	30 (47)	

(Table 4.--continued.)

Species	Total catch per hour	Month							Season
		Apr	May	Jun	Jul	Aug	Sep	Oct	
Smallmouth bass	0.0005 (0.0006)	0 (0)	0 (0)	0 (0)	30 (48)	3 (7)	33 (69)	0 (0)	66 (84)
Yellow perch	0.0017 (0.0023)	0 (0)	0 (0)	0 (0)	177 (297)	0 (0)	63 (135)	0 (0)	240 (326)
Walleye	0.0074 (0.0031)	0 (0)	410 (241)	128 (130)	326 (291)	212 (214)	0 (0)	0 (0)	1,076 (453)
Lake whitefish	0.0105 (0.0043)	448 (368)	55 (75)	0 (0)	2 (3)	0 (0)	0 (0)	1,019 (484)	1,524 (613)
Total	0.2239 (0.0202)	4,151 (1,058)	6,265 (1,056)	5,610 (992)	5,152 (1,126)	6,249 (1,039)	3,042 (634)	1,948 (575)	32,417 (2,510)
Angler hours		19,066 (3,981)	25,749 (2,388)	25,417 (2,517)	29,943 (2,930)	24,514 (2,398)	14,757 (1,627)	5,339 (590)	144,785 (6,724)
Angler trips		5,194 (1,025)	5,938 (582)	5,827 (640)	6,908 (760)	5,790 (613)	4,104 (452)	1,736 (217)	35,497 (1,733)
Angler days		5,092 (996)	5,871 (578)	5,770 (642)	6,835 (757)	5,716 (606)	3,985 (447)	1,736 (217)	35,005 (1,710)