Table 1. Fish stocked in Lake Mitchell, Wexford County, 1874-2012.

Year	Species	Number	Size/age	Strain
1874	lake whitefish	15,000	fry	Detroit River
1876	Chinook salmon	10,000	fry	
1878	lake whitefish	120,000	fry	Detroit River
1881	smallmouth bass	4,000	fry	
1882	walleye	200,000	fry	
1879	lake trout	12,000	fry	Lake Michigan
1897	lake trout	10,000	unknown	
1909	smallmouth bass	3,000	fingerlings	
	walleye	100,000	fry	
1910	smallmouth bass	4,000	fry	
	walleye	60,000	fry	
1929	bluegill	2,250	3 mo.	
	yellow perch	80,000	fry	
1930	walleye	300,000	fry	
1933	walleye	400,000	fry	
1934	walleye	300,000	fry	
	yellow perch	10,000	7 mo.	
1935	walleye	170,000	fry	
	yellow perch	10,000	7 mo.	
	Great Lakes shiners	500,000		
1936	walleye	300,000	fry	
	Great Lakes shiners	250,000		
1937	walleye	300,000	fry	
	yellow perch	15,000	7 mo.	
1938	bluegill	30,000	5 mo.	
	walleye	200,000	fry	
	yellow perch	20,000	7 mo.	
1939	walleye	240,000	fry	
	yellow perch	48,000	5 mo.	
1940	walleye	200,000	fry	
1941	yellow perch	75,000	5 mo.	
2004	walleye	94,431	spring fingerlings	Muskegon
2006	walleye	5.3 million	fry	Muskegon
	walleye	10,751	fall fingerlings	Muskegon
2008	walleye	60,787	fall fingerlings	Muskegon
2011	walleye	17,092	spring fingerlings	Muskegon
2012	walleye	143,730	spring fingerlings	Muskegon

Table 2. Presence/absence of fish species in historical comprehensive fisheries surveys of Lake Mitchell.

Species	1942*	1961	1980	1988	1993	2003	2012
banded killifish	x						
black bullhead	x					x	
black crappie	x	x	x	x	x	x	x
blacknose dace					x		
blackside darter	x						
bluegill	x	x	x	x	x	x	x
bluntnose minnow	x						x
bowfin	x		x	x	x	x	x
brook trout				x			
brown bullhead	x			x		x	x
bullhead (nonspecific)		x	x		x		
central mudminnow	x						
common shiner	x	x			x	x	x
creek chub					x		
fathead minnow					x		
golden shiner	x	x			x	x	
hornyhead chub	x						
Iowa darter	x						
Johnny darter	x						
largemouth bass	x	x	x	x	x	x	x
logperch	x	x			x		
mimic shiner	x						
northern pike	x	x	x	x	x	x	x
pumpkinseed sunfish	x	x	x	x	x	x	x
rock bass	x	x	x	x	x	x	x
sand shiner							x
smallmouth bass	x	x	x	x	x	x	x
spottail shiner	x					x	x
straw-colored shiner**	x						
walleye	x	x	x	x	x	x	x
white sucker	x	x	x	x	x	x	x
yellow bullhead						x	x
yellow perch	x	x	x	x	x	x	x

*From Funk 1942, which included creel surveys conducted from 1928-1940 and seining and gill netting from 1941.

**No species exists today that is known as the "straw colored shiner". The latin name used in Funk (1942) for this species was notropis deliciosus, which is also not used today.

Table 3. Mean Growth Index (comparison to State of Michigan average) for fish sampled from Lake Mitchell in comprehensive fisheries surveys. A minimum of five fish per age group is statistically necessary for calculating a Mean Growth Index.

	1980	1988	1993	2003	2012
black crappie	+1.7	+1.2	-1.1	-0.1	-1.4
bluegill	+1.8	+0.6	-1.0	-0.9	-1.3
largemouth bass	+3.0		+1.4	-0.7	-1.1
northern pike		-2.3	-1.8	-0.8	-1.0
pumpkinseed	+1.5	+0.8	-0.4	0	-0.4
rock bass	+1.4	+0.9	+0.1	-1.1	
smallmouth bass			+1.4	+0.8	+1.3
walleye	-1.3	-0.7	-2.7	-2.8	+0.2
yellow perch		-0.3	-1.5		-1.5

Table 4. Results of Serns-style walleye electrofishing surveys conducted on Lake Mitchell by MDNR, 1994-2010.

	# Walleye captured	Catch Rate (# walleye/mile of shoreline sampled)	Year Class strength estimate	Serns Index (# walleye/surface acre)
1994				
Age 0	261	43.5	26,262	10.2
Age 1	42	7.0	1,835	0.7
1995				
Age 0	41	6.8	4,125	1.6
Age 1	71	11.8	5,923	2.3
2002				
Age 0	0	0.0	0	0
Age 1	0	0.0	0	0
2003				
Age 0	0	0.0	0	0
Age 1	0	0.0	0	0
2004				
Age 0	0	0.0	0	0
Age 1	0	0.0	0	0
2005				
Age 0	0	0.0	0	0
Age 1	1	0.3	125	0.0
2006				
Age 0	0	0.0	0	0
Age 1	0	0.0	0	0
2007 (spring)*				
Age 1 (2006 year class)	50	12.5	6,061	2.3
Age 2	0	0.0	0	0
2008 (spring)*				
Age 1	0	0.0	0	0
Age 2 (2006 year class)	4	1.0	638	0.2
2010 (spring)*				
Age 1	0	0.0	0	0
Age 2 (2008 year class)	46	11.7	5,873	2.3

* Although the survey was conducted in the spring, the calculations were done as if it were a fall Serns survey.

Table 5. Number, weight, and length of fish collected from Lake Mitchell with large mesh fyke nets on April 28-May 2, 2003.

Species	Number	Percent by number	Weight (Pounds)	Percent by weight	Length range (inches)1	Average length	Percent legal size2
black crappie	344	18.5	142.4	9.3	5-13	8.8	78 (7")
black bullhead	194	10.5	175.7	11.5	9-14	13.0	100 (7")
bluegill	276	14.9	35.0	2.3	4-8	5.6	21 (6")
bowfin	25	1.3	164.5	10.7	14-30	26.2	
brown bullhead	306	16.5	275.9	18.0	9-14	12.0	100 (7")
largemouth bass	158	8.5	240.4	15.7	7-20	14.1	46 (14")
northern pike	46	2.5	118.0	7.7	12-28	21.8	26 (24")
pumpkinseed	182	9.8	33.7	2.2	4-8	5.9	44 (6")
rock bass	25	1.3	10.9	0.7	5-10	8.1	84 (6")
smallmouth bass	5	0.3	10.1	0.7	13-16	15.7	80 (14")
walleye	67	3.6	156.9	10.2	16-23	19.1	100 (15")
white sucker	13	0.7	33.6	2.2	16-21	18.6	
yellow bullhead	214	11.5	135.9	8.9	5-13	10.7	(7")
yellow perch	1	0.1	0.2	0.0	7-7	7.5	100 (7")
Total	1,856	100	1533.2	100			

[1]Note some fish were measured to 0.1 inch, others to inch group: e.g., "5"=5.0 to 5.9 inch, 12=12.0 to 12.9 inches; etc.

[2]Percent legal size or acceptable size for angling. Legal size or acceptable size for angling is given in parentheses.

Table 6. Number, weight, and length of fish collected from Lake Cadillac with small mesh fyke nets on April 28-May 2, 2003.

Species	Number	Percent by number	Weight (Pounds)	Percent by weight	Length range (inches)1	Average length	Percent legal size2
black crappie	15	10.9	4.8	6.4	4-11	7.8	67 (7")
black bullhead	7	5.1	5.3	7.1	10-12	11.6	100 (7")
bluegill	23	16.7	1.7	2.3	2-6	4.5	9 (6")
bowfin	1	0.7	5.8	7.8	25-25	25.5	
brown bullhead	8	5.8	6.6	8.9	29-29	9.7	100 (7")
common shiner	1	0.7	0.1	0.1	5-5	5.5	
golden shiner	1	0.7	0.0	0.0	4-4	4.5	
largemouth bass	5	3.6	3.0	4.0	5-13	9.7	0 (14")
pumpkinseed	9	6.5	1.9	2.6	4-7	5.9	44 (6")
rock bass	25	18.1	8.6	11.5	2-10	7.0	68 (6")
smallmouth bass	4	2.9	5.1	6.8	3-14	12.0	75 (14")
spottail shiner	4	2.9	0.1	0.1	4-4	4.5	
walleye	3	2.2	6.2	8.3	17-19	18.5	100 (15")
white sucker	7	5.1	22.2	29.8	16-23	19.8	
yellow bullhead	16	11.6	2.6	3.5	8-12	11.0	100 (7")
yellow perch	9	6.5	0.5	0.7	3-6	4.8	0 (7")
Total	138	100	74.5	100			

[1]Note some fish were measured to 0.1 inch, others to inch group: e.g., "5"=5.0 to 5.9 inch, 12=12.0 to 12.9 inches; etc.

[2]Percent legal size or acceptable size for angling. Legal size or acceptable size for angling is given in parentheses.

Table 7. Average total weighted length (inches) at age, and growth relative to the state average, for fish sampled from Lake Mitchell with large and small mesh fyke nets, April 28- May 2, 2003. Number of fish aged is given in parenthesis. A minimum of five fish per age group is statistically necessary for calculating a Mean Growth Index, which is a comparison to the State of Michigan average.

	Age												
Species	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Mean Growth Index
Black crappie		(6) 5.5	(15) 7.8	(8) 8.5	(16) 8.5	(12) 9.9	(9) 11.3	(6) 11.9	(1) 12.4		(1) 13.2		-0.1
Bluegill		2.4 (1)	3.0 (2)	5.1 (17)	5.6 (11)	5.8 (4)	7.0 (7)	7.5 (3)	7.9 (2)	8.0 (1)	8.2 (4)		-0.9
Largemouth bass			8.6 (4)	11.4 (7)	13.2 (17)	14.0 (25)	15.0 (12)	17.1 (4)	18.0 (5)		18.5 (1)	18.9 (3)	-0.7
Northern pike		15.7 (2)	21.0 (10)	23.1 (20)	23.2 (13)	22.7 (3)							-0.8
Pumpkin-seed			4.7 (6)	5.5 (7)	5.8 (12)	6.8 (10)	7.5 (6)		8.4 (3)	8.5 (2)			0
Rock bass		2.7 (2)		4.4 (4)	5.5 (6)	6.7 (6)	8.0 (2)	8.2 (8)	9.2 (7)	9.4 (5)	10.1 (2)	10.5 (1)	-1.1
Smallmouth bass	3.0 (1)				15.1 (2)	16.1 (5)	13.1 (1)						+0.8
Walleye					16.8 (1)	16.7 (5)	17.5 (7)	18.2 (13)	19.6 (24)	20.9 (6)	22.6 (2)	22.1 (2)	-2.8
Yellow perch	3.6 (1)	3.9 (1)	4.5 (2)	5.5 (3)	7.0 (2)								-

Table 8. Estimated summer 2006 fishing harvest, catch per hour, and fishing pressure for Lake Mitchell. Two standard errors are given in parentheses (adapted from Anonymous 2007a).

Species	C/H	January-February	March	Season
HARVEST				
Walleye				
Northern pike				
Yellow Perch				
Bluegill				
Pumpkinseed				
Rock bass				
Black crappie				
Brown bullhead				
TOTAL HARVEST				
RELEASED				
Walleye				
Northern pike				
Largemouth bass				
Smallmouth bass				
Yellow Perch				
Bluegill				
Pumpkinseed				
Rock bass				
Black crappie				
TOTAL RELEASED				
TOTAL CATCH				
ANGLER HOURS				
ANGLER TRIPS				

Table 9. Estimated winter 2007 ice fishing harvest, catch per hour, and fishing pressure for Lake Mitchell. Two standard errors are given in parentheses (adapted from Anonymous 2007b).

Species	C/H	January-February	March	Season
HARVEST				
Walleye	0.0002	3	0	3
	(0.0003)	(6)	(0)	(6)
Northern pike	0.0173	241	47	288
	(0.0107)	(134)	(55)	(145)
Yellow Perch	0.07	845	322	1167
	(0.0447)	(549)	(277)	(615)
Bluegill	0.0646	338	739	1077
	(0.0511)	(255)	(713)	(757)
Pumpkinseed	0.0192	218	103	321
	(0.0157)	(180)	(150)	(235)
Rock bass	0	0	0	0
	(0)	(0)	(0)	(0)
Black crappie	0.2484	1861	2281	4142
	(0.1493)	(1058)	(1685)	(1990)
TOTAL HARVEST	0.4197	3506	3492	6998
	(0.2023)	(1240)	(1858)	(2234)
RELEASED				
Northern pike	0.0264	297	144	441
	(0.0155)	(155)	(130)	(203)
Largemouth bass	0	0	0	0
	(0)	(0)	(0)	(0)
Smallmouth bass	0	0	0	0
	(0)	(0)	(0)	(0)
Yellow Perch	0.4467	5673	1776	7449
	(0.2692)	(3202)	(1630)	(3593)
Bluegill	0.1671	1656	1131	2787
	(0.1303)	(1078)	(1595)	(1925)
Pumpkinseed	0.0008	13	0	13
	(0.001)	(17)	(0)	(17)
Rock bass	0	0	0	0
	(0)	(0)	(0)	(0)
Black crappie	0.2465	1783	2326	4109
	(0.1757)	(1314)	(2157)	(2526)
TOTAL RELEASED	0.8876	9422	5378	14800
	(0.4308)	(3629)	(3141)	(4799)
TOTAL CATCH	1.3073	12928	8870	21798
	(0.569)	(3835)	(3649)	(5294)
ANGLER HOURS		12894	3781	16674
		(5488)	(2481)	(6022)
ANGLER TRIPS		3793	1081	4874
		(2397)	(841)	(2541)

Table 10. Michigan DNR Master Angler awards issued for fish caught from Lake Mitchell, Wexford County, 1994-2012.

Species	Number of Master Angler awards issued
Bowfin	45
Bullhead	26
Bluegill	13
Black crappie	6
Rock bass	12
Smallmouth bass	6
Pumpkinseed	12
Largemouth bass	1
Warmouth	1
Yellow perch	1
Total:	123

Table 11. Number, weight, and length of fish collected from Lake Mitchell with large mesh fyke nets, trap nets, and inland gillnets, on May 7-11, 2012.

Species	Number	Percent by number	Weight (Pounds)	Percent by weight	Length range (inches)1	Average length	Percent legal size2
black crappie	394	15.5	111.7	4.9	4-13	7.7	57 (7")
bluegill	88	3.5	15.2	0.7	4-8	5.9	43 (6")
bowfin	14	0.5	104.3	4.6	21-32	26.9	
brown bullhead	1,453	57.0	1043.9	46.2	8-14	11.5	100 (7")
largemouth bass	121	4.7	205.3	9.1	8-18	14.4	55 (14")
northern pike	128	5.0	358.1	15.9	11-32	22.8	28 (24")
pumpkinseed	58	2.3	16.5	0.7	4-8	6.6	83 (6")
rock bass	9	0.4	4.1	0.2	6-10	8.3	100 (6")
smallmouth bass	17	0.7	31.0	1.4	9-19	14.8	65 (14")
walleye	65	2.5	178.6	7.9	13-27	19.8	89 (15")
white sucker	21	0.8	68.7	3.0	13-24	20.0	
yellow bullhead	168	6.6	119.0	5.3	8-13	11.4	100 (7")
yellow perch	14	0.5	2.8	0.1	5-9	7.7	86 (7")
Total	2,550	100	2259.2	100			

[1]Note some fish were measured to 0.1 inch, others to inch group: e.g., "5"=5.0 to 5.9 inch, 12=12.0 to 12.9 inches; etc.

[2]Percent legal size or acceptable size for angling. Legal size or acceptable size for angling is given in parentheses.

Table 12. Number, weight, and length of fish collected from Lake Mitchell by electrofishing on July 9, 2012 and seining on August 7, 2012.

Species	Number	Percent by number	Weight (Pounds)	Percent by weight	Length range (inches)1	Average length	Percent legal size2
black crappie	9	1.4	0.4	0.9	4-5	4.6	0 (6")
bluegill	123	19.6	3.8	8.1	1-6	3.4	0 (6")
bluntnose minnow	8	1.3	0.1	0.2	2-3	2.8	
bowfin	1	0.2	5.2	11.1	24-24	24.5	
common shiner	1	0.2	0.1	0.2	6-6	6.5	
largemouth bass	37	5.9	13.1	28.0	1-17	7.2	5 (14")
northern pike	2	0.3	4.4	9.4	17-24	21.0	50 (24")
pumpkinseed sunfish	87	13.9	6.5	13.9	1-6	4.2	12 (6")
rock bass	2	0.3	0.2	0.4	3-6	5.0	50 (14")
sand shiner	1	0.2	0.0	0.0	2-2	2.5	
smallmouth bass	3	0.5	0.0	0.0	1-3	2.5	0 (14")
spottail shiner	303	48.2	3.8	8.1	1-4	3.4	
walleye	3	0.5	3.0	6.4	9-16	13.8	66 (15")
white sucker	2	0.3	3.7	7.9	12-19	16.0	
yellow bullhead	1	0.2	0.7	1.5	11-11	11.5	100 (7")
yellow perch	45	7.2	1.8	3.8	2-7	4.5	2 (7")
Total	628	100	46.8	100			

[1]Note some fish were measured to 0.1 inch, others to inch group: e.g., "5"=5.0 to 5.9 inch, 12=12.0 to 12.9 inches; etc.

[2]Percent legal size or acceptable size for angling. Legal size or acceptable size for angling is given in parentheses.

Table 13. Average total weighted length (inches) at age, and growth relative to the state average, for fish sampled from Lake Mitchell with trap nets and inland gill nets, May 7- May 11, 2012. Number of fish aged is given in parenthesis. A minimum of five fish per age group is statistically necessary for calculating a Mean Growth Index, which is a comparison to the State of Michigan average.

	Age																	Mean Growth
Species	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	Index
Black crappie		5.4 (8)	5.9 (13)	7.1 (19)	8.1 (12)	8.3 (10)	9.4 (13)	10.0 (8)	11.0 (4)	11.6 (2)	11.6 (2)	12.7 (1)	13.2 (1)					-1.4
Bluegill				4.6 (5)	5.1 (22)	5.6 (6)	6.6 (22)	7.6 (9)	7.6 (2)	8.2 (2)	7.9 (1)							-1.3
Largemouth bass			8.4 (8)	10.7 (8)	12.4 (13)	13.8 (20)	15.4 (17)	15.9 (11)	16.5 (8)	17.4 (4)	18.3 (3)							-1.1
Northern pike	11.8 (2)	16.0 (5)	20.4 (19)	23.0 (31)	24.8 (19)	25.4 (8)	28.7 (2)	29.1 (3)										-1.0
Pumpkin-seed				4.5 (1)	5.2 (11)	6.4 (11)	7.1 (22)	7.7 (8)	8.5 (1)		8.2 (1)							-0.4
Rock bass					7.3 (1)		7.0 (4)		9.0 (2)	9.1 (1)		10.9 (1)						--
Smallmouth bass		9.2 (1)	11.7 (3)	13.3 (3)	15.8 (3)	16.6 (5)	17.0 (1)				19.1 (1)							+1.3
Walleye				15.8 (16)		19.2 (23)		21.6 (7)	22.4 (1)	23.1 (1)	(2)	(1)	(1)	(4)	(4)	(2)	(3)	+0.2
Yellow perch				5.6 (9)	7.4 (11)			9.0 (1)										-1.5

Table 14. Average total weighted length (inches) at age, and growth relative to the state average, for fish sampled from Lake Mitchell by electrofishing, July 9, 2012. Number of fish aged is given in parenthesis. A minimum of five fish per age group is statistically necessary for calculating a Mean Growth Index, which is a comparison to the State of Michigan average.

Species	Age I	II	III	IV	V	VI	VII	VIII	Mean Growth Index
Black crappie		4.6 (7)	5.0 (2)						-1.9
Bluegill				4.7 (5)	5.1 (8)		6.5 (1)		-1.7
Largemouth bass	4.3 (9)	7.2 (15)	10.5 (4)	11.2 (1)	13.9 (3)			17.2 (1)	-1.3
Northern pike					24.9 (1)				-
Pumpkinseed			4.4 (1)	4.5 (3)	5.6 (14)	6.1 (5)	6.5 (2)		-0.7
Rock bass					6.6 (1)				-
Walleye	9.3 (1)			16.2 (2)					-
Yellow perch		4.5 (12)	5.2 (3)	6.2 (1)	7.8 (1)				-1.2

Table 15. Shoreline data for Lake Mitchell, Wexford County. Sampling was conducted by DNR Fisheries personnel in July and August, 2012.

Total docks per km	Percent shoreline armoring	Submerged trees per km	Dwellings per km
28.1	75.0	3.0	31.9

Lake Mitchell Walleye CPEs #/net lift unless ow indicated

	IGN	SMF	LMF	TN	EFISH	Walleye growth rates
1980			0.6		12/hr	-1.3
1988			11.3			-0.7
1993		17.9	11.3			-2.7
2003		0.4	2.9			-2.8
2012	0.5			2.0	6/hr	+0.2

Lake Mitchell Largemouth Bass CPEs

	IGN	SMF	LMF	TN	EFISH	LMB growth rates
1980			1.6		0	+3.0
1988			0.36			--
1993		0.3	1.0			+1.4
2003		0.7	6.9			-0.7
2012	0.5			3.8	74/hr	-1.1 (nets); -1.3 (efish)

Lake Mitchell Bluegill CPEs

	IGN	SMF	LMF	TN	EFISH	BLG growth rates
1980			9.5		8.3/hr	+1.8
1988			4.1			+0.6
1993		3.0	3.5			-1.0
2003		3.3	11.9			-0.9
2012	0			4.8	234/hr	-1.3 (nets); -1.7 (efish)

Ages present	month, gear type
ages 1 to 8	April lmf &efish
Ages 2-11	April lmf
ages 1-16	April lmf and smf
ages 5-12	April lmf and smf
ages 4-17	May ign and tn; July efish

Ages present	month, gear type
ages 3-4	April lmf &efish
ages 3-9	April lmf
ages 3-6	April lmf and smf
ages 3-12	April lmf and smf
ages 1-11	May ign and tn; July efish

Ages present	month, gear type
ages 2-6	April lmf &efish
ages 4-9	April lmf
ages 2-7	April lmf and smf
ages 2-11	April lmf and smf
ages 4-11	May ign and tn; July efish

Lake Mitchell Walleye Growth

	Survey year						
age group	1980	1988	1993	1994	1995	2003	2007	2008
0				-1.9				
1				0	0			
2	-1.1							
3	-1.8	-0.5					+1.6	
4		-1.2						+3.9
5		-0.6	-1.8					
6		-1.2	-2.3			-2.5		
7		-0.2	-2.8			-3.1		
8		0	-3.8			-3.4		
9			-2.9			-2.8		
10			-2.5			-2.2		

Blanks mean not enough collected to make stat. inferences

2010	2012
-2.6	
-2.2	-0.5
	+1.6
	-0.4