

Table __. List of fish and invertebrate species collected during rotenone, gillnet, and fyke net surveys of Lake Mattamuskeet and adjacent canals.

Species code	Scientific name	Common name	1949	1956	1957	1959	1961	1965-6	1966-7	1967	1968-9	2000
AAAAA		No catch										
ALOPSE	<i>Alosa pseudoharengus</i>	alewife						X	X	X	X	
AMECAT	<i>Amerius catus</i>	white catfish	X					X	X	X	X	X
AMICAL	<i>Amia calva</i>	bowfin					X	X	X	X	X	
ANCMIT	<i>Anchoa mitchilli</i>	bay anchovy									X	
ANGROS	<i>Anguilla rostrata</i>	American eel	X		X	X		X	X	X	X	
BAICHR	<i>Bairdiella chrysura</i>	silver perch							X	X	X	
BRETYR	<i>Brevoortia tyrannus</i>	Atlantic menhaden	X						X	X	X	
CALSAP	<i>Callinectes capidus</i>	blue crab						X	X			X
CYPCAR	<i>Cyprinus carpio</i>	common carp	X	X	X		X		X	X	X	X
CNRCAR												X
CYRVAR	<i>Cyprinodon variegatus</i>	sheepshead minnow	*								X	
DORCEP	<i>Dorosoma cepedianum</i>	gizzard shad		X	X		*	X	X	X	X	X
DORPET	<i>Dorosoma petenense</i>	threadfin shad										X
DORPSE												X
ELOSAU	<i>Elops saurus</i>	ladyfish (ten pounder)						X	X		X	X
ENNGLO	<i>Enneacanthus gloriosus</i>	bluespotted sunfish		X	X				X		X	
ESONIG	<i>Esox niger</i>	pickerel, chain	X	X	X		X		X		X	
ETHOLM												X
FUNDIA	<i>Fundulus diaphanus</i>	killifish, banded	*	*	*	*	*	X			X	
FUNHET	<i>Fundulus heteroclitus</i>	mummichog	*	*	*	*	*				X	
FUNMAJ												X
GAMHOL												X
ICTNEB	<i>Ictalurus nebulosus</i>	brown bullhead				X	X	X	X	X	X	
ICTPUN	<i>Ictalurus punctatus</i>	channel catfish	X	X	X			X	X	X	X	X
LAGRHO	<i>Lagodon rhomboides</i>	pinfish									X	
LEIXAN	<i>Leiostomus xanthurus</i>	spot							X	X	X	X
LEPAUR												X
LEPGIB	<i>Lepomis gibbosus</i>	pumpkinseed	X	X	X				X	X	X	
LEPGUL	<i>Lepomis gulosus</i>	warmouth	X	X	X		X		X		X	
LEPMAC	<i>Lepomis macrochirus</i>	bluegill	X	X	X	X		X	X	X	X	X
LEPOSS	<i>Lepisosteus osseus</i>	longnose gar	X	X	X		X	X	X	X	X	X
LUCPAR	<i>Lucania parva</i>	killifish, rainwater	*					X			X	
MENBER	<i>Menidia beryllina</i>	silverside, tidewater		X	*	*	*	X		*	X	
MENMEN	<i>Menidia menidia</i>	silverside, Atlantic										X
MICSAL	<i>Micropterus salmoides</i>	largemouth bass	X	X	X	X	X	X	X	X	X	X
MICUND	<i>Micropogonias undulatus</i>	Atlantic croaker									X	
MORAME	<i>Morone americanus</i>	white perch	X	X	X	X	X	X	X	X	X	
MORSAX	<i>Morone saxatilis</i>	striped bass						X	X	X	X	
MUGCEP	<i>Mugil cephalus</i>	mullet, striped		X	X		*		X	X	X	X
MUGCUR	<i>Mugil curema</i>	mullet, white									X	X
NOTCRY	<i>Notemigonus crysoleucas</i>	golden shiner	X				X		X		X	
NOTGYR	<i>Noturus gyrinus</i>	Tadpole madtom						X	X		X	X
PALPUG	<i>Palaemonetes pugio</i>	grass shrimp		X	X				X			
PARLET	<i>Paralichthys lethostigma</i>	southern flounder							X	*	X	X
PENSET	<i>Penaeus setiferus</i>	white shrimp										
PERFLA	<i>Perca flavescens</i>	yellow perch		X	X	X	X	X	X	X	X	X
POMANN	<i>Pomoxis annularis</i>	white crappie					X				X	X
POMNEG	<i>Pomoxis nigromaculatus</i>	black crappie	X						X		X	X
STRMAR	<i>Strongylura marina</i>	Atlantic needlefish				X			X	X	X	
TRIMAC	<i>Trinectes maculatus</i>	hogchoker						X	X		X	
TURTLE		turtles										X
		banded sunfish (pygmy)	X	X	X							
		Clupeidae								X		
		darters				X						
		goldfish ?	X									
		minnows				X						
	<i>Gamusia</i>	mosquitofish (top minnow)	X	X	X			X				
	<i>Esox americanus</i>	pickerel, redfin									X	
		redbreast sunfish					X					
		reardear sunfish		X	X							
		round flyer					X					

Table A. Fish species collected at Lake Mattamuskeet and associated canals during various sampling projects from 1990 to 2007 by North Carolina Wildlife Resources Commission (WRC) and East Carolina University (ECU) staff. Collection methods included electrofishing (all WRC samples), trapnets (1996 WRC), seines (1999-2000 ECU) and culvert traps (2001 ECU).

Common name	Scientific name	1990 WRC	1996 WRC	1999 ECU	2000 ECU	2001 ECU	2003 WRC	2005 WRC	2007 WRC
Alewife	<i>Alosa pseudoharengus</i>			P	P	P	P		
Atlantic croaker	<i>Micropogonias undulatus</i>			P					
Atlantic menhaden	<i>Brevoortia tyrannus</i>					P			
Atlantic needlefish	<i>Strongylura marina</i>	P							
American eel	<i>Anquilla rostrata</i>	P	P			P	P	P	
Black crappie	<i>Pomoxis nigromaculatus</i>		P		P	P	P		
Bluegill	<i>Lepomis macrochirus</i>	P	P	P	P	P	P	P	P
Bluespotted Sunfish	<i>Enneacanthus gloriosus</i>							P	P
Bowfin	<i>Amia calva</i>	P	P		P		P	P	
Brown bullhead	<i>Amerius nebulosus</i>						P	P	
Chain pickerel	<i>Esox niger</i>								P
Channel catfish	<i>Ictalurus punctatus</i>			P	P		P	P	
Chubsucker	<i>Erimyzon sp</i>	P							
Common carp	<i>Cyprinus carpio</i>	P			P	P	P	P	P
Gizzard shad	<i>Dorosoma cepedianum</i>	P	P	P	P	P	P	P	P
Golden shiner	<i>Notemigonus crysoleucas</i>		P	P	P	P	P	P	
Hogchoker	<i>Trinectes maculatus</i>					P			
Inland silverside	<i>Menidia beryllina</i>							P	
Killifish species	<i>Fundulus sp</i>	P			P		P	P	
Ladyfish	<i>Elops saurus</i>	P			P				
Largemouth bass	<i>Micropterus salmoides</i>	P	P		P		P	P	P
Longnose gar	<i>Lepisosteus osseus</i>	P	P	P	P			P	
Mosquitofish	<i>Gambusia affinis</i>				P				
Pumpkinseed	<i>Lepomis gibbosus</i>	P		P	P	P	P	P	P
Redbreast sunfish	<i>Lepomis auritus</i>				P				
Redear sunfish	<i>Lepomis microlophus</i>	P	P			P		P	P
Spot	<i>Leiostomus xanthurus</i>		P		P	P	P		
Striped bass	<i>Morone saxatilis</i>				P			P	
Striped mullet	<i>Mugil cephalus</i>	P	P	P	P	P	P	P	P
Swamp darter	<i>Etheostoma fusiforme</i>				P				
Threadfin shad	<i>Dorosoma petanatus</i>			P	P				
Warmouth	<i>Lepomis gulosus</i>	P	P			P			
White perch	<i>Morone americana</i>	P	P	P	P	P	P	P	P
Yellow bullhead	<i>Amerius natalis</i>	P							
Yellow perch	<i>Perca flavescens</i>		P	P	P	P	P	P	P

Year	Period	Anglers	Largemouth Bass	White Perch	Crappie	Sunfishes	Carp	Carp	Catfish	Weight	Mullet	Mullet	Gar	Grindie	Turtles	Eels	Carp-cat	
			Number	Weight	Number	Weight	Number	Weight	N-angled	Wt-comm	N-angled	Wt-comm	Wt-comm	Wt-comm	wt-comm	Wt-comm	value \$	
1936	calendar	1502	7313	9653	2484	720	6545	4326	1293	484	936	1435						
1937	calendar	2927	8417	11110	3678	1066	17552	11601	717	268	387	593						
1938	calendar	1641	2641	3486	1160	336	11827	7817	807	302	556	853						
1939	calendar	1877	2364	3120	896	269	11508	7606	1646	617	553	848						
1940	calendar	2360	2070	2732	2572	745	16414	10849	2360	885	623	955	13161	3000	89	22		
1941	calendar	2038	1311	1730	2077	11153	7372	4220	4582	221	339							
1942	calendar	1587	946	1248	1603	5980	3952	2698	1011	669	1026							
1943	calendar	1843	417	550	2849	826	3568	2358	4550	1706	1066	1635						
1944	calendar	1639	489	658	3623	1056	1488	983	1466	549	620	951	21490		736		2405.33	
1945	calendar	1980	1945	369	481	14372	470	310	1200	450	1414	2169	26341		995		543.1	
1946	calendar	5540	1409	1859	16119	4674	2408	1591	1704	639	13865	21269	6320		65		2089.51	
1947	calendar	5121	2614	3450	13001	3770	2913	1923	1337	501	13546	20725	21932	1000			2089.51	
1948	calendar	5695	2360	8366	2033	2033	2033	974	806		8806	54054	3459	435		80	4843.17	
1949	calendar	6435	2178	20248	1880	1880	1880	640	640		23226	13278	110086	400	964	150	13278	
1950	calendar	7465	3390	45618	2186	2186	2186	2545	2545		19072	12800	360012	861	700	605	12800	
1951	calendar	6844	4228	26298	2027	3296	2027	3296	3296		8960	745870	43831	3940	1225	815	43831	
1952	calendar	6842	5842	21798	2487	6035	2487	6035	6035		3369	414826	18891	725	2393	385	19136	
1953													29569				6517	
1954	calendar	10231	11800	32522	3643	23998	3643	23998	3053	447	23587	13545	6750				13545	
1955											18862	19332					19332	
1956											33559	26850					26850	
1957	Jan-Mar	3550	8081	17034	17034	4943					29650	12400					12400	
1958	Apr-May										49350	20338					20338	
1959											45000	9000					9000	
1960											55850	21884					21884	
1961																		
1962																		
1963																		
1964																		
1965																		
1966																		
1967	Apr-Sept																	
1968	Apr-May																	
1969																		
1970																		
1971																		
1972		25466																
1973		28333																
1974																		
1975																		
1976																		
1977																		
1978																		
1979																		
1980																		
1981	Oct-Sept	93000																
1982	Oct-Sept	115874																
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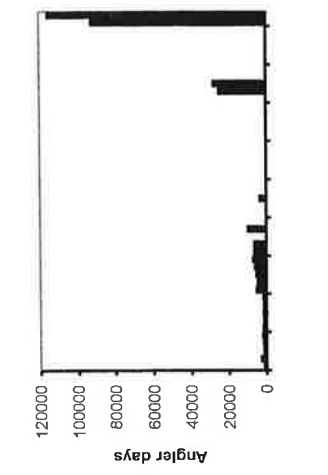
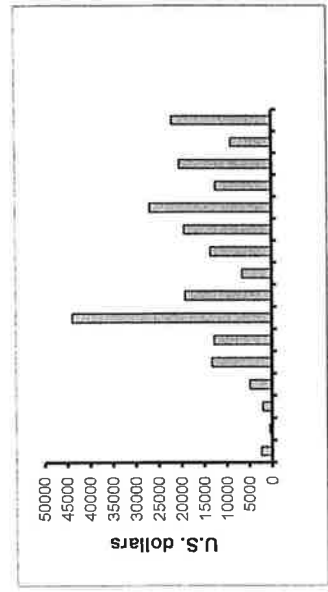


Table X. Water velocity of Lake Mattamuskeet passing through the 5 culverts of NC-94 in October 2007.

Culvert	Length	Width	Depth	Velocity (m/s)			Average velocity (m/s)	Ins Discharge(m ³ /s)	Daily Discharge (m ³ /day)	Total Discharge (m ³ /day)
				1	2	3				
1	13.1	1.52	0.57	0.76	0.79	0.85	0.80	0.623808	53897.0112	290,332.5
	13.1	1.47	0.6	0.86	0.90	0.86	0.87	0.693252	59896.9728	
	13.1	1.45	0.6	0.87	0.91	0.93	0.92	0.72036	62239.104	
	13.1	1.48	0.6	0.888	0.82	0.79	0.79	0.63936	55240.704	
	13.1	1.55	0.6	0.93	0.83	0.81	0.81	0.68355	59058.72	
2	13.1	1.52	0.6	0.912	0.39	0.32	0.34	0.281808	24348.2112	196,116.4
	13.1	1.48	0.6	0.888	0.21	0.28	0.26	0.205128	17723.0592	
	13.1	1.48	0.6	0.888	0.52	0.56	0.62	0.49062	42389.568	
	13.1	1.5	0.6	0.9	0.65	0.75	0.70	0.5697	49222.08	
	13.1	1.55	0.6	0.93	0.87	0.86	0.86	0.72261	62433.504	
3	13.1	1.5	0.75	1.125	0.92	1.05	0.87	0.9585	82814.4	463,749.2
	13.1	1.4	0.7	0.98	1.14	1.18	1.10	1.00548	86873.472	
	13.1	1.47	0.8	1.176	1.11	1.10	1.10	1.167768	100895.1552	
	13.1	1.47	0.8	1.176	1.05	1.04	1.01	1.09368	94493.952	
	13.1	1.55	0.8	1.24	0.99	1.09	0.99	1.14204	98672.256	
4	13.2	1.55	0.9	1.395	0.71	0.82	0.87	1.0044	86780.16	420,447.3
	13.2	1.5	0.9	1.35	0.80	0.71	0.87	0.9639	83280.96	
	13.2	1.48	0.9	1.332	0.86	0.87	0.90	1.050948	90801.9072	
	13.2	1.48	0.9	1.332	0.83	0.88	0.85	1.022976	88385.1264	
	13.2	1.48	0.8	1.184	0.82	0.73	0.77	0.824064	71199.1296	
5	13.1	1.53	0.75	1.148	0.84	0.92	0.94	0.929475	80306.64	366,409.0
	13.1	1.48	0.75	1.11	0.86	0.86	0.92	0.87912	75955.968	
	13.1	1.49	0.75	1.118	0.86	0.82	0.82	0.838125	72414	
	13.1	1.5	0.8	1.2	0.78	0.73	0.69	0.792	68428.8	
	13.1	1.55	0.75	1.163	0.74	0.79	0.77	0.802125	69303.6	
Total								Total Discharge (m³/day)	1,737,054.5	

Culvert to Culvert	Distance	
	miles	kilometers
1-2	1.6	2.58
2-3	0.5	0.81
3-4	0.7	1.13
4-5	0.7	1.13

Table XX. Discharge through culverts along the NC Highway 94 causeway bisecting Lake Mattamuskeet on September 28, 1997. Positive discharge indicates east to west flow. Negative discharge indicates west to east flows. Culverts and tiles numbered from south to north.

Culvert	Tile	Water depth (m)		Tile length (m)	Travel time (s)		Tile discharge (m ³ /s)	Wind data Speed (km/s)	Direction	Time	Water temperature (C)	Dissolved oxygen (mg/L)	Conductivity (uS)	Salinity (ppt)
		E	W		T1	T2								
1	1	1.55	0.45	13.17	28.08	26.35	0.27	4 to 20+	SE	10:41	21.8	6.8	2237.0	1.2
	2	1.50	0.45	13.17	28.19	35.91	0.22							
	3	1.50	0.45	13.17	31.89	36.33	0.21							
	4	1.55	0.45	13.17	33.49	30.31	0.24							
	5	1.50	0.45	13.17	38.30	40.18	0.19							
Total discharge														
2	1	1.55	0.55	13.17	27.27	28.63	0.26	4 to 20+	SE	10:57	21.6	7.3	1199.0	0.6
	2	1.50	0.50	13.17	33.95	35.40	0.19							
	3	1.50	0.55	13.17	41.59	41.08	0.17							
	4	1.52	0.55	13.17	29.11	35.48	0.24							
	5	1.50	0.55	13.17	25.61	28.37	0.28							
Total discharge														
3	1	1.55	0.35	13.20	No net flow		0.00	5 to 20+	SE/SW	11:05	21.4	7.7	1101.0	0.6
	2	1.50	0.35	13.20	No net flow		0.00							
	3	1.50	0.35	13.20	No net flow		0.00							
	4	1.55	0.35	13.20	No net flow		0.00							
	5	1.55	0.90	13.20	No net flow		0.00							
Total discharge														
4	1	1.55	0.90	13.20	-13.15	-13.99	-1.09	5 to 20+	SW	11:15	21.5	7.5	1034.0	0.6
	2	1.50	0.95	13.20	-14.52	-12.34	-1.09							
	3	1.50	0.95	13.20	-13.70	-12.35	-1.12							
	4	1.50	0.90	13.20	-15.30	-14.98	-0.94							
	5	1.55	0.95	13.20	-12.52	-13.24	-1.18							
Total discharge														
5	1	1.60	0.80	13.15	-19.41	-18.01	-0.67	5 to 20+	SW	11:20	21.7	6.5	1010.0	0.5
	2	1.52	0.80	13.15	-16.92	-18.30	-0.68							
	3	1.52	0.80	13.15	-15.52	-15.32	-0.78							
	4	1.50	0.80	13.15	-17.01	-16.83	-0.70							
	5	1.50	0.80	13.15	-14.95	-15.33	-0.78							
Total discharge														
Net flow discharge (m ³ /s):														-6.76
Direction of net flow:														West to east

Note that northern tile discharges are going OPPOSITE that of the southern (stopblocks were likely closed).