

SURVIVAL OF STOCKED MUSKELLUNGE

Dowling Lake

154 Hatchery Clipped Muskellunge Fingerlings Were Stocked in the Fall of 1976

Spring 1977 population estimates of 1976 fish

Number marked initially	7
Number marked recaptures	1
Number unmarked recaptures	2
All recaptures	3
Population estimate	14 ± 11.2 95% C.I.

Over winter survival of stocked muskellunge $\frac{14}{154} = 9.1\%$

DOWLING LAKE, DOUGLAS COUNTY

Growth Rates, Spring - Fall 1977

<u>Species</u>	<u>Year Class</u>	<u>Number Aged</u>	<u>Size Range</u>	<u>Mean Size</u>	<u>No. Wis. Ave.</u>	<u>Ave. Wt.</u>
Muskellunge (Spring Seale Samples)	I (L.P. Clip)	24	10.1"-12.0"	11.2"	11.0"	3.0 oz
	II (R.P. Clip)	8	13.5"-17.4"	15.7"	17.0"	---
	III	5	16.1"-18.5"	17.4"	23.0"	14.2 oz
Muskellunge (Summer Samples)	0	8	5.2"-6.5"	5.9"	---	---
	I	1	7.2"	7.2"	11.0"	---
	II	2	14.1"-14.6"	14.4"	17.0"	7.5 oz
	IV	2	20.3"-22.7"	21.5"	26.0"	1 lb. 15 oz
	V	1	26.8"	26.8"	29.0"	---
Muskellunge (Fall Samples)	0 (R.V. Clip)	18	9.6"-14.0"	12.0"	---	2.0 oz
	I (L.P. Clip)	2	7.6"-14.4"	11.0"	11.0"	5.0 oz
	II (R.P. Clip)	9	13.4"-22.0"	17.9"	17.0"	1 lb. 8 oz
	III	3	17.2"-19.6"	18.0"	23.0"	1 lb. 10 oz
	IV	1	23.8"	23.8"	26.0"	2 lb. 8 oz
	V	1	29.8"	29.8"	29.0"	5 lb. 4 oz
Walleye	0	2	5.6"-6.0"	5.8"	6.0"	1.0 oz
	I	2	8.7"-9.2"	8.9"	9.0"	4.0 oz
	II	2	9.3"-10.2"	9.7"	12.0"	7.0 oz
	III	10	10.5"-12.6"	11.6"	14.5"	7.8 oz
	IV	14	12.6"-15.1"	14.3"	17.0"	14.1 oz
	V	5	15.4"-16.0"	15.6"	19.0"	1 lb. 3 oz
	VI	12	16.2"-18.0"	17.2"	20.0"	1 lb. 10 oz
	VII	4	18.1"-18.8"	18.5"	21.0"	1 lb. 15 oz
VIII	2	22.5"-23.5"	23.0"	---	4 lb. 4 oz	

DOWLING LAKE, DOUGLAS COUNTY

Growth Rates, Spring - Fall 1977

Species	Year Class	Number Aged	Size Range	Mean Size	No. Wis. Ave.	Ave. Wt.
Muskellunge (Spring Scale Samples)	I (L.P. Clip)	24	10.1"-12.0"	11.2"	11.0"	3.0 oz
	II (R.P. Clip)	8	13.5"-17.4"	15.7"	17.0"	--
	III	5	16.1"-18.5"	17.4"	23.0"	14.2 oz
Muskellunge (Summer Samples)	0	8	5.2"-6.5"	5.9"	---	---
	I	1	7.2"	7.2"	11.0"	---
	II	2	14.1"-14.6"	14.4"	17.0"	7.5 oz
	IV	2	20.3"-22.7"	21.5"	26.0"	1 lb. 15 oz
	V	1	26.8"	26.8"	29.0"	---
Muskellunge (Fall Samples)	0 (R.V. Clip)	18	9.6"-14.0"	12.0"	---	2.0 oz
	I (L.P. Clip)	2	7.6"-14.4"	11.0"	11.0"	5.0 oz
	II (R.P. Clip)	9	13.4"-22.0"	17.9"	17.0"	1 lb. 8 oz
	III	3	17.2"-19.6"	18.0"	23.0"	1 lb. 10 oz
	IV	1	23.8"	23.8"	26.0"	2 lb. 8 oz
	V	1	29.8"	29.8"	29.0"	5 lb. 4 oz
Walleye	0	2	5.6"-6.0"	5.8"	6.0"	1.0 oz
	I	2	8.7"-9.2"	8.9"	9.0"	4.0 oz
	II	2	9.3"-10.2"	9.7"	12.0"	7.0 oz
	III	10	10.5"-12.6"	11.6"	14.5"	7.8 oz
	IV	14	12.6"-15.1"	14.3"	17.0"	14.1 oz
	V	5	15.4"-16.0"	15.6"	19.0"	1 lb. 3 oz
	VI	12	16.2"-18.0"	17.2"	20.0"	1 lb. 10 oz
	VII	4	18.1"-18.8"	18.5"	21.0"	1 lb. 15 oz
VIII	2	22.5"-23.5"	23.0"	---	4 lb. 4 oz	

DOWLING LAKE, DOUGLAS COUNTY

Growth Rates, Spring - Fall 1977

<u>Species</u>	<u>Year Class</u>	<u>Number Aged</u>	<u>Size Range</u>	<u>Mean Size</u>	<u>No. Wis. Ave.</u>	<u>Ave. Wt.</u>
Perch	0	4	1.8"-2.2"	2.0"	2.8"	---
	I	4	3.3"-3.8"	3.6"	4.5"	---
	II	7	4.2"-5.1"	4.7"	5.9"	1.0 oz
	III	9	5.2"-7.5"	6.1"	7.0"	1.7 oz
	IV	7	6.3"-8.3"	7.7"	8.0"	4.0 oz
	V	3	9.0"-9.6"	9.4"	9.0"	5.8 oz
	VI	1	10.9"	10.9"	10.0"	10.0 oz
Bluegill	I	10	1.5"-2.2"	1.9"	3.0"	---
	II	12	2.4"-4.3"	3.5"	4.1"	1.0 oz
	III	8	4.3"-4.9"	4.6"	5.1"	2.0 oz
	IV	23	5.0"-7.5"	6.4"	6.1"	3.4 oz
	V	7	8.0"-8.4"	8.2"	7.0"	8.4 oz
	VI	7	8.5"-9.1"	8.7"	7.5"	9.9 oz
	VII	1	9.3"	9.3"	8.0"	11 oz
Rock Bass	II	7	4.3"-5.5"	4.8"	4.4"	2.0 oz
	III	3	5.9"-6.0"	6.0"	5.5"	3.0 oz
	IV	8	6.2"-6.7"	6.4"	6.8"	4.1 oz
	V	5	7.5"-7.8"	7.7"	8.0"	6.5 oz
	VI	5	8.0"-8.4"	8.2"	---	7.3 oz
	VII	1	8.6"	8.6"	---	9.0 oz

DOWLING LAKE, DOUGLAS COUNTY

Growth Rates, Spring - Fall 1977

<u>Species</u>	<u>Year Class</u>	<u>Number Aged</u>	<u>Size Range</u>	<u>Mean Size</u>	<u>No. Wis. Ave.</u>	<u>Ave. Wt.</u>
Perch	0	4	1.8"-2.2"	2.0"	2.8"	---
	I	4	3.3"-3.8"	3.6"	4.5"	---
	II	7	4.2"-5.1"	4.7"	5.9"	1.0 oz
	III	9	5.2"-7.5"	6.1"	7.0"	1.7 oz
	IV	7	6.3"-8.3"	7.7"	8.0"	4.0 oz
	V	3	9.0"-9.6"	9.4"	9.0"	5.8 oz
	VI	1	10.9"	10.9"	10.0"	10.0 oz
Bluegill	I	10	1.5"-2.2"	1.9"	3.0"	---
	II	12	2.4"-4.3"	3.5"	4.1"	1.0 oz
	III	8	4.3"-4.9"	4.6"	5.1"	2.0 oz
	IV	23	5.0"-7.5"	6.4"	6.1"	3.4 oz
	V	7	8.0"-8.4"	8.2"	7.0"	8.4 oz
	VI	7	8.5"-9.1"	8.7"	7.5"	9.9 oz
	VII	1	9.3"	9.3"	8.0"	11 oz
Rock Bass	II	7	4.3"-5.5"	4.8"	4.4"	2.0 oz
	III	3	5.9"-6.0"	6.0"	5.5"	3.0 oz
	IV	8	6.2"-6.7"	6.4"	6.8"	4.1 oz
	V	5	7.5"-7.8"	7.7"	8.0"	6.5 oz
	VI	5	8.0"-8.4"	8.2"	---	7.3 oz
	VII	1	8.6"	8.6"	---	9.0 oz

DOWLING LAKE, DOUGLAS COUNTY

Growth Rates, Spring - Fall 1977

<u>Species</u>	<u>Year Class</u>	<u>Number Aged</u>	<u>Size Range</u>	<u>Mean Size</u>	<u>No. Wis. Ave.</u>	<u>Ave. Wt.</u>
Black Crappie	I	6	4.2"-5.0"	4.5"	4.9"	---
	III	4	6.2"-6.8"	6.6"	6.7"	2.7 oz
	IV	2	6.9"-7.0"	7.0"	8.0"	3.0 oz
	V	4	8.7"-9.2"	9.0"	8.9"	6.4 oz
	VI	11	9.3"-9.9"	9.7"	9.5"	8.4 oz
	VII	14	10.0"-10.6"	10.2"	10.1"	10.1 oz
	VIII	8	11.8"-12.6"	12.2"	10.5"	16.5 oz
	IX	1	12.7"	12.7"	---	16 oz
	Pumpkinseed	0	1	2.2"	2.2"	1.9"
I		4	2.7"-3.3"	3.0"	3.1"	---
II		2	4.3"-4.4"	4.4"	4.3"	1.0 oz
III		5	4.5"-5.8"	5.4"	5.4"	1.8 oz
VI		4	6.1"-6.8"	6.4"	6.3"	3.8 oz
Largemouth Bass		0	7	1.9"-2.7"	2.3"	13.3"
	III	1	9.6"	9.6"	11.0	---

DOWLING LAKE, DOUGLAS COUNTY

Growth Rates, Spring - Fall 1977

<u>Species</u>	<u>Year Class</u>	<u>Number Aged</u>	<u>Size Range</u>	<u>Mean Size</u>	<u>No. Wis. Ave.</u>	<u>Ave. Wt.</u>
Black Crappie	I	6	4.2"-5.0"	4.5"	4.9"	---
	III	4	6.2"-6.8"	6.6"	6.7"	2.7 oz
	IV	2	6.9"-7.0"	7.0"	8.0"	3.0 oz
	V	4	8.7"-9.2"	9.0"	8.9"	6.4 oz
	VI	11	9.3"-9.9"	9.7"	9.5"	8.4 oz
	VII	14	10.0"-10.6"	10.2"	10.1"	10.1 oz
	VIII	8	11.8"-12.6"	12.2"	10.5"	16.5 oz
	IX	1	12.7"	12.7"	---	16 oz
	Pumpkinseed	0	1	2.2"	2.2"	1.9"
I		4	2.7"-3.3"	3.0"	3.1"	---
II		2	4.3"-4.4"	4.4"	4.3"	1.0 oz
III		5	4.5"-5.8"	5.4"	5.4"	1.8 oz
VI		4	6.1"-6.8"	6.4"	6.3"	3.8 oz
Largemouth Bass		0	7	1.9"-2.7"	2.3"	3.3"
	III	1	9.6"	9.6"	11.0	---

County Douglas Waters Dowling Lake

Use Problems
Winterkill: Yes No Frequency 7

Macrophytic Vegetation
Yes No Control Measures 8

Species	Abundance	Species	Abundance	Species	Abundance

Algae: Yes No Species 9
Carp: Yes No Comment on Condition 10

Stunted Panfish: Yes No Species 11
Pollution: Yes No Source 12

Fluctuating Water Levels: None Man Natural Range 13
Basic Management: Musky, walleye, panfish 14

Fish Species: Describe as Present (P), Common (C), or Abundant (A)

E S O M O I D A E	Muskellunge	C	15	S A L M O N I D A E	Lake trout	37	B U R B O T	Burbot	56																
	Northern pike		16		Brook trout	38		S H E E P S H E A D	Sheepshead	57															
	Mud pickerel		17		Brown trout	39	A C I P E N S		Rock sturgeon	58															
P E R C I D A E	Walleye	A	18		Rainbow trout	40			Shovelnose sturgeon	59															
	Sauger	C	19		Cisco	41		C Y P R I N I D A E	Bluntnose minnow	60															
	Perch		20	Whitefish	42	Common shiner			61																
C E N T R A C H I D A E	Largemouth bass	P	21	Carp	43	Golden shiner			62																
	Smallmouth bass	C	22	C A T O S T O M I D A E	White sucker	P	44		Redbelly dace	63															
	Bluegill	C	23		Buffalo	45	Creek chub		64																
	Black crappie	C	24	Spotted sucker	46	Emerald shiner	65																		
	White crappie	P	25	Quillback	47	L E P T O S T E I D A E	Other species	66																	
	Rock bass	P	26	Sturgeon sucker	48		Spottail shiner	C	66																
	Pumpkinseed		27	Redhorse	49		Blacknose shiner	P	67																
	Warmouth		28	Lake chub sucker	50		Tadpole Madtom	P	68																
	Green sunfish		29	L E P T O S T E I D A E	L O N G N O S E G A R		Longnose gar	51	Johnny darter	P	69														
	S E R I A N I D A E	W H I T E B A S S	Y E L L O W B A S S				Shortnose gar	52	B O W F I N	M O O N E Y E	G I Z Z A R D S H A D	C R A Y F I S H													
White bass				30	Bowfin		53	C H A N N E L C A T F I S H					F L A T H E A D C A T F I S H	B L A C K B U L L H E A D	B R O W N B U L L H E A D	Y E L L O W B U L L H E A D									
Yellow bass				31	Mooneye		54										Channel catfish	32	Flathead catfish	P	33				
A M E I U R I D A E	C H A N N E L C A T F I S H	F L A T H E A D C A T F I S H	B L A C K B U L L H E A D	B R O W N B U L L H E A D	Y E L L O W B U L L H E A D		C R A Y F I S H																		
																	Black bullhead	34	Gizzard shad	55	Black bullhead	34	Brown bullhead	35	Yellow bullhead
						Brown bullhead											35	C R A Y F I S H	C R A Y F I S H						
						Yellow bullhead											36								

Signed Stephen Schram (Compiler)

Date 11-16-78

County Douglas Waters Dowling Lake

Access

Parks (name and number): Town 0 City 0
 County 0 State 0 Federal 0
 Access Roads With Parking (number):
 Town 0 City 0 County 0 State 0 Federal 0
 Access Roads Without Nearby Parking (number):
 Town 1 City 0 County 0 State 0 Federal 0
 Navigable Water Access: Yes No Name _____
 Unimproved or Difficult Access: Yes No
 Wilderness (describe) _____
 Commercial and Cottage Facilities (number): Resorts 0 Boat Rentals 0
 Campgrounds 0 Cottages or Dwellings 91 Private Camps 0

Observations: Development around entire shoreline. Poor access site with parking on town road.

GAME RESOURCES

Type of Wetland Spruce, Tamarack Area of Adjoining Wetland (acres) 336
 Percent Woody 100 Percent Nonwoody _____
 Muskrat (significant or insignificant): Yes No
 Beaver (presence or absence): Yes No
 Waterfowl:
 Broods Yes No _____ Mallard Yes No _____
 Black Yes No _____ Teal Yes No _____
 Wood Yes No _____ Hooded Merganser Yes _____ No _____
 Coot Yes _____ No _____ Loon Yes _____ No _____
 Heron Rookery Yes _____ No _____
 Other _____
 Migration:
 Puddle Ducks Diving Ducks Coot Canada Geese Other
 Spring 10-100 100-500 0 0 0
 Fall 10-100 100-500 0 0 0
 Restrictions on Hunting (refuges, local ordinances): None Known

OTHER DATA

Access Priority (describe): Urgent
 Public Frontage (miles and hundredths): 200 Feet .04 miles
 Watershed Number: Great Lakes (1) Lake Superior (5)
 Observations: One of the biggest problems with the lake is that the access site is inadequate and extremely difficult to use.

Signed Stephen Schram (Compiler) Date 11-16-78

SUMMARY FISHING RECORD
FORM 3600-63

DEPARTMENT OF NATURAL RESOURCES

COUNTY Douglas		WATERS Dowling Lake		
SAMPLING OBJECTIVE Comprehensive Inventory		NUMBER AND LOCATION OF STATIONS (HABITAT) Boomshocked entire shoreline. See map for fyke net and seine locations		
PERIOD FISHED (DATES) 4-18, 20, 26, 27-77 5-26, 27-77 7-20-77 9-12, 13-77 10-19-77				
GEAR BOOM SHOCKER (HOURS) 9.1		TIME X NIGHT DAY		
VISUAL HOURS	TIME OF DAY	HAUL SEINE (LENGTH)	MESH	AREA COVERED
ANGLING (HOURS)	TIME OF DAY	TRAP NET (NO. OF NET LIFTS) 8	MESH 3/8"	DEPTH 4'
MINNOW SEINE (NO. HAULS) 10	AREA COVERED .29	GILL NET (NO. OF FEET X NO. OF LIFTS)	MESH SIZE	DEPTH
OTHER (HOURS OR LIFTS)		CHARACTERISTICS Water Temp. 76° Surface 68° 13 ft. 7-20-77		

FISHING RESULTS

SPECIES	NO.	MODAL SIZE(S)	SIZE RANGE	CATCH/UNIT
Walleye	B=1092 F=19 S=2	6.0, 7.3, 11.7, 15.3	4.1"-23.5"	F=2.2/hr. S=15/acre
Musky	B=132 F=5 S=14	6.5, 11.3, 17.3	5.2"-37.0"	F=1.5/hr. S=48.3/acre
Perch	B=77 F=122 S=956	1.0, 3.1, 5.3, 8.2	.7"-10.9"	F=6.3/hr. S=3297/acre
Bluegill	B=56 F=177 S=843	1.0, 5.0, 6.6, 8.5	.5"-9.3"	F=6.4/hr. S=2907/acre
Black Crappie	B=26 F=49 S=14	4.6, 9.5, 10.6	2.6"-14.2"	F=2.6/hr. S=48.3/acre
Pumpkinseed	B=7 F=14 S=7	6.1	2.2"-6.8"	F=1.8/hr. S=24.1/acre
Largemouth Bass	B=1 F=1 S=40	1.6, 2.3	.9"-9.6"	F=1/hr. S=136/acre
Rock Bass	B=3 F=33 S=8	1.0, 7.7	.7"-8.7"	F=33/hr. S=27.6/acre
Johnny Darter	S=66	2.2	2.1"-2.7"	S=227.6/acre
Golden Shiner	B=3 F=19 S=93	2.5, 4.5	2.4"-4.7"	F=33/hr. S=320.7/acre

OBSERVATIONS

B=Boomshocker F=Fyke Net S=Seine - Shocker efficiency poor because of low MPA. When shocking, panfish were only picked up for 10 minutes. Crappies, bluegills and perch were common. Over half of the walleyes were spawning on the east shore and in the inlet near the access site. Estimates made on walleyes and muskies during the spring only. Fall survey found water with a heavy layer of green algae preventing pick-up of most fish and eliminating possibility of a population estimate.

SIGNED (COMPILER)

Stephen Schram

DATE

11-16-78

SUMMARY FISHING RECORD
FORM 3600-63

DEPARTMENT OF NATURAL RESOURCES

COUNTY Douglas		WATERS Dowling Lake		
SAMPLING OBJECTIVE		NUMBER AND LOCATION OF STATIONS (HABITAT)		
PERIOD FISHED (DATES)		TIME _____ NIGHT _____ DAY		
GEAR BOOM SHOCKER (HOURS)				
VISUAL HOURS	TIME OF DAY	HAUL SEINE (LENGTH)	MESH	AREA COVERED
ANGLING (HOURS)	TIME OF DAY	TRAP NET (NO. OF NET LIFTS)	MESH	DEPTH
MINNOW SEINE (NO. HAULS)	AREA COVERED	GILL NET (NO. OF FEET X NO. OF LIFTS)	MESH SIZE	DEPTH
OTHER (HOURS OR LIFTS)		CHARACTERISTICS		

FISHING RESULTS

SPECIES	NO.	MODAL SIZE(S)	SIZE RANGE	CATCH/UNIT
Spottail Shiner	B=4 F=1 S=107	2.2	2.1"-3.8"	B=.44/hr. F=.57/net day S=368.9/acre
Common Shiner	B=4 F=2 S=1	2.2	2.1"-6.2"	B=.44/hr. F=.25/net day S=3.44/acre
Blacknose Shiner	B=2 F=8 S=1		2.8"-3.6"	B=.22/hr. F=.38/hr S=3.44/acre
White Sucker	F=1 S=1	15.0	4.7"-16.8"	F=.13/net day S=3.44/acre
Black Bullhead	F=15	4.7	4.2"-13.0"	F=1.87/net day
Tadpole Madtom	S=1		1.0"	S=3.44/acre

OBSERVATIONS

SIGNED (COMPILER) Stephen Schram	DATE 11-16-78
--	-------------------------

UNIT FISHING RECORD
FORM 3600-62

DEPARTMENT OF NATURAL RESOURCES

COUNTY Douglas	WATERS Dowling Lake
DATE 4-18, 20, 26, 27-77 5-26, 27-77 7-20-77; 9-12, 13-77; 10-19-77	TIME Boomsocking at night. Fyke nets and seining during the day.
SITE FISHED (STATION AND HABITAT)	

Boomsocked entire shoreline. See map for fyke net and seine locations.

GEAR				
BOOM SHOCKER (HOURS) 9.1		DAYTIME None		DARKNESS 9.1
VISUAL HOURS	TIME	HAUL SEINE (LENGTH)	AREA	MESH
ANGLING (HOURS)	TIME	TRAP NET (DIMENSIONS)	MESH 3/8"	DEPTH 4'
MINNOW SEINE (LENGTH) 25'	DISTANCE .29 acres	GILL NET (LENGTH)	MESH	DEPTH
OTHER				

FISHING CONDITIONS (Describe)

Fair for walleyes, muskies and crappies

FISHING RESULTS

SPECIES	NUMBER	ESTIMATED MODAL LENGTH		ESTIMATED SIZE RANGE
Walleye	1113	7.3	11.7	4.1" - 23.5"
Musky	151	6.5	17.3	5.2" - 37.0"
Perch	1135	3.1	5.3	.7" - 10.9"
Bluegill	1078	1.0	6.6	.5" - 9.3"
Black Crappie	87	9.5	10.8	2.6" - 14.2"
Pumpkinseed	23	6.1		2.2" - 6.6"
Largemouth Bass	41	2.3		.9" - 9.6"
Rock Bass	44	7.7		.7" - 8.7"
Johnny Darter	66	2.2		2.1" - 2.7"
Golden Shiner	115	2.5		2.4" - 4.7"

OBSERVATIONS

Walleyes doing very well without recent stocking. Musky stocking does not appear warranted at present. Adequate natural reproduction is sufficient.

COMPILER'S SIGNATURE

Stephen Schum

DATE

11-16-78

UNIT FISHING RECORD
FORM 3600-62

DEPARTMENT OF NATURAL RESOURCES

COUNTY <p style="text-align: center;">Douglas</p>	WATERS <p style="text-align: center;">Dowling Lake</p>
DATE	TIME

SITE FISHED (STATION AND HABITAT)

GEAR		BOOM SHOCKER (HOURS)		DAYTIME	DARKNESS
VISUAL HOURS	TIME	HAUL SEINE (LENGTH)	AREA		MESH
ANGLING (HOURS)	TIME	TRAP NET (DIMENSIONS)	MESH		DEPTH
MINNOW SEINE (LENGTH)	DISTANCE	GILL NET (LENGTH)	MESH		DEPTH

OTHER

FISHING CONDITIONS (Describe)

FISHING RESULTS			
SPECIES	NUMBER	ESTIMATED MODAL LENGTH	ESTIMATED SIZE RANGE
Spottail Shiner	115	2.2	2.1" - 3.8"
Common Shiner	7	2.2	2.1" - 6.2"
Blacknose Shiner	2		2.8" - 3.6"
White Sucker	10	15.0	4.7" - 16.8"
Black Bullhead	15	4.7	4.2" - 13.0"
Tadpole Madtom	1		1.0"

OBSERVATIONS

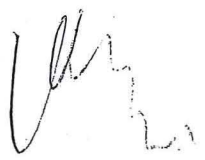
COMPILER'S SIGNATURE <p style="text-align: center;"><i>Stephen Schram</i></p>	DATE <p style="text-align: center;">11-16-78</p>
--	---

DONE

Wisconsin Conservation Department
Madison 2, Wisconsin

Division of Fish Management

Section of Fishery Biology
Investigational Report No. 625



A BIOLOGICAL SURVEY OF DOWLING LAKE, DOUGLAS COUNTY
(T46N, R13W, S7, 18)

By

R. E. Wilder
J. H. Fischthal

August 9 - 11, 1947

Table of Contents

	<u>Page</u>
Abstract	1
Introduction	2
Physical Characteristics	2
Chemical Characteristics	2
Biological Characteristics	2-3
Planting Record	4
Recommendations	4
Figure I - Map of Dowling lake	5
Table I - Water Analysis	6
Table II - Individual Net Catches	6-7
Table III - Fyke Net Summary	8
Table IV - Individual lengths and weights	8-9
Table V - Frequency Distribution	10
Table VI - Data on fish according to age groups	11-12
Table VII - Comparison of Dowling lake fish averages with those in other lakes surveyed in Douglas county.	
A. Walleye	13
B. Bluegill	13
C. Suckers	14
D. Crappies	14
E. NWA averages	15-16

Abstract

A test net survey of Dowling lake was undertaken to establish the species composition, size distribution and growth rate of the fish.

Dowling lake is located in the north-west part of Douglas county, 19 miles from Superior and 20 miles from Solon Springs. It lies in Township 46, Range 13 and Sections 7, 18. It covers 132 acres, has a maximum depth of 10 feet and is $\frac{1}{4}$ mile wide and $\frac{1}{2}$ mile long.

A total of 274 fish were captured in 318 net hours (0.8 fish per net hour). The distribution was 74.1 per cent crappies, 18.6 per cent walleyes, 2.2 per cent muskies, 1.8 per cent bluegills, 1.8 per cent suckers, 0.7 per cent pumpkin-seeds, 0.4 per cent largemouth bass and 0.4 per cent perch.

Vegetation was found to be adequate.

The water is brown and medium hard.

A Biological survey of Dowling lake,
Douglas county, Wisconsin

August 9 - 11, 1947

Introduction

Dowling lake is located in the northwest part of Douglas county, 19 miles from Superior and 20 miles from Solon Springs. It lies in Township 46. Range 13 and Sections 7 and 18. It covers 132 acres and has a maximum depth of 10 feet. It is $\frac{1}{4}$ mile wide and $\frac{1}{2}$ mile long.

It is readily accessible by auto from U.S. highway 53, and county highways A and L.

The purpose of the investigation was to determine size distribution, species composition and the growth rate of the fish.

Physical Characteristics

The shoreline property is very well developed with 73 summer homes and 79 boats.

The lake is spring fed and has two inlets and one outlet. The two inlets are located in the north and northeast side of the lake. One inlet comes from Newman lake. The outlet occurs on the west side and flows into Annicon lake.

The soil of the surrounding country is heavy sandy loam. The shore cover is birch and some virgin timber, with mostly gradual slopes. The bottom is sand and muck.

Dowling lake owes its origin to glacial action which completely altered the topography of the land causing partially drained and undrained depressions.

Chemical Characteristics

Table I presents a correlation between the depth, temperature and dissolved oxygen of the water.

The methyl orange alkalinity was 30 ppm at the surface and 32 ppm at 8 feet indicating water of medium hardness. The free carbon dioxide was 2.0 ppm at the surface and 3.5 ppm at 8 feet. The light penetration (secchi disc reading) was 3 feet.

Biological Characteristics

Test nets revealed the presence of crappies, walleyes, muskies, bluegills, suckers, pumpkinseeds, largemouth bass and perch. In addition, seine hauls captured Johnny darters, perch fingerlings and bullhead fingerlings.

Table II shows the location of the fyke and gill nets and their catch per day. Table III gives the test net summary. Table IV shows the lengths and weights of a representative sample. Table V gives the length frequency distribution and Table VI gives the average length, weight and condition factor of the age groups.

Table VII - A through E - gives correlation of lengths and weights of age groups for the species from lakes surveyed in Douglas county and in the NWA.

The 203 crappies composed 74.1 per cent of the total catch. They had a length frequency concentrated between 6.0 and 13.7 inches, age groups ranging between the 3rd and 7th summer and lengths, weights and condition factors that were average for the NWA.

The 51 walleyes composed 18.6 per cent of the total catch. They had a length frequency concentrated between 8.1 and 24.4 inches, age groups ranging between the 3rd and 7th summer and lengths above average, weights average and condition factors that were below average for the NWA.

The 6 muskies composed 2.2 per cent of the total catch. They had a length frequency concentrated between 24.8 and 40.0 inches, age groups ranging between the 7th and 11th summer and lengths, weights and condition factors that were below average for the NWA.

Bluegills composed 1.8 per cent of the total catch. They had a length frequency concentrated between 7.7 and 10.0 inches, age groups ranging between the 4th and 6th summer and lengths, weights and condition factors that were above average for the NWA.

Suckers composed 1.8 per cent of the total catch. They had a length frequency concentrated between 15.4 and 24.3 inches, age groups ranging between the 5th and 8th summer (no 7th summer fish taken) and lengths, weights and condition factors that were below average for the NWA.

The 2 pumpkinseeds composed 0.7 per cent of the total catch. They had lengths of 6.7 and 7.4 inches and were in their 4th summer. The lengths and weights were above average and the condition factors were average for the NWA.

One largemouth bass was captured and was 15.0 inches long; it was in the 5th summer and had lengths and weights above average and condition factor that was average for the NWA.

One perch was captured and was 7.6 inches long; it was in the 4th summer and had length, weight and condition factor that were average for the NWA.

A total of 274 fish were captured during 318 net hours (0.8 fish per net hour).

The bottom is composed mostly of sand with some mucky areas. Vegetation was found to be abundant with yellow lilies and Eleocharis being identified.

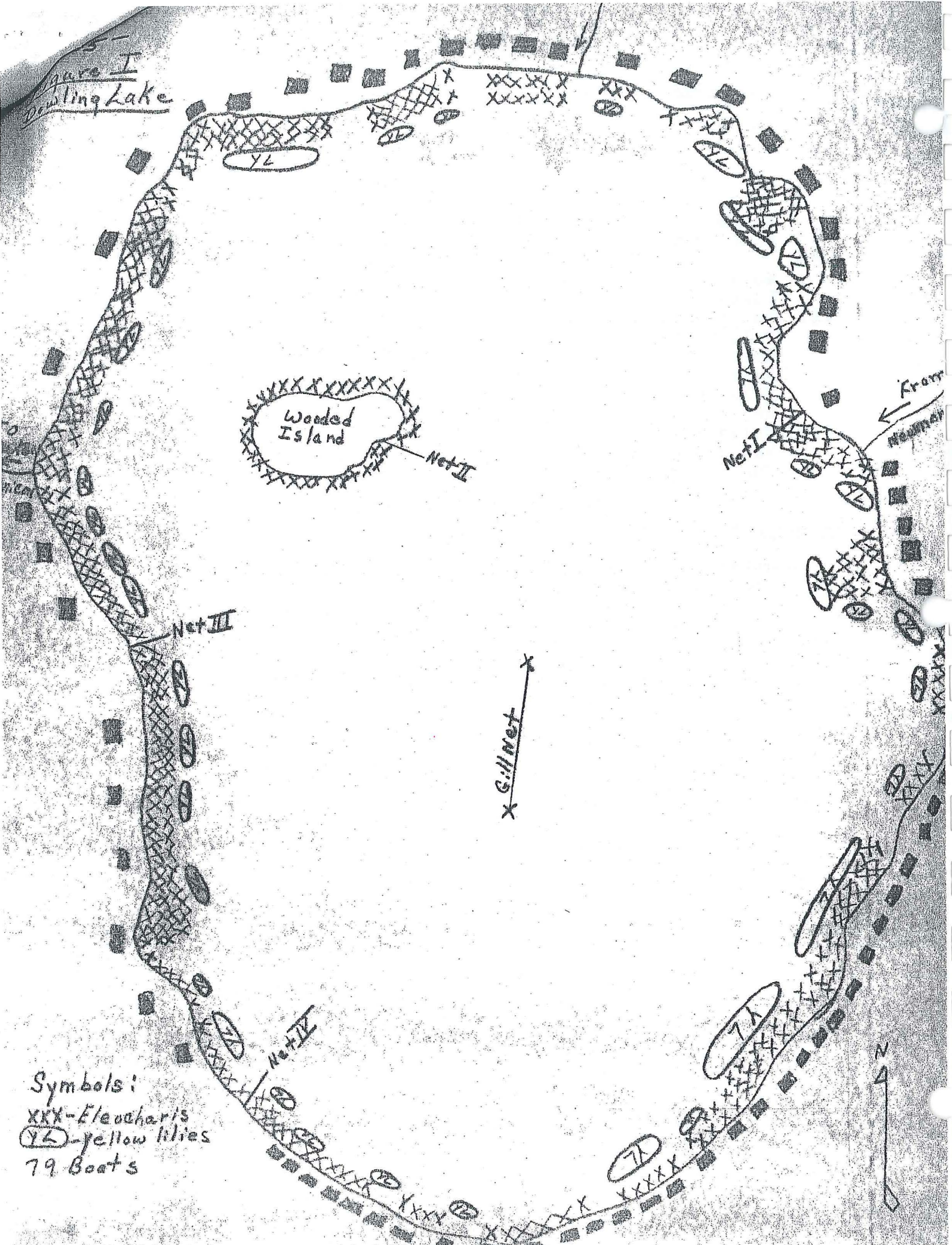
planting Record

The following table shows fish plantings as taken from Fisheries distribution records:

1941	Walleye fry	500,000
1942	Walleye fry	500,000
	Walleye fingerlings	2,500
	Musky fingerlings	1,000
1943	Walleye fry	170,000
	Walleye fingerlings	4,320
	Musky fry	25,000
1944	Walleye fingerlings	1,600
	Walleye fry	136,000
	Musky fry	7,500
1945	Musky fry	4,950
	Walleye fingerlings	2,400
	Walleye fry	158,000
1947	Walleye fry	260,000
	Walleye fingerlings	1,300
	Musky fingerlings	500

Recommendations

1. Continue planting of walleyes since netting captured a good size and age distribution of them.
2. Continue musky planting since this is native musky water. Netting operations captured six good muskies.
3. Extensive angling to crop crappies population should be maintained.



Square I
Dwelling Lake

Wooded Island
Net II

Net III

Net I
Kram
Newman

X Gillnet

Symbols:
XXX - Eleocharis
YL - yellow lilies
7A Boats



Table II

Length Frequency Distribution

Inches	Blue-gill	Crappies	Pumpkin seed	Perch	Suckers	Wall eye	Muskies
6.0- 6.4		1					
6.5- 6.9			1				
7.0- 7.4			1				
7.5- 7.9	1			1			
8.0- 8.4	2	2				1	
8.5- 8.9		3				1	
9.0- 9.4	1	22					
9.5- 9.9		17				3	
10.0-10.9	1	2				6	
11.0-11.9		3				3	
12.0- 12.9		12					
13.0- 13.9		6				6	
14.0- 14.9						8	
15.0- 15.9					1	3	
16.0- 16.9						11	
17.0- 17.9					1	5	
18.0- 18.9					1	3	
24.0- 24.9						1	1
25.0- 25.9					1		
28.0- 28.9							1
36.0- 36.9							1
37.0- 37.9							1
40.00 40.9							2
Totals	4	68	2	1	4	51	6