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A LIST OF THE LAKES IN MICHIGAN FOR WHICH THE INSTALLATION OF BRUSH SHELTERS HAS BEEN RECOMMENDED

by

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The installation of brush shelters has been proposed for a considerable number of Michigan lakes which have been inventoried by the Institute for Fisheries Research in recent years. The recommendations are summarized in the following pages.

An examination of the list reveals some variation in the recommendations with regard to the objective sought. Prior to 1946 (with several exceptions occurring in 1945) the wording of the recommendations suggest that the brush shelters are in most cases for the protection of young fish. In subsequent years, recommendations are more generally directed toward establishing areas of concentration for fish of legal size, so that they may be more readily taken with hook and line. Placement of large shelters along barren declivities, particularly in lakes lacking extensive areas of vegetation or other cover, appears to achieve favorable results in bringing the angler and fish together, with a resulting improvement in fishing quality. Current practice

involves marking the location of such shelters so that they may be readily found by fishermen.

As yet there is no experimental evidence to prove that the installation of brush shelters actually increases the number of larger game and pan fish in a lake, although observations on the use of such shelters by young fish and the increased food supported by them would suggest that the carrying capacity may be raised by such structures. However, since all evidence to date from creel census coupled with population studies indicates that anglers are not taking a full crop of warm-water species and since shelters apparently help to achieve this management goal, such improvement can be justified. Fish production is of little value unless utilized.

The recommendations for the 67 lakes listed below are taken (in most cases verbatim) from management cards in the Institute files. The name of the biologist making the recommendation and the month and year on which it was made are also shown. Asterisks follow the names of lakes which are now private, and in which installations will not be made at state expense.

District I

County	Lake	Location
Houghton	Bob	T49N R37W, S. 2, 3, 10, 11

A few brush shelters should be added to the sandy shoals but not in peaty areas (P. H. Eschmeyer - December, 1941).

Iron	Golden	T44N R37W, S. 25, 26, 35, 36

Brush shelters should be placed at intervals along the drop-off, for the purpose of concentrating fish (A. S. Hazzard - November, 1946).

Iron	Hagerman	T42,43N R36W, S. (many)

Add brush shelters at depths of under 20 feet along east and west shores. Should be very securely anchored, due to the steep declivity (P. H. Eschmeyer - December, 1941).

Iron	Robinson	T46N R37W, S. 27

Brush shelters along the shoals particularly recommended (P. H. Eschmeyer - December, 1941).

Keweenaw	Gratiot	T57N R31W, S. (many)

Install a considerable number of brush shelters. (C. J. D. Brown - March, 1939).

Keweenaw	Lac La Belle	T57,58N, R29W, S. (many)

Brush shelters recommended on south and west shores for shelter for forage types of fingerlings during winter months (P. H. Eschmeyer - November, 1941).

County	Lake	Location
Ontonagon and Gogebic	Deadman	T45,46N, R39W, S. 1, 36

Brush shelters possibly required after northern pike are established (P. H. Eschmeyer, November, 1941).

Ontonagon and Gogebic	Gogebic	T46,47,48N, R42,43W, S. (many)

Place large, marked brush shelters at intervals along west shore, to concentrate fish. Not over 100 during first year. Attempt to find locations least likely to interfere with trolling (P. H. Eschmeyer - January, 1948).

District II

Alger — Echo — T47,48N, R19W, S. 3, 34

Install a few brush shelters between the 5 and 10 foot contours as an experiment in concentrating fish (A. S. Hazzard - December, 1945).

Alger — McComb — T44N, R19W, S. 23, 26, 27

Install brush shelters in from 6 to 10 feet of water wherever weed beds and other natural shelter are lacking (A. S. Hazzard - April, 1940).

Alger — Man (Beaver) — T44N, R19W, S. 23

Install brush shelters in from 6 to 10 feet of water wherever weed beds or other natural shelter is lacking (A. S. Hazzard - April, 1940).

Alger — Temple (Little Papoose) — T44N, R19W, S. 14, 23

Install brush shelters in from 6 to 10 feet of water wherever weed beds or other shelter is lacking (A. S. Hazzard - April, 1940).

County	Lake	Location
Alger	Tie (Big Chief; Long)	T44N, R19W, S. 23

Install brush shelters in from 6 to 10 feet of water wherever weed beds or other shelter is lacking (A. S. Hazzard - April, 1940).

Chippewa	Walker	T45N, R5W, S. 6, 7

Installation of brush shelters in view of present scarcity of cover in the lake. Shelters would need to be low and of loose construction, since lake is very shallow - up to 7 feet deep. "Tree shelters" might be employed (H. E. Kilpela, July, 1947).

Mackinac	Brevoort	T41,42N, R5W, S (many)

Some brush shelters between 5 and 10 foot contours might improve shelter where plants are scarce (E. W. Roelofs - February, 1943).

Mackinac	Michigamme	T48N, R30W, S. 8

Brush shelters scattered over sandy shoal areas in water 5-15 feet (C. J. D. Brown - July, 1940).

Schooleraft	Cusino	T47N, R16W, S. 23, 24

Install brush shelters for cover in 6 to 10 feet of water - on sandy shoals. This may also serve to increase invertebrate food organisms (E. W. Roelofs - March, 1943).

District III

Antrim	Elk	T28,29N, R9W, S. (many)

Cover increase is needed. Not less than 150 brush shelters are recommended. These should be placed where most needed. In a number of them several cubic yards of rich soil and some muskgrass (obtained from some nearby lake) should be placed (R. W. Eschmeyer - January, 1932).

County	Lake	Location
Antrim and Kalkaska	Torch	T28,29,30,31N, R8,9W, S. (many)

Add brush shelters to lake. Cover increase is possibly more important than any other item (R. W. Eschmeyer - January, 1932).

Charlevoix and Otsego	Booth (Standard)	T32,33N, R3,4W, S.1,6, 36

A few brush shelters might give added protection to young fish (W. C. Beckman - April, 1942).

Charlevoix	Hoffman	T32N, R4W, S. 26, 27, 34, 35

Place 25-50 hollow-square shelters in 6 to 12 feet of water around margin. This will provide food and cover for young fish and encourage plant growth (E. W. Roelofs - October, 1941).

Cheboygan and Presque Isle	Black	T35,36N, R1,2E, S. (many)

Food might be increased slightly by judicious placement of brush shelters on or below the dropoff or the lakeward limit of plant growth (J. Moffett and C. J. D. Brown - December, 1939).

Otsego	Big	T30N, R2W, S. 7, 8

Install twenty brush shelters at south end along ten-foot contour. Determine value of these as fishing places by local inquiry and observation (A. S. Hazzard - November, 1945).

Otsego	Pickerel	T32N, R2W, S. 11

Thirty brush shelters very desirable (R. W. Eschmeyer - August, 1932).

District IV

County	Lake	Location
Benzie	Crystal	T26,27N, R15,16W, S. (many)

Almost complete absence of cover. Brush shelters scattered along the entire shoal in water from 6 - 25 feet would be very valuable for protection of young game fish and the natural increase of forage fish. Some structures designed to break the violent wave action might lead to the development of limited plant beds thus increasing food and shelter (C. J. D. Brown - November, 1940).

Kalkaska	Big Twin	T28N, R5,6W, S. 13, 18

Additional installation of brush shelters would be beneficial (S. Lievense - August, 1947).

Kalkaska	Starvation	T28N, R5W, S. 5, 6, 7, 8

Forty-four brush shelters should be installed (one every 300 feet) around the lake in water 15 to 20 feet deep. Cover is lacking in deeper water (L. N. Allison - December, 1943).

Wexford	Frog (Berry)	T21N, R9W, S. 11, 12

Twenty-five to 30 hollow square brush shelters well scattered in 10 - 15 feet of water are suggested (J. Funk - February, 1942).

Wexford	Stone Ledge	T21N, R9W, S. 27, 28

Twenty-five to 30 hollow square brush shelters well scattered in 10 - 15 feet of water are suggested (J. Funk - February, 1942).

District V

Montmorency	Avalon	T31N, R4E, S. 4, 5, 8, 9

Install 25 brush shelters in from four to 10 feet of water (L. N. Allison - August, 1943).

County	Lake	Location
Montmorency	Little Joe	T32N, R2E, S. 5

Ten to 15 ladder shelters in from 8 to 10 feet of water (A. S. Hazzard - December, 1945).

Ogemaw	Clear	T23N, R1E, S. 2, 3, 10, 11

Some additional brush shelters in this lake might improve cover conditions. (C. J. D. Brown - December, 1941).

Ogemaw	Devoe	T23N, R3E, S. 11, 12

Add about twenty large brush shelters on the dropoff (E. L. Cooper - July, 1946).

Ogemaw	Nero	T24N, R3E, S. 5, 6

A few brush shelters well scattered in water 10 - 25 feet deep would probably do considerable good (C. J. D. Brown, November, 1939).

Ogemaw	Rifle	T23N, R4E, S. 5, 8

A few brush shelters might improve cover conditions (C. J. D. Brown - December, 1941).

Oscoda	Helmer	T25N, R2E, S. 22

A few shelters in water 6 to 20 feet would probably be of considerable value (C. J. D. Brown - November, 1939).

Oscoda and Ogemaw	Island	T24,25N, R2E, S. 35, 36, 1, 2

A few shelters scattered in water 6 to 20 feet in depth would make a definite improvement in this lake (C. J. D. Brown, November, 1939).

County	Lake	Location
Oscoda	Twin	T25N, R2E, S. 25

Install brush shelters between the 10 and 15 foot contours in areas lacking vegetation (A. S. Hazzard - November, 1943).

Roscommon and Crawford	Higgins	T24,25N, R3,4W, S. (many)

Cover devices of the type already present in the lake should be increased in number. These should be well scattered. No deadhead removal should be allowed without adding shelters to take their place (C. J. D. Brown - March, 1940).

District VI

Alcona	Badger	T28N, R8E, S. 35

Ten large brush shelters, 7 on east side and 3 on west. Place in water from 8 to 15 feet in depth (A. S. Hazzard - January, 1946).

Alcona	Crystal	T27N, R9E, S. 31

Install 50 ladder type brush shelters (A. S. Hazzard - March, 1942).

Alcona	Deer	T28N, R8E, S. 33

Install 10 large brush shelters in from 8 - 10 feet of water. Install 20 small circular shelters along east shore in about 4 feet of water (A. S. Hazzard - January, 1946).

Alcona	Hubbard	T28N, R7,8E, S. (many)

Install 10 large brush shelters between the 10 and 20 foot contours along the east side north of Sucker Creek, 10 along east side of North Bay in vicinity of Doctor's Point and 5 along north side of broad shoal west of 87 foot depression. Local fishermen and resort operators should be asked to observe and report the results (L. E. Perry - October, 1942).

County	Lake	Location
Alcona	Lost	T28N, R8E, S. 27

Install 5 large, rectangular shelters and 20 circular shelters in water from 6 to 10 feet in depth (A. S. Hazzard - January, 1946).

Alcona	O'Brien	T26N, R5E, S. 18

Install brush shelters in water from 5 to 15 feet in depth (C. J. D. Brown - March, 1939).

Alpena and Presque Isle	Long	T32,33N, R7,8E, S. (many)

A considerable number of shelter devices distributed in the southeast one-half of the lake would be desirable (C. J. D. Brown - February, 1940).

Iosco	Secor	T24N, R5E, S. 30

Install 25 circular brush shelters in water from 6 to 10 feet in depth (A. S. Hazzard - October, 1942).

Presque Isle	Esau	T34N, R8E, S. 21, 27, 28

About 200 brush shelters should be installed in water from 10 - 15 feet deep. These shelters could be either of the ladder type, or of the hollow square type (W. R. Crowe - September, 1943).

District VII

Osceola	Little Long	T19N, R8W, S. 19

Brush shelters (18 now installed) should be replaced when they disintegrate (W. F. Carbine - October, 1942).

County	Lake	Location
Osceola	Rose	T19N, R9W, S. 3, 4, 9, 10

Addition of brush shelters in water between 6 and 18 feet, scattered around entire lake (C. J. D. Brown - November, 1940).

District VIII

Kent	Blue	T10N, R9W, S. 10, 15

Two or three hollow-square brush shelters to be placed on the east shoal. If found of value, others should be installed on the barren shoals of this lake (R. D. Van Deusen - February, 1943).

Kent	Lincoln	T10N, R9W, S. 15, 22, 27

A few hollow-square brush shelters should be placed near the drop-off on the east shoal. If these are found to be of value, additional ones might be installed on other barren shoals. (R. D. Van Deusen - February, 1943).

Montcalm	Crystal	T10N, R5W, S. 7, 8, 17, 18

Install brush shelters between the 10 and 15 foot contour (A. S. Hazzard - November, 1947).

District IX

Cass	Cable	T5S, R16W, S. 5

Hollow-square type brush shelters should be installed in 10 - 15 feet of water. Should be well scattered along the shoal (J. Funk - December, 1941).

District X

County	Lake	Location
Jackson	Swains	T4S, R3W, S. 3, 4

A reasonable number of brush shelters in water between 6 and 15 feet deep might be a good supplement to weed beds. These should be well scattered in deep enough water not to interfere with boating and recreational activities (C. J. D. Brown - March, 1941).

District XI

Livingston	Crooked	T1N, R6E, S. 22

Install brush shelters 100 feet apart in 6 to 15 feet of water along barren shoal areas. This would amount to approximately 50 shelters. These would be of the ladder type (G. N. Washburn - October, 1943).

Livingston	Silver	T1N, R6E, S. 22

The addition of a limited number of brush shelters in water between 6 and 18 feet deep would probably be a worthwhile improvement (C. J. D. Brown - December, 1940).

Livingston	Strawberry	T1N, R5E, S. 27, 28

Brush shelters installed on the west and north shores along the "dropoff" and below the reach of motor boats would increase the shelter for young fish and possibly increase the plant growth (L. E. Perry - October, 1942).

Livingston	Zukey	T1N, R5E, S. 21, 22, 27, 28

Installation of brush shelters along the west and north sides of the lake. These will in part supplement the plant growth (L.E. Perry - October, 1942).

County	Lake	Location
Oakland	Deep*	T4N, R7E, S. 27

One dozen brush shelters should be installed at depths of 5 to 10 feet (W. F. Carbine - December, 1942).

Washtenaw	Ford	T3S, R7E, S. (many)

A rather extensive brush shelter program should be undertaken (J. L. Funk - November, 1945).

Washtenaw	Geddes	T2S, R6E, S. 26, 27, 35, 36

Shelter adequate except in deeper water where a few brush shelters might prove beneficial (J. L. Funk - November, 1945).

Washtenaw and Livingston	Half Moon	T1N and 1S, R3,4E, S. 1, 6, 31

Shelter insufficient at present. Shelters should be installed until the vegetation can be re-established to the extent of supplying cover (R. C. Ball - August, 1942).

Washtenaw	Papermill	T2,3S, R7E, S. 5, 31, 32

Adequate except in deeper water where a few brush shelters might prove beneficial (J. L. Funk - November, 1945).

Washtenaw	Superior	T2S, R6,7E, S. 30, 31, 32, 36

Plants and other forms of shelter scarce. A rather extensive brush shelter program should be undertaken (J. L. Funk - November, 1945).

Washtenaw	Belleville (Edison)	T3S, R7,8E, S. (many)

Shelter fairly adequate. A number of small brush shelters scattered along shore, especially at the lower end of the lake, where plants are scarce, should provide some needed protection for young game fish (J. L. Funk - November, 1945).

County	Lake	Location
Washtenaw	Flat Rock	T4S, R9,10E, S. (many)

Shelter fairly adequate. A number of small brush shelters scattered along shore, especially at the lower end of the lake where plants are scarce, should provide some needed protection for young game fish (J. L. Funk - November, 1945).

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