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INSTITUTE FOR FISHERIES RESEARCH
UNIVERSITY MUSEUMS
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FISH DIVISION

STOCKING NEEDS FOR PERE MARQUETTE TROUT STREAMS

A full report on the Pere Marquette survey carried on during the 1930 and 1931 seasons has not been prepared as yet. The present report covers only the planting recommendations which have been made as a result of the survey.

A sketch map of the Pere Marquette drainage is included and trout streams for which stocking is recommended are indicated in red on this map. Although the map will serve to identify the location of streams given by name in the stocking lists, it is not intended as an accurate stream map. There are no accurate maps available for Pere Marquette streams, since the county road maps do not indicate all streams, indicate some streams inaccurately, and fail to show the detail of the winding course of many. For the latter reason, the mileages given in the lists are mostly lower than the true mileages of the stream courses.

As a basis for quantitative recommendations, a stream of 10 feet width has been considered as the unit. A general estimate, based on numerous trout counts, is that 1000 small trout per mile in a stream of this size is a desirable natural population. Although several streams were found to have considerably more than this figure (as the Little Manistee, with about 7,000 per mile per 10 foot of width) the desirability of attempting to maintain this high figure as a standard is very doubtful because of poor growth rate of trout when thickly crowded.

It is obvious that the standard of 1000 fingerling trout per mile is merely an estimate but it forms a good practical basis for allotment of trout so that a budget for each stream

may be prepared. Certain streams which were found to have a heavy natural reproduction of trout have had the calculated number of fish reduced. It is possible that no stocking is required in some of these streams but since the yearly fluctuations in numbers of naturally propagated fish is unknown it seems wise to give at least slight stocking, to guard against possible failure of the natural hatch. Where not otherwise specified, the full amount of 1000 fish per mile per 10 feet of stream width is recommended. This figure applies to fish of about three inch length. Embury (N. Y. Conservation Department Survey Reports 1927, 1928, 1929) gives an estimated table for converting recommendations applying to three inch fish to a basis of one inch to six inch fish. It seems advisable to follow this table. If stocking with one inch fish is desired, plant twelve for each three inch fish recommended, the estimated mortality being higher for the smaller fish. Of two inch fish, plant 1.7 times as many as you would of three inch. Fish larger than three inches would be expected to survive in greater proportion, so plant only three fourths as many four inch, and only six tenths as many six inch fish as would be called for if planting three inch size. All recommendations are made on the three inch basis for sake of simplicity, as it is easy to correct the number if the fish planted are larger or smaller than this.

Embury's conversion table is as follows: "To find the number of 1,2,4, or 6 inch fish, multiply by one of the following factors:-

Size in inches.....	1	2	3	4	6
Factor.....	12	1.7	1	0.75	0.6"

The question of what species of trout to plant in each of the streams has been decided upon the basis of the needs of the particular stream. Although rainbow trout are the principal species in the catch of anglers on the main Pere Marquette, no stocking of this species was recommended here because survey work disclosed that young rainbows were very numerous for practically the entire region from Baldwin to Branch. The natural reproduction of rainbow trout in this stream, the Baldwin Creek, the Middle Branch and the

Little South Branch is so good as to make stocking unnecessary. Brown Trout, on the other hand, should be supported by stocking, and have been recommended for these waters. Since brook trout are not the dominant species in any of these larger streams they have not been recommended for them. In streams which are small, the brook trout ordinarily gives better fishing than the other species so has been recommended for a number of the smaller fishing creeks (such as Carr Creek, Swan Creek, and others). Very small creeks, which are unable to produce good fishing seem best adapted to stocking with some species which is likely to help the larger stream into which they flow. For this reason, many of the creeks entering the Big South Branch of the Pere Marquette have been designated for planting of brown and rainbow trout, rather than brook trout. Since the Big South has been producing some good trout fishing, and is not well supplied with trout from natural reproduction, heavy planting of brown and rainbow trout has been recommended as an aid to the fishing there.

The sizes of trout to plant are indicated in the recommendations, although it is clear that considerable elasticity here will be expected because more trout of some sizes are available than others. The smaller and colder streams are well adapted to small fish while it is not expected that any except rather large fish will give good returns in a large, rather warm stream like the Big South Branch.

In general, the conditions for natural reproduction of trout in the Pere Marquette system are very good and young trout were found in great abundance at many of the places seined. The percent of legal trout in most of the streams was found to be low during August, and it is probable that the good fishing of May and June serves to remove a large percentage of the legal fish. Stocking of fish of legal size is probably more needed than a heavy stocking of young fish in most of these waters.

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Stocking List for Main Pere Marquette and smaller
tributaries (not including main branches)

Name of stream	County, township and sections	Av. width	Length	Number (3 inch)	Species	Size recom.
- Pere Marquette	Lake. Branch 24 to Pl. Plains 22	60	12	48,000	brown	large
- Swanson Creek (pond and above)	Mason.	Pond		2,000	brook	
- Liche Creek	Mason.	3	2	600	brook	
- Swan Creek (upper)	Mason. Eden 7 and 8.	10	1	1,000	brook	
- Black Creek (lower)	Mason.	10	2	2,000	brook	
- Weldon Creek (lower)	Mason. Branch 7 to Custer 24	15	2	3,000	brook	
- Weldon Creek (upper)	Mason.	10	3	3,000	brook	
- Buck Creek	Mason. Branch 23	12	1 1/2	1,800	brook	
- Tank Creek	Lake. Sweet-water 28,21,22.	8	2	1,600	brook	
- McDougall Cr.	Lake. Lake 2, 3,10	10	2	2,000	brown	
- Nameless Cr.	Lake. Lake 11	5	1	500	brown	
- Danaher Creek	Lake. Pl. Plains 18,20,29,30	15	5	7,500	brook	

Totals: brook trout 19,500; brown trout 50,500.

Stocking List for Big South Franch and tributaries

Name of stream	County, township and sections	Av. width	Length	Number (3 inch)	Species	Size recom.
- Big South	Mason, Oceana Newaygo. Logan 34 to Troy 22	60	8	30,000 18,000	brown rainbow	large
- Carr Creek	Mason. Logan 13,14	15	2	3,000	brook	
- Ruby Creek	Oceana. Colfax 3,4,5,6,7	15	4	3,000	brook	
- Little Ruby	Oceana. Colfax 3	4	1	200 200	brown rainbow	small
- Fuller Creek	Oceana. Colfax 2	4	1	200 200	brown rainbow	small
- Whiskey Springs	Oceana. Colfax 1	10	1	500 500	brown rainbow	
- Nelson Creek	Oceana. Colfax 11,12,14	3	2	300 300	brown rainbow	small
- Palmer Creek	Newaygo. Troy 5,6,7	4	2	400 400	brown rainbow	small
- Kessler Creek	Newaygo. Troy 17,19,20	6	2	600 600	brown rainbow	
- Freeman Creek	Newaygo. Troy 21,28,29,32	10	4	2,000 2,000	brown rainbow	
- Cedar Creek	Newaygo. Troy 22,23,24,13 and Lilley 18	20	4	8,000	brook	
- Sand Creek	Newaygo. Lilley 18	8	1	800	brook	
- Biteley (or Tank) Creek	Newaygo. Lilley 26,35	headwater	springs	suitable but	posted	
- Bear Creek	Newaygo. Merrill 10,11,15,16,20,21	20	5	10,000	brook	
- Pool Creek	Newaygo. Merrill 15	8	1 1/2	1,200	brook	
- Little Fear Creek	Newaygo. Merrill 21,22	10	1 1/2	1,500	brook	

Totals: brook trout 27,500; brown trout 34,200; rainbow trout 22,200

Stocking list for Baldwin Creek and tributaries

Name of stream	County, township and sections	Av. width	Length	Number (3 inch)	Species	Size recom.
Baldwin Creek	Lake. Pl. Plains 16 to Cherry Valley 4	30	12	7,200	brown	
Sanborn Creek	Lake. Pl. Plains 3 to Pinora 20	10	10	5,000	brown	

Totals: brown trout 12,200

Stocking List for Middle Branch and Tributaries

Name of stream	County, township and sections	Av. width	Length	Number (3 inch)	Species	Size recom.
- Middle Branch	Lake. Pl. Plains 22 to Chase 19	30	10	8,000	brown	
✓ Blood Creek	Lake. Yates 20	8	2	1,600	brook	
- Loose Creek	Lake. Yates 2,3,10,11	10	2	2,000	brown	

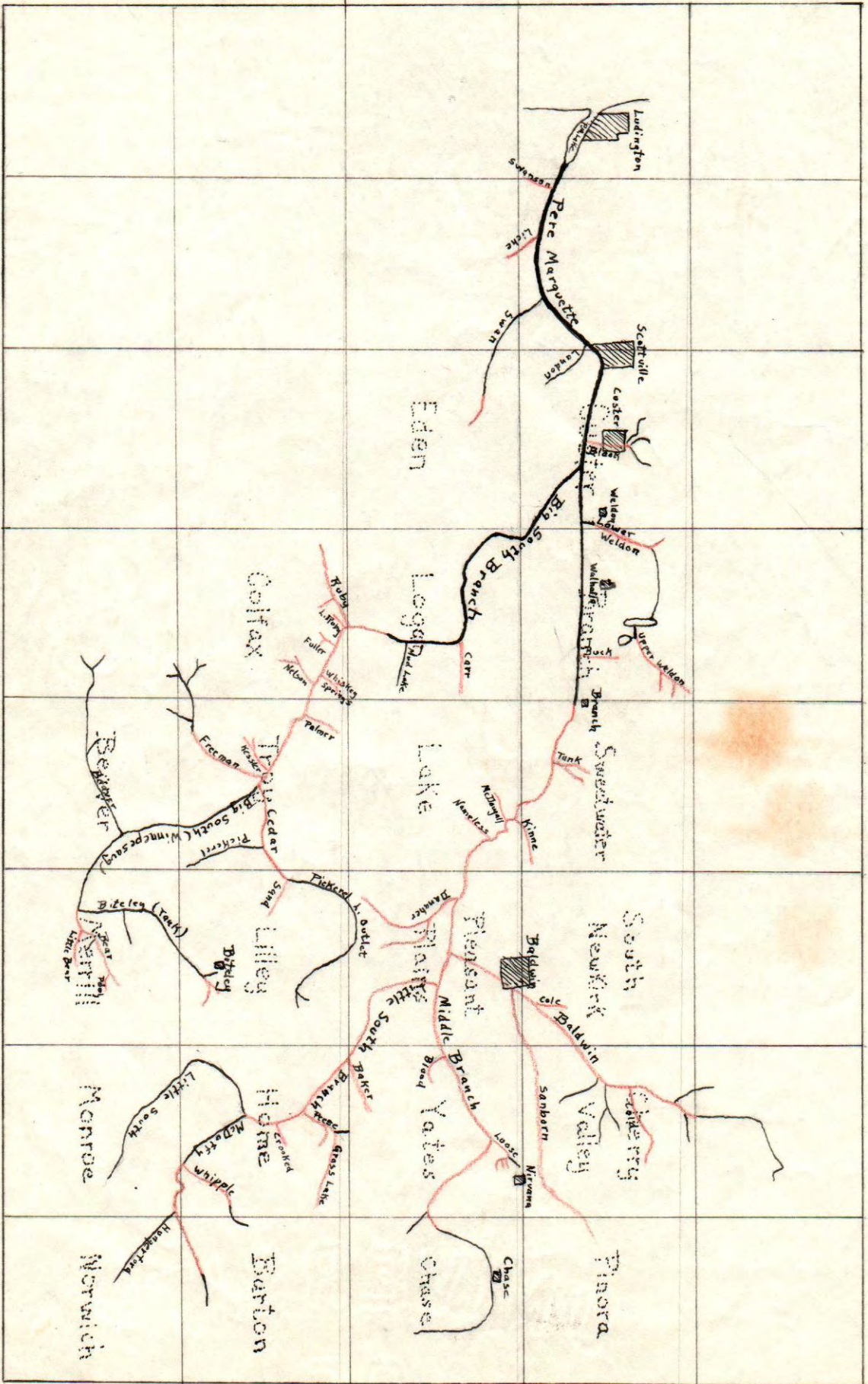
Totals: brook trout 1,600; brown trout 10,000

Stocking List for Little South Branch and Tributaries

Name of stream	County, township and sections	Av. width	Length	Number (3 inch)	Species	Size recom.
— Little South	Lake, Newaygo Pl. Plains 22 to Home 21	40	15	30,000	brown	large
— Baker Creek	Newaygo. Home 6	10	2	2,000	brook	
— Peese Creek	Newaygo. Home 9	15	1	1,500	brown	
— Grass Lake Creek	Newaygo. Home 2,3,13	10	3	3,000	Brook	
— Crooked Creek	Newaygo. Home 10,15,16	4	1	400	brook	small
— McDuffy Creek	Newaygo. Home 35,36. Barton 31,32	10	5	1,000	brook	
— Whipple Creek	Newaygo. Home 25,26,35	5	2 1/2	1,500	brook	small

Totals: brook trout 7,900; brown trout 31,500

Grand total for all streams: brook trout 56,500; brown trout 138,400; rainbow trout 22,200.



Sketch Map of Pere Marquette River System
 from County Road Maps.