Fisheries Management
Report Number 146

EFFECTS OF FYKENET MESH SIZE ON LEGAL AND SUBLEGAL CATCH IN THE GREEN BAY COMMERCIAL YELLOW PERCH FISHERY, 1985-86

Autumn 1990

By
Clifford Kraft, Green Bay
UW Sea Grant Institute

ABSTRACT

Field trials of commercial fykenets with larger-than-traditional mesh sizes were conducted for 2 years on Green Bay, Lake Michigan, to determine a mesh size that would allow sublegal yellow perch (*Perca flavescens*) to escape while retaining enough legal yellow perch to sustain a commercial fykenet fishery. The tested fykenets had mesh of 54-mm (2 1/8-inch) polyethylene, 54-mm (2 1/8-inch) preshrunk nylon, 54-mm (2 1/8-inch) nylon, 56-mm (2 3/16-inch) preshrunk nylon, 57-mm (2 1/4-inch) nylon, and 59-mm (2 5/16-inch) nylon vs. the traditional mesh size of about 47 mm (1 7/8 inches) in this fishery. Percentage legal catch, legal catch-per-effort (CPE), and total length were monitored for commercially fished yellow perch caught in fykenets with both the larger mesh and traditional mesh sizes at the same locations. A fykenet selectivity curve was developed. Fykenets with 57-mm (2 1/4-inch) mesh over the last 2 hoops significantly reduced sublegal catch with little or no significant reduction of legal catch/lift.

Bureau of Fisheries Management
Department of Natural Resources
Madison, Wisconsin 53707

CONTENTS

INTRODUCTION

The waters of southern Green Bay, Lake Michigan, support a substantial commercial fishery for yellow perch (*Perca flavescens*) -- harvested with gillnets or fykenets (called dropnets by local commercial fishing license holders). For gillnets, the Wisconsin Department of Natural Resources (WDNR) has set a minimum mesh size of 60 mm (2 3/8 inches) to select yellow perch over the minimum length limit of 191 mm (7 1/2 inches). However, no mesh size regulations currently apply to fykenets. Most commercial fishing license holders use a fykenet mesh size of about 47 mm (1 7/8 inches), which retains a large proportion of yellow perch shorter than the legal length.

Yellow perch caught in fykenets are typically emptied into the bottom of a boat, scooped up with a shovel, and sorted according to size. Those of legal size are placed on ice, and those of sublegal size are returned to the water. Coshun (1986) estimated that 36% of sublegal yellow perch that are released die within 24 hours as a direct result of this handling. In addition, before many sublegal yellow perch that are returned to the water can recover, they are eaten by gulls.

This project tested alternative mesh sizes for their ability to let sublegal yellow perch escape while retaining enough legal yellow perch to sustain a commercial fykenet fishery. Nets with larger mesh have potential benefits and drawbacks to commercial fishing license holders. Potential benefits include (1) reduced handling, thus lower mortality and a larger yellow perch population, and (2) reduced time spent sorting legal from sublegal yellow perch. The potential drawback is that some legal yellow perch might escape, thus fewer might be harvested.

In 1979, WDNR proposed work on modifying fykenets to reduce sublegal yellow perch mortality (B.J. Belonger, Wis. Dep. Nat. Resour., to Russ Daley, in memorandum 19 November 1979). The University of Wisconsin (UW) Sea Grant Institute subsequently funded a study of the fykenet fishery and its effect on yellow perch yields (UW Sea Grant Project R/GB-17). As a result of that study, Parsley (1984) suggested that a mesh size of approximately 54 mm (2 1/8 inches) could maintain a catch of 80% legal yellow perch.

Parsley, however, did not actually test 54-mm (2 1/8-inch) mesh nets. Furthermore, most of his study was conducted in a portion of Green Bay closed to commercial fishing. In that area, characteristics of the yellow perch population (length-weight relationships, length-girth relationships, and size structure) were believed to be different than in areas under intense commercial-fishing pressure. Also, the increasing abundance of yellow perch in 1985 contrasted with the low abundance during Parsley's study. These factors, and an interest in working with commercial fishing license holders to judge the effectiveness of larger mesh nets, resulted in this study.

UW Sea Grant Advisory Services personnel collected and analyzed data from field trials they directed during the summers of 1985 and 1986 with the cooperation of WDNR and 11 commercial fishing license holders.

METHODS

The commercial fishing license holders selected study sites, usually according to availability of fish and ease of access. During the field trials, captured yellow perch were measured to the nearest millimeter, dead yellow perch were measured only if *rigor mortis* had not set in, and deformed yellow perch were counted. The number of days each fykenet had been set was also recorded. Then, mean lengths, percentage of legal yellow perch, and number of yellow perch/net/day were calculated. The number of yellow perch/net/day is referred to as catch-per-effort (CPE). From larger lifts, subsamples of approximately 200 yellow perch were randomly shoveled into livewells, to minimize interference with commercial fishing operations. Comparing the number of legal yellow perch in the subsample to those retained by the commercial fishing license holders permitted calculation of total catch/lift. Legal yellow perch in the subsample were returned to the day's commercial catch; sublegal yellow perch were returned to the bay as quickly as possible.

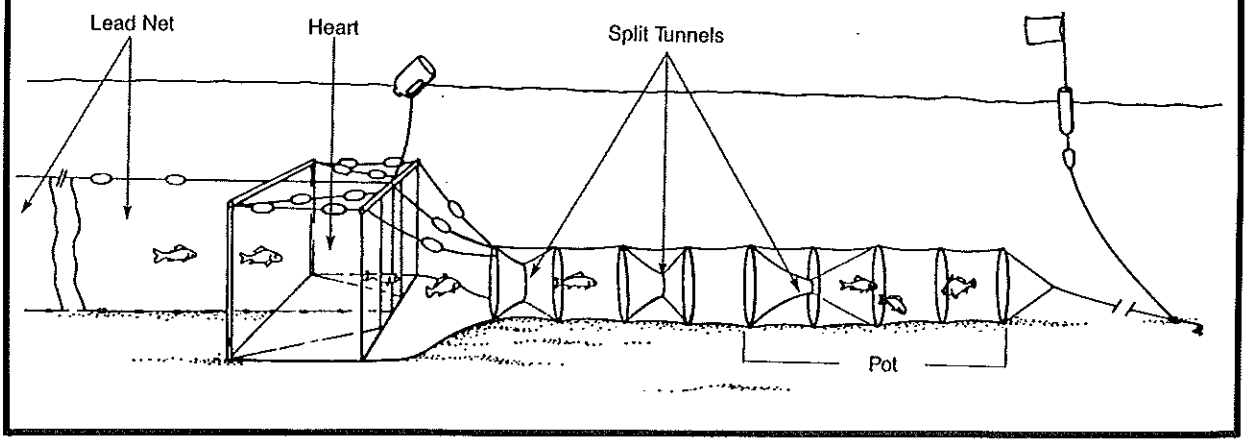
1985 Trials

Two groups of commercial fishing license holders (Group A and Group B) fished test fykenets during summer 1985. Each group cooperatively operated a boat -- and nets that they constructed, then fished under normal working conditions.

The test fykenets were made of 54-mm (2 1/8-inch) polyethylene mesh, 54-mm (2 1/8-inch) and 59-mm (2 5/16-inch) nylon mesh, and 54-mm (2 1/8-inch) and 56-mm (2 3/16-inch) preshrunk nylon mesh. The preshrunk nylon mesh had been heat-treated (preshrunk) to size to reduce shrinking during the life of the net. All nets were treated with a tar-like preservative, "Netcoat," except Group A did not treat the polyethylene mesh net. Test fykenets were fished along with control fykenets of smaller mesh sizes (averaging 47 mm, 1 7/8 inches) typically used by commercial fishing license holders.

Test mesh was sewn onto the last 5 hoops of commercial fykenets (Fig. 1). A standard-mesh pot was attached at the other end of each lead. The test pots, along with 2 or 3 standard pots, were set on the nearshore or shallow end of a shoal. Commercial fishing license holders report that yellow perch will generally lead better in one direction (upslope or downslope) on any given day, and this placement was intended to eliminate variability.

FIGURE 1. A typical fykenet.



The fykenets were set by the two groups of commercial fishing license holders at standard fishing locations (Fig. 2) -- and were lifted and reset according to standard commercial fishing practices. The number of lifts for each mesh size is given in Table 1.

For the 1985 trials, an analysis of covariance compared the percentage of legal yellow perch, mean lengths, and CPE between the different fykenet types for fykenets fished concurrently at the same location. The date was used as the covariate to eliminate bias from the linear effects of yellow perch growth throughout the summer. All data from fykenets of a given mesh size were analyzed as a single data set, hence no attempt was made to determine whether yellow perch captured in 2 nets with the same mesh had the same size distribution and relative abundance.

1986 Trials

During summer 1986, 8 commercial fishing license holders operated four groups of fykenets (A, B, C, and D). They fished fykenets with 57-mm (2 1/4-inch) mesh over the last 2 or 5 hoops along with fykenets of various other mesh sizes. The test nets were set near Marinette, Oconto, Pensaukee, and Suamico. The number of lifts for each mesh size is given in Table 2.

The 1986 trials were intended to demonstrate how larger mesh nets would perform (1) over the broad geographical range from Marinette to Suamico, thereby encompassing the whole Green Bay yellow perch fishery, and (2) over the wide variety of conditions faced by commercial fishing license holders.

For the 1986 trials, linear regressions of CPE vs. mesh size and percentage of legal yellow perch vs. mesh size were used to compare nets of different mesh sizes.

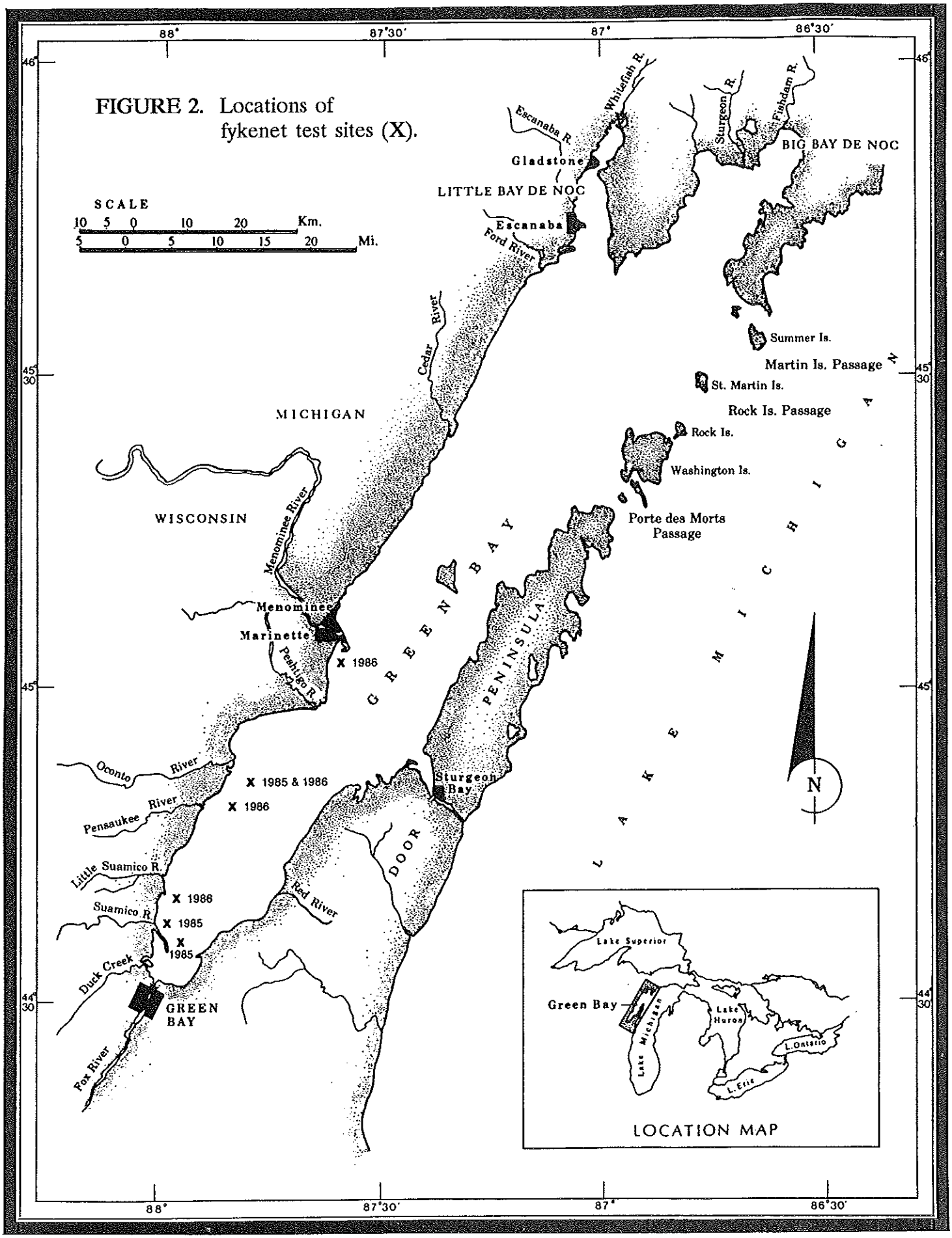


FIGURE 2. Locations of fykenet test sites (X).

TABLE 1. Number of fykenet lifts for each group of commercial fishing license holders and mesh type -- 1985 trials.

	47 mm Nylon	30 mm Nylon	54 mm Nylon	54 mm Preshrunk Nylon	54 mm Poly-ethylene	54 mm Preshrunk Nylon	54 mm Nylon
Group A	51	53	18	26	20	18	--
Group B	28	28	14	13	15	14	45

TABLE 2. Number of fykenet lifts for each group of commercial fishing license holders and mesh type -- 1986 trials.

	44 mm Nylon	47 mm Nylon	51 mm Nylon	53 mm Nylon	54 mm Nylon	56 mm Nylon	57 mm Nylon	59 mm Nylon
Group A	--	1	4	2	5	2	8	1
Group B	2	1	3	5	3	--	15	--
Group C	--	4	9	5	4	--	3	1
Group D	--	--	--	--	1	1	4	3

Measuring Mesh Size

During the 1985 trials, a triangular mesh-measuring device -- similar to one used in Atlantic Ocean fisheries -- was found to be unreliable for measuring actual mesh sizes while fykenets were being fished. The device requires steady and consistent placement within a given mesh, and such conditions are difficult to achieve with different people using the device under varying field conditions.

In 1986, a different device was used to measure the distance between 6 meshes (including 6 knots). The measuring tool resembles a yardstick with a hook on one end where the knot of a mesh can be inserted. The metal "yardstick" was calibrated so average mesh size could be quickly determined. Mesh was measured along the axis connecting the heart to the pot of each fykenet. The force applied to the mesh was not measured, but the mesh was stretched as far as possible.

For 1985 data analyses, mesh dimensions were assumed to be the same during use as they were at purchase. Numerous older fykenets used in 1985 (the smallest-mesh fykenets in the field trials) were retroactively measured in 1986. These fykenets were so covered with tar that it is unlikely the mesh size had changed significantly during the year.

Net Selectivity

Net selectivity can be conveniently expressed as the ratio of fish girth to mesh perimeter. A length-girth relation for yellow perch in Green Bay was estimated using data from WDNR bottom trawls in September 1984. CPE at each mesh size was pooled by 10-mm (3/8-inch) length intervals. Selectivity for each length category was calculated as the ratio of CPE in each experimental large-mesh pot to CPE in standard small-mesh pots. The mid-point of each length category was then converted to a girth:perimeter ratio.

Interior mesh perimeter is often less than twice the stretch mesh measure due to knots. Measurements indicated that inside mesh perimeter was best approximated by multiplying the stretch mesh measure by 2, then subtracting 6 mm (1/4 inch). CPE -- and thus selectivities at low girth:perimeter ratios due to low sample size -- was set to 0 at size intervals where few yellow perch were captured due to low selectivity (<160 mm, <6 3/8 inches) or low population abundance (>210 mm, >8 3/8 inches). Likewise, selectivity values >1 were assumed to be 1.

A logistic function was fitted to selectivity vs. girth:perimeter for all fykenets combined -- by linear regression to a logit transformation of selectivity (Pope et al. 1975):

$$l_n [p/(1 - p)] = B + AX$$

where: $p = \frac{\text{CPE in large-mesh fykenets}}{\text{CPE in control fykenets}}$

X = girth:perimeter ratio

A and B = equation parameters

The fitted equations for girth:perimeter ratios were translated back into total length.

RESULTS

1985 Trials

During 1985, Group A caught 16,227 yellow perch; Group B, 79,270 in fykenets monitored for this study. Group B also caught more yellow perch/lift-day. Figures 3 (Group A) and 4 (Group B) show the length frequency distributions for each fykenet type. Figure 5 shows a comparison of the mean lengths of yellow perch each group caught per fykenet type. Mean lengths for Group A were greater than for Group B.

Based on the analysis of covariance, the 54-mm (2 1/8-inch) polyethylene mesh and the 54-mm (2 1/8-inch) and 56-mm (2 3/16-inch) preshrunk nylon mesh caught yellow perch of significantly greater mean length ($p < .05$) than the control mesh for Group A. In Group B, the 59-mm (2 5/16-inch) nylon mesh caught yellow perch of significantly greater mean length ($p < .05$) than all other mesh except the 54-mm (2 1/8-inch) preshrunk nylon mesh. All Group B mesh types, except the 54-mm (2 1/8-inch) nylon, caught yellow perch of significantly greater mean length ($p < .05$) than did the 54-mm (2 1/8-inch) polyethylene. On average, the 54-mm (2 1/8-inch) preshrunk nylon mesh also caught larger yellow perch than the control mesh and the 54-mm (2 1/8-inch) nylon mesh. The tarred 54-mm (2 1/8-inch) polyethylene mesh caught smaller yellow perch than even the control mesh.

Analysis of covariance was also used to compare CPE and the percentage of legal yellow perch for Groups A and B. These comparisons are summarized in Figures 6 and 7.

Group A's 54-mm (2 1/8-inch) polyethylene mesh and 54-mm (2 1/8-inch) and 56-mm (2 3/16-inch) preshrunk nylon mesh caught a greater percentage of legal yellow perch ($p < .05$) than the control mesh. Group B's 59-mm (2 5/16-inch) nylon mesh caught a significantly greater percentage of legal yellow perch ($p < .05$) than all other mesh fished at that location, with the exception of the 54-mm (2 1/8-inch) preshrunk nylon mesh. All Group B mesh types, except the 54-mm (2 1/8-inch) nylon mesh, caught a greater percentage of legal yellow perch ($p < .05$) than the 54-mm (2 1/8-inch) polyethylene mesh. The 54-mm (2 1/8-inch) preshrunk nylon mesh also caught a greater percentage of legal fish ($p < .05$) than the control mesh and the 54-mm (2 1/8-inch) nylon mesh.

Group B's 54-mm (2 1/8-inch) polyethylene mesh and control mesh showed significantly more CPE ($p < .05$) than all other mesh types at the same location. Few significant differences in CPE were found among mesh types fished by Group A. The 54-mm (2 1/8-inch) preshrunk nylon mesh and 54-mm (2 1/8-inch) polyethylene mesh caught significantly more legal yellow perch ($p < .05$) than the 54-mm (2 1/8-inch) nylon mesh. The 54-mm (2 1/8-inch) preshrunk nylon mesh caught significantly more legal yellow perch than the control mesh ($p < .05$).

FIGURE 3. Frequency distribution of legal yellow perch caught in fykenets with different mesh types for Group A during 1985.

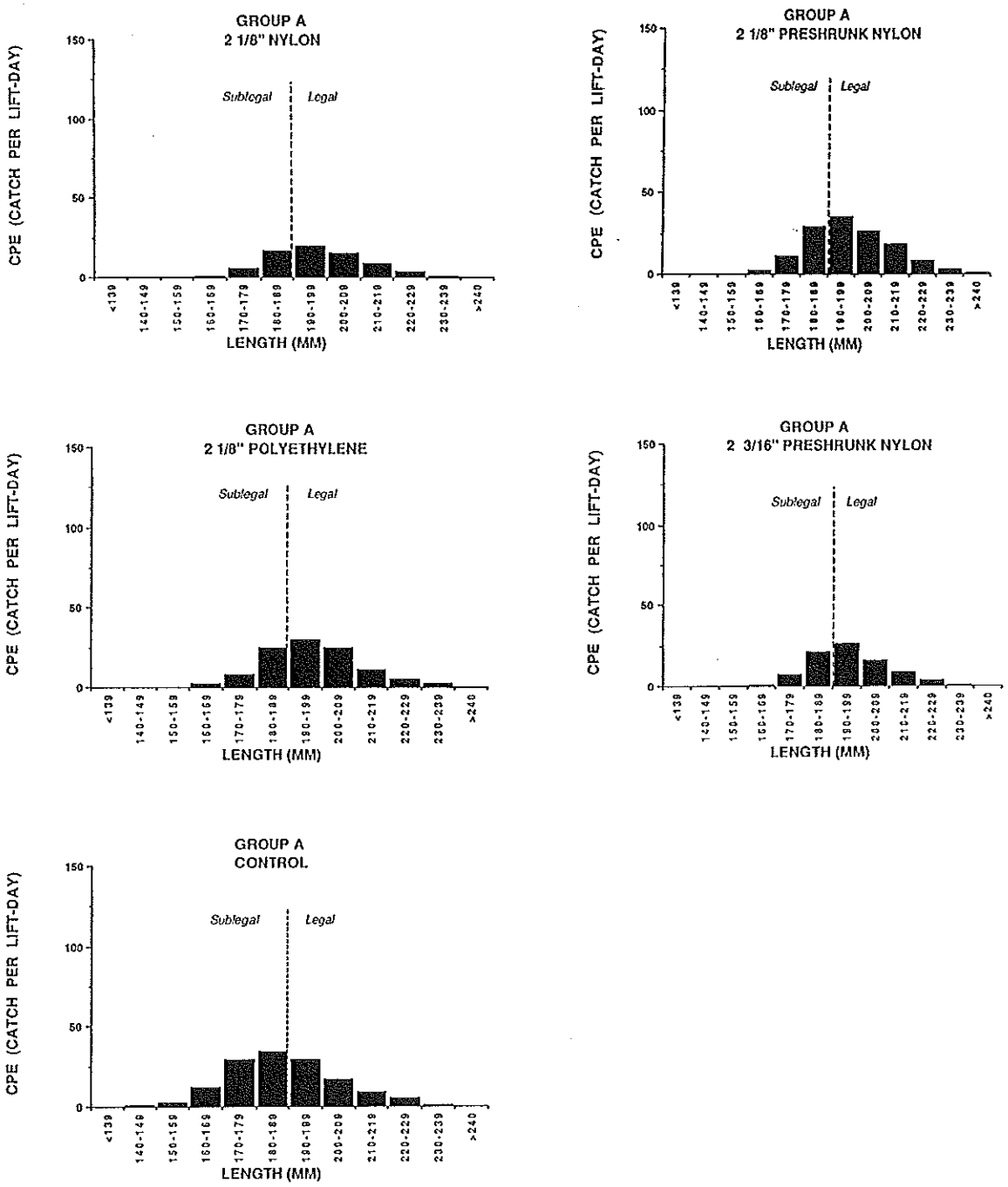


FIGURE 4. Frequency distribution of legal yellow perch caught in fykenets with different mesh types for Group B during 1985.

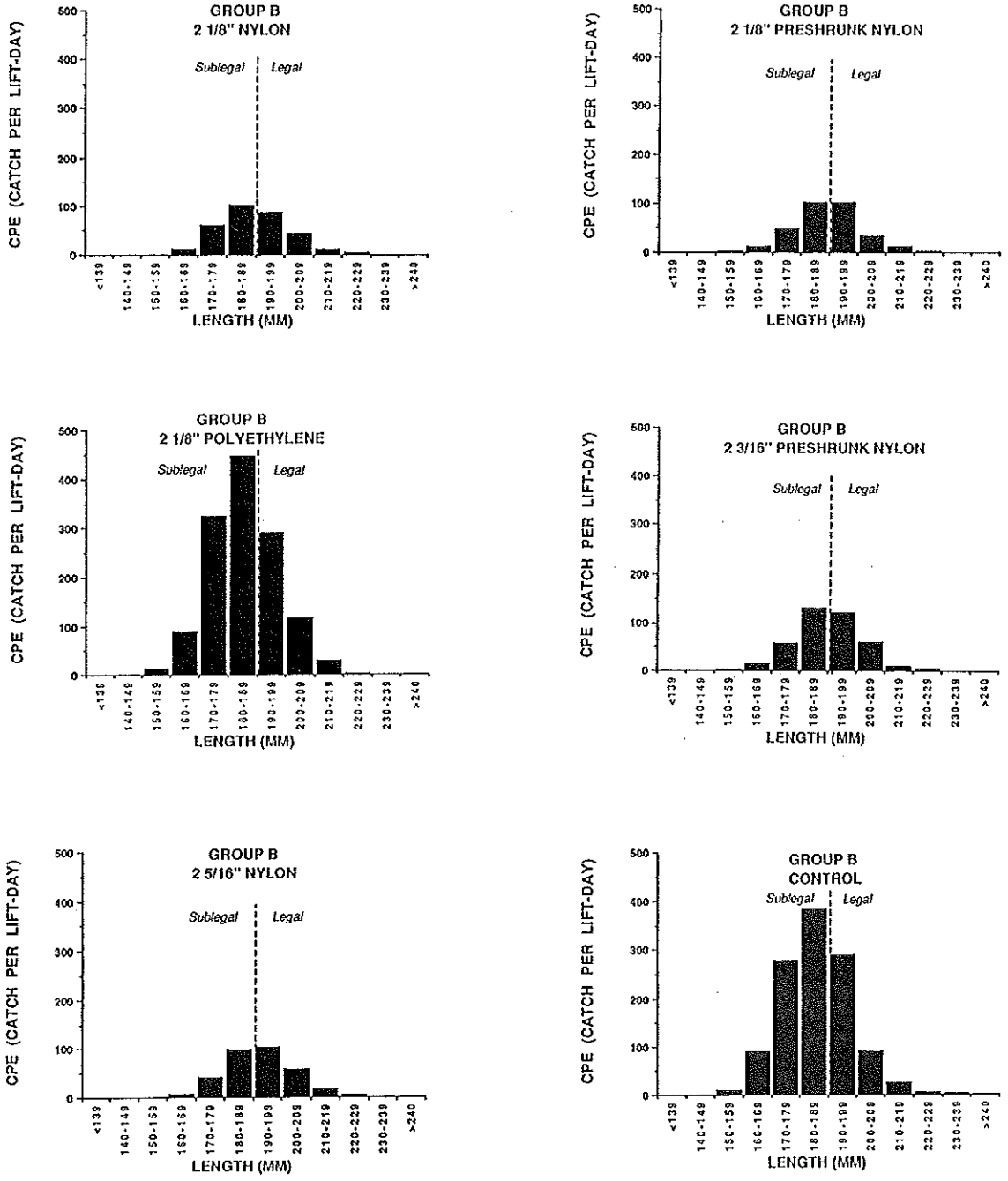


FIGURE 5. Mean length of yellow perch caught in fykenets with different mesh types during 1985. Error bars show the standard error of the mean.

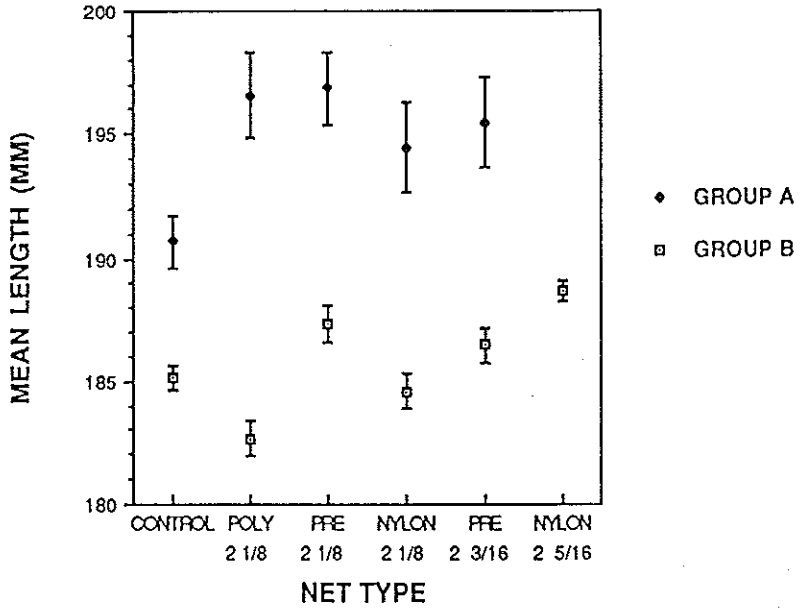


FIGURE 6. Mean CPE of legal yellow perch caught in fykenets with different mesh types during 1985. Error bars show the standard error of the mean.

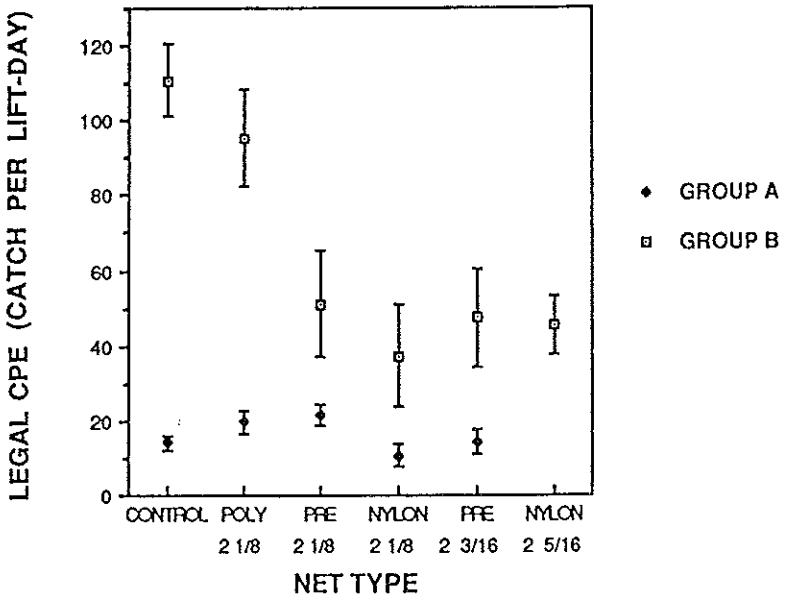
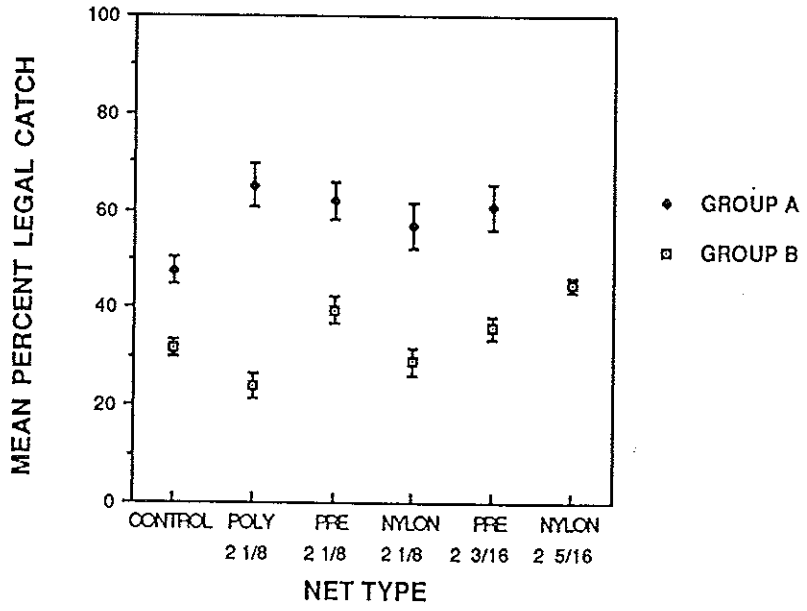


FIGURE 7. Mean percentage of legal yellow perch caught in fykenets with different mesh types during 1985. Error bars show the standard error of the mean.



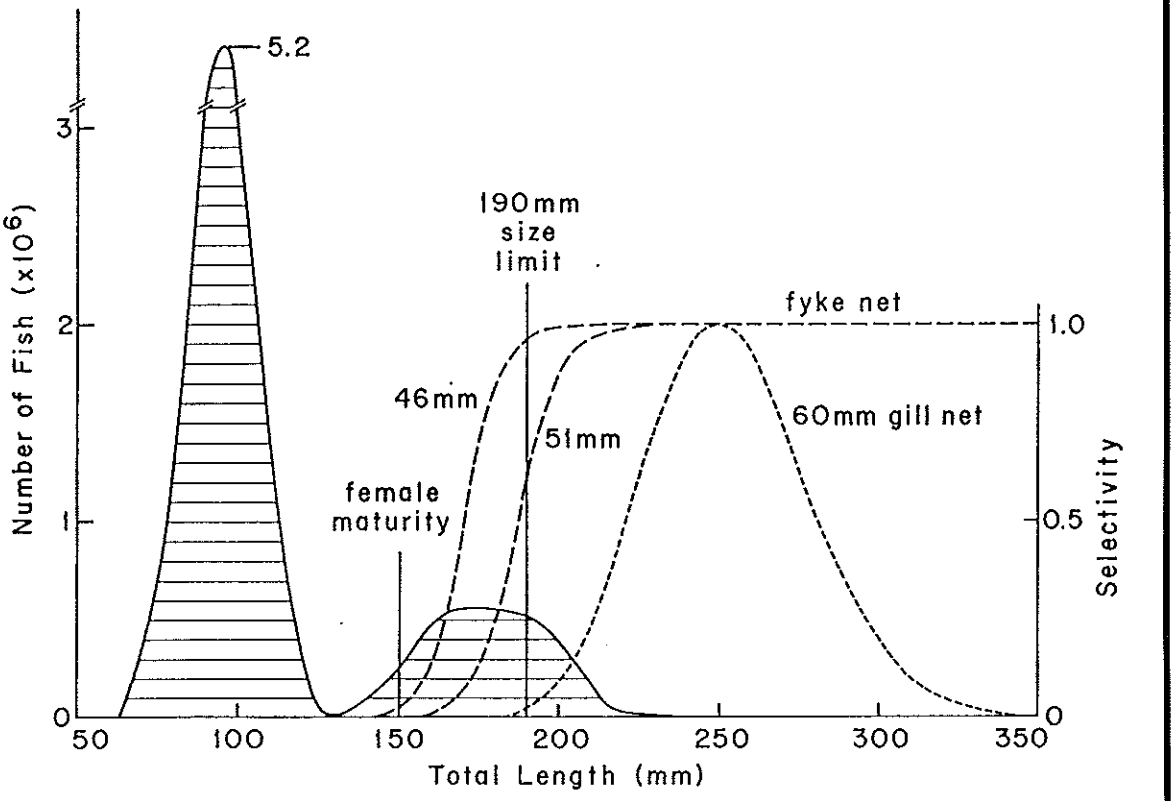
A selectivity function for two different fykenet mesh sizes, hence different girth:perimeter ratios, is shown in Figure 8 along with a selectivity function for a typical gillnet used in the Green Bay yellow perch fishery. The fykenet selectivity function is representative of selectivity functions developed for fykenets of different mesh sizes used in this study and in work by Parsley (1984). Only small differences were found in the shapes of selectivity functions for different mesh sizes or for the same mesh size fished by different commercial fishing license holders.

1986 Trials

During 1986, the four groups of nets monitored for this study caught 22,082 yellow perch in 97 lifts on 19 separate days between 1 July and 28 August.

Linear regressions testing the relationship between mesh size and the percentage of legal yellow perch/lift showed a significant portion of the variance ($p < .01$) in the dependent variable was explained by differences in mesh size for three of four fishing groups and for all of them combined. Additionally, the regression was positive and significantly different than 0 ($p < .01$). However, low R^2 values for these regressions (R^2 = 17.0 - 49.3) reflect the great amount of variability remaining due to differences in fishing conditions and practices or due to the limited range of the independent variable (mesh size).

FIGURE 8. Selectivity for fykenets with two different mesh sizes (dashed lines) compared to the selectivity for a gillnet (dotted line). The shaded area shows length frequency distribution of yellow perch in Green Bay during 1983.



For the one group where the regression was not significantly positive, the 54-mm (2 1/4-inch) mesh nets caught a greater percentage of legal yellow perch than smaller-mesh nets, but this difference was not significant.

Linear regressions showed no significant differences in the average legal CPE between fishing groups. High variability in catch between lifts is probably responsible for the lack of statistically significant trends.

Mesh sizes were measured when each fykenet was lifted during the 1986 trials. No changes in mesh size >3 mm (1/8 inch) were observed, and a change of this magnitude was uncommon. Mesh purchased as 57-mm (2 1/4-inch) stretch measure for these trials was consistently measured in the field as 57-mm (2 1/4-inch) mesh. The diameter at which the smaller mesh sizes were purchased is not known, but the commercial fishing license holders indicated that the mesh in many of these fykenets shrank with use. Measurements indicated that no changes in mesh size occurred during the 2 months when the fykenets were being monitored.

Mesh was measured in 1985 with a measuring device that is now considered unreliable, primarily because measurements varied according to date and the person making the measurements. However, since mesh sizes remained constant in 1986, the sizes at which 1985 mesh was purchased are believed to represent actual field diameters. That conclusion is further supported by the similarity in selectivity curves generated for fykenets fished during 1983, 1985, and 1986.

However, variability in the selectivity and fishing characteristics of fykenets will always be present. For example, Group A in 1985 consistently caught smaller yellow perch with 56-mm (2 3/16-inch) preshrunk nylon mesh than with 54-mm (2 1/8-inch) preshrunk nylon mesh.

Nylon twine measured before and after being treated with a protective coating of "Netcoat" at about 100 F showed no mesh size change. Treated polyethylene mesh nets showed a large reduction in mesh size.

Some of the differences between fykenets fished by Groups A and B in 1985 may be due to differences in the length of each group's fishing season. Figures 9 and 10 show the change in the percentage of legal yellow perch caught throughout the fishing season for each mesh type. A steady increase in the percentage of legal yellow perch occurred throughout the fishing season, which lasted longer for Group A than Group B. This increase was due to the growth of the strong 1982 year-class, which entered the fishery throughout the summer.

The analysis of covariance confirmed the significance of linear increases in mean length, percentage of legal yellow perch, and legal CPE throughout the season ($p < .001$ in all cases). The slopes were equal within each comparison (probability of being equal > 0.95). Fykenets fished by Group A caught a greater percentage of legal yellow perch than fykenets fished by Group B, although much of the increase in the percentage of legal yellow perch occurred after 15 August.

Legal CPE was plotted over the season for each fykenet type (Figs. 11 and 12). The most dramatic difference observed was the greater number of legal yellow perch caught per lift by Group B.

During 1986, as expected from our experience with larger mesh in 2 previous years, 57-mm (2 1/4-inch) mesh caught a significantly greater ($p < .05$) percentage of legal yellow perch than smaller mesh. However, the 57-mm (2 1/4-inch) mesh did not show a significant reduction in the number of legal yellow perch caught per day, which contrasted with previous trials of larger mesh.

FIGURE 9. Percentage of legal yellow perch caught in fykenets with different mesh types during 1985 for Group A.

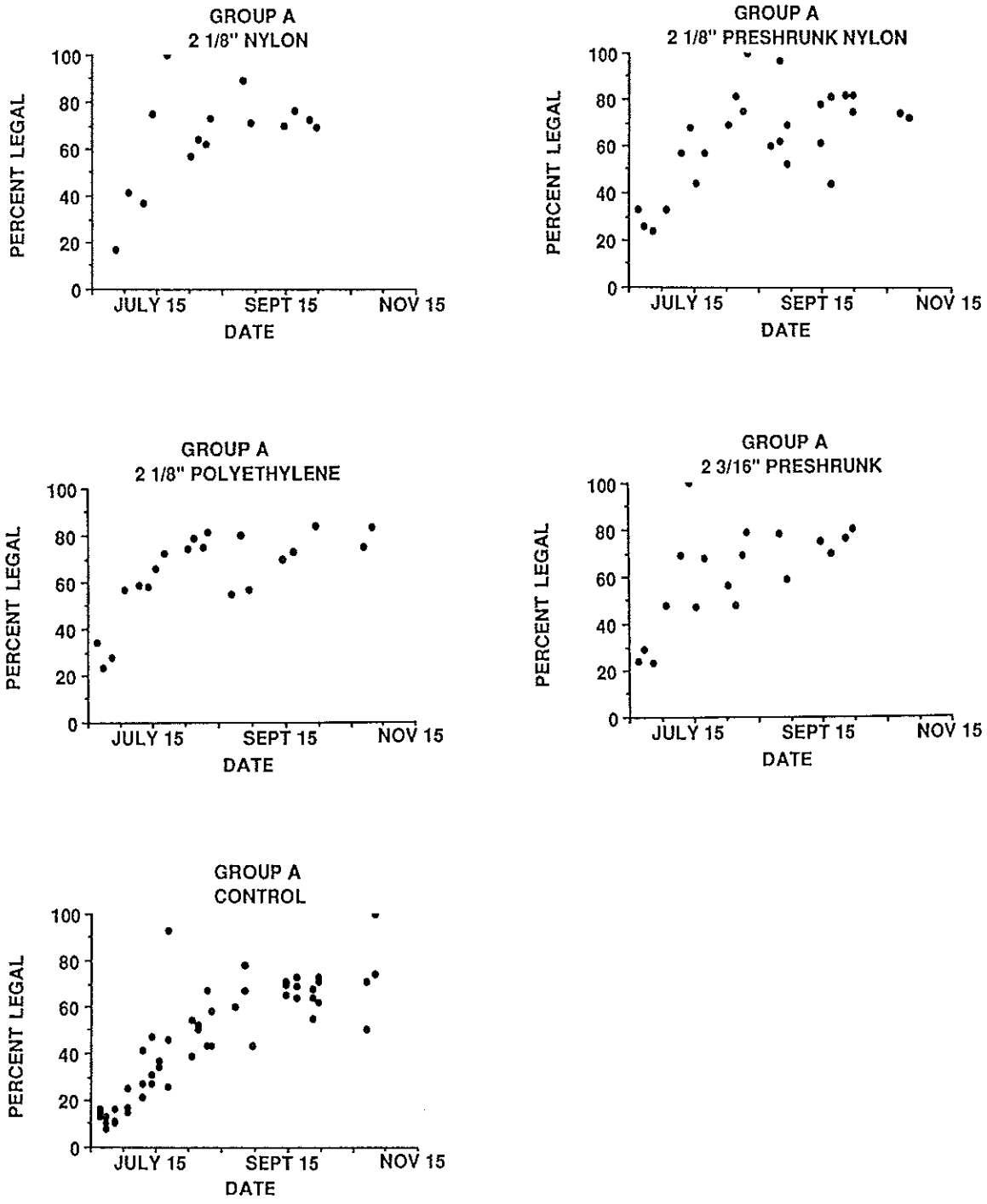


FIGURE 10. Percentage of legal yellow perch caught in fykenets with different mesh types during 1985 for Group B.

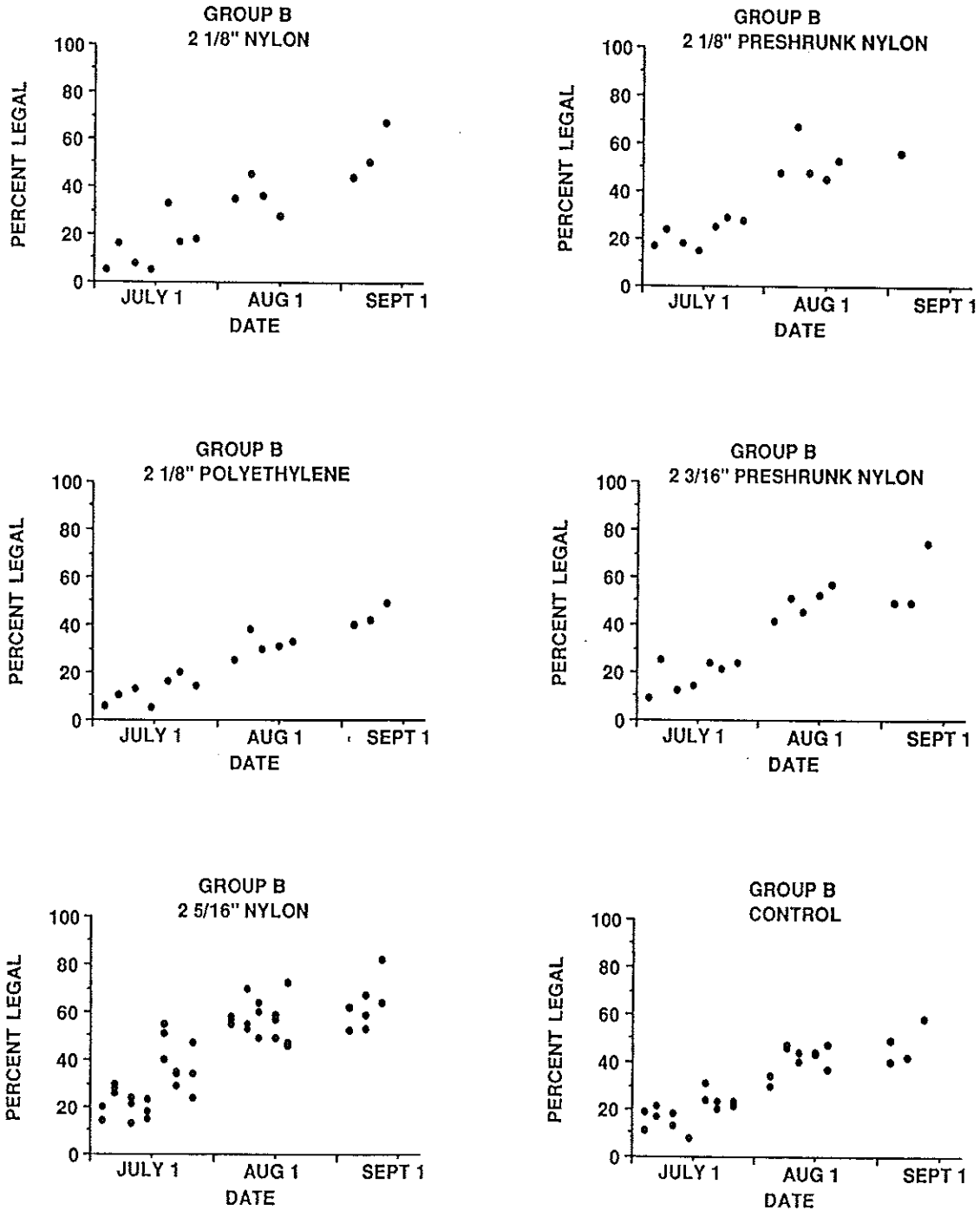


FIGURE 11. Legal CPE of yellow perch caught in fykenets with different mesh types during 1985 for Group A.

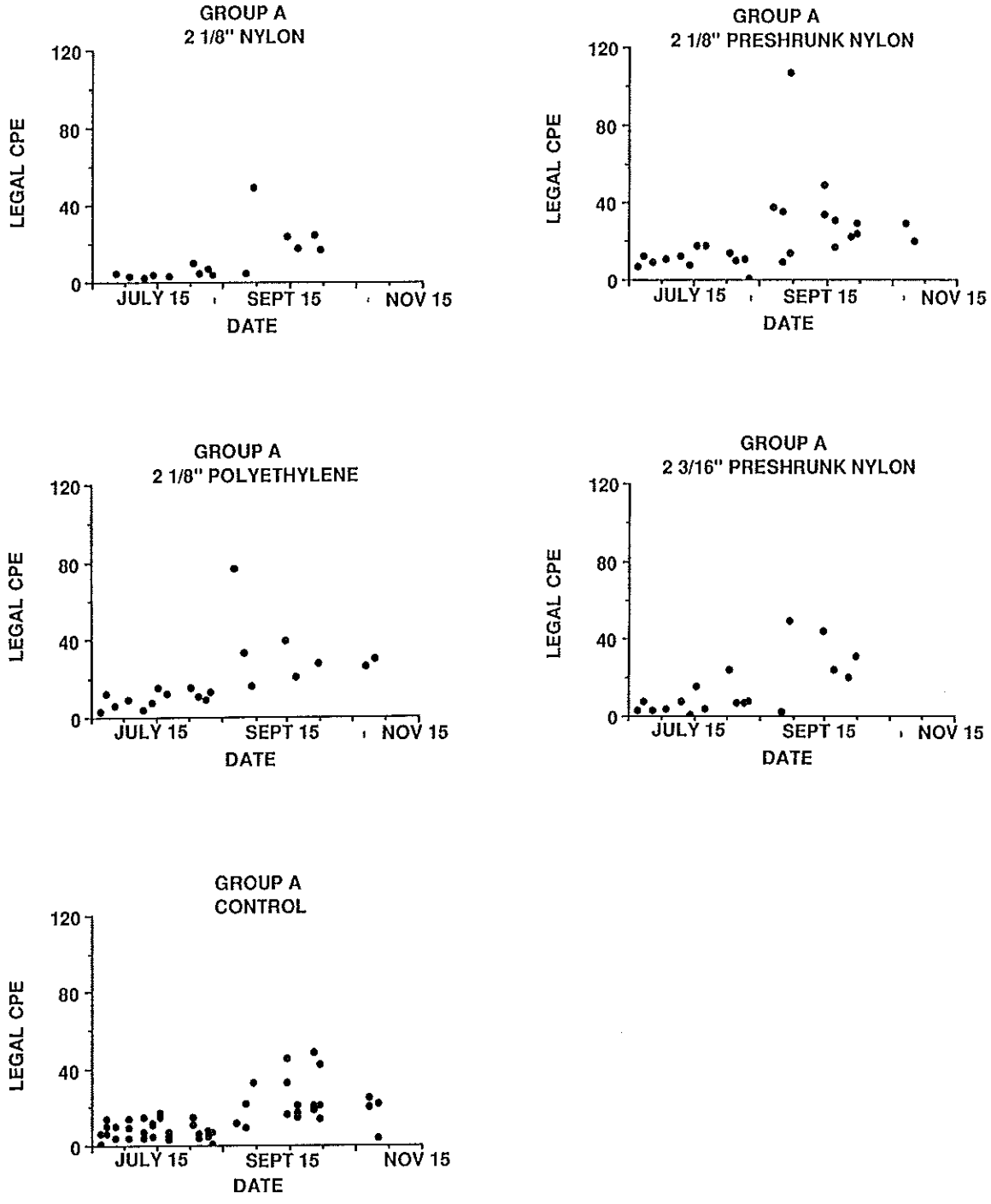
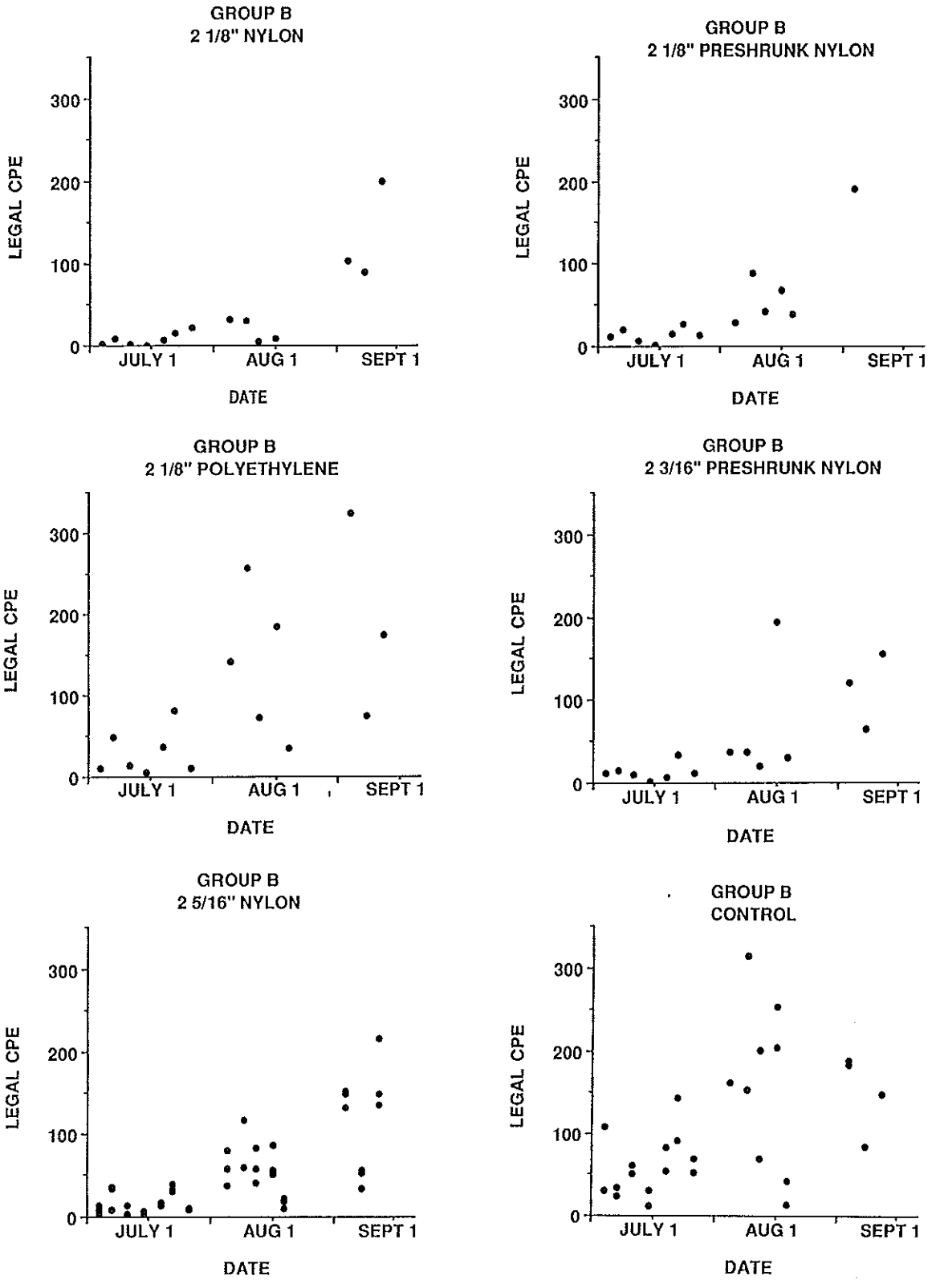


FIGURE 12. Legal CPE of yellow perch caught in fykenets with different mesh types during 1985 for Group B.



DISCUSSION

Fykenets used in the Green Bay yellow perch fishery have traditionally had 47-mm (1 7/8-inch) mesh. The selectivity curve for this mesh size reaches its maxima near 191 mm (7 1/2 inches), the legal size limit for yellow perch -- meaning 100% of the legal yellow perch entering the fykenet are retained. Thus, commercial fishing license holders had selected a mesh size to maximize the catch of legal yellow perch.

By contrast, the selectivity curve for 57-mm (2 1/4-inch) mesh reaches its maxima at about 220 mm (8 5/8 inches). This allows numerous legal yellow perch to escape after entering the net. Since this reduced legal CPE, commercial fishing license holders were reluctant to use larger mesh, which would reduce their earnings.

Changes in the size structure of the yellow perch population have changed these circumstances. Size structure strongly influences CPE. In 1985, legal CPE differences were not significant among fykenets of different mesh sizes fished by Group A, which fished much longer than Group B. This permitted the large 1982 year-class to reach legal size, increasing the percentage and size of legal yellow perch caught later in the year. The situation continued throughout 1986, when the larger and more abundant yellow perch population yielded the highest CPEs in 20 years.

The change in size structure also is probably responsible for the lack of differences in legal CPE among nets with different mesh sizes in 1986. In 1983, when few yellow perch were >200 mm (7 7/8 inches), a fykenet that had low selectivity at this size had low legal CPE. But as the abundance of yellow perch >200 mm (7 7/8 inches) increased, the drawbacks of larger mesh diminished.

These observations are in strong contrast to the initial research on fykenet mortality and mesh modifications in which Parsley (1984) observed that 57-mm (2 1/4-inch) mesh caught 50% fewer yellow perch than standard (47-mm, 1 7/8-inch) mesh. The population size structure in 1983 had fewer large yellow perch than in 1986. One other difference between Parsley's study and the 1985-86 field trials was that Parsley's fykenets were set in an area closed to commercial fishing and were not moved during the course of the study. Parsley did, however, observe a significant increase in the percentage of legal yellow perch caught with 57-mm (2 1/4-inch) mesh, although he found no significant increase in the percentage of legal yellow perch caught with mesh >57 mm (2 1/4 inches, e.g., 60 mm, 2 3/8 inches and 64 mm, 2 1/2 inches).

An alternative to nylon twine was tested. Untarred 54-mm (2 1/8-inch) polyethylene mesh fished efficiently for Group A, but it has several drawbacks. Polyethylene twine is very slippery, which makes it difficult to repair. When mesh tears, as is inevitable, it is tied back together. However, the slippery polyethylene quickly unties, making commercial fishing license holders reluctant to use polyethylene twine. When polyethylene mesh was heated and tarred, it shrunk more than nylon mesh.

MANAGEMENT RECOMMENDATIONS

I recommend that:

1. **Commercial fishing license holders use 57-mm (2 1/4-inch) mesh in at least the last 2 hoops of each fykenet pot to greatly reduce mortality of sublegal yellow perch in the Green Bay fishery.** This small investment would enhance recruitment of yellow perch and would yield larger and more efficient harvests for commercial fishing license holders.

The field trials demonstrated that fykenets made with 57-mm (2 1/4-inch), 56-mm (2 3/16-inch), and 54-mm (2 1/8-inch) mesh significantly reduced the sublegal catch of yellow perch with little or no significant reduction in legal catch/lift. Larger mesh, however, apparently reduced the legal catch/lift under some circumstances.

Parsley (1984) compared fykenets with larger mesh on the last 5 hoops (all beyond the last split tunnel) to fykenets with larger mesh on the last 2 hoops only. He found no significant difference in the percentage of legal yellow perch caught. A similar comparison during the 1986 fields trials, also showed no significant differences.

2. **Any management plan to regulate harvest by regulating mesh size must also monitor mesh size, which can change over time.** Commercial fishing license holders had purchased mesh at larger sizes than were measured. Heat, exposure to sunlight, and tar accumulations can reduce the mesh opening.

LITERATURE CITED

Coshun, M. 1986. Mortality of yellow perch (*Perca flavescens*) due to confinement and handling in the drop net fishery in southern Green Bay, Lake Michigan. Univ. Wis.-Stevens Point. MS Thesis. 87 pp.

Parsley, M.J. 1984. Mesh modifications of commercial drop nets for yellow perch in southern Green Bay, Lake Michigan. Univ. Wis.-Stevens Point. MS Thesis. 50 pp.

Pope, J.A., A.R. Margetts, J.M. Hamley, and E.F. Akyuz 1975. Manual of methods for fish stock assessment, Part III: selectivity of fishing gear. F.O.A. Fish. Tech. Pap.(41) Rev. 1.

ACKNOWLEDGMENTS

I thank Randy Peterson, Mike Lauer, Dean Johnson, and Todd Schneider for field assistance in monitoring fykenet operations. I also thank Jim Champion, Val Drzwiecki, Jim Maricque, Mark Maricque, Bill Maricque, Eugene Marks, Everett Marks, Thornton Pecor, Tom Peters, and their crews for cooperation in monitoring their commercial fishing operations. Brian Belonger from WDNR provided essential help in all aspects of this project. Mike Hawley from WDNR also provided valuable assistance. Barry Johnson from the UW-Madison Center for Limnology provided help in calculating the selectivity functions. WDNR provided funds for the purchase of net material as well as the use of a boat.

This work was funded by the UW Sea Grant Institute under grants from the National Sea Grant College Program, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, and from the State of Wisconsin -- federal grant NA84AA-D-00065, project A/AS-1.

ABOUT THE AUTHOR

Yellow perch have made a mark on my life. The first fish I ever caught was a yellow perch I hooked while fishing with a bamboo pole from the Michigan City, Indiana, breakwater. I also fondly recall as a young boy going to Phil Schmidt and Sons' restaurant in East Chicago, Indiana, for "all-you-can-eat" yellow perch dinners.

Shortly after arriving in Green Bay in 1981 as Wisconsin Sea Grant's area outreach program manager, I wrote a 12-page pamphlet about the bay's yellow perch fishery as background material for a public debate on proposed WDNR rule changes. This brought me in contact with many of the principal actors in this fishery, including both commercial and sport fishers as well as WDNR personnel.

I continued to work with these people and Sea Grant researchers studying the Green Bay yellow perch fishery, including two master's degree students whose theses dealt with commercial net-related fish mortality and how larger mesh net sizes might reduce such mortality. To implement these findings, WDNR Fisheries Manager Brian Belonger and I agreed that the best way to get the bay's commercial fishers to see the benefits of using a larger mesh in their fykenets would be to involve them directly in a field demonstration project.

Launched in 1985, this project brought me a welcome return to field work for the first time since I studied the biology of Great Lakes sculpins for my M.S. degree from UW-Madison in 1977. (I am now working on a fish-related dissertation for a Ph.D. from UW-Madison.) When it came time to publish the final report on this project, I suggested to Sea Grant Communications that the WDNR's Fisheries Management Report series would be an ideal outlet.

Publishing this report in this series exemplifies the extensive cooperation between WDNR and Wisconsin Sea Grant on this project from conception to completion. Indeed, Wisconsin Sea Grant fisheries researchers have frequently worked hand-in-hand with WDNR biologists through the last 20 years. I hope this publication will serve as a model for Sea Grant-WDNR cooperation in reporting on other issues of mutual interest in the future.

Clifford Kraft
Sea Grant Advisory Office
ES105
University of Wisconsin-Green Bay
Green Bay, WI 54311-7001

Department of Natural Resources
FM/4
Box 7921
Madison, WI 53707

Do Not Forward
Address Correction Requested
Return Postage Guaranteed

BLK. RT.

U.S. POSTAGE
PAID
MADISON, WI
PERMIT 906