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78-1

LENGTH-WEIGHT CONVERSIONS
FOR
POTOMAC RIVER STRIPED BASS

Prepared by
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Potomac River Fisheries Commission
Colonial Beach, Virginia
2 June 1978

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LENGTH-WEIGHT CONVERSIONS FOR POTOMAC
RIVER STRIPED BASS

by

F. J. Wojcik

How long is a 15 pound striped bass? Most watermen know that the length-weight relationship of stripers vary, depending upon conditions under which the fish were taken. A large female is considerably heavier for her length than is a large male. Further a female's weight varies more before and after spawning than does a males.

Differences in length-weight relationships of a large number of ripe and spent males were not found to be different by Grant and Richards working in Virginia. Whereas work by Boone and Wilson working with females in Maryland found significant differences between ripe and spent females.

Unfortunately most large Potomac River female stripers caught are ripe and taken on the spawning run, while few downrunners are sampled. For this reason more reliability can be placed on conversions of lengths from weights for ripe females than spent.

Based upon 41 gravid females averaging about 15 pounds, the average fork length of the sample was 30.5 inches and total length of 31.0 inches.

Measurements of 29 spent females averaging 15 pounds produced a fork length of 32.5 inches and total length of 33.7 inches.

A fork length of 31.2 inches and total length of 32.1 inches was computed from a sample of 20 males in all stages of ripeness averaging 15 pounds.

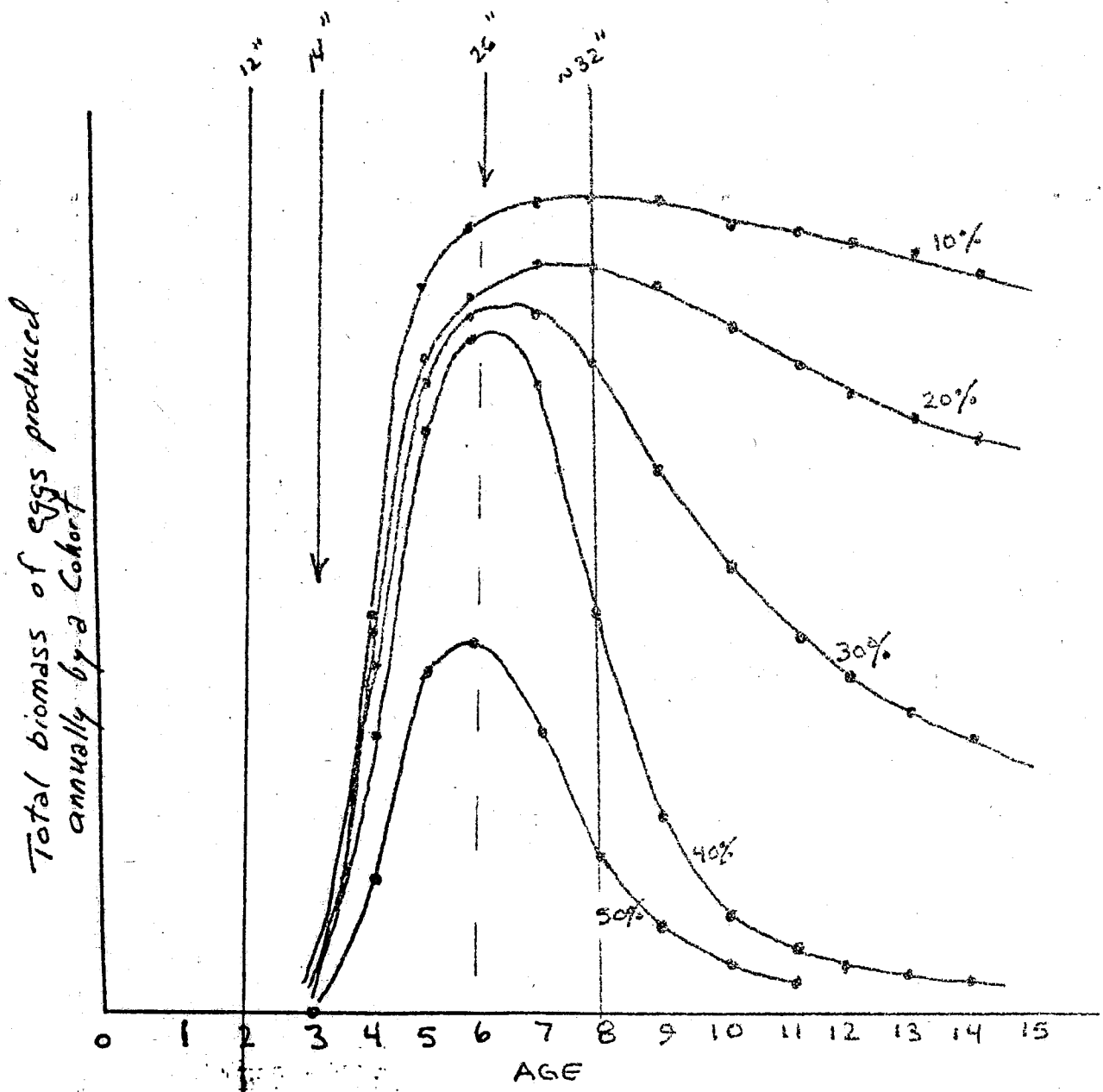
Spent females weighing 15 pounds have a fork length of about 32 inches. The effect of using 32 inches as a size limit would in effect permit the possession of gravid females two inches longer than would be permitted by the 15 pound limit.

Another way to look at the 32 inch limit is that in effect it would raise the weight limit from 15 to 18 pounds for gravid females at the same time the 32 inch limit would allow possessions of males about 16½ pounds.

OPTIONS

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1. Retain current 15 lb. maximum
2. Change to a 32" maximum.
 - 32" maximum allows gravid females up to approximately 18 lbs.
 - It does not effect spent fish which are 32" (approximately 15 lbs.)
3. Change to a 30" maximum.
 - 30" maximum allows gravid females up to approximately 15 lbs.
 - 30" maximum spent female would be around 12-13 lbs.
4. McHugh's work shows 5-7 year old fish produce most of the eggs (20-30"). Cows do not. Effective management would be to opt for a
 - a. 26-30" minimum size or
 - b. legal 12-20"
illegal 20-30"
legal \geq 30"



(total mortality estimated at 40-60%)

st. bass

LENGTH-FREQUENCY OF SAMPLES OF STRIPED BASS FROM COMMERCIAL CATCH

..... YORK
 - - - - - HAPPAHANNOCK

