

$I_F$  values overlapped in balanced and unbalanced populations. The range in the former was 0 to 41.4 and in the latter from 0 to 100.0.

The  $S_F$  values in balanced populations ranged from 0.4 to 80.9. Satisfactory populations occurred in the range 15 to 40. Values in excess of 60 indicated inefficient populations.

The  $A_F$ ,  $I_F$ , and  $S_F$  values were found to be dynamic values shifting with changes due to harvest, predation, natural mortality, and growth. The coefficient of correlation between the  $A_F$  and  $S_F$  values in dynamic populations was  $r = -0.782$ ; that between  $A_F$  and pounds of "C" species per acre (C value) was  $r = -0.646$ ; and that between the  $S_F$  and C values was  $r = +0.701$ .

These results indicated that harvest of adult "F" species increased the pounds of "C" species per acre and that failure to adequately harvest the former group resulted in a decrease in the pounds of "C" species in the population.

Failure to harvest adequately the "C" species was shown to reduce subsequently the pounds of "C" species available for harvest. This was also found to increase temporarily but eventually to decrease the adult F species available for harvest. When seining was used to harvest the "C" class, it was found possible to deplete them so rapidly that the populations became unbalanced.

The ratios and values used in this study and the interrelationships established in 55 balanced and 34 unbalanced populations establish standards for comparison of other populations if the compositions of adequate samples from these populations are determined.

The dynamic interrelationships in these populations provide a better understanding of the mechanism of balance and the effects of harvest. Consequently, they provide a basis for improved management practices.

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