This gives the food species opportunity to increase once more to abnormal numbers and the process begins over again in a diminishing degree. Thus an oscillation is started that may take considerable time to subside to stable normality.

The final population of a species then, depends upon a complexity of influences and is the resultant of many forces acting along different lines and at various angles, each interrelated with the other and having differing values as their opposing forces are readjusted.

There is a certain definite maximum of population beyond which a species cannot go. We have many evidences of this. One of the most obvious was the case of the Bluebird in the winter of 1894-5 when this common species was almost wiped out in the south. For five years the species increased rapidly to normal population and then stopped short. As far as we can see no new factor was introduced, no enemy absent during the five years of growth was present in the sixth year, the food supply and birth rate seemed constant throughout, but the increase was definitely and positively checked during the fifth year. It is obvious that a limit to the Bluebird population had been reached.

In estimating the effects of any set of conditions upon the lives of a species, there will always be found one or more factors having a predominating influence upon it. There is always one critical time or stage in its life that practically determines its numbers. Just what this is, is difficult of determination in any given species. Of course, should this factor be removed the next most important one takes its place as the critical moment, and after it another appears. Any relief to be effective must be applied at these critical moments in their proper succession. For instance an increase in food supply in summer or reduction of enemies would not permanently profit a species if the limiting factor to its numbers was the sufficiency of food in winter or southern ranges. With the above principle in view, let us consider the effects of cormorants and other birds of prey upon salmon.

The number of adult salmon is the result of birth rate, modified by the amount of food supply, less the number taken