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Fish Sampling in Tenderfoot Lake

Sean Heamey

FISH IN TENDERFOOT

In order to do a good study of the Tenderfoot Lake fish population one would need experimental gill nets, fyke nets, seine nets, and electroshocking gear. It is necessary to have a variety of ways of catching fish because each species of fish is more likely to be caught by one type of net than another. Fish that prefer deep water will not be caught by seining close to shore.

The gill nets should be set, shallow and deep, at several different sites in the lake so as to catch fish that prefer different areas of the lake or ones that migrate from area to area. Some suggested sites are near the entrance to Tenderfoot Creek, any moderately deep area of the lake, on a sand bar similar to the one in Bergner Lake if there is one, across any narrow point in the lake or across the mouth of a bay. Fyke nets can be set in any area near shore, preferably near a weedy area; seining can be done in these areas also. Electroshocking can be done anywhere.

Sampling (running the nets) should be done early in the morning and late in the afternoon because fish feed at different times during the day.

Some will be caught only in the morning and some only late in the day; they should not be lumped together. The more days this is done, the better (up to a point). The larger the sample size is, the more reliable the data and conclusions will be. Perhaps 10-20 consecutive days would suffice, maybe less. One factor to be considered is the depletion of the number of fish in the lake. If sampling were prolonged for a month or two

the fish population of the lake could be severely reduced. Past experience would dictate how long to carry on. One should continue long enough to note any changes in the catch between sunny and cloudy, dry and wet, calm and windy days if possible.

The important data for fish are weight, length, age (scale or other), pondered index, and gut analysis. The data from Tenderfoot can be compared with other data for the same fish from other lakes (Carlander) to determine the relative condition of the fish population.

Are they the length and weight you would expect for their age? Is the population rapidly expanding or stunted? The data should be analyzed with the errors that might occur, in mind, such as the problems with fish scale aging. These errors include systematic errors (limitations of equipment used), personal errors (judgement), mistakes, and assignable causes (beyond control - Rock Ness monster eats all nets).

The data from the fish themselves must be taken in light of the condition of the lake from the standpoint of water chemistry, plankton, macrophytes, and climate. Because fish are variably tolerant of different chemical parameters of the lake, the water chemistry data can in part explain the size of the population of a certain species of fish. The amount of plankton and in general, the food supply altogether, also is important in assessing the condition of the fish.

Such things as the climate, latitude, mixing nature of the lake (dimictic, monomictic, amictic, etc) which are related to each other and to water chemistry are important. (also shape of lake, size, depth, slope, etc)