

FISH 503 Advanced Limnology (University of Idaho, Moscow Campus)

Metrics and indices

Module Goals: This module aims to familiarize participants with commonly used metrics and indices used to assess water bodies. Theory will be reinforced by hands-on laboratory components in which sampling procedures will be examined and used to obtain data for the calculation of various indices. Participants will examine the role of biotic assessments in the monitoring of stream health.

General Description

Aquatic biologists, and ecologists in general, have long used indices of one sort or another to assess biological communities. Until the passage of the federal water pollution control act and later amendments that came to be known as the clean water act the use of biota to assess stream quality/health was an undeveloped field. However, since states were given the responsibility to monitor stream health, the need for a cost effective and rapid method to accomplish this task has seen a burgeoning of metrics and indices used. This module will focus on the development of metrics and indices used to assess the water quality and health of water bodies. Standard and commonly used indices will be discussed, along with those used by the EPA and the state of Idaho.

The lab part of the course will involve sampling of a local stream to establish a data set for the calculation of various indices discussed in the theory portion. It will give participants a chance to experience first hand the effort and time required to work through indices from start to finish and provide an understanding of the effort involved in implementing a sampling program.