

GLOSSARY OF FIELD STUDY TERMINOLOGY

(Note that these are not dictionary definitions, but are my attempt to get across the concept...)

ACUTE DISTURBANCE--An event that happens over a short time but causes a large amount of damage or change (e.g. hurricane, sinkhole)

BASELINE DATA--usually collected at the beginning of a study, **BASELINE DATA** describes the current or starting situation. Data collected at a later time can then be compared to the baseline data to determine whether or not changes have occurred.

CHRONIC DISTURBANCE--An ongoing process that results in changes in the environment (e.g. global warming)

CONTROL--In an experiment, the control should be one of a pair of samples which is not subjected to the experimental manipulation, but is otherwise treated in the same way as its pair. The **EXPERIMENTAL** sample can then be compared to the **CONTROL**. (In a way, the **CONTROL** is the standard against which the other sample is measured/compared.)

CONTROLLED--An experiment in which all of the **VARIABLES** can be regulated by the researcher.

D.O. METER--Dissolved oxygen meter. Usually gives readings in mg/L (milligrams per liter) or percent saturation.

DESCRIPTIVE--A type of study in which the presence of organisms is recorded, but no attempt is made to alter the environment and see what changes result. Descriptive studies are often used to create **BASELINE** data.

DISTURBED AREA--an area that has been affected by some acute or chronic process (natural or man-made) such as a hurricane or plowing.

ERROR--Used interchangeably with **VARIANCE**--the dissimilarity between measurements taken by different people, for example. Sampling error can be minimized by taking repeated samples and averaging them. Also can be a statistical term (standard error).

EXOTIC--Non-**NATIVE**; a plant or animal that was not historically found in an area, but has been brought in by humans or animals. Exotics may become **INVASIVE**.

EXPERIMENTAL--The sample that is manipulated and compared to the **CONTROL**.

HYPOTHESIS--A guess as to the outcome of an experiment. In science, this is often stated as the **NULL HYPOTHESIS** ("A change in the variable will have no effect on the subject") and sometimes an **ALTERNATE HYPOTHESIS** is given ("A change in the variable will result in an increase in the respiration rate of the subject").

INTRODUCED--See EXOTIC

INVASIVE--Usually used to describe plants that have been introduced into an area and are proliferating/taking over the landscape.

JUSTIFICATION--In a report, the justification answers the question, "Why did you do this experiment". It should convey the relevance and importance of the experiment/study to others people.

MANIPULATIVE--An experiment in which one of the VARIABLES is altered (e.g. temperature is increased by use of heaters).

MONITOR--When an experiment is monitored, data measurements are made periodically over time.

NATIVE--A plant or animal that is apparently naturally found in an area and has been found there for as long as anyone can tell.

PRISTINE--An area that is natural and has not been DISTURBED (usually by humans)

QUADRAT--A square or rectangular frame which is used to define the sampling area for a field study. The quadrat is often subdivided into sections to prevent counting the same things twice.

QUALITATIVE--Descriptive; no numbers are given (e.g. Most of the lawn is covered with Bahia grass. There are small patches of mulched flower beds which contain day lilies and pansies.)

QUANTITATIVE--Involves reporting numbers. (e.g. 75% of the lawn is covered with Bahia grass. There are ten mulched flower beds which range in size from six to twenty square feet. These beds contain a total of 100 day lily plants and 120 pansies.)

REFRACTOMETER--A device used to measure SALINITY; as light enters the drop of water on the refractometer, the light particles bounce off the salt particles in the water. The more salt, the more bouncing. The salinity can be read off a scale by looking through the eyepiece of the refractometer.

REPLICATION--repetition. Ideally, experiments should be conducted using several replicates (sometimes this means taking several subsamples). The reason for this is that if only a single individual is tested, the response may be unique to that individual. However, if several individuals are tested and all have the same response, you can convince people that all individuals are likely to have that same response to whatever is being tested.

SEINE--A type of net with weights along the bottom and floats on the top (typically 4' high and 6-20 feet long) used for sampling fish and large invertebrates in shallow aquatic

areas. The net is "pushed" along by people at each end who use long poles to move the net through the water.

TRANSECT--A line (usually marked in increments; a cloth tape measure works well) which is laid through the study area and is used as the point against which to take measurements, or to place a quadrat. Permanent transects may be established by placing a series of stakes which can be visited repeatedly over time to look for temporal changes in the area.

VARIABLE--Anything that might affect the outcome of an experiment/study. These may be PHYSICAL (e.g. temperature, dissolved oxygen, rainfall, sunlight) or BIOLOGICAL (e.g. predator-prey relationships, chlorophyll).

VARIANCE--See ERROR.