The Meaning of
Research, Technical Assistance and Education
In the CESU Network

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One of the main objectives of the Cooperative Ecosystem Studies Unit (CESU) network is to:

> …provide federal resource managers with high-quality research, technical assistance, and education. (DO20 Chap 4.21)

What does research, technical assistance and education exactly mean? Is a survey for plants considered research or technical assistance? Is making a video tape considered technical assistance or education? This paper will propose a standard definition for research, technical assistance and education for adoption by the CESU network.

The Intent

The distinction between research and technical assistance is really the crux of the matter. The characteristics of an education project are fairly clear in most people's mind. The term "research" carries a different connotation for different agencies – even for different program areas within an agency. The CESU network is not held to any agency view or program area view, but needs a functional definition that would make it easy to classify projects by their principal objective.

A Proposed Set of Definitions

The following set of definitions are proposed for the CESU network. Several general examples accompany each definition.

Research: Projects that focus on a systematic collection of original data. Most often involves field work or direct contact with the data source. A key criterion is that data are collected in a systematic manner (a fixed ordered design). Example research projects are: natural resource inventories, habitat descriptions, field tests or treatments, oral/phone interviews, archeological surveys, propagating a species, reintroducing a species, identifying a species, taking photographs as part of a sampling scheme, collecting GPS coordinates, specimen collection, and visitor use surveys. Sporadic monitoring records would not be considered research even though they contain original data.

Technical Assistance: Projects that focus on evaluation, interpretation and/or assimilation of existing data, or collection of original data in an unordered manner. New data may be generated from evaluation, interpretation and/or assimilation but are meta-data in nature (describes or reorganizes original data).

Example technical assistance projects are: developing management plans, historic significance evaluations, bibliographies, administrative histories, implementing resource protection structures, compiling historic resource data, GIS products, aerial photo information, taking indiscriminate photographs, making a free form video tape, peer review, and specimen cataloging.

Education: Projects that focus on dissemination of information or academic enhancement. Example education projects are: training (classroom, field, web), workshops, preparation of educational material (videos, brochures), public outreach, presentations, and instructions. Also includes sponsorship of students (interns, graduate assistantships). A video, GIS product, photographic display or any other product that is made solely for education reasons should be considered an education project and not technical assistance although the product may assimilate and interpret existing data.

Some Reasoning

Using the distinction between original data and existing data seems to be the cleanest 'breaking point' between research and technical assistance for CESU purposes.   It could be argued that routine or general purpose data collection (such as a routine plant inventory) is technical assistance.   It could also be argued that research is characterized by being an original investigation that tests a hypothesis and displays its results for public scrutiny. These views would probably be supported in academic circles. Then the definitions become a discussion of semantics: what constitutes 'routine'? what scale /scope constitutes hypothesis testing? what constitutes public scrutiny? There is not a clean 'breaking point' between research and technical assistance in these views and we would encounter an unresolved grey area in the definitions (like we already have now). The whole point of developing a network standard for definitions would be lost if we each go our own way in that grey area. One has to return to the initial intent on this matter, and that is to develop a functional definition that would make it easy to classify projects by their principal objective.   The proposed set of definitions accomplishes this intent.

GIS products and aerial photo interpretation might seem to fit better under research since original information appears to be derived from these activities. Actually, the information is not original: it is derived from existing data. The initial collection of the GIS attribute information is the research part, the process of determining coordinates and recording data for the dataset. The GIS product is an interpretation of assembled data making it technical assistance.   Aerial photos are similar. Taking the picture and capturing the image, which is original data, is the research. Interpreting the photo image is technical assistance. Again, it must be emphasized that the GIS data and photos are collected in a systematic manner to be considered research.

Combined Objectives

What is the principal objective of a project? Most all projects are a combination or blend of objectives. Look to the type of data at the start of the project to answer this question. If it will be original data (collected in a systematic manner), then the principal objective is research. If it is existing data that will be analyzed or unordered, original data collected, then the principal objective is technical assistance. If it is existing data that will be disseminated, then the principal objective is education.

Next Step

These are proposed definitions for the CESU network. The floor is open to the presentation of alternate definitions or modifications to the proposed. Test these definitions with actual projects and see if they fit. Share your thoughts and comments. Hopefully, at the next NPS CESU Coordinator meeting we can finalize the definitions and recommend their adoption by the National Council.