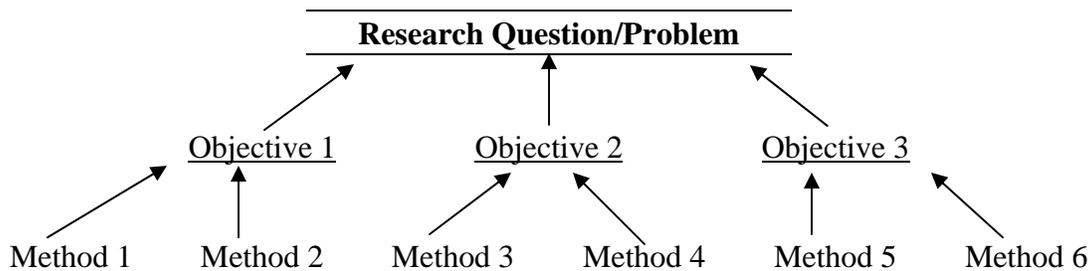


Guidelines for Establishing Project Objectives for Harvest Monitoring and Traditional Ecological Knowledge Fisheries Investigations

These guidelines are intended to provide direction and clarification for writing objectives for proposals and investigation plans in the harvest monitoring and traditional ecological knowledge (HM/TEK) data type. Clear objectives are fundamental to the project design and provide the framework for evaluating project performance.

All research projects begin with a well-framed question (hypothesis) or problem, which is then broken down into a subset of objectives. Objectives should relate directly to the research question or problem; generally, they address types of information (qualitative research) or datasets (quantitative research) needed to address the question or problem. Project objectives are specific, measurable, and achievable. They define what will be accomplished by a given point in time. The objectives should not include descriptions of how they will be accomplished; this is done in the methods section.

In the methods section, describe discrete, specific methods or tasks for accomplishing each objective. The methods should clearly articulate and demonstrate that they will yield the information needed to accomplish the research objectives. The figure below illustrates how the methods and objectives relate to the research question or problem.



Examples of research questions with associated sound objectives

- ◆ **Research question:** What are the characteristics of the annual harvest of non-salmon fish in four communities for the year 2005?

Appropriate objective:

- Estimate harvests of non-salmon fish species by community by season for the calendar year 2005
 - Estimate the percentage of households using, harvesting, receiving, and giving away non-salmon fish species
 - Summarize the households' evaluation of harvests and use compared to other recent years.
- ◆ **Research question:** What do long-term local residents of the Koyukuk River know about whitefish populations that have been customarily and traditionally harvested?

Appropriate objectives:

- Document TEK information on non-salmon species, including:
 - species utilized and their local names;
 - biological information including habitat preferences, spawning and rearing areas, and seasonal movements;
 - traditional and contemporary harvest methods, including timing of harvest, gear used, mapping of harvest areas
 - traditional and contemporary preparation and preservation methods
 - fish related place names
 - Assess the coverage of the information by species, geographic area, and topic
- ◆ **Research question:** How has the subsistence fishery evolved on the Seward Peninsula and how might the fishery respond to changes in the man-made and natural environment?

Appropriate objective:

- Analyze how key differences between pre-commercial and modern subsistence fisheries (as reflected in ANCSA data) may be incorporated into contemporary fisheries management.
- ◆ **Research question:** What factors have contributed to changes in subsistence salmon harvests in the Copper River Basin over the past century?

Appropriate objectives:

- To determine, using all available quantitative harvest data, if there has been a change over the last 125 years in the subsistence harvest of salmon by Federally qualified users in four communities
 - To hypothesize possible factors that explain observed changes in the subsistence harvests and to test those explanations against quantitative measures, and, when possible, against interview data collected from residents of the study communities.
- ◆ **Research Question:** What is the status of traditional ecological knowledge (TEK) projects funded under the Fisheries Resource Monitoring Program, and what needs to be accomplished in order strengthen application of this data in management decision-making?

Appropriate objectives:

- Document and analyze the major methods utilized to collect TEK, and identify those with the greatest success.
- Develop a manual for applying qualitative information to management.
- Develop regional inventories of key informants and their particular knowledge specialty.

In summary, objectives are specific and achievable. Parameters to be measured are identified. Each objective should identify a specific action, issue, or event to be accomplished within a specific time frame. Objectives must also clearly relate to the research question or problem, and

overall need for, and goal(s) of, the project. The methods are easy to describe and step down from clear and focused objectives.

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