



Title : Environmental monitoring

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Environmental Monitoring

What Is Environmental Monitoring

- ❏ Environmental monitoring refer to set of activities which provide Chemical, Physical, Geological, Biological And other Environmental Social, or Health data required by environmental managers. (U.S EPA 1985)

OR

- ❏ The systematic sampling of Air, Water, Soil, Biota in order to observe and study the environment as well as to derive knowledge from this process.



Background Information

- The council on Environmental quality regulation (CEQ, 1987) enunciate the principal of Environmental monitoring in the section 1505-3 and 1505-2 (C) . The CEQ regulation primarily focus on the use of monitoring in conjunction with the implementation of mitigation measures.

Monitoring could also be used to determine the effectiveness of each of the several types of mitigation measures.

Types of Monitoring

- ◆ Pre- EIS Monitoring & Post- EIS Monitoring.

Pre- EIS Monitoring include

- Baseline monitoring.

Post- EIS Monitoring include

- Effect or Impact monitoring
- Compliance monitoring.

◆ **Baseline Monitoring :**

refers to the measurement of environmental variables during a representative pre project period to determine existing condition, ranges of variation, and process of change.

◆ **Effect or Impact Monitoring :**

Involves the measurement of environment variables during project construction and operation to determine the changes which may have occurred as a result of the projec

◆ **Compliance monitoring :** Takes the form of periodic sampling and continuous measurement of level of waste discharge, noise, or similar emission, to ensure that condition are observed and standard are met.

Purpose Of Environmental Monitoring

- ◆ Numerous purpose can be delineated for pre and post EIS environmental monitoring.
- ❶ Environmental monitoring provides information that can be used for documentation of the impacts that result from a proposed federal action; this information enables more-accurate prediction of impact associated with similar federal action.
- ❷ Environmental monitoring provide information which could be used by the agencies to control the timing, location, and level of impacts of a project.
- ❸ Environmental monitoring provide information which could be used for evaluating the effectiveness of implemented mitigation measure.
- ❹ Provide crucial information on the quality of aseptic processing environment during manufacturing.
- ❺ Prevent the release of potentially contaminated batch if appropriate standards are not fulfilled.
- ❻ Prevent future contamination by detecting adverse trends.

Value Of Biological & Ecological Monitoring

- ◆ Six reason biological and ecological monitoring are of value.
- ❏ As a basic for managing biological resources for sustainable development and resource assessment;
- ❏ As aids in the management and conservation of ecosystem and population;
- ❏ As tools to focus on land use and landscapes as a basis for better use of the land-that is, combining conservation with other uses;
- ❏ As a source of data to aid in the use of organism to monitor pollution and to indicate the quality of environment;
- ❏ Usage of advanced knowledge about the dynamics of ecosystem;
- ❏ As a mean of targeting insect pests of agriculture and forestry for study so as to established effective means of control of those pests.

Case Study

- ◆ Environmental monitoring describe the process and activities that need to take place to characterize and monitor the quality of the environment.
- 📦 Monitoring will be done through 4W1H method.
 - Where
 - When
 - What
 - Whom &
 - How.

- ◆ Where :
Dedicated location.
- ◆ When :
Activity before, during and after the project/operation.
- ◆ What :
Accuracy conclusion of the area.
- ◆ Whom :
The trained professionals.
- ◆ How :
As current practice, protocols, and through documents.

Benefits Of E . Monitoring

- ◆ Planning training activities at a military installation so as to not coincide with the use of certain areas for breeding or nesting by threatened or endangered faunal species.
- ◆ To establish a basis for sustainable use of population.
- ◆ To detect and, it is hoped, minimizing the detrimental environmental impacts, and to provide data which can be used as scientific basis for conservation.