



ECO Update

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The Role of BTAGs in Ecological Assessment

Most EPA Regions have established groups of scientists to advise and assist site managers with ecological studies produced in conjunction with Remedial Investigations and Feasibility Studies (RI/FSS) and Removal Actions at Superfund sites. In general, these groups are known as Biological Technical Assistance Groups of BTAGs, although some Regions use different names. This Bulletin summarizes the BTAG structure and function in the Superfund process. Its purpose is to help site managers understand how BTAGs can assist with the collection and evaluation of site information and ensure that ecological effects are properly considered.

Why BTAGs?

The Comprehensive Environmental Restoration, Compensation, and Liability Act (CERCLA), and the National Oil and Hazardous Materials Contingency Plan (NCP) mandate that remedial actions at hazardous waste sites protect both human health *and the environment*. In December 1988, the Directors of EPA's Office of Emergency and Remedial Response (OERR) and Office of Waste Programs Enforcement (OWPE) issued a memorandum directing Regional Offices to perform "thorough and consistent" ecological assessments at all Superfund sites. The memorandum also encouraged the Regions to establish BTAGs, and EPA Headquarters policy continues to support the BTAG process as a means of ensuring quality ecological assessments.

Every site presents a unique combination of biological, hydrological, geological, and chemical characteristics. Site managers are responsible for overseeing a wide range of activities and cannot be expected to have expertise in all the necessary scientific areas. BTAGs serve a valuable function in providing the necessary advice and review of ecological information.

The Superfund Environmental Evaluation Manual,¹ issued in 1989, was intended specifically to be used in conjunction with a consultative framework such as that provided by BTAGs. It was designed to provide an overview of the scientific and regulatory basis for conducting ecological assessments, and to direct site managers to Regional specialists (i.e., BTAGs) for assistance in planning, designing, and conducting specific studies.

The BTAG Coordinator

The BTAG Coordinator is a person within EPA Regional staff that maintains the logistics of the BTAG. In some Regions, this responsibility is shared by more than one individual.

Coordinators maintain regular contact with BTAG members, provide necessary documentation to members prior to upcoming reviews, and work directly with site

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¹ U.S. Environmental Protection Agency, *Risk Assessment Guidance for Superfund, Volume II: Environmental Evaluation Manual* (EPA/540/1-89/001), 1989.

managers. BTAG Coordinators also maintain frequent communication with their Regional counterparts to share techniques and ideas.

In some instances, Coordinators screen sites to determine the need and/or extent of BTAG involvement. Sites requiring no ecological assessment will not be brought before the group, thereby saving review time by focusing the membership on those sites requiring their attention.

Who Is on the BTAG?

BTAGs represent a variety of disciplines, including wildlife biology, fisheries, soil science, aquatic toxicology, ecology, geology, hydrology, risk assessment, and wetlands science. The specific composition of each BTAG varies from Region to Region. The core of the BTAG membership usually includes the BTAG Coordinator, plus staff from the Regional Environmental Services Division who specialize in environmental monitoring, surveillance, and assessment.

Several BTAGs typically include the National Environmental Policy Act (NEPA) coordinator, a member of the OERR's Environmental Response Team or Toxics Integration Branch, and biologists from other EPA Program Offices such as Wetlands, Water, and Air. Other Federal agencies frequently represented on BTAGs include the National Oceanic and Atmospheric Administration, the U.S. Department of the Interior, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and the USDA Forest Service. Some BTAGs may include representatives from State agencies.

Because of their scientific expertise, representatives of Natural Resource Trustee agencies typically are included on the BTAG. These individuals are serving in a technical advisory capacity and BTAG consultation does not constitute Trustee notification as required by CERCLA. *Site managers must still notify all authorities who may be Trustees, in accordance with the law.*

Who Is on the BTAG and What do they do?

Possible Members:

- EPA-HWD/ESD, Wetlands, Water, NEPA Coordinator
- U.S. Fish and Wildlife Service
- National Oceanic and Atmospheric Administration
- State Agencies
- Others

Responsibilities:

Advise RPM on all aspects of ecological assessment

- Define scope

- Review Work Plan
- Review Draft RI and FS
- Help select alternatives
- Review RD/RA Plans
- Provide Expert Testimony

What Does the BTAG Do?

Figure 1 summarizes the role of the BTAG in relation to the site manager and contractor. The BTAG functions primarily in an advisory and review capacity, although individual BTAG members, or the agency they represent, may provide additional services to support the ecological activities.

Most BTAGs meet monthly, usually for a period of one to two days. Meeting agendas vary from month to month, depending upon the number of sites to review, individual site status, and time of year (e.g., field season). Generally, 10 to 20 people participate in BTAG meetings.

In some Regions, the BTAG operates within the formal framework of a charter statement of purpose. Some of the advantages noted by members of formal BTAGs include increased efficiency of communication, an easily accessible record of meeting events, and the assignment of specific roles and responsibilities. In most cases, however, BTAG meetings remain informal or semi-formal, depending on Regional operating policy.

The BTAG serves an advisory role; it functions to assist site managers with the collection and evaluation of information needed to assess ecological effects at Superfund sites. By performing this advisory function, BTAGs help to ensure that CERCLA mandates are met with regard to protection of the environment.

The BTAG permits a peer review of ecological studies, reaching consensus on recommendations made to site managers. Without consultation of these experts as a group, solicitation of input would be prohibitively time-consuming, and the quality of ecological assessments might not meet CERCLA mandates.

BTAGs serve several essential functions to ensure adequate consideration of ecological issues at Superfund sites. These include:

- Initial site review,
- Assistance in developing a work scope,
- Review of contractor qualifications and performance,
- Review of interim and final products,
- Evaluation of remedial alternatives, and
- Advice on remedial decisions, remedial design, and remedial actions.

Initial Site Review

BTAGs can facilitate the early stages of the remedial process by screening initial site data from such sources as the Preliminary Assessment and Site Investigation to determine the nature and extent of an ecological assessment. BTAG screening of initial site data can help streamline the remedial process by ensuring that ecological investigations are pertinent to remedial objectives. For example, based on a review of environmental concentrations of site contaminants in various media, the BTAG will only recommend relevant exposure pathways for further study.

Assistance in Developing a Work Scope

An important role for the BTAG membership involves assisting the site manager with scoping the ecological assessment effort. BTAG involvement in the preparation, review, and approval of work plans ensures that ecological work is focused, performed in a timely manner, and technically correct. Specifically, BTAGs can recommend study objectives, field and laboratory protocols, QA/QC requirements, and other elements of a work plan. Because of their direct experience, the BTAG members may also help identify qualified investigators to perform ecological assessment.

The BTAG also can assist in the initial identification of ecological Applicable or Relevant and Appropriate Requirements (ARARs).

Review of Contractor Qualifications and Performance

BTAGs can assist the site manager by reviewing and commenting on contractor qualifications and performance.

Product quality depends not only on the company performing or overseeing the activity but on the experience of the personnel within that company responsible for the product. BTAG involvement can help ensure adequate contractor performance beginning early in the process. For example, an inadequately prepared work plan may indicate that the contractor does not have the necessary expertise available to carry out the requisite ecological investigations. If contractor expertise is lacking, the BTAG may be able to identify resources to carry out the needed work. BTAG consultation also can facilitate communication between the site manager and the contractor.

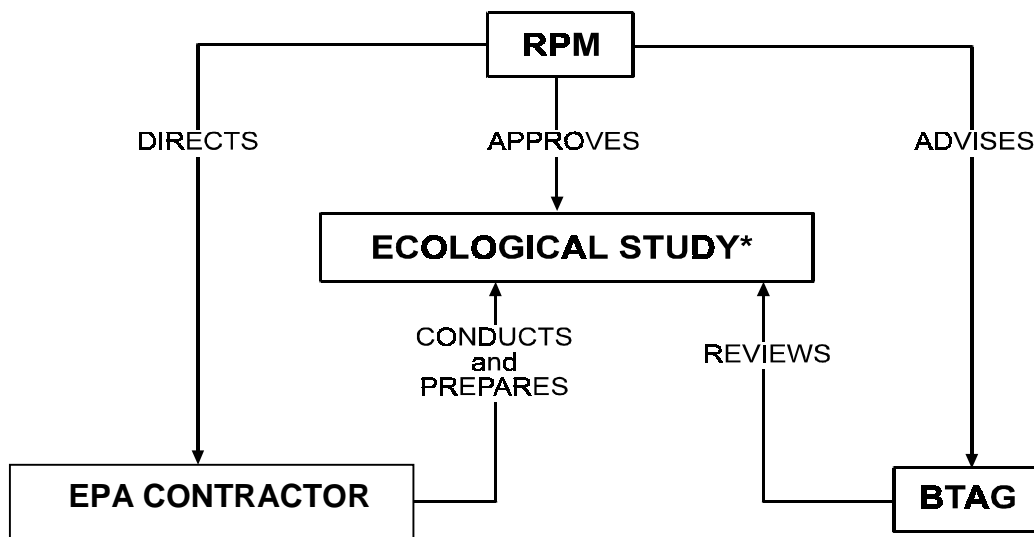
Review of Interim and Final Products

Site managers can use the BTAG to review and evaluate interim products that include ecological studies. Based on the data in such a product, the BTAG may recommend modifications to the original work scope. This kind of "mid-course correction" can save a project time and money.

The BTAG can make recommendations for additional data following the initial review. If the initial data are incomplete, the BTAG can recommend the types of biological data (e.g., field studies, toxicity tests) needed to characterize the ecological risks posed by the site. For example, the BTAG may recommend collection of more data on site chemistry, habitat identification, or other information that will allow them to determine the need for, and extent of, biological data.

The BTAG should review the draft and final ecological assessment to ensure that this portion of the Remedial Investigation has been completed in an acceptable manner. Because ecological assessment has no standardized

Who Does What?
Figure 1



*Ecological Study-Includes ecological assessment as part of the baseline risk assessment, ecological studies such as toxicity test and field studies, evaluation of remedial alternatives, ecological portions of RODs, and ecological plans.

methods for evaluating risk, informed professional judgement is necessary to determine if the weight of evidence supports a particular set of conclusions. BTAG endorsement of the final ecological assessment will indicate to approving authorities that ecological concerns have been adequately addressed.

Evaluation of Remedial Alternatives

BTAG involvement in the evaluation of remedial alternatives ensures the protection of environmental receptors. The collective expertise of the BTAG can be used to assess the adequacy of the ecological-effects evaluation for each alternative. BTAG review of alternatives also can ensure that ecologically related ARARs are addressed.

Advice on Remedial Decisions, Remedial Design, and Remedial Actions

BTAG involvement continues to be important during the remedial design (RD) and remedial action (RA) phases. The BTAG can evaluate the quality and completeness of work plans, and advise on remediation and monitoring activities. BTAG participation in this phase ensures that ROD and CERCLA mandates are met.

For example, the ROD for a site recently undergoing RD required creation of a new wetland. Within the body of the ROD and associated documents were specific guidelines as to the wetland design, plant species required, methods required to plant vegetation to ensure desired growth, etc. However, BTAG review of the contractor's work plan showed that very few of the necessary ecological requirements were addressed: plant species were not specified, proper planting methods were missing, etc. Furthermore, the plan did not include the participation of a wetland scientist. The BTAG recommended that the specific requirements of the ROD be achieved by inclusion of a qualified wetland scientist to ensure that the remedial objectives would be achieved.

In at least two Regions, the Superfund Division Director will not sign a Record of Decision (ROD) unless the BTAG has reviewed the site. In other Regions, RPMs are expected, but not necessarily required, to obtain BTAG review before submitting RODs for approval.

Finally, the BTAG can assist with the development of plans to monitor ecological efforts as sites move into the post-remedial monitoring stage. Regular review of monitoring data by the BTAG will help the RPM continue to see that ROD requirements are met.

What the BTAG Will Not Do

The BTAG functions in an advisory capacity; as such it does not, as a group, provide direct field or laboratory services. In specific cases, it may be possible to make arrangements (such as inter-agency agreements in the case of non-EPA staff) for individual BTAG members to become directly involved in conducting portions of the investigation.

The BTAG does not normally communicate directly with responsible parties or their contractors. Advice is provided directly to the site managers.

The BTAG does not write work plans and protocols, nor does it conduct risk assessments. As an advisory group, the BTAG functions to assist the site management process by reviewing and commenting on sampling and analysis plans, ecological risk assessments, and ecological implications of remedial decisions. The BTAG focuses resources on site-specific requirements by performing a quality assurance/quality control function on a continuing basis.

How to Work with the BTAG

Consultation with the BTAG should follow the phased approach of site management. At appropriate stages throughout the RI/FS process, the site manager should use BTAG assistance and advice to coordinate and monitor ecological studies. This consultation allows for periodic re-assessment of goals and objectives, and ensures a focused and high-quality investigation.

The first line of communication is the BTAG Coordinator, who can convene meetings and help the site manager select appropriate data for BTAG review. When the BTAG initially considers a site, the site manager should provide a brief oral presentation of the site history. Before the meeting, members should be provided copies of relevant documents and reports. Without exception, the quality of BTAG help is directly related to their timely receipt of site data.

This Bulletin has described in general terms how the BTAG can ensure that ecological concerns are properly addressed in the Superfund process. To be certain that CERCLA mandates regarding protection of the environment are met, site managers should consult their Regional BTAG Coordinator at the earliest possible stage of the site assessment.
