

Net Environmental Benefit Analysis: A New Assessment Methodology

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DOE/FE (B&R code AC 10 15 00 0)

- ↪ **Net Environmental Benefit Analysis (NEBA) is a new method for comparing net benefits of alternative environmental options based on relative ecological value**
- ↪ **NEBA shows that habitat improvement may be more important than contamination removal for wildlife at petroleum exploration sites and that ecological recovery is an important variable**
- ↪ **NEBA can lead to improved decisions for remediation, compensatory restoration, or siting of energy facilities**



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An assessment process to aid in the selection of remedial and restoration options at contaminated sites was recently developed by researchers at Oak Ridge National Laboratory, the U.S. Environmental Protection Agency and CH2M HILL Corporation. Termed "Net Environmental Benefit Analysis" or NEBA, this methodology compares and ranks net environmental benefits associated with multiple management alternatives. A NEBA for chemically contaminated sites typically involves comparison of the following: (1) leaving contamination in place; (2) physically, chemically, or biologically remediating the site through traditional means; (3) improving ecological value through onsite and offsite restoration alternatives that do not directly focus on removal of chemical contamination; or (4) a combination of those alternatives. This methodology adds to more traditional environmental assessment methodologies such as risk assessment, by explicitly considering benefits (not just risks), offsite restoration options, ecological valuation, temporal ecological dynamics (e.g., recovery, succession), and means to prevent biased comparisons. Although the tool was funded by the National Petroleum Technology Office, NEBA could be applied to the evaluation of net environmental benefits of other energy technologies as well. A paper describing the framework for NEBA is due to be published in the September issue of *Environmental Management*. Contact Rebecca Efroymsen for more information.