

Ecosystem Management Coordination | January 2022

# **Condition-Based Management**

#### **Frequently Asked Questions**

#### What is Condition-Based Management (CBM)?

CBM is a management approach which supports responsiveness and flexibility between planning and implementation in natural resource management. Condition-based management allows for proposed treatments to be aligned—post-decision but prior to implementation—with current conditions on the ground. It does this by focusing on collecting the right data at the right time for the right activity to meet the land management decision.

Here is how it works. At the onset of project planning, known or expected environmental conditions are examined as well as a range of possible management activities. This is done by using mid-scale and site-specific data of current conditions to propose a variety of appropriate treatments to move toward desired conditions. This framework of expected environmental conditions and possible management activities are what is disclosed and assessed throughout the NEPA environmental analysis process. Then, once a decision is documented and prior to implementation, current site conditions are confirmed in specific locations and the appropriate management activities are assigned. If adjustments are needed to what was proposed, these are made within the constraints of the identified and analyzed range of possible management activities and design features.

Condition-based management is a method to meet NEPA's requirements, not to avoid or shortcut them. The increased flexibility CBM offers requires additional work in developing the proposed action and engaging the public but helps to implement the right treatment in the right place.

#### Why use condition-based management?

Condition-based management allows managers to make landscape-level decisions while reserving flexibility to respond to on-the-ground conditions and confirm the right treatment is prescribed and conducted at the right time. This is important because project surveys and implementation planning can take years to complete (especially for landscape-scale projects), and conditions may have changed by the time the agency is ready to implement activities on any particular part of the project area. CBM is also about analytical efficiency independent of changed conditions between the decision and implementation. In some instances, there may be enough known information and analysis to fulfill the twin aims of NEPA without collecting and analyzing all the fine-scale information up front.

CBM assures that the assigned management activity is the appropriate treatment to move toward desired conditions and is responsive to any changes in environmental conditions.

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#### When and where should condition-based management be used?

This management approach is best used when vegetation management activities are being assessed and where there is potential for higher rate of environmental change or environmental conditions may change over time. The process for how CBM will be implemented should be described upfront and clearly in the project NEPA document.

Some situations that indicate when and where CBM may be most applicable include:

- When site conditions are dynamic and unpredictable due to known environmental stressors, such as
  insect and disease outbreaks and invasive plant encroachments.
- When there may be considerable time between the decision and actual implementation of management activities on the ground, such as in a larger, landscape-scale project.
- Where existing or current data over a large project area may require additional surveys before implementation to confirm precise current conditions at the time of implementation.

These situations are independent of each other and all of them do not need to be present for potential use of CBM. Condition-based management may not be needed when site conditions are predictable and site-specific information and field data are robust and comprehensive for fine-grained analysis.

## How does condition-based management work with adaptive management?

Adaptive management (AM) and CBM both account for environmental analysis with responsiveness and flexibility; however, with AM, adjustments to management activities occur after their initial implementation and are based on monitoring results. If the action is not having its intended effect, it is modified to improve outcomes. With CBM, appropriate management activities are determined prior to initial implementation based on field reviews which validate the current location-specific resource conditions. A CBM project can incorporate AM, but it is not required.

Adaptive management has an official definition and can be found in 36 CFR 220.3: "A system of management practices based on clearly identified intended outcomes and monitoring to determine if management actions are meeting those outcomes; and, if not, to facilitate management changes that will best ensure that those outcomes are met or re-evaluated." Adaptive Management provides flexibility to accommodate changes in environmental conditions, to account for inaccurate assumptions regarding management outcomes, and to reduce scientific uncertainty as knowledge is gained through monitoring. Over time, uncertainty regarding how a system responds to management is reduced, and ultimately, more effective management decisions and improved management result.

Condition-based management includes proposing and analyzing a suite of management activities to be applied across the project area where there are specific resource conditions. Field reviews prior to initial implementation confirm condition information that guides selection of the most appropriate treatments to move resources toward desired conditions.

Both CBM and AM provide the flexibility to respond to changes in environmental conditions, either before or after initial implementation. Both approaches must meet the requirements of NEPA and document the reasoning for using them.

### How is condition-based management different from programmatic NEPA analysis?

Most often, programmatic NEPA analysis refers to broad or high-level NEPA reviews that address the general environmental issues relating to broad policy or strategic decisions. As such, programmatic NEPA reviews generally do not authorize on-the-ground activities or implementation of projects. In the Forest Service, programmatic NEPA analysis is commonly used for development or revision of land management plans.

The scale of some CBM projects share some of the large scale nature of programmatic plans, but differ in the level of action that the decision commits to and the specificity of the effects analysis. CBM is used in project-level NEPA analyses, often for larger projects implemented over a longer time period. The CBM project NEPA analysis and decision will analyze and authorize on-the-ground management activities. As a result, the NEPA analysis for a project using CBM must be specific enough to address issues associated with the proposed action and satisfy NEPA's site-specificity and sufficient analysis requirements.

#### How do you analyze environmental effects for a condition-based management project?

To support informed decision-making and demonstrate sufficient analysis, the environmental analysis must examine current conditions as well as the anticipated effects from the suite of management activities being proposed in the project area. The analysis must disclose the selection criteria being used to determine the specific treatments to apply, as well as analyze the potential environmental effects of the management activities expected to be implemented when a defined set of site conditions is present.

Condition-based management analysis should disclose the process by which location-specific conditions will be validated prior to implementation.

### What sort of public involvement is required or appropriate before a condition-based management decision or implementation?

Public involvement under NEPA cannot be deferred to implementation with CBM. Condition-based management may entail additional public involvement during both the NEPA process and implementation of the selected management activities.

Condition-based management may benefit from additional public interaction during implementation. Use of a collaborative or stakeholder group, like those common with Collaborative Forest Landscape Restoration Program projects, is not required. However, depending on the NEPA authority used a collaborative process may be required. Because of the increased flexibility built into CBM, there should be an emphasis on transparency and accountability with Tribes, stakeholders, and the public. Implementation plans can help outline the approprior level of public involvement.

## What does the validation phase of condition-based management look like?

Condition-based management adds the step of validation to the project management triangle. Validation entails assessing/confirming the current site conditions, selecting the appropriate management activities based on the analyzed criteria, and confirming the potential effects from those activities are accounted for in the environmental analysis decision. There is flexibility to account for a variety of site conditions and a range of management activities if they are analyzed in, and their effects disclosed, within the NEPA document. However, any conditions encountered, management activities needed, or effects identified which were not analyzed and disclosed in the initial analysis may require supplementation and a new decision.

Below is a diagram of the steps involved in validation prior to implementation.

