

*A continuing education program fostering an interdisciplinary, multi-organizational focus on ecosystems and their management at multiple scales offered by the University of Idaho and The University of Montana*

# **CEEM III 2000-2001**



## **Continuing Education in Ecosystem Management**



**Emerging concepts of ecosystem management** and related paradigm shifts in natural resource management have left many natural resource managers struggling to maintain their competency. Planning and decision-making are becoming increasingly political as human populations rise, people require more of their natural environments, and communities demand a greater voice in land management decisions. The Continuing Education in Ecosystem Management (CEEM) program was designed to provide up-to-date training in the emerging concepts of ecosystem management. It offers an opportunity for managers to enhance their knowledge of natural resource ecology and management, while also developing skills in problem assessment, interdisciplinary collaboration, conflict resolution, and adaptive management.

**Continuing Education in Ecosystem Management (CEEM)** is now in its third cycle - offering an innovative continuing education program for the Inland Northwest and Plains. It is designed to address the needs of modern natural resource managers head-on, combining the latest information and technologies in resource management with practical skills for managing the ecological and socio-political complexities of forest and grassland ecosystems.

**Providing an interdisciplinary, multi-organizational focus on ecosystems** and their management at multiple scales is a major objective of the CEEM III program. The course is intended for natural resource professionals from various organizations and specialized disciplines that are involved in planning and implementing ecosystem management.

**CEEM III is a remarkable training opportunity for natural resource managers facing the immense ecosystem management challenges of today and the new century ahead. In addition to being exposed to the latest concepts and techniques from expert instructors, participants benefit from close interaction and collaborative discussions with fellow professionals with varied disciplinary backgrounds.**

**CEEM III is built around three core modules** that progress from basic concepts of ecology, sociology, and quantitative skills to applications in diverse case studies. The CEEM course endeavors to provide a thorough understanding of the interaction between social systems and biophysical processes, creating a network of managers that can join the insights and rigor of science with the knowledge and expectations of the public.

**Adaptive management is the organizing theme** of CEEM III. Program modules will explore case studies representative of the diverse ecosystems and the most contentious issues of the region. In addition, participants will be encouraged to share their own case studies and experiences with the group.

**CEEM III Program Modules:**

**Module 1 - Adaptive and Ecosystem Management Concepts**

**Module 2 - Development and Evaluation of Ecosystem Management Alternatives**

**Module 3 - Implementation, Monitoring, and Revision: Completing the Adaptive Management Cycle**

These modules are designed to be taken in a progressive sequence, however, we welcome people who wish to take only one or two modules. Professionals with graduate degrees, or similar extensive education or experience may choose to attend only one or two modules. Interested individuals may contact the program coordinators for more information. The number of openings for those opting to take only one or two modules may be limited in order to maintain the collaborative group experience for individuals taking all modules. Class size will be limited to 30 participants.

**FOR PROGRAM INFORMATION, CONTACT**

**Penny Morgan**

Department of Forest Resources  
University of Idaho

Moscow, ID 83844-1133

Tel. (208) 885-7507/ FAX (208) 885-8226

e-mail [pmorgan@uidaho.edu](mailto:pmorgan@uidaho.edu)

**John Goodburn**

The University of Montana  
Missoula, MT 59812-0576

(406) 243-4295, FAX (406) 243-6656

e-mail [goodburn@forestry.umt.edu](mailto:goodburn@forestry.umt.edu)



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## General Information:

**Registration Fees** are listed individually in the Program description of each Module below. Fees include books, pre-work materials, handouts, field trip transportation, and special meals. Lodging and remaining meals are the responsibility of the participants and their organizations.

**Credit** is offered for these graduate level courses upon request for an additional fee.

**Preparatory Work** is expected and provided in advance of all courses.

### Steering Committee

*The CEEM Program is guided by a Steering Committee that includes representatives from the following organizations:*

USDA Forest Service  
 USDA Natural Resource Conservation Service  
 USDA Rocky Mountain Research Station  
 USDI Bureau of Land Management  
 USDI Fish & Wildlife Service  
 USDI National Park Service  
 Idaho Department of Lands  
 Montana Department of Natural Resource Conservation  
 Confederated Salish-Kootenai Tribes  
 Potlatch Corporation  
 The University of Montana  
 University of Idaho  
 Montana State University  
 Plum Creek Timber Company  
 Montana Department of Fish, Wildlife & Parks  
 Idaho Department of Fish & Game  
 Boone and Crockett Club

## Application Information:

### Minimum Requirements

1. Participants must have a bachelor's degree in a natural resource field, environmental studies, landscape architecture, social sciences, or related discipline.
2. Participants must have five years of professional experience, including experience relevant to ecosystem management.

### Required Application Materials and Criteria

1. Transcript of all college level course work
2. Statement of interest and commitment to the CEEM Program
3. Resume
4. Letter of recommendation from supervisor

### Payment of Fees

1. Checks, purchase orders, SF-182s should be made payable to the host institution.
2. Payment for Module 1 should be included with the application form included in this brochure. Invoices for all other modules will be mailed by the host institutions.

**Application Deadline** for the first module (and for the entire 3-module set) is April 24, 2000.

**Cancellations** for the first module will be accepted through May 8, 2000.

For individuals not completing the entire three-module core program, applications for the second and third modules will be accepted up to four weeks prior to the beginning of the specific module.

*Organizations are encouraged to pre-screen applications from their employees to favor nominees that are committed to completing the entire three module core program.*

# THE CEEM III PROGRAM

*The CEEM III  
program consists  
of three separate  
modules organized  
around a theme  
of adaptive  
management.*

## Module 1

### Adaptive and Ecosystem Management Concepts

Module 1 sets the stage for the entire CEEM program with a look at ecosystems from both biophysical and socio-political aspects. Our goal is to understand the structure, composition, and function of forest, rangeland and aquatic ecosystems of the Inland Northwest and Plains, to examine the factors driving change in these systems across space and time, and to assess the ecological and social implications for ecosystem management.

These concepts will be integrated and applied using the adaptive management process as a major theme. We will focus on the assessment and problem scoping steps of adaptive management as we explore two case studies through field trips and on-site discussions. Western white pine forests and the implications of human and natural history will be the focus of the first case study. The second case study will focus on stream systems, and will address issues such as anadromous fish and stream restoration, riparian management, and influence of uplands on water quality of adjacent streams.

Through classroom and field discussions, background reading and critiques of ongoing assessments, participants will learn new concepts and how they apply to ecosystem management. In this and subsequent modules pre-reading is required.

**Dates & Location:** May 30-June 16, 2000, University of Idaho, Moscow, Idaho

**Coordinator:** Penny Morgan, Department of Forest Resources, University of Idaho, Moscow, ID 83844-1133, (208) 885-7507, FAX (208) 885-6226

**Registration Fee:** \$2,400 per participant

## Module 2

### Development and Evaluation of Ecosystem Management Alternatives

In an adaptive management framework, the detailed assessment of key biophysical and social dimensions of an area is typically followed by the development and evaluation of alternative management scenarios. Module 2 of CEEM will emphasize this collaborative process, building upon the biophysical concepts, socio-economic issues, and ecosystem assessment methodology introduced in the previous module.

Participants will examine how managers and various stakeholders effectively integrate environmental law, potential social impacts, risk assessment, ecological integrity, and population viability models in evaluating various ecosystem management alternatives. Simulation models, GIS, and other analytical tools will be utilized to identify key elements and functional relationships, and to forecast the effects that different scenarios will have on ecosystem composition and structure. We will evaluate analyses appropriate for multiple temporal and spatial scales. Rather than concentrating on specific techniques, we will focus on the design of analysis, hypothesis testing, interpretation of analysis results, and the assumptions and constraints of various models.

A combination of collaborative discussion, lecture, field trips, and background reading will facilitate participant learning during this two-week module. Case studies planned for on-site discussion and analysis include high elevation whitebark pine ecosystems in Glacier National Park, and the interface of grassland and forest ecosystems on the east front of the Rockies.

**Dates & Location:** September 25 – October 6, 2000, The University of Montana, Missoula, Montana

**Coordinator:** John Goodburn, School of Forestry, The University of Montana, Missoula, MT 59812-0576, (406) 243-4295, FAX (406) 243-6656

**Registration Fee:** \$1,800 per participant

### **Module 3**

## **Implementation, Monitoring, and Revision: Completing the Adaptive Management Cycle**

Module 3 will focus on implementing management approaches as working hypotheses that can be monitored, tested, and modified over time. Due to the complex dynamics of ecological and social systems, management strategies designed to achieve desired future conditions across landscapes are always based on incomplete information. One major advantage of adaptive management is the potential for resource managers to accumulate knowledge much more rapidly through iterative testing, systematic monitoring, and the enhanced flow of information between researchers, managers, and other interested groups.

In this final two-week course, participants will utilize the concepts and principles covered in the previous modules to assess ecological and social systems, and to evaluate alternative scenarios, but the emphasis will be on monitoring management results, sharing information, and adapting new strategies. Case studies to be explored will include ponderosa pine and Douglas-fir forest ecosystems, and cross-boundary adaptive management in the Greater Yellowstone Ecosystem.

Key questions include the following. How might the outcome of management actions be systematically assessed in order to gain new information, identify knowledge gaps, and direct new research initiatives? How can various stakeholders be productively engaged in monitoring to achieve greater coverage at multiple scales, to foster a sense of shared ownership, and to maintain the flow of information among different partners? What partnerships and institutional structures might be necessary to facilitate changes in management activities in response to new information?

**Dates & Location:** June 4-15, 2001, The University of Montana, Missoula, Montana

**Coordinator:** John Goodburn, School of Forestry, The University of Montana, Missoula, MT 59812-0576, (406) 243-4295, FAX (406) 243-6656

**Registration Fee:** \$1,800 per participant

### CEEM 2000-2001 Application Form

Name \_\_\_\_\_

Title \_\_\_\_\_

Organization \_\_\_\_\_

Organization Address	Street	City	State	ZIP
Home Address (For UPS Delivery of Books)	Street	City	State	ZIP
Work Phone	Home Phone	E-Mail	Fax #	

Completed applications for the first module (or the entire three module course) should be sent with required materials and payment by April 24, 2000, to:

Individuals registering for only the 2nd and/or 3rd modules should send completed application materials to:

**UNIVERSITY OF IDAHO**  
 Brenda Haener  
 Department of Forest Resources  
 University of Idaho  
 P.O. Box 441133  
 Moscow, ID 83844-1133  
 Tel. (208) 885-7952 / FAX (208) 885-6226  
 e-mail: bhaener@uidaho.edu

**THE UNIVERSITY OF MONTANA**  
 Bernadette Bannister, Division Manager  
 Natural Resource Management  
 Center for Continuing Education  
 The University of Montana  
 Missoula, MT 59812-1728  
 Tel. (406) 243-6098/ FAX (406) 243-2047  
 e-mail: bernadet@selway.umt.edu



Candidates for the CEEM Program will be considered without discrimination for any nonmerit reasons such as race, color, religion, gender, national origin, political orientation, marital status, physical handicap, age or membership or nonmembership in an employee organization.