

ROCKY MOUNTAIN FIELD SEMINARS

LEARN ♦ EXPLORE ♦ ADVENTURE

UNDERSTANDING MOUNTAIN PINE BEETLES

AUGUST 14, 2008

COURSE LEVEL: I COURSE #: 08-048

FEE: \$85

INSTRUCTOR: KEVIN J. COOK
BOB STURTEVANT



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LOCATION: Rocky Mountain Nature Association Field Seminar & Conference Center
1895 Fall River Road, Estes Park, Colorado

TIME: Thursday: 8:30 AM - 4:30 PM

COURSE DESCRIPTION: Mountain pine beetles are visible residents of Colorado's pine forests including those in Rocky Mountain National Park. This seminar will examine what they are, their relationship to other insects, how they live and die and generally conduct their affairs, normal and eccentric patterns of their life cycles, and the geographic extent of the current outbreak. Instruction will include current best-available-knowledge discussion covering the causes of outbreaks past and present plus the policies governing responses by various public agencies.

COURSE LEVEL: I

The seminar will include short-distance walks on maintained trails and/or indoor classroom sessions in accessible buildings.

BRIEF INSTRUCTOR BIOGRAPHY (additional information available at www.rmna.org):

Bob Sturtevant: Bob serves as the extension forestry specialist for the Department of Forest, Rangeland, and Watershed Stewardship at Colorado State University. He works with university students, natural resource managers, landowners, and the general public in forestry education and information sharing. He serves as an associate director of the Forest Restoration Institute and human resources staff specialist for the Colorado State Forest Service. A Society of American Foresters Fellow, Bob is a Certified Forester and currently serves as the education chair for the Colorado-Wyoming Society of American Foresters. He has been working with mountain pine beetle issues for more than 30 years.

Kevin Cook: Since 1974, Kevin has explored Colorado to experience its wildlife firsthand. Realizing that no species lives alone, he studies all plant and animal groups with a special enthusiasm devoted to the myriad connections among all life. To understand these connections, he studies fungi and protists as well, taking his passion from the textbooks and journals into the field to find the creatures for real. He writes natural history columns for newspapers and magazines, edits technical articles for scientific publications, leads wildlife observation tours, and teaches various bird and wildflower classes. He contributed one of the essays to Houghton Mifflin's 2007 book, *Good Birders Don't Wear White: 50 Tips from America's Top Birders*.

SEMINAR OBJECTIVES

1. Explain what the mountain pine beetle (MPB) is according to current classification of insects.
2. Illustrate MPB natural history by tracking it through a complete life cycle highlighting its essential symbioses.
3. Summarize “normal” and “eccentric” population patterns of the MPB life cycle.
4. Define what constitutes an “outbreak,” “infestation,” or “epidemic” of MPB.
5. Map the geographic extent of the current MPB outbreak.
6. Identify the hazards and consequences of an MPB outbreak.
7. Review the cultural, economic, and ecological histories of MPB outbreaks.
8. Explore and discuss management alternatives for addressing MPB outbreaks.
9. Present the policies governing responses by: National Park Service, USDA Forest Service, Bureau of Land Management, Colorado State Forest Service, Colorado Division of Wildlife, Colorado Department of Natural Resources, county and municipal governments.

TAKE-HOME OBJECTIVES:

At the conclusion of this seminar, participants will:

1. See actual mountain pine beetles – eggs, larvae, pupae, adults – and thereby acquire a better comprehension of what they are as living creatures.
2. See trees – inside and out – afflicted with mountain pine beetles.
3. Understand the procedure for spotting and diagnosing MPB infestations and the criteria that distinguish outbreaks.
4. Comprehend consequences of MPB outbreaks as they affect private and public property, natural resource management, commerce and economics, local culture, and public policy formation and administration.

EXPECTATIONS: Professional conduct will be expected from participants at all times. Individual ideas will be respected. Except during course breaks, cellular phones, pagers, and personal entertainment devices are strictly prohibited in the classroom and during field sessions.

CAR-POOLING: Rocky Mountain Field seminars utilize car-pooling to limit vehicles traveling into the Park. Car-pooling makes it easier to keep the group together, reduces transit time, and allows courses greater access because fewer parking spaces are required at destinations. In addition, it provides an opportunity for participants to discuss course material in small groups during transit. Typically, a few participants from each course volunteer the use of their vehicles for car-pooling to course locations.

TENTATIVE COURSE SCHEDULE:

- 8:30 AM Welcome and introduction to RMNA; meet participants; seminar description, explanation of motivation, expected outcomes, and procedures for the day
- 9:00 History of MPB outbreaks; review of current outbreak situation; expectation of what’s yet to come
- 9:30 Coffee and restroom break
- 9:45 MPB: what are they, how do they live; classification; life cycle; essential symbioses
- 10:30 Depart for in-the-field instruction.
- 11:00 Spotting afflicted trees; diagnosing MPB infestation; distinguishing first-, second-, and third-year infestation stages
- Noon Lunch
- 12:30PM Forest health as it applies to MPB outbreaks
- 1:30 Alternative outcomes: what comes after an MPB outbreak
- 2:30 Social, economic, and political implications of MPB outbreaks
- 3:45 Return to Seminar Center for summary, question-and-answer session, and completion of course evaluations.
- 4:30 Seminar concludes.

SCHEDULE NOTE: Weather conditions will dictate the actual timing of seminar activities. If safety indicates going afield in the morning, the schedule will be modified accordingly. Light, misty rains are just a part of being a naturalist in the field; however, thunder and lightning will keep us indoors, for which specimen material and other instructional media will be available. Lunching will flex with progression of the schedule and what works best for the circumstances.

GENERAL PROCEDURE: The indoor component is intended to introduce essential concepts by using photographs, maps, diagrams, and specimen material to establish a mental picture of the MPB situation. The field experience is intended to translate the abstract perceptions of MPB infestations and outbreaks into a firsthand, personal encounter. Once afield, participants should expect casual walking at a naturalist's pace – slow enough to give the eyes time to see details relevant to the topic and to allow opportunity for interpretation and discussion.

GENERAL PREPARATION Each participant should bring a lunch, snacks and water, and clothes suitable for the season. Dry shoes, socks, and pants can be a welcome comfort for driving home at the end of a rainy day.

WHAT TO BRING:

- Sack lunch, snacks, energy bars, & **WATER**
- Binocular to expand the scope and area of field observation beyond the extent possible to cover on foot
- Clipboard or sturdy three-ring notebook for organizing and using handouts in the field
- Notepad and pen or pencil for taking notes

REMEMBER TO BRING THE 10 ESSENTIALS:

Rocky Mountain National Park recommends that hikers always carry the 10 essentials in their daypacks.

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| ▪ Raingear | ▪ Map & compass | ▪ Flashlight or headlamp |
| ▪ Sunglasses & sunscreen | ▪ Candles | ▪ Matches or other fire starter |
| ▪ Pocketknife | ▪ First-aid kit | ▪ Extra layers of clothing |
| ▪ Sack lunch, snacks, & water | | |

Note: Rocky Mountain Field Seminars recommends that participants for all courses dress in layers and wear comfortable, sturdy hiking boots/shoes. Participants should be prepared for sudden changes in temperature and weather conditions.

TEACHER RECERTIFICATION CREDIT

Most seminars are eligible for teacher recertification credit through the Centennial Board of Cooperative Education Services (BOCES). The new fee is \$25.00 per seminar (.5 units) or \$25.00 per series of threaded seminars (1.0 - 3.0 units). A list of threaded seminars can be found in the Field Seminar catalog or online at www.rmna.org. Participants must enroll in all seminars of a threaded series in order to qualify for the \$25.00 multi-unit fee. Please be prepared to pay for this credit with a check, made payable to BOCES, on the first day of a seminar or on the final day of a threaded series of seminars. **This seminar is one of two in Thread I.**