

Opening Remarks of Session Moderator

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It is a pleasure to be in Quebec City to learn about this very important topic of managing research. We have an interesting panel to share ideas about managing science. They will talk about:

- Research Priorities
- Goals and Objectives
- Managing Human Resources
- Evaluating Research

To kick this off, I will make a few remarks and then we will go to our panel.

Great change in our world is driving scientists and science managers to search for best management practices. You know the story—some forces of changes are good, some bad, and all a great challenge:

- Questions about the relevance of science and what scientists do
- Reductions in base budgets (disrupting personnel and programs)
- Greater use of competitive grants
- Faith in privatization with the belief that short-term efficiency should rule
- A short-term focus of politicians and industrial managers, thus ignoring the benefits of research and development
- Globalization of forestry in trade, climate change, habitats for humans and animals, environmental impacts, and species distributions
- More organizations involved in forest decisions and needing scientific information
- Increasing demands on forests for both commodities and services
- Increasing recognition of the positive relations between forests and people
- Calls on scientists to provide information for policy development
- Use of science to defer policy action
- Use of science and scientists to deflect and diffuse political criticism
- Scientists who advocate policy and management solutions to social problems under the guise of science

I am sure many of you could add to this list. Given the context that it provides, a context of considerable change, how might we cope with change in natural resource research and development? As a research manager I do not have any magical solutions or any absolutely proven best management practices.

While there are some things that we need to do to cope with change—and I mean cope in the sense of managing and leading the change—overall I would

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say that managing research and science takes the following in our leaders and managers:

- Vision—a view of a desired future involving questions such as, “Who are we?” and “What can we become?”
- Optimism—seeing the challenges and opportunities in change
- Commitment to excellence—helping the organization and its personnel be as good as they can be
- Passion for people—seeing and developing their strengths, being sensitive to uncertainty and turmoil, listening to them, genuinely liking people, encouraging and supporting them
- Boundary spanning—being able to cross the boundaries of disciplines and organizations

So, what are some of the elements of coping with change as we move toward the 21st century?

- Focus on expected benefits—we must be able to effectively answer when someone asks, “So what?”
 - As appropriate, the answer can be about benefits to science, management, education, society, or individuals.
 - The kinds of benefits can be ecological, social, psychological, political, or economic.
 - The bottom line is that we must be able to articulate how our research will help achieve something good.
- Deal with both simple and complex problems—
 - Demonstrate relevance to multiple observers; we must solve some clear and straightforward problems to demonstrate output and relevance and we must tackle complex and difficult problems that represent many of the challenges managers face.
 - Develop project groups to tackle complex issues.
 - Develop non-discipline, non-functional funding and personnel groups.
 - Mix scientists in location—facilitate their encountering each other; build encounter spaces for them.
 - Develop and sanction non-classical media reporting such as video and web-based media.
 - Reward those who work with managers and other relevant publics.
- Listen to managers, politicians, special interests, and other publics
 - Listen and convert what is heard into researchable questions
 - Test your understanding of what is heard by articulating the expected benefits of the research—are the benefits those that are desired?
 - Engage scientists in discussions of context for natural resource issues and problems—do they know what managers, politicians, special interests, and other publics want?

- Diversify sources of income
 - Assess your expertise relative to new sponsors.
 - Do things that people need—provide benefit.
 - Build partnerships to gain synergistic effects of pooling talents, knowledge, ideas, problems, and resources.
- Encourage and support technical and scientific development of scientists
 - Provide skill development for new technology—personal computer technology has been a recent example of this need.
 - Provide courses, readings, and so on, for concept and knowledge development.
 - Develop discussion groups with managers, CEO's, politicians, and others to foster context development.

These are some of the “whats” that can be done. Our panelists will give you more of these and suggest some of the “hows” of doing them. There are big challenges in management of research and development, but I believe the challenges can be met. My own program, the Montana Forest and Conservation Experiment Station, is changing dramatically. We have new areas of science, new disciplines, new partnerships, and new ways of doing business and I believe we are getting better at both science and responsiveness to the society in which we live.

So, let's hear what others have to say and turn to our panel.