MANAGING THE UNEXPECTED
IN PRESCRIBED FIRE AND WILDLAND FIRE USE OPERATIONS

A SECOND WORKSHOP ON
HIGH RELIABILITY ORGANIZING
PRESENTED BY THE WILDLAND FIRE LESSONS LEARNED CENTER

JACKSONVILLE, FLORIDA
FEBRUARY 28-MARCH 3, 2005
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How can you broaden your options for dealing with situations that can surprise you?

Dr. Karl Weick shares another key insight with the Managing the Unexpected Workshop participants.

**Workshop Purpose**

To help us improve our country’s wildland prescribed fire and fire use programs by exploring High Reliability Organizing “HRO” principles and immunity to change activities.

This workshop is part of an organized effort to lessen the chance of future prescribed fire escapes and to increase the chances of replicating our successes.

It is intended to provide essential organization learning tools—relevant to the entire wildland fire management community—to every workshop participant.

**Workshop Sponsors**

The Wildland Fire Lessons Learned Center hosted and coordinated this event. These agencies helped with resources and funding support:

- U.S. Forest Service
- National Park Service
- Bureau of Land Management
- Bureau of Indian Affairs
- U.S. Fish and Wildlife Service
- National Association of State Foresters
- Rocky Mountain Research Station
- Aldo Leopold Research Institute
- Tall Timbers Research Station
- Missoula Fire Science Laboratory
- NWCG Social Science Task Group
- The Nature Conservancy
- The National Interagency Fuels Coordinating Group

This is the 2nd annual “Managing the Unexpected in Prescribed Fire and Wildland Fire Use Operations” workshop. In May 2004 the 1st workshop was held in Santa Fe, NM. Its field study was a staff ride of the Cerro Grande Prescribed Fire. For information on this workshop’s outcome, go to [www.wildfirelessons.net](http://www.wildfirelessons.net).
A total of 120 fire management people from various levels in the fire service organization, representing several agencies, participated in this four-day workshop.

The Wildland Fire Lessons Learned Center initiated this effort to encourage and advance the strong tie between High Reliability Organizations and Learning Organizations.

Dave Christenson, Lessons Learned Center Assistant Manager, served as the lead planner for implementing this workshop.

We extend a special thank you to the following people for their valued contribution to this workshop: Mike DeGrosky and his team of facilitators, Dick and Barbara Mangan, Michelle Fidler, and Tom Krueger.

1. **THE GENESIS OF THIS WORKSHOP**

   - Encouraging Organizational Learning and change ................................... 6
   - The Wildland Fire Lessons Learned Center’s program objectives .......... 6
   - What is a ‘Learning Organization’?.......................................................... 6
   - Applying Organizational Learning concepts ........................................... 6
   - Real practices that really work ... How can we apply this knowledge? ...... 7

2. **MANAGING THE UNEXPECTED**

   - Key concepts workshop participants were introduced to .................... 8
   - High Reliability Organizing – How do we do it? .................................. 9
   - Weick and Sutcliffe’s key objectives for workshop participants .......... 9
   - The five principles of High Reliability Organizing ............................. 10

3. **CASE STUDY: THE OKEFENOKEE ECOSYSTEM FUELS MANAGEMENT SYSTEM**

   - Make this a learning moment................................................................. 13
   - Fire management lessons learned long ago are re-heeded.................. 15
   - No longer the introverted federal manager – we have become extroverts... 17
   - GOAL background, mandate, outcome, tactics, ............................... 18
   - First person accounts and accolades about GOAL......................... 22

4. **WHAT DID WE LEARN? INTEGRATING HIGH RELIABILITY ORGANIZING PRINCIPLES**

   - Weick and Sutcliffe: Initial impressions from the case study field trip...... 24
   - Participant comments and observations .............................................. 27
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   - Our preoccupations with failure......................................................... 30
5. Putting Our Heads Together -- Facilitated HRO Group Discussions .................................31
6. Helping Us Apply the HRO Principles to Our Work ...........................................................52
7. Conclusion ...................................................................................................................................54

WORKSHOP OBJECTIVES

Participants will:

❖ Understand the five basic principles of High Reliability Organizing.
❖ Compare other HRO organizations to their own organization.
❖ Examine a wildland fire management organization, observe potential HRO principles and discuss opportunities to incorporate these principles.
❖ Participate in facilitated group discussions to work out issues in applying HRO principles in their own prescribed fire and wildland fire use operations.
❖ Participate in an “immunity to change” exercise designed to increase the probability that HRO principles will be adopted in the field.

A DIFFERENT WAY OF THINKING ABOUT LEADING AND CHANGE

Dr. Scott Snook was the workshop’s keynote speaker. He is the Associate Professor of Organizational Behavior at the Harvard Business School and author of “Friendly Fire – The Accidental Shootdown of U.S. Black Hawks Over Northern Iraq”.

His presentation drew on personal stories and short videos. In this way, he provided a different perspective of thinking about: leading, leader development, and leading change. His stories included “The Lessons of Jurassie Park,” “The West Point Story,” “How to Lead Recess,” and “The Smiling Colonel in Iraq.”

Says Snook: “Please come with your minds open and seatbelts fastened as together we consider a different way of thinking about how to lead in complex, chaotic, and dangerous environments.”

Dr. Scott Snook kicks off the week with a lively keynote presentation.
1. The Genesis of This Workshop

“We were continuing to have prescribed fire escapes, especially as we moved into more and more of today’s complex burning and the large, landscape-level burns. The wildland fire agencies knew that something had to be done. The general consensus was that we needed to look at improving the way we do our business. By adopting the High Reliability Organizing concepts, this workshop is one of our ongoing efforts to address this situation.”

Paula Nasiatka, Center Manager
Wildland Fire Lessons Learned Center

A “Learning Organization” is an organization skilled at:
✓ Creating, acquiring, interpreting, transforming and retaining knowledge.
✓ Purposefully modifying its behavior to reflect new knowledge and insights.

[From David Garvin’s book *Learning in Action.*]

ENCOURAGING ORGANIZATIONAL LEARNING AND CHANGE

The core mission of this workshop’s organizer, the interagency Wildland Fire Lessons Learn Center, is to improve safe work practices through organizational learning within this country’s wildland fire management agencies.

The Wildland Fire Lessons Learned Center’s Primary Objectives:
✓ Improve organizational learning within the wildland fire management agencies.
✓ Improve safe wildland fire management work performance.
✓ Share knowledge.
✓ Promote organizational change.

APPLYING ORGANIZATIONAL LEARNING CONCEPTS

From David Garvin’s Book *Learning in Action*, the Six Critical Tasks Learning Organizations Perform:
✓ Collect intelligence about the environment.
✓ Learn from the best practices of other organizations—known as benchmarking.
✓ Learn from past experiences.
✓ Experiment with new approaches.
✓ Encourage systematic problem solving.
✓ Transfer knowledge throughout the organization.
The second part of the ‘Learning Organization’ definition: ‘Purposely modifying your organization’s behavior to reflect new knowledge and insights’—is the real key. Unless we—the interagency wildland fire organization—can purposely modify or change our behavior to reflect what we know, we are not being a true ‘Learning Organization.’ The true definition of a lesson learned, involves modifying your behavior.

In this workshop—with Karl Weick and Kathleen Sutcliffe and their ‘managing the unexpected’ principles, and Lisa Lahey and Bob Kegan and their ‘immunity to change’ insights—we are trying to look at real practices that really work. We want to see how we can apply this knowledge—to see what works and what doesn’t work for us in the wildland fire community—the wildland fire organization. As a Lessons Learned Center—as your resource center—one of our main objectives is to help transfer this knowledge.

So as you work through the next four days in this workshop, be thinking about the ways that you can utilize your Wildland Fire Lessons Learned Center to bring some of these principles forward and use them in your everyday work.

Paula Nasiatka, Center Manager
Wildland Fire Lessons Learned Center
2. Managing the Unexpected

Workshop participants were introduced to:

- A set of organizing practices that can lead to more reliable and effective work—especially under trying working conditions.
- A mindset that can help you catch—and correct—mistaken or misinterpreted actions.
- Examples of what occurs when people give high or low priority to the principles of High Reliability Organizing.
- A framework that will help you:
  - Understand the complexities that are evident in the workshop’s case history study/on-site visit.
  - Identify capabilities you want to strengthen in your own units when you return home.

The workshop was privileged to have the command and general staff of a Georgia Forestry Commission Incident Management Team in attendance.
**HIGH RELIABILITY ORGANIZING – HOW DO WE DO IT?**

Through an interactive combination of video presentations, lecture, discussion and exercises, Dr. Karl Weick and Dr. Kathleen Sutcliffe, authors of *Managing the Unexpected – Assuring High Performance in an Age of Complexity*, illustrated the principles of High Reliability Organizing to workshop participants.

In addition, they explained the idea—and importance—of “mindfulness.” They shared examples of organizing in which the principles of High Reliability Organizing were given low priority and the unfortunate outcomes that resulted—as well as examples of the benefits of effective High Reliability Organizing, and how this can best be achieved.

**WEICK AND SUTCLIFFE’S KEY OBJECTIVES FOR WORKSHOP PARTICIPANTS**

1. Broaden your options for dealing with situations that can surprise you.
2. Provide ideas that help you rethink the consequences of your current ways of working.
3. Provide some organizing practices that can increase your awareness of small mistakes that can grow into large crises.
4. Help you build your own customized view of how to coordinate activities to produce more reliable outcomes.

Weick and Sutcliffe, nationally-recognized experts on organizations, strategies, and management, are heralded for helping to develop the concept of “High Reliability Organizing.” Weick is the Rensis Likert Distinguished University Professor of Organizational Behavior and Psychology at the University of Michigan Business School. His research interests include: high-reliability performance, collective sense-making under pressure, and handoffs in extreme events.

Sutcliffe is an Associate Professor of Organizational Behavior and Human Resource Management at the University of Michigan Business School. Her research is devoted to high-reliability organizing and understanding the fundamental mechanisms of organizational adaptation, reliability and resilience.
“Karl Weick and Kathleen Sutcliffe show how to respond to unexpected challenges with flexibility rather than rigidity, and to reduce the disruptive effects of change by using tools such as sensemaking, stress reduction, migrating decisions, and labeling. Introducing the powerful new concept of “mindfulness,” (they) outline five qualities of the mindful organization and the organizational skills needed to achieve them. Each concept is clearly expressed in vivid case studies of organizations that demonstrate mindful practices in action.”

From a review of Weick and Sutcliffe’s book *Managing the Unexpected – Assuring High Performance in an Age of Complexity* which participants received prior to the workshop.

### The Five Principles of High Reliability Organizing (HRO)

1. **A Preoccupation with Failure.**
   HROs are preoccupied with all failures, especially small ones. Small things that go wrong are often early warning signals of deepening trouble and give insight into the health of the whole system. But, we have a tendency to ignore or overlook our failures (which suggest we are not competent) and focus on our successes (which suggest we are competent).

2. **A Reluctance to Simplify.**
   HROs restrain their temptation to simplify through diverse checks and balances, adversarial reviews, and the cultivation of multiple perspectives.

3. **A Sensitivity to Operations.**
   HROs make strong responses to weak signals (indications that something might be amiss). Everyone values organizing to maintain situational awareness.

4. **A Commitment to Resilience.**
   HROs pay close attention to their capability to improvise and act—without knowing in advance what will happen.

5. **A Deference to Expertise.**
   HROs shift decisions away from formal authority toward expertise and experience. Decision-making migrates to experts at all levels of the hierarchy during high tempo times.
WEICK AND SUTCLIFFE’S TIPS FOR HOW TO ASSESS EACH HRO PRINCIPLE - HOW DOES YOUR ORGANIZATION MEASURE UP TO THESE STANDARDS?

1. PREOCCUPATION WITH FAILURE
   - We regard close calls and near misses as a kind of failure that reveals potential danger—rather than as evidence of our success and ability to avoid danger.
   - We treat near misses and errors as information about the health of our system and try to learn from them.

2. RELUCTANCE TO SIMPLIFY
   - People around here take nothing for granted.
   - People are encouraged to express different points of view.

3. SENSITIVITY TO OPERATIONS
   - During an average day, people come into enough contact with each other to build a clear picture of the situation.
   - People are familiar with operations beyond one’s own job.

4. COMMITMENT TO RESILIENCE
   - There is a concern with building people’s competence and response repertoires.
   - People have a number of informal contacts that they sometimes use to solve problems.

5. DEFERENCE TO EXPERTISE
   - If something out of the ordinary happens, people know who has the expertise to respond.
   - People in this organization value expertise and experience over hierarchical rank.
HIGH RELIABILITY ORGANIZING MEANS
CONSTANTLY TRACKING THE FIVE HIRO PRINCIPLES

“Expectations can get you into trouble unless you create a mindful infrastructure that is continually tracking the five ‘golden’ principles of High Reliability Organizing—things like small failures, oversimplification, operations, capabilities for resilience, and shifting locations of expertise.

Failure to move toward this kind of structure—one that is constantly tracking all of these things—magnifies the damage that can be done by unexpected events, and will impair reliable performance.

The often unspoken emphasis here is that moving toward this kind of a mindful infrastructure is far harder than it looks. It means flying in the face of: paying attention to your successes, simplification, strategy, doing planning, and paying attention to superiors.”

DR. KARL WEICK ADDRESSING WORKSHOP PARTICIPANTS