COLLABORATING ACROSS THE CHALLENGE: A WORKSHOP REPORT

LEIGH WELLING
GARY MACHLIS

5 AUGUST 2005

COLLABORATING ACROSS THE CHALLENGE: A WORKSHOP REPORT

Leigh Welling[1]

Gary Machlis[2]

5 August 2005

I. INTRODUCTION

The Natural Resource Challenge (referred to as "NRC" or "Challenge") was established in 1999 as a multi-year initiative of the National Park Service (NPS). The Challenge includes several programs that individually and collectively work to increase science-informed resource management within the NPS. These programs have begun to collaborate in innovative ways that increase value and enhance the overall effectiveness of individual programs and the broader initiative of the Challenge. Additional collaboration can have significant benefits for the NPS and park resources.

A workshop entitled "Collaborating Across the Challenge" was held at the March 2005 George Wright Society Conference in Philadelphia. The purpose of the workshop was to explore opportunities for further collaboration amongst Challenge programs. Thirty-three NPS professionals from the field, regions and WASO participated in the session (see Appendix 1 for a list of participants). This report describes the results of the workshop.

---

[1] Leigh Welling is Director, Crown of the Continent Research Learning Center, Glacier National Park. She can be contacted at Leigh_Welling@nps.gov.
[2] Gary Machlis is CESU National Coordinator and Visiting Senior Scientist, National Park Service. He can be contacted at gmachlis@uidaho.edu.

First, a brief overview of the Natural Resource Challenge is provided. The Challenge was conceived as both a set of critical programs to be established and an expansion of NPS culture to include science-informed resource management. Collaborations among four of the key NRC programs—Inventory and Monitoring (I&M) Networks, Research Learning Centers (RLCs), Exotic Plant Management Teams (EPMTs), and Cooperative Ecosystem Studies Units (CESUs) — were explored during the workshop.

Second, several common goals and examples of existing collaborations are described. Third, over 30 proposals for additional collaboration across the Challenge, provided by participants of the George Wright Society conference workshop are presented. The potential benefits of these collaborative actions, such as added value, reduced costs, increased efficiency, and enhanced achievement of NRC objectives, are then described. Finally, a series of actions ("Next Steps") are proposed to further the opportunities for Collaboration Across the Challenge.

II. BACKGROUND

The NRC aims to revitalize and expand NPS natural resource programs, improve park management through greater reliance on scientific knowledge, and communicate park science broadly for the benefit of society (see http://www.nature.nps.gov/challenge/). This is a significant initiative in the history of the NPS and many of its key programs are making substantial contributions to resource protection and management. A brief description of the four NRC programs explored in the workshop follows.

Inventory and Monitoring Networks (I&M Networks)

Thirty-two **I&M Networks** are organized at the subregional level to provide all parks with basic information on 12 important datasets and to identify and monitor park "vital signs". Vital signs monitoring provides managers early detection of changed conditions and a better understanding of the dynamic nature and condition of park ecosystems. Networks utilize science advisory groups and park personnel to help managers work more effectively with other agencies and to make better-informed decisions to protect and restore park resources.

Research Learning Centers (RLCs)

RLCs are, in most cases, park-based components of the Challenge. Many RLCs serve more than one park and a few are regionally organized. All RLCs are intended to attract high quality scientific research in national parks and disseminate research results to educational institutions and the public. RLCs enhance park, network, and regional capabilities by providing low cost housing for visiting scientists and supporting remote back-country research activities. Designed as public-private partnerships, RLCs work with a wide range of people and organizations, including research scientists, universities, educators, and community groups. Thirteen RLCs, organized around biogeographic themes, have been funded since their inception in 1999.

Exotic Plant Management Teams (EPMTs)

A major threat to parks' native plant and animal communities is the invasion of exotic species. In order to manage invasive plants on park lands, 17 **EPMTs** have been deployed throughout the country. Modeled after the wildland fire fighting rapid response approach, EPMTs apply weed science control technology and expertise to address local conditions and needs. Partnerships with other organizations and agencies are crucial to meeting these needs.

Cooperative Ecosystem Studies Units (CESUs)

CESUs are a working collaboration among 13 federal agencies and over 190 universities to provide research, technical assistance, and education to resource and environmental managers. CESUs facilitate the relationship between government and the scientific community so that federal agencies get maximum value from their science resources. Each CESUs is hosted by a research University and includes partner institutions and multiple federal agencies. CESUs are organized around biogeographic regions and the 17 CESUs together form a National Network.

III. Benefits of Collaboration

There are significant benefits of increased collaboration amongst NRC programs. First, the individual programs can benefit from the added value of collaboration. Examples include advice, counsel, and expertise from other programs, increased data for decision-making, leveraging of funds, and added resources for program activities.

Second, new value can be added to the Challenge. Examples include collaborative projects not individually possible, increased and more effective communication with park managers, regional offices, and the public (particularly but not exclusively visitors), and new synergies discovered by working together on pilot projects.

Third, reduced costs are possible, through collaborations such as shared websites, publications, and "virtual" meetings. Enhanced efficiency and savings is possible through shared communication and administrative support.

Fourth, and most importantly, increased collaboration is likely to enhance the achievement of NRC common goals (one example of organizing such common goals is described). Examples include increasing both "science for parks" and "parks for science" opportunities, linking RLCs, CESUs, and other programs to expand the educational functions of the Challenge, and increasing the "science knowledge" of resource managers and superintendents.

IV. Collaboration Across the Challenge

A. Common Goals

While each program has unique responsibilities and functions, all Challenge programs share selected common goals that are essential to the overall mission of the NRC. Not all Challenge programs place the same degree of emphasis on each of these goals; each program does articulate them in some way. Bulleted examples are illustrative rather than comprehensive; many NRC projects will have outcomes relevant to more than one goal.

Goal 1. ***Planning and implementing science and research***

- Identifying research needs and priorities (in collaboration with park staffs)
- Communicating and coordinating with the scientific community
- Planning and implementing field programs with parks as appropriate
- Providing efficient logistical support for researchers (housing, campsites, permits)
- Distributing (as available) seed money for high priority research projects
- Conducting research in the biophysical and socioeconomic sciences

Goal 2. *SUPPORTING SCIENCE-INFORMED MANAGEMENT DECISIONS*

- Synthesizing and translating research results into "usable knowledge" for managers
- Transferring information and scientific knowledge to park staff through training and publications
- Developing and implementing resource management applications of research for direct resource benefit, working with parks staffs as appropriate

Goal 3. *PROVIDING EDUCATION AND OUTREACH ON PARK SCIENCE AND RESEARCH*

- Organizing and hosting science symposia
- Producing brochures, pamphlets and web pages on research topics and/or high priority resource issues
- Helping secondary teachers and university faculty to develop curricula that emphasize up-to-date scientific knowledge about park resources
- Providing students with opportunities to do park research
- Engaging public participation in park resource stewardship and research activities

B. Existing Collaborations

At the workshop, representatives from each of the four highlighted NRC programs were asked to give a brief summary of ways in which their programs are already collaborating with other Challenge programs. Collaborations range from tightly coupled efforts to loose collaboration. Not all parks, regions, or programs are engaged in all forms of existing collaboration. Examples of existing collaborations are grouped into general categories following the goals listed previously.

Goal 1. *PLANNING AND IMPLEMENTING SCIENCE AND RESEARCH*

- RLCs provide housing and seed money for scientists on I&M & EPMT projects;
- CESUs provide seed money and opportunities for I&M/EPMT/RLC research projects in biophysical and socioeconomic sciences
- Programs create joint appointments (I&M Coordinator serves as RLC Research Coordinator; CESU lead on I&M Technical Committees and Boards of Directors; RLC lead on I&M Technical Committee) CESUs/RLCs identify research partners for I&M/EPMT projects

- CESUs/RLCs/EPMTs participate in I&M vital signs/conceptual modeling workshops and protocol assessment and development
- Program staff jointly develop research needs catalogue and strategic plans (I&M ecologist/RLC research lead/CESU staff/EPMT lead, as well as park resource management chiefs)

Goal 2. *SUPPORTING SCIENCE-INFORMED MANAGEMENT DECISIONS*

- CESUs and RLCs identify partners and provide seed money for research applications and technical assistance
- I&M networks and EPMTs integrate monitoring methods and data management for invasive plant monitoring
- RLCs collaborate with I&M networks on communication and dissemination strategies for research information and products

Goal 3. *PROVIDING EDUCATION AND OUTREACH ON PARK SCIENCE AND RESEARCH*

- CESUs and RLCs provide seed money for education projects
- CESUs and RLCs support student thesis and internship projects that meet management needs
- RLCs produce education and training materials and supervise volunteers for EPMTs and other park stewardship activities
- CESUs find student labor from universities for EPMTs and RLCs
- CESUs and RLCs hold joint workshop and conferences
- RLCs assist EPMTs with web information development and site management; CESUs assist RLCs with website development
- RLCs and CESUs provide research fellowships for teachers
- CESU and RLC leads serve on graduate student committees

C. Potential Actions to Increase Collaboration

During the workshop, participants identified numerous actions that could increase collaboration across the Challenge. They also identified gaps in collaboration and how these gaps can be minimized. Many of the proposals pertain to enhancing communication pathways both internal to the NRC/NPS and with external partners. Preferences among the proposed actions were determined through an informal voting process. Those actions receiving more than one vote are listed below. The list is organized into four categories (external communication, internal communication, joint projects, and program enhancement). "Key" actions (those receiving five or more votes) are in bold type. Suggested actions receiving one or no votes are listed separately at the end of this section.

EXTERNAL COMMUNICATION

1. **Develop and implement a collective "marketing strategy" for NRC programs/activities to increase awareness among external institutions with funding opportunities—such as NSF, NEON, and LTER programs.**

INTERNAL COMMUNICATION/INFORMATION SHARING

2. **Articulate the common mission of the Challenge and identify areas where NRC components have mutual interest; share widely.**

3. **Consolidate the newsletters of individual NRC programs into one comprehensive and effective newsletter, designing it to be efficient for busy readers to use.**

4. **E-mail to the NRC community and the broader NPS community key headlines of noteworthy or important events/opportunities, with details available at a website (the GRSM website is a model).**

5. **Develop a continuous education program and materials about the NRC for NPS superintendents and other managers to protect "institutional knowledge".**

6. **Establish regular, face-to-face interaction among NRC program leads – this could occur at George Wright Society meeting and other appropriate venues.**

7. Develop communication routes—conference calls, listservs, newsletters, electronic bulletins, etc., that increase sense of community among NRC-affiliated employees.

8. Feature collaboration across the Challenge activities in an upcoming issue of Annual Year in Review.

9. Develop a multi-program webpage that integrates NRC programs/activities and highlights collaboration across the Challenge; update the webpage regularly.

10. Increase access to scientific publications (monographs, journals, and so forth) among NRC-affiliated employees.

11. Increase participation of individuals from various NRC programs/activities in the steering and planning committees of other

NRC programs/activities (an example is EPMT steering committees) to improve collaboration and "cross- pollination".

JOINT RESEARCH/RESOURCE PROJECTS

12. **Pick a topical area that is relevant to many NRC programs to collaborate on as pilot project (examples include invasive species, fuels management, restoration, and forest health). A representative would be selected from each program to coordinate the project across the NRC.**

13. Produce and provide thematic map coverages for planning. I&M, along with park GIS coordinators, could provide the guidance for map production. Most parks do not have, or have inadequate, maps and as a result projects and program (EPMTs) are reactive rather than proactive.

PROGRAM ENHANCEMENT

14. Examine ways to integrate appropriate USGS, NRCS, and other agencies' programs with NRC programs/activities; examples are NRCS restoration activities and USGS invasive species research.

15. Conduct internal reviews of Challenge programs/activities by park staff, with results used to improve NRC program effectiveness.

16. Select representatives from the field, regions and WASO for each NRC program to serve on other NRC program steering committees/boards.

ACTIONS RECEIVING ONE OR NO VOTES

- Seed grants for common projects.

- Prepare a brief summary of each NRC programs/activities—including goals, current activities, and key contacts—and make this widely available within NPS and its partners.

- Create a centralized database for NRC programs/activities, with broad access by managers of the various NRC programs/activities. Use the database for NPS research needs.

- Use RLCs to identify and recruit volunteers for EPMT teams.

- Use CESUs to assist RLCs with fund-raising.

- Distribute Vital Signs and other programmatic prioritization and implementation plans/activities to other NRC programs for comment and review.

- Create a web-based bibliography on publications related to the NRC (including peer-reviewed and other technical literature), in order to "capture" NRC-gained institutional knowledge.

- Develop and conduct training (and informal education) of NPS leadership on boundary issues related to parks.

- Develop a new NPS peer-reviewed publication series.

- Create and conduct "virtual meetings" such as teleconferences among the various NRC programs/activities.

- Create opportunities for relevant portions of RLC and CESU Strategic Plans to be integrated into and with other NRC programs/activities.

- Document the geographic/regional gaps in various NRC programs/activities (such as RLCs, CESUs, and EPMTs), and develop a strategy for effectively dealing with these gaps.

- Consider a centralized database for managing information to enhance cost effectiveness and response time and reduce redundancy.
- Create a centralized administrative structure to "host" the NRC and NRC programs/activities.

- Develop ways to incorporate NRC "orphan" programs into collaboration across the Challenge activities.

- Ensure non-NRC funded RLCs are included in collaborative activities.

V. Conclusion: Next Steps

The purpose of the workshop was to develop action items to increase collaboration amongst NRC programs. Over 30 proposed actions generated during the workshop are included in this report; other potential actions are likely to emerge in the future. The following actions are recommended:

1. The Associate Director (AD) for Natural Resource Stewardship and Science should review this workshop report and select several collaboration actions for possible implementation in collaboration with the field. Selections should be broadly communicated to NRC programs, regional directors, and park superintendents.

2. For each collaboration action to be implemented, the AD should assign one individual as a lead, and representatives from one or more additional NRC programs as co-leads.

3. If needed, modest WASO or external resources for collaborative actions should be budgeted where possible for FY06 and FY07

4. A brief report on "Collaborating Across the Challenge" should be prepared, either as a stand-alone report, a section in the annual Year in Review for ADNRSS, or as a section in the next NRC Report to Congress.

5. A follow-up workshop should be scheduled at the 2007 George Wright Society Meeting, to assess progress in collaborative activities across the challenge.

VI. Appendix I: List of Workshop Participants

Peter Armato
Gillian Bowser
Steve Fany
Claudia Figueiredo
Mary Foley
Bert Frost
Judy Geniac
John Gross
Shelley Hall
Patti Happe
Larry Hartmann
Sallie Hejl
Ron Hiebert
Brian Kenner
Elaine Leslie
Gary Machlis
Tonnie Maneiro
Joy Marburger
Jean McKendry
Giselle Mora-Bourgeois
Diane Pavek
Tony Pernas
Jim Pfeiffenberger
Carrie Phillips
Susan Rudy
Susan Sachs
Pat Seiser
Paul Super
Kathy Tonnessen
Sandra Valenzvech
Leigh Welling
Jock Whitworth
Bob Winfree
Vita Wright