

LTER National Advisory Board Report

Report from NAB Meeting, May 14, 2009

Held in Conjunction with the LTER Executive Board Meeting in La Jolla, CA

Report Finalized on June 15, 2009

Prepared by Carol Brewer on behalf of the NAB

NAB Members in Attendance: Carol Brewer, Acting Chair (Biological Sciences, University of Montana); Roger Bales (Sierra Nevada Research Institute, University of California Merced); Michael Bender (Geoscience, Princeton University); Trudy Ann Cameron (Economics, University of Oregon); Robert Kates (Initiative on Science and Technology for Sustainability)

Unable to attend: Terry Chapin (Institute of Arctic Biology, University of Alaska); Michael Goodchild (Geography, University of California, Santa Barbara); Anthony Janetos (Joint Global Change Research Institute, University of Maryland); Margaret Palmer (Biology, University of Maryland); Sander Van der Leeuw (Human Evolution and Social Change, Arizona State University); Frances Westley (Social Innovation, University of Waterloo); Alan Blatecky (Renaissance Computing Institute, University of North Carolina).

LTER Executive Board (EB) Members in Attendance: Phil Robertson (chair; KBS, Michigan State University); Sarah Hobbie (CDR, University of Minnesota); Mark Williams (NWT, University of Colorado); Dan Reed (SBC, University of California Santa Barbara)

Visitors from NSF in Attendance: Henry Gholz and Todd Crowl, LTER Program Officers

Context for the NAB Report

At the outset of the meeting EB Chair Phil Robertson reported on progress towards addressing recommendations from the 2008 NAB report, noted the 5 science themes currently being developed into network-level research prospecti, and identified 3 areas for which the EB solicits specific advice – the on-going challenge of increased social science inclusion in network science, governance models for large cross-site initiatives, and suggestions for more effectively engaging the NAB (and in particular for better informing the NAB about network activities).

The LTER National Advisory Board continues to endorse the direction articulated in the “Integrated Science for Society and the Environment” document, and of *The Decadal Plan for LTER*, which sets an agenda for future science initiatives across the LTER network. Based upon our conversations with representatives of the LTER Executive Board and the NSF, we offer the following recommendations for the successful implementation of this transformative and transdisciplinary initiative. The broad charge for the NAB meeting was reiterated by the Chair of the EB, who asked the NAB to consider how to move forward with collaborations with the social science community, enhance interactions between the EB and NAB, govern cross-network initiatives, and to consider what else the network can be doing to move the ISSE and network research agenda forward successfully. Recognizing that our role is advisory and not evaluative, we offer the following perspectives, ideas, and recommendations in the spirit of being enthusiastic supporters of the network and endeavoring to help the LTER leaders and scientists advance the research, education, and outreach missions of the network by providing an external

view. The members of the NAB also hope to be even more engaged with the Network in the future and hope that the Network leaders will feel welcome to engage this Board between annual meetings as the need arises.

Key Considerations and Recommendations

→ **Engagement with the social science community is crucial for the successful achievement of the research goals outlined in the ISSE.** Some progress has been made in this direction since our last meeting in February, 2008, but much work remains to be done. Some of the challenges in engaging scholars from the social science relate to they way ecologists and social scientists define and approach questions, boundaries of their systems (e.g., watersheds versus political) and the kinds of data sets that are most appropriate for advancing the respective sciences. Conversations that happen at the question generation phase of a research program will be most conducive to fostering collaboration. Moreover, these collaborations might be most salient at the network level across the five themes, rather than trying to recruit at the site level.

Recommendation 1 – Engaging Social Science Colleagues via the LTER web site: The NAB was concerned that it might be difficult for the social science community to easily explore opportunities to collaborate with the LTER. The first barrier is the ease of finding the kinds of information about the LTER via the website. The following kinds of information, linked on the LTER homepage, would be very useful: Examples of questions ecologists are trying to answer and where expertise from the social sciences is crucial; examples of how ecology links to policy and decision making, and where collaborations are needed to make that linkage work; two-pagers summarizing the five initiative in the planning stage; examples of work in progress or completed with a significant social science component; and key documents like the “Decadal Plan.”

Recommendation 2 – Bringing social scientists to Network events: An invitational conference organized around the five thematic areas, targeting key prominent social scientists, would be a way to engage the community and put their expertise to the task of moving the science agenda forward. Some key questions include what are the core data LTER’s should have to move the ISSE forward, and what should be in place 10 years from now. A symposium format of 70 – 80 attendees focused around the five themes might be a good first start to really engage and excite key social scientists and ecologists about opportunities for substantive collaborations. Finally, making a planning grant available for a team of social scientists to work with their LTER colleagues might be a proactive step to engage more people.

Recommendation 3 – Communicating to professional societies of social scientists: Most professional societies have newsletters and other venues for communicating with members. The time seems right to develop a short document about the ISSE and the five thematic areas to let potential collaborators know about the ISSE and invite them to engage with the LTER. Engaging at the professional society level might also open up opportunities for sessions at meetings and web seminars.

→ **Governance for cross-network funding.** As the LTER engages more in cross network initiatives, issues related to how to coordinate may arise. At this point, there is probably no one governance model that will make sense for all projects that will emerge. We would need to know

more about the nature of the proposals that will move forward to weigh in more knowledgeably. As there are more cross-network projects underway, it may be necessary to reconsider the role of the EB. For example, what role will the EB play in oversight and governance of these types of projects? Will PI's of cross-cutting initiatives be represented on the EB? Clearly there are some areas that will make sense to house in the LNO (e.g., general secretarial, communication, outreach, computer infrastructure) in concert with the identified scientific leadership. There may or may not be a role for LNO in the management of the programs, but there certainly will be a role for communicating the science.

Recommendation 1 – Governance of cross-network research programs: The NAB recommends flexibility at this stage, and to carefully document what is working and what is putting constraints on moving the research agendas forward. Throughout this transition to more distributed projects, we recommend that network make every effort to give more people leadership responsibilities and experience.

→ **Relationship between the NAB, EB, and LNO.** This is the third year that the LTER National Advisory Board (NAB) has met in conjunction with the LTER Executive Board (EB) in the context of a mini-symposium or exploring an LTER site. We continue to believe that this type of format provides the NAB with an opportunity to see exciting advances within the LTER network, to have direct discussions with the broad leadership of the LTER (namely, the entire LTER EB), and to discuss issues of concern with NSF leadership.

Recommendation 1 – Future interactions between the NAB and EB. The NAB has a role in advising the EB. To this end, the report provided by the EB addressing recommendations made after our 2008 meeting were very helpful. In the future we would benefit from a report from the LNO office as well, especially as new cross-cutting programs are initiated. The NAB would like to be more engaged in its role with the LTER. To this end, attending the All-Scientists meeting could be invaluable for really getting up to speed on the science of the Network. Moreover, meeting at the time of the mini-symposium is particularly valuable for the broad overview it provides, especially as new members rotate onto the Board each year. Opportunities to talk with PI's at these types of meetings will allow the NAB to better understand how the Network operates, discuss challenges and successes of cross-network collaborations, and as a result, make more insightful and helpful recommendations in the future to support the work of the Network.

Recommendation 2 – LTER 30-year review: The NAB is ready and willing to assist as needed and appropriate as the EB and LTER network prepares for and then responds to the 30-year review. It might be useful to develop a one-page perspective paper on the Network's expectations for this review. And this might also note potential roles for the NAB as this review moves forward.

Recommendation 3 – Terms of NAB members. To avoid confusion of when members rotate on and off the Board, we recommend that terms are on a calendar year.

→ **LTER data management.** One theme that emerged during our conversations related to the status of the LTER data archives. LTER will hire a new IT manager to manage and disseminate the "EcoTrends" data sets. Today only a fraction of the data generated at LTER sites are

available publicly through the data archives and web interfaces of the various LTER sites. For example, although many data types are represented and served from individual LTER sites, spot checks suggest that often averages rather than fully resolved data are available, sites are sometimes a few years behind in posting data, a mix of raw and processed data are available, and only a portion of the investigator-specific data are captured. The LTER really could be at the forefront here. It is time to move quickly to be the leader in data availability across the network.

Recommendation 1 - How can the LNO provide incentives to sites to move data into the Network data system? Core ecosystem data sets are missing and it is crucial to put in place policies to fill these gaps. The NAB recommends the LNO conduct an audit to determine which data are currently available and not available, and report data availability relative to the LTER data policy. As part of the audit, the LNO should also identify incentives that could be used to help fill in the gaps. The EB should then work with NSF to put appropriate incentives in place.

Recommendation 2 – Prioritizing CI goals. Given the new funding to the LNO for cyberinfrastructure upgrades, the NAB suggests that it would be appropriate to revisit the priorities that were identified when the proposal was submitted. Are the needs the same? Is the priority order the same? How can these funds be best leveraged to improve the LTER cyber infrastructure today as well as to plan for the future? The audit recommended above should inform planning for this activity. Based on discussions with the EB, representatives from NSF and within the NAB, goals and priorities for each of the following activities should be set with the aim of achieving an appropriate balance of effort:

- 1) archiving data and meta data (beyond what is now being done).
- 2) creating new discovery tools for those data.
- 3) serving the data to the ecological community.

→ **Cultivating Partnerships Beyond the LTER.** Over the last decade, a number of research networks focused around environmental research agendas have been planned and some are now coming on line. There may be much to be gained in fostering substantive collaborations across these networks.

Recommendation 1- Playing a leadership role in coordination amongst emerging networks: The first step is determining which networks hold the greatest promise for synergistic activities. Secondly, given that the LTER has a 30 year history as a research network, the NAB recommends that the network consider how it might take a leadership role in convening a council of observatories to explore issues and opportunities such as coordination on infrastructure upgrades, cross-linking data streams, cross-network research initiatives, synergistic education and outreach programs, and so on.

Thanks to Outgoing Members of the NAB

We wish to acknowledge the service to the LTER NAB by the members who have recently or will rotate off the Board at the end of the 2009 term:

Peter Arzberger, retiring NAB Chair
Roger Bales
Alan Blatecky
Carol Brewer

Terry Chapin
Margaret Palmer
Sander Van der Leeuw

Attachments:

NAB Members and Nominations

EB response to NAB questions from 2008 meeting

NAB Members and Nominations

A National Advisory Board (NAB) of no more than 15 members representing diverse areas of expertise will provide independent review and advice to the LTER Network, the Office, and appropriate funding agencies. The Chair of the NAB shall be selected from among NAB members, recommended by the Executive Board in consultation with the outgoing NAB chair, and invited to perform this service by the EB Chair for a once-renewable 2-year term. The Chair of the NAB will select approximately one-half of the NAB members from a list provided by the Science Council. The remainder of the NAB will be chosen by the NAB Chair to ensure outside, independent review. With the exception of the Chair, NAB membership will be for 3 years with the potential for a second 3-year term at the discretion of the NAB chair. The Chair will serve as many additional years as needed to finish their term as chair. The NAB will meet in person a minimum of once each calendar year and shall provide a written report after each meeting. The report will be provided to the Executive Board, reviewed by the Science Council, and forwarded to the NSF.

Information about Members at <http://intranet.lternet.edu/NAB/>

Terms of Current NAB Members (terms run Jan – Dec; *scheduled to rotate off the NAB in Dec 2009):

*Peter Arzberger (Chair), University of California San Diego (2007 – 2009; resigned May 2009)

*Roger Bales, University of California Merced (2007 - 2009)

*Alan Blatecky, Renaissance Computing Institute (2007 - 2009)

*Carol Brewer, University of Montana (2007 - 2009)

*Terry Chapin, University of Alaska and Bonanza Creek (2007 - 2009)

*Margaret Palmer, University of Maryland Center for Environmental Science (2007 - 2009)

*Sander van der Leeuw, Arizona State University (2007 - 2009)

Michael Bender, Princeton University (2008 - 2010)

Trudy Ann Cameron, University of Oregon (2008 – 2010)

Anthony Janetos, Joint Global Change Research Institute (2008 - 2010)

Robert Kates, Institute on Science and Technology for Sustainability (2008 - 2010)

Frances Westley, University of Waterloo (2008 - 2010)

Vacant (2009 – 2011)

Vacant (2009 – 2011)

Vacant (2009 – 2011)