5-1-2006

Coordinating Committee Meeting, Cedar Creek, Minnesota, May, 2006

Long Term Ecological Research Network

Minutes of the LTER Coordinating Committee Meeting
Cedar Creek
May 17-18 2006

John Magnuson called meeting to order at 8:07 a.m. All LTER sites were represented except MCM that emailed in sick; 19 of the 25 representatives are lead PIs. Chairs of the Information Management, Graduate Student, Technology, Social Science, Network Information System, Publications, and International Committees were present. Henry Gholz was the representative from NSF. Dave Tilman made a few welcoming remarks.

Magnuson discussed the importance of the meeting and presented the agenda (attached). Site representatives introduced themselves.

Update from Henry Gholz on NSF activities

Henry Gholz (LTER Program Officer) made the following points:

- BIO has been extremely supportive [of LTER] since Jim Collins assumed the AD position last fall, as has been Office Polar Programs (OPP) and Oceanography Program (OCE), and other supplement programs
- There have been several personnel changes at NSF that affect LTER. Martyn Caldwell is a Program Director in BIO/DEB, primarily handling all the schoolyard supplements. Henry has a new staff assistant. Roberta Marinelli is taking over from Polly Penhale as Program Director in OPP.
- Apart from the good science, Henry also needs other products to advertise LTER at NSF, such as the brochures each site must produce, synthesis books, children's books, and education programs.
- He wants to know about any LTER publication considered as high profile.
- In April, 10 LTER sites were renewed for six years. None were put on probation. This represents strong support from peers. The review process was especially rigorous regarding Information Management (IM). The panel included two IM specialists, who used a set of guidelines developed by the LTER IM community itself, to judge the renewals.

Q: Nancy Grimm: It seemed that there was a fair amount of social science creeping in to LTER renewal proposals.

A (Gholz): that is a fair observation – e.g., Florida Coastal Reserve, FCE, is a prime example of making paradigm shift to social science without losing sight of ecological science; it was well-received by the panel.

- Education continues to gain in importance for LTER, including multi-site Schoolyard programs.
- The renewal proposals show that there is increasing social science in LTER research.
- Science larger than the site is desirable. Hence, strategic planning in LTER (see below).

- Diversity among the scientists in LTER programs remains an emphasis.
- There is a system of long-term agricultural research sites developing, to be sponsored by the Department of Agriculture.
- Developments "on the hill" include a bill threatening support for any science not considered "hard" (this has been defeated) and a proposed rule that government sponsored research must make data available within six months of their being gathered. Apparently there is a perception in Congress that this science is inaccessible to the public.
- It was banner year for supplements. NSF put in $800K for Schoolyard LTER (SLTER) from BIO and BIO/OCE, $300K for Research Experience for Undergraduates (REU), and $200K for Research Opportunity Award, ROA, and Research Experience for Teachers (RET), which totals about $1.3 million, with money from Education and Human Resources (EHR), and not counting graduate students and post docs. It would be a good idea to comment on this commitment favorably when you talk with the various program officers who contributed.
- Another supplement for $100K for the TRENDS project to three sites (JRN, CWT, CAP) for some social science, 40% of which came from NEON
- There was about $150K for international money, about $60K coming out of the Office of International Science & Engineering (OISE). Some requests were funded fully and some received comments back that OISE would be interested in some larger proposals. Good funding for IM and Cyberinfrastructure came in through the core "other" category.
- 2007 looks OK if it goes through as budgeted
- Last year the Environmental Research and Education (EdEn), competition funded the first multi site schoolyard project to try to get some network wide education programming going within the LTER
- Perspectives on strategic planning – BIO support for strategic planning remains strong, but there is not yet an NSF strategy for dealing with your strategic plan. The LTER plan has to deal with scientific issues - not just uniquely suited to LTER, but that cannot be addressed in any other way and hence stressing the long term component. NSF wants to see strategic planning, not just proposals, a plan that expresses the science vision and strongly derives from the current LTER, that builds on LTER as a network that exists now, and that stresses the aspect of LTER's advantages as a network. The plan needs to integrate cyberinfrastructure as essential component of science. The plan should be complementary with NEON and NCEAS and associated advances in sciences and cyberinfrastructure and should articulate these synergies of both the science and cyberinfrastructure. The point is you are not developing this plan in a vacuum and therefore must take into account the relationship between LTER, NEON, and other emerging networks. The LTER plan also needs to establish a clear plan for enhancing diversity in science all across the board and that sets priorities in time and space for cyberinfrastructure, science, and new sites. The plan also needs to be explicit about how it will leverage funds.

Comment (Robertson): Visionaries at the US Department of Agriculture (USDA) have taken note of LTER successes, and have suggested to higher administration that the USDA should start thinking of long term agricultural research (LTAR) sites. The first

workshop is scheduled for August in DC. The working assumptions are modeled on LTER. Between 1-10 LTAR sites are planned in economically important agricultural systems. They will collectively take a "systems approach" which I take as a code word for "ecology". They will be agricultural ecology--multi-disciplinary, but focused on natural and social sciences; a third of the participants at the workshop will be social scientists, primarily agricultural economists. The site will integrate research, education, and outreach. The initial workshop proposal stated that this will be part of the LTER Network, raising interesting questions about governance and other network-level issues. Some of the attributes that will be part of discussion will be database management coordinated within LTER context for measurements and whether USDA would transfer funding to NSF to administer LTAR.

Comment (Gholz): I don't really think that will happen, but they are planning to provide support to the LTER Network Office (LNO). The critical thing is how LTER could envision accommodating the USDA mission with the basic science mission of NSF and the five core areas. Site and proposal reviews would be done in the same manner and collaboratively with LTER, so essentially this would be a functional part of the LTER Network.

Question (Williams): Would these include the experimental watersheds within ARS?

Answer (Gholz): That would be part of the discussion at the August workshop… to define the scope of what could be included…and how to accommodate these missions

Answer (Robertson): Workshop will provide a white paper background recommendations for formation of network… very initial stages…has not been discussed much in the community at this point

Question (Kloeppel): What levels of funding are being discussed?

Answer (Gholz): Economics focus is interesting ... right now the idea is to fund them at the same levels as current LTERs for the science, but if there is additional focus on management or economic component then USDA would fund that separately. They don't want to get in a situation where these would be viewed as "second class" sites.

Comment (Waide): This has changed our fundamental response to question about "how to become an LTER site"… we need a new question to that question.

Question: Who is involved in the workshop? Who (sites) has been invited to the workshop?

Answer (Robertson): Open question... I haven't seen the list yet.

Question (Ducklow): Would they consider funding aquaculture?

Answer (Gholz): I don't know…I think it's open…when you look at what National Research Initiative (NRI) funds under their "managed ecosystem" program there's everything from forests to … The Agricultural Research Service (ARS) has a wide mandate - but don't know about that.

Comment (Grove): Just a suggestion…as that process moves forward and as the inclusion of social sciences, they may want to consider having LTER Social Science Committee participate in their interaction to discuss the experience of social scientists.

Comment (Gholz): I think it is critical that this community be involved…

Comment (Bob): Final comment, and as Phil said the perception is that this will be part of the LTER Network, and I think it would be a good idea to work out the details before people started going out saying that. We haven't really been consulted all that much.

Comment (**Gholz):** I have been following this from the discussions and meetings…I think this first workshop will be the first of at least two. This will be a huge departure for USDA. They're talking about putting 10 years of money. My understanding is that they will probably start with one site and see how it goes. I hope you will be extremely supportive of USDA in whatever context you can be.

- Returning to the issue of social science in the planning grant, social science and education integration in the context of strategic planning is both a blessing and a curse. It is novel, but is that going to win the day competing for funds etc. in a BIO based program? The real issue is that if the products from the planning grant is not a compelling long-term scientific vision based on the current LTER Network, it's not going anywhere no matter how well integrated the social science and education may be. Make sure that you develop a very strong scientific basis and rationale for everything you do...everything revolves around that.
- These are very challenging times—competition for every dollar is getting stiffer. Between what's projected to be the maintenance and operations money for NEON and LTER, there is a $53M commitment from BIO a year for long-term ecological research. The chances for making a new case for Cyberinfrastructure money from BIO standpoint is probably a "no go". Hence the need for making this compelling case, well integrated, articulated, and solid plan and strategy analysis that leads logically from here to where you want to be in 10 years.
- The American Competitiveness Initiative (ACI) is the President's initiative to enhance funding for basic research. Congress want to double NSF and independent agencies (DOE Office of Science, NIST) funding. Proposition is to double these agencies' budgets over 10 years, but other issues come up. Will Social, Behavioral, and Economic Sciences (SBE) be singled out and not be included or will it be eliminated entirely from ACI funding? It is not clear if BIO is part of the physical/"hard sciences"—all these issues are going to affect our collective future.

Comment (Grimm): As you probably all saw the article in Science about Hutchinson's attack on SBE, the Ecological Society of America, ESA, has sent letter to all the

members of the Appropriations Committee - tomorrow they will be debating/marking up Senate Bill 2802 the American Innovation and Competitiveness Bill. All these discussions about what programs belong in the NSF, what kind of research to be funded is going to be on the table. I encourage all of you to take action—get online and write to Senators in the Appropriations Committee.

- NSF and LTER are ahead of curve in many ways. The Cornyn-Lieberman bill that has been introduced in the Senate will have big effect regardless of whether it passes. The Bill says that all federally funded research projects must have data available online in 6 months. All agencies must maintain bibliographies of funded projects. This gives you a feeling of the attitude in Congress.
- Core budgets for LTER are guaranteed until 2007, but beyond that things are not known and a good chance that core budgets may be frozen at 2007 levels. There are no renewals in 2008, which gives us a couple of years. The strategic planning coming in at the beginning of FY2007 has potential for providing a substantive basis for making arguments about future resources.
- The LTER renewal and site review panels look at participation of the sites in the LTER Network—this is one of the review criteria; it's interesting to reflect what this means from the NSF perspective. We don't have guidelines for network participation; the panels look at it and seem to recognize it when it's there or not.

Let me highlight a few areas:

- cross-site science (not just in LTER); science larger than the site, including providing data for projects and databases
- adhering to data access policy, e.g., Ecological Metadata Language (EML) adoption
- network participation in the general sense, e.g., site brochures. I have to say that I find it aggravating that we still only 1/2 the sites have these; LNO has resources available for this. They are extremely useful for meetings and from public relations standpoint. I'm not so worried about outdated brochures; certainly any brochure is better than no brochure.
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Comment (Foster): It helps to have you explain it that way. When the effort started, we were wrapping up our own site brochure, which was a little more comprehensive than the LTER brochures – that is what we use locally, we might occasionally use the LTER brochure, but you make a good case for needing one

Comment (Gholz): When it comes to presenting the public face for LTER, things like the Network brochure, site brochures that look alike, the Oxford series, children's books have tremendous public relations impact.

Comment (Thomas): The point is to have a corporate look that brands us as a network.

Dianne's team produced a DVD talking about the process to produce children's books. One was mailed to each site. It should have gone to lead PI; if you don't have it contact Dianne McKnight.

Question: How do we find out who received the DVDs?

Answer (Henry): I think it was sent to all the lead-PIs by name.

- I also want to support McOwiti and the LNO team that developed the website, which I think is great, the newsletter, and DataBits - now getting wide distribution.
- Cheryl Dybas, NSF public affairs, has written about 150 articles of her own as stringer for BioScience magazine, also does press releases from NSF – she wanted me to ask you in relation to ESA if anything that you guys have newsworthy symposia and she can get press coverage for it. Any articles you have in TREE, Nature, Science, Biologia, etc., give her a "heads up"; even education, social science, hard basic science, etc.
- To conclude, LTER is a very productive program, but then most NSF programs are very productive, otherwise they don't get supported. Productivity, per se, is no longer sufficient criteria, so you need to think of the impact of your science and outreach and education, and the degree to which you articulate these. Helping NSF figure out how to evaluate you in ways other than just counting publications is very important. So keep sending those articles to us.

Comment (Bob): I have a message from Dianne that the DVD will be mailed this summer—they were finishing editing in April

LTER Network Strategic Planning

Scott Collins reported on the progress of LTER Network strategic planning. Among the highlights:

- As Henry pointed out, the future of the network is tied to the results of the planning activity.
- Scott presented the essential justification, the compelling scientific arguments for not just the planning grant, but integrated research that truly brings together the social and ecological sciences. Scott's PowerPoint presentation is posted as part of this report.
- One goal is to derive a research plan that ultimately will turn into a research proposal for a new approach to integrated research, i.e., multi-site, long-term, interdisciplinary, and integrated.
- There are two components, an "initiative document" that presents a broader justification for the kinds of things we'd like to see done in research and a "proposal" to develop a specific program that LTER will carry out. A June meeting in Madison continues the development of these components.

A meeting of site representatives will follow to look at the basic research questions sites would use to address the framework questions.

Ali Whitmer followed Scott's presentation with a discussion of how to include education, outreach, and training, EOT, into the research agenda (see Whitmer PowerPoint). The EOT working group has been meeting for the last 1.5 years to think about how to incorporate a complete program of EOT for LTER and how that works with and grows from the science agenda. They are thinking of education/outreach/training in its broadest

sense, including formal K-12 education, undergraduate education, graduate training, public education, and how all these things interact and work together.

Barbara Benson gave an overview on the cyberinfrastructure elements of the Planning Grant (see Benson PowerPoint). Highlights of her presentation included

- Doing science at a multi-site integrated level will involve increasing the capabilities of the scientists and sites
- Accelerating transition from association of sites driven by local goals to a wholly functional network driven by more synthetic research priorities
- Emerging environmental observatories are facing the same kind of challenges in cyberinfrastructure (CI) that we face. The supplement gave the ability to do some cross fertilization between LTER and some of the other programs
- CI goes beyond the computer power for research, networking capability, software, and hardware to include people and organizations that operate to maintain equipment, develop and support software, set standards, address patents, and provide other key services
- CI has to support different kinds of scientific activities that will be part of our expanded research to support observations, experiments, and modeling
- The CI team identified specific challenges that the network faces as well as strengths of the network
- CI plan must be integrated within the science plan and will require a new and significant investment in people and information technology, and in our capacity, (including the CI capacity at sites), building integration capacity in the network, building a program of workforce training and education, increasing our capacity for collaboration, working on a broad-based service oriented architecture, and providing resources for modeling.

Question (Grove): CI needs and acquisition of historical data require personnel support

Answer (Benson): Staff is an important cyberinfrastructure need for legacy and social science data. Legacy data in particular comes with special challenges.

Comment (Grove): NEON has a report on social science research related to this and much better thought out - you should take a look.

Comment (Collins): Legacy data is potentially a massive problem. We may need a long discussion on how we prioritize.

Comment (Benson): There is a workshop addressing this issue at the All Scientists Meeting (ASM).

Comment: The term "modeling" may be too narrow for some people who are looking for underlying principles not just a "traditional model". Theory and scale may be other concepts that have special CI needs.

Question: What do you see down the road? A centralized facility with hard drives and core staff or distributed system with staff at each LTER site?

Response (Benson): We included some of those kinds of details in the plan, but the answer depends on what we want to do. A technological solution for a multi-site experiment can use global schema, while an ad hoc integration may require a federated approach using data "wrappers".

Question: Why is modeling and theory in cyberinfrastructure?

Answer (Benson): There are components of modeling that are not yet dealt with adequately, e.g., reusing and integrating models, what you put into archives that are specific to models, etc.

Comment: Lots of analytical capability can be embedded into sensor networks…you can get synthesized data coming in so there is a whole lot of analysis that can take place before the data gets to you.

C**omment (Gholz)**: The plan must to define needed LTER tools and resources; if that includes NCEAS, then make case for continuing NCEAS.

Hutchinson Amendment – Nancy Grimm described the Hutchison Amendment to a Senate bill under consideration, and discussed possible ramifications if the amendment should pass.

After a break, Magnuson announced a change in the agenda that moves the discussion of TRENDS up before lunch and puts off the Governance discussion until the afternoon.

TRENDS update

Christine Laney provided an update on the TRENDS project (see Laney PowerPoint). Morgan Grove is working to pull up historic demographic data for counties containing LTER sites. ClimDB can be used for some data for sites whose contributions are up to date. She depends on people providing data with adequate quality control to her. Some of the issues involved with some data sets like modeling output will be discussed at a workshop at the ASM. Only unrestricted data are being used, so there have been no conflicts with data access policies. Context for site data will be obtained from site brochures. The audiences for the book include the scientific community, agencies, and educators. The TRENDS project provides an interesting exercise on how to conduct synthesis from distributed data. The dynamic generation of graphs will be a real test of EML and the Network Information System.

After a break for lunch, the afternoon session opened with a discussion of the Governance recommendations.

Review and feedback to the draft governance plan/bylaws

John Magnuson initiated the discussion by providing the rationale for an examination of LTER governance and the charge to the Governance Working Group (GWG). He introduced Ann Zimmerman, the Chair of the Governance Working Group, who presented an overview of the activities of the committee (see Zimmerman PowerPoint) and the process that they used to arrive at their recommendations.

Zimmerman presented the main conclusion of the GWG, which is that the current governance structure of the LTER Network is inadequate to address the proposed expansion of the research agenda. Issues that led to this conclusion included a lack of efficiency resulting from a growing network and the difficulty in achieving representation in a large network. The GWG recommended an increased degree of formality in the LTER governance structure, and Ann explained the reasoning behind this recommendation.

Magnuson summarized the major changes proposed in the new bylaws (see Zimmerman PowerPoint) and expanded on the reasons for the recommendations.

Question (Shaver): New statement of purpose is radical change from long-term research to synthesis, which is both a narrowing and a movement in direction.

Answer (Magnuson): We can leave this to a writing group this afternoon.

Question (Williams): How is a statement of purpose different from mission statement?

Comment (Porter): This is an important issue that requires some discussion before writing.

Answer (Magnuson): The purpose of the present exercise is to get general buy in to the major changes in the proposed bylaws.

Question (Shaver): I would like to see a discussion about the method for electing at large members. Why are the members of the Executive Board elected by the EB and not the Science Council?

Answer (Magnuson): The rationale for at large members is to allow the EB to fill gaps in expertise, address gender inequities, and to deal with other kinds of imbalance in the EB.

Magnuson concluded that further discussion on this topic would be necessary.

Shaver and Porter raised a series of questions about the mechanics of election and term of the chair-elect that resulted in 10 minutes of further discussion. Foster stated that resolution of some of these issues by small groups would be inefficient since they would ultimately need to be discussed by the full group anyway.

Schmitt suggested that decisions by the EB that have large impact should trigger a mechanism to get feedback from the sites.

Childers: The key to moving from a complete democracy to a representative democracy is clear communication. The Governance Committee discussed the possibility of having each representative on the EB represent two other sites as well as their own.

Question (Shaver): The annual survey of sites to evaluate the LNO should be conducted by the EB. Otherwise there is a conflict of interest.

There was agreement that this change should be made.

Comment (Grimm): Is there the possibility that repetition of the order of sites serving on the EB would lead to the formation of cliques?

Response (Childers): This was considered, and should be addressed as a transition issues.

Question (Holbrook): Were other term lengths considered for the Chair?

Answer (Magnuson): Yes, but the two-year term with a training year seemed most effective.

A discussion of the terms lengths for at large members ensued. Magnuson defined the key issues resulting from the discussion.

Magnuson emphasized the importance of having notes from the Executive Board (EB) and Science Council (SC) meetings and there was a brief discussion of how to do this. This evolved into a discussion of the importance of communication between the Chair and Executive Director.

Carpenter suggested that all decision making be removed from SC and it be purely advisory. He also suggested that each SC meeting have a different, temporary chair. Things like bylaw changes could be done by e-votes. There would be a category of decision that would be decided by referendum across sites. The EB should remain smaller and be more nimble by eliminating the at large members. The upshot of these suggestions is to uncouple the functions of the EB and the SC.

Carpenter's suggestions were discussed and a number of alternate options were raised. Magnuson pointed out that the election of the Chair and the amendment of bylaws probably required face-to-face discussion. Tilman mentioned need for checks and balances by the SC over the EB, so that the SC could overrule the EB. Grimm urged the maintenance of a small business meeting when the SC meets. Carpenter predicted that having a business agenda will make it hard to keep SC thinking about network-level science.

A discussion ensued on the question of checks and balances.

Shaver pointed out that the bylaws fail to mention that education is under the purview of the SC.

Magnuson suggested that the appropriate order of business was to establish consensus through votes on key issues.

Tilman moved **to accept the proposed bylaws changes in principle subject to further discussion and resolution of the points left unresolved**. Subsequent to a vote on this motion, Tilman further suggested additional discussion on issues like checks and balances.

Williams asked if the bylaws addressed the possibility of adding LTER sites funded outside of NSF. Magnuson said that this issue was not addressed in the current version of the bylaws.

There was some discussion of the meaning of the motion, which was further clarified to mean that a positive vote would mean that the CC wished to continue the discussion and reach a consensus on the new bylaws by the end of the meeting.

Motion passed 25-0

Shaver raised the issue of the means of election of at large members of the EB. Other issues raised included whether or not there should be an IM member, the term and rotation for the Chair and Chair-elect, and ways of bringing contentious issue to SC for hearing.

The subject of the statement of purpose was raised. Robertson pointed out that the Network had a mission statement that should be consulted and volunteered to attempt to draft something. Zimmerman clarified that the function of the purpose statement was to justify the bylaws.

Magnuson summarized remaining issues to deal with, including the need for and selection of at large members, the need for an IM member, structure of the EB, the term of the Chair-elect, checks and balances, and the name of the Network Board.

There was agreement to change the wording of the bylaws to indicate that the annual survey of sites would be administered by the EB.

The name of the Network Board was changed to Executive Board by acclamation.

Magnuson opened discussion on the structure of the EB.

Pennings suggested that the requirement for face-to-face meetings of the EB be struck from the bylaws.

Ducklow asked for recognition of different constituencies and that this be recognized in the rotation of members of the EB.

Porter raised a question about the formation of the EB. Magnuson suggested that this issue among others needed to be dealt with separately as a transition issue.

Size of EB and location and frequency of meetings were other issues.

Porter suggested that at least two meetings a year would be necessary because of the new duties assigned.

Waide suggested that this might be an opportunity to test the efficacy of electronic meetings.

Zimmerman suggested that studies have shown that face-to-face meetings our very important for new bodies such as the EB.

Former EC members provided input on the usefulness of face-to-face meetings. The general consensus was that face-to-face meetings are important.

Childers suggested that language on meetings should be as little restrictive as possible.

The consensus was that the bylaws should indicate that the frequency, manner, and location of meetings of the EB will be set by the EB

Magnuson defined three options for a vote on this issue.

1) Give no guidance to the EB, and leave it up to them

2) Meet at least at semi-annually with at least one face-to-face and additionally as needed

3) Meet at least three times face to face

Option 2 was passed with 16 positive votes

A majority vote indicated that there should be no specification in the bylaws about annual meetings with the National Science Foundation.

The CC then took up the size of the EB.

Carpenter suggested that the suggested size of the EB was too large and should be reduced to 10 voting members or less, not including the Chair.

Ducklow raised a concern that a smaller group might not be as representative.

Magnuson suggested that the motion should be 9-11 members to provide room for further discussion.

Magnuson presented two options for a vote.

1) The wording in the bylaws presented by the Governance Committee (15-16 members, 9 from sites, 3 at large, 1 IM, Chair, Chair-elect, Executive Director)

2) The EB should have 9-11 voting members.

<u>The option to have 9-11 members passed by a simple majority.</u>

Waide moved that one of the members of the EB be a representative of the Information Management Committee.

Tilman argued that only site representatives should be voting members of the EB.

Benson indicated that it made most sense if there was a non-voting member of the EB selected by the Information Management Committee.

Robertson moved that the EB should allow liaisons from standing committees to attend EB meetings. However, when it was pointed out that this would increase the size of the committee by 5, the motion died.

<u>The motion to have a non-voting IM representative to the EB, selected by the IM Committee every third year, carried by a majority vote.</u>

Carpenter suggested that we focus on the steady state operation and asked whether sites would always serve with the same other sites.

Magnuson replied that that would not be the case, and initiated a discussion of other options to prevent groups from forming

Grimm moved that the recommendations of the Governance Committee regarding nine site reps be adopted with instead two at large members selected by sites with two year terms.

Tilman commented that the motion would lead to EB size of 14, which is too large for efficiency.

Carpenter moved that the EB be composed of nine members elected by sites with no at large members.

Magnuson called for a vote between the Grimm and Carpenter motions.

The motion to constitute the EB with nine members each elected by sites in rotation passed by a majority vote.

Magnuson then opened the discussion on a mechanism for checks and balances that would allow reconsideration of decisions made by the EB.

Holbrook proposed that minutes from EB meetings, once approved by the EB, be distributed to sites with a time frame for comments. In case of dispute, one or more sites can address issues to the EB and SC.

Pennings suggested that the appeal of a decision need to be by more than one site. This sparked a discussion of the appropriate number of sites needed to trigger reconsideration and the mechanism to effect such reconsideration.

Collins suggested that we may need a separate group constituted of the lead PIs rather than tasking the Science Council with addressing disputes.

Grimm suggested that part of the Science Council meeting be devoted to issues that may arise from EB decisions.

Benson suggested that it would be prudent for the EB to poll the LTER community before making controversial decisions.

Robertson suggested that we add a clause to the Bylaws allowing appeals of EB decisions to the SC.

Waide summarized the three alternatives discussed so far, and argued for a mechanism that would protect the SC from having to address too many appeals.

Magnuson suggested that a decision about an appeal be left to the Chair, but there were objections to concentrating too much power in the hands of a single individual.

Williams pointed out the lead PIs need to retain final decision-making power for the Network.

Tilman moved that appeals of EB decisions to the SC can be made by five or more sites and that the SC has the power to override EB decisions.

Magnuson asked Robertson and Tilman to draft text addressing this issue for a vote the next day.

Magnuson outlined the tasks to be accomplished for the next day.

Magnuson moved to change the name of the Network Board to the Executive Board, and the motion passed by a simple majority.

May 18 2006

Magnuson called the meeting to order at 8:00 am.

Election to the Executive Committee

Magnuson presided over the election to fill two positions on the Executive Committee left vacant by the completion of terms by John Hobbie and Dan Childers. Five candidates were on the ballot: Peter Groffman (HBR), Diane McKnight (NWT), Gene Kelley (SGS), Dan Reed (SBC), and Berry Lyons (MCM). Groffman and Reed were elected.

Magnuson recognized and thanked the two outgoing members of the Executive Committee, John Hobbie and Daniel Childers, for their most valuable contributions and statesmanship over the last three years. Each were asked for their comments or insights.

Revision of the Bylaws (continued)

Magnuson returned to the revision to the Bylaws and introduced a draft statement of purpose for consideration. A motion to accept the following statement was approved by a majority:

Article I, Section 2. Purpose: *The purpose of the LTER Network is to promote the advancement and applications of long-term ecological research in the United States and internationally. This is accomplished through communication and coordination of research, education, and information management activities, and through synthesis activities across sites and ecosystems and among other related national and international research programs.*

New wording prepared by Tilman and Robertson regarding checks and balances was presented by Magnuson for discussion. Magnuson presented alternate wording devised by himself and John Hobbie. Grimm suggested wording that affirmed the ultimate authority of the SC. Discussion of these alternatives led to modifications of wording and a charge to Robertson and Zimmerman to develop a consensus version.

Magnuson presented wording on the issue of at large members of the EB. Carpenter suggested that some of the 9 voting members of the EB might be elected at large by the SC. Hobbie indicated that the LTER governance structure had been based on at large members for 26 years and that the system had worked well. Much of the discussion focused on the mechanism for achieving a mixed model of site-selected and at large members. Carpenter suggested a straw vote on a mixed model. A majority favored the model without at large members.

The Executive Board shall be composed of the elected Chair of the Science Council serving as Chair of the Executive Board; nine Members selected by individual Sites on a

rotating basis; an Information Manager; the Executive Director of the Office, and, as needed, a Chair-Elect.

There was a motion to correct other wording in the bylaws that addressed other issues relating to the size of the EB, which passed by a majority.

There was a revised paragraph addressing the frequency of EB meetings, which passed with a majority.

The Executive Board for the LTER Network will meet a minimum of two times per year on dates designated by the Chair. The Executive Board may use teleconferencing or other electronic methods as an alternative to meeting in person, but in no instance shall it meet in person less than once per year. The Chair shall have the authority to call special meetings of the Executive Board to address urgent governance issues. Except in situations that require immediate action, notice of all meetings must be distributed to Network Sites at least two (2) weeks in advance of the meeting, so that Network members have the opportunity to bring forward business for the Executive Board to consider. Meeting minutes will be archived and made available to all Sites no more than two (2) weeks after any meeting.

Another revised paragraph addressed quorum and mechanisms for meeting of the EB.

Article V, Section 5. Voting: *Voting requires a quorum of the 9 voting members. The IM member and the Executive Director of the LTER Network Office are non-voting members. The Chair only votes to break a tie. Except as otherwise expressly required by these Bylaws, all matters shall be decided by the affirmative vote of a majority of the voting Members of Executive Board members present.*

There was motion to remove the names of the standing committees from the bylaws, which passed by a majority.

Williams moved to add voting Graduate Student and Information Management representatives to the Science Council. After discussion, this motion was voted down 21-3 against.

A motion to make Chairs of Standing Committees non-voting members of the SC passed with a majority.

Under Article 5 section 6, a suggestion was made to allow the Executive Board to remove a member by a two-thirds vote of the Executive Board. In such a case, the EB may ask the site to replace the Board member.

An Executive Board member may be removed by a two-thirds (2/3) vote of the Executive Board.

There was also a suggestion that wording be added indicating that it is up to a site to replace a member of the EB in case of resignation or removal for the remainder of the term.

In the event that a Site Representative is removed or is not able to fulfill his or her term, the Site will choose a replacement to complete the term.

Robertson presented additional wording addressing issues on the powers of the SC and the mechanism for redress of decisions of the EB. Any site can seek redress from the EB and with the support of 5 sites from the SC.

A motion to accept the second paragraph as proposed by Robertson was approved by a majority.

If a site objects to a decision of the executive board, it can seek redress of the issue with the Executive Board, and with the support of at least 5 sites, with the Science Council.

A motion to accept new wording on the powers of the SC was approved by a majority.

The Science Council reserves ultimate authority for decisions affecting the Network, and may address any issue that arises from the Board, the Network Office, or the participating LTER sites.

Shaver moved and Pennings seconded a motion to accept the bylaws as amended.

Robertson raised a point of order as to whether there should add language regarding parliamentary procedures. Magnuson suggested that not having such procedures provides flexibility. Robertson indicated that Roberts allowed informality. Waide asked if it needed to be part of the Bylaws. Robertson said that if it was not part of the Bylaws, rules are at the discretion of the Chair. Carpenter indicated that adopting Roberts Rules of Order could lead to spirals of rule-bound discussion.

A motion to add Roberts Rules of Order to the Bylaws was defeated.

Pennings moved an amendment to allow editorial and grammatical changes that do not change the sense of the Bylaws without further discussion, which was accepted by the mover to the original motion.

The motion to accept the bylaws was approved 25-0 with one proxy vote (BES) and one absence due to illness (MCM).

Magnuson thanked the Governance Working Group and their chair, Ann Zimmerman, for the excellent work that they had done to develop a completely new set of bylaws that made sense to the Coordinating Committee and was thus able to be passed efficiently with constructive changes rather than a complete overhaul. He complimented the

members of the CC for moving in this new directions spelled out in the 2006 revised bylaws.

A motion to allow transition issues to be dealt with by the EB was approved 24-0.

A motion for the EB to review the effectiveness of the Bylaws annually for two years and report to the SC was approved 24-0.

Grimm raised a question about meetings of the SC and transmitted an invitation from Morgan grove to hold the Spring 2007 SC meeting at BES.

Magnuson thanked the Governance Committee for their efforts.

Implementing activities of the Science Council

Magnuson led a discussion focused on the desirability of having spring or fall meetings of the SC. If in the fall, the SC meeting could be held as part of the ASM every three years, thus relieving stress on the budget.

There was discussion of the means of setting the agenda for the SC, with several ideas emerging. The Planning Grant will set the general direction of SC discussions in the immediate future. Grimm asked whether there would be a need for a SC meeting in 2006 or early 2007 to address issues arising from the Planning Grant. Collins thought that such a meeting might be necessary.

Tilman suggested that SC meetings might address multiple topics and therefore could require a separate program chair. Carpenter suggested having an early meeting to generate ideas. Hopkinson gave an example of such a meeting he organized with J. Hobbie when the LMER program was folded into LTER. Waide suggested that we use the ASM for the first meeting of the SC, and reminded the group of the significant budget implications of meeting 60 people. Schmitt suggested that the importance of additional SC meetings should require finding the funds for these meetings. Bond suggested that the Planning Grant meeting of site representatives could constitute the first SC meeting. Collins indicated that the SC might take the responsibility for further developing details of the proposal coming out of the Planning Grant and to submit the proposal.

Magnuson suggested focusing on the potential products of SC meetings. Proposals are one possible product. J. Hobbie suggested that it is time to think of a new compendium project similar to the 2003 BioScience issue. Papers from science themes have always been a product of our annual meetings. Grimm suggested that the SC might require a program sub-committee, and that this should be discussed at the ASM meeting of the SC. Waide suggested the use of new technologies for communication.

Kloeppel suggested that we nail down the locations of the next 1-2 meetings so we can begin planning. Brokaw commented that there would be a meeting of LTER social scientists in Puerto Rico in fall 2007. Schmitt raised the issue of the length of the

meeting. Carpenter suggested 2.5 days. Tilman suggested that meetings should be held at field sites whenever possible. Kloeppel suggested that the existing order of site hosts be preserved. Gholz suggested that every third year there could be a second meeting at the ASM.

The consensus was to schedule the Spring 2007 meeting for 2.5 days to be hosted by the Antarctic sites. Ducklow and Lyons would be co-organizers for that meeting. Grimm suggested that the Spring 2007 meeting should focus on a discussion and follow up to Planning Grant activities. Whitmer suggested a delay in establishing the program committee for the Spring 2007 meeting until after the July Planning Grant meeting There was a sentiment to have this meeting on the west coast. Subsequent meetings would be Baltimore (Spring 2008), Georgia Coastal (Spring 2009), and Plum Island (Spring 2009).

Magnuson proposed a half-day meeting of the SC at the 2006 ASM. Carpenter suggested that an early meeting should be held without too much structure to allow creativity. Steve Carpenter and Dave Tilman expressed interest in being program co-chairs for the 2008 SC meeting.

Election of Chair

Waide led a discussion of the process for selecting a new Chair. John Magnuson left the room during this discussion. Waide informed the CC that Magnuson was willing to continue as Interim Chair for one year beyond the ASM. The principal issue was whether the fall election would be for a Chair or a Chair-elect.

Robertson moved and Grimm seconded a motion to elect a Chair-elect at the Fall 2006. When the Chair-elect takes office as Chair will be decided as a transition issue. The motion passed by a majority.

Grimm moved the formation of an ad hoc nominating committee, whose members could not be candidates for the position of Chair. The motion passed with a majority.

The ad hoc nominating committee was formed with Grimm as Chair and Carpenter, Tilman, Schmitt, and Ducklow as members.

ASM Update

Bob Waide gave a briefing on progress in planning the ASM meeting (see Waide PowerPoint). Waide reiterated the need for stable participant lists from the sites and explained why these lists were important. He also requested an estimate of total attendees from each site. In response to a question from Williams, Waide indicated that some ad hoc working groups for the Planning Grant would self organize and others would come out of the pending Planning Grant meetings. The consensus for scheduling a meeting of the SC was to organize the meeting for late afternoon on Saturday, the 23rd. The process for allocating posters was discussed briefly. Additional details on registration for the meeting, housing reservations, the graduate student symposium, the poster

sessions, and transport from the airport were also discussed. In response to a question, Waide indicated that $50K in participant support funds would be available for post-ASM follow up meetings.

Lunch and field trip took place from 12-2:30 pm.

NEON

Grimm led a discussion of new developments with NEON that focused on the actions that LTER might take with regard to these new developments.

Review of the LNO

Waide gave a presentation (see ASM PowerPoint) on the accomplishments of the LNO and the results of the mid-term review b NSF. He pointed out that issues with the 2002 review panel stemmed in part from the absence of a mechanism for the LTER Network to provide an endorsement of the activities of the LNO. This issue led to the development of annual reviews of the LNO by the Executive Committee and the annual site survey.

Waide pointed out that the mid-term review was very favorable and discussed the major recommendations and the LNO response to those recommendations.

John Hobbie commented on the process for reviewing the LNO. He indicated that the CC had not been as aware of LNO activities as they should have been. He suggested that there should be a better way of involving LTER governance in the LNO.

Waide pointed out that new mechanisms for communication are particularly important to develop because the LNO will begin to develop the renewal proposal shortly.

Waide presented a short overview of LNO activities directed toward acquiring, archiving, and making remotely-sensed data more accessible to sites. In this context, remotely-sensed data include thematic mapper, Global Fiducial Library, National Technical Needs, and International Space Station images. Waide showed a presentation used by Will Stefanov to brief astronauts going to the International Space Station.

McOwiti Thomas in the LNO is helping to develop a communication plan for the LNO and will begin to consider a similar kind of plan for the LTER Network as part of the network Strategic Plan.

LNO staff are working with the Information Managers and the Network Information System to develop the Network Information System (NIS). Waide gave an overview of the different elements of the NIS and how they fit together into an information system.

The presentation ended with a discussion of Polycom technology for virtual meetings. The LNO will prepare a briefing document on the different options for acquisition and implementation of this technology. The LNO will also prepare a demonstration.

Pennings asked how decisions about priorities were made and specifically what metrics were being used to evaluate different types of investments of LNO resources.
After thanking our Cedar Creek hosts for their hospitality, the meeting was adjourned.

List of Attendees

Coordinating Committee Site Representatives

Hobbie, John	ARC/Exec
Bond, Barbara	AND
Grove, Morgan	BES/Exec
McGuire, Dave	BNZ
Grimm, Nancy	CAP
Baker, Karen	CCE
Tilman, David	CDR
Kloeppel, Brian	CWT
Gaiser, Evelyn	FCE
Pennings, Steve	GCE
Driscoll, Charles	HBR
Foster, David	HFR
Bestelmeyer, Brandon	JRN
Robertson, Phil	KBS/Publications Committee
Blair, John	KNZ
Brokaw, Nick	LUQ
Schmitt, Russell	MCR
Carpenter, Steve	NTL
Williams, Mark	NWT
Ducklow, Hugh	PAL
Hopkinson, Charles	PIE/NISAC
Reed, Dan	SBC
Collins, Scott	SEV/Exec
Kelly, Gene	SGS
Porter, John	VCR

Executive Committee

Childers, Dan	FCE
Henshaw, Don	AND
Peters, Debra	JRN
Waide, Robert	LNO

Committee Chairs

Magnuson, John	Coordinating	NTL
Burgin, Amy	Graduate Student	KBS
Crenshaw, Chelsea	Graduate Student	SEV
Bourgeron, Patrick	International	NWT
Benson, Barbara	Information Management	NTL
Vande Castle, John	Technology	LNO

LTER Network Office

Thomas, McOwiti

Other

Gholz, Henry	NSF	
Hobbie, Sarah		CDR
Holbrook, Sally		MCR
Knapp, Alan	NISAC	KNZ
Laney, Christine	TRENDS	JRN
Nation, Marcia		CAP
Whitmer, Ali	Planning Grant	SBC
Zimmerman, Ann	Planning Grant	