**NSF Charge Letter for Luquillo LTER Site Visit Team**

Background

The central intellectual aim of the LTER program is to understand long-term ecological patterns and processes at multiple spatial scales. Each site is organized around a unique scientific theme as articulated in a reviewed proposal, but all sites must address the same five core areas: 1) primary production, 2) population dynamics and trophic structure, 3) organic matter accumulation, 4) inorganic inputs and movements of nutrients through the ecosystem, and 5) patterns and frequency of disturbances.

The active LTER sites were established at different times, so the questions and research directions proposed in a site's most recent proposal were therefore placed within the context of long-term research and motivated by data sets of varying length. That proposal, its conceptual basis, and the research proposed form the context for the mid-term site review. During the review, the site PI may choose to discuss long-term studies so that current research can be placed in a temporal perspective.

Charge to the Site Review Team:

Mid-term reviews are an essential part of the ongoing evaluation cycle of the LTER program and of each LTER site. The task of the 2017 Mid-term Review Team for the Luquillo LTER is to evaluate the strengths and weaknesses of the project’s performance over the past year and its plans for completing its research goals over the coming two years. We ask that you advise NSF as to whether or not the project is:

* fulfilling its proposed research goals in a timely manner
* collecting and managing core data sets
* analyzing long-term data to inform current research
* carrying out research that will advance the field of ecology
* managing all aspects of the project efficiently
* maintaining a clear research focus
* making data and metadata readily accessible
* integrating research with education, training and outreach

The evaluation should be based on the research proposed in the site's most recent renewal award, the extent to which the PI has addressed concerns raised by the review panel in 2015, and progress in accomplishing the site's proposed goals. No funding decisions are attached to the mid-term review.

An important part of the site review is the report you will prepare about the review. This report is an evaluation written to NSF. We ask that you document the strengths and weaknesses of the site's activities and provide your value judgments about the extent to which it has achieved its stated goals.

Areas appropriate for evaluation are attached below and provide a suggested template for your Mid-term Review Report.

I. Executive Summary: major findings, viz., strengths and weaknesses. Is the site on track? Are there any major problems or areas for concern? Is the science cutting-edge, focused on exciting questions that require long-term data or that can only be posed after a site has been studied for a long time? Recommendations should specify problems and weaknesses and identify potential solutions if possible.

II. Body of report – room to elaborate on the justifications for strengths and weaknesses. Suggested categories for evaluation include:

* core data collection
* compelling, site-specific long-term ecological and related research
* cross-site or broader scale synthetic research
* outreach, education, and training
* information management
* project management, including institutional relations, personnel management, decision making, diversity, leadership and transitions

Other considerations may include PI transition plans, major new directions, investments in major experiments, and what might need to be changed or sacrificed to accommodate these.

Please keep in mind that it is not the role of the site review team to suggest major changes in focus or direction that would deviate from the funded proposal. Be careful when suggesting alternate research questions or areas for future studies. No site can do everything with the limited funds NSF provides, so you need to be fair in your expectations. The report may include some suggestions for changes, but these should be limited and well justified.

LTER site visits are valuable opportunities for site researchers to discuss ideas with the review team. It is important for you to interact with all LTER participants - PIs, collaborators, postdoctoral researchers, students, technicians, and staff. Please ask a lot of questions.

The review team will present an overview of the report to the site PIs and NSF as the concluding action of the site review. The presentation is not intended to be a discussion. Following the site review, NSF will send the report to the PI along with a cover letter that highlights aspects of the report and your evaluations from an agency perspective. PIs may then respond to the site review report, and your report along with the site's response will become part of the review history for that site. Please keep in mind that many LTER sites post their mid-term review reports, so you should not consider the report to be anonymous. Your identities, however, will remain anonymous in any posting of the report as the site review follows NSF guidelines for conflicts of interest and confidentiality.

**Budgets**: During each funding cycle, sites receive a fixed, flat budget for each year. As a result, there are multiple and sometimes conflicting demands on the funds received between long-term data collection and new research directions. Most sites obtain significant research funds from other NSF programs, funding agencies or sources. It can be difficult to sort out what NSF is funding from related projects, but it is important for you to evaluate the ability of a site to retain a clear research focus on the LTER award. The potential for a site to be come diffuse in its research is obvious when many of the resources obtained are not tied to core LTER goals.