BIODIVERSITY & ECOSYSTEM SERVICES
CALL FOR SYNTHESIS RESEARCH PROPOSALS

Application Deadline: October 9, 2013

The U.S. National Socio-Environmental Synthesis Center (SESYNC) and two German national research centers—the Helmholtz Centre for Environmental Research (UFZ) and the Synthesis Centre (sDiv) within the German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig—are pleased to announce an international opportunity for **socio-environmental synthesis research** on "Biodiversity and Ecosystem Services."

Funding is available for up to six collaborative synthesis projects that, through a series of workshops, will **bring together data, ideas, theories, or models** to address critical socio-environmental questions at the interface of biodiversity and ecosystem services. Within this interface, the subject matter of proposed projects is open. For example, proposed research could deal with the emergence or functional importance of ecosystem services, or the sustainable use and conservation of biodiversity as determinants for human well-being. Proposals are welcome from investigators whose home institutions are anywhere in the world—i.e., this call is not limited to U.S. or German investigators.

SESYNC, UFZ, and sDiv are dedicated to investigating pressing environmental issues involving **complex human-nature interactions** and global change and to developing sustainable solutions to these issues. All three centers have expertise in:

1. applying cutting-edge integrative approaches that are theory-driven, data-based, and synthesis-oriented;
2. linking natural and social sciences in a transdisciplinary way;
3. serving as a platform for providing access to unique research infrastructure and fostering networking; and
4. transferring integrative knowledge to the next generation of environmental researchers by special offers for graduate education.

Background

Ecosystems deliver multiple ecosystem services (ESS), and their functional integrity is a determinant of human well-being. Research has shown that biodiversity has the potential to increase ecosystem functioning, as well as the stability and provision of ESS. The beneficial role of biodiversity for ESS stability and provision may be particularly important given present and future climate and land-use change. Unfortunately, **threats to biodiversity have never been higher** than they are today. Rates of extinction are continuing to increase despite Convention on Biol. Diversity (CBD) agreements to slow down the rate of loss. Hence, understanding sustainable paths for preserving biodiversity and ESS, their implications for human well-being, and their cost-efficient governance is critical.

We seek synthesis efforts that will **enhance our understanding** of one or more of the following:

1. How to reduce loss of biodiversity.
2. The relationship between biodiversity and the delivery and stability of ESS.
3. The induced societal benefits, costs, and tradeoffs inherent in the conservation of biodiversity and ESS.
4. Management or policy efforts that may enhance conservation by focusing on human behaviors and decision-making, governance structures, and other social drivers.

We encourage the submission of project proposals that synthesize data, develop and apply novel integrative concepts and models, or couple quantitative and qualitative information in new ways to address **fundamental research questions** on this topic. "Fundamental research questions" are those with implications that go well beyond a single place or point in time to provide new insights that can contribute to solutions. Below, we provide examples of topics that could be addressed.

These examples are meant only to illustrate the **diversity of potential topics** related to this call for proposals, rather than the full extent of relevant topics:

- ESS (and disservices) provided by novel communities—i.e., ESS provided by new assemblages of species as a consequence of invasions, land-use changes, and/or climate change.
- Identification of tipping points where certain ESS can no longer be provided.
- Impacts of novel technologies and land-use institutions on biodiversity and ESS.
- Novel concepts of eco-engineering to foster ESS.
- Economic valuation of ESS provision, taking into account tradeoffs and uncertainty.
- Analysis of policies used and tradeoffs encountered relevant to conserving biodiversity and enhancing ESS.
- Changes in biodiversity and ESS as drivers of societal change—e.g., induced land-use change, vulnerability, polarization, value addition, initiation of cooperation, etc.
- Eco-informatics and statistical tools to tap 'big data' to detect biodiversity-ESS relations.
- Developing toolboxes for rapid assessment of ESS in the context of conservation projects.

Details on the Call for Proposals

Participants are expected to spend time at each of the three centers (SESYNC in Annapolis, MD, USA; UFZ and sDiv in Leipzig, Germany) working with their synthesis team. Each team should generally have no more than five members; however, larger-sized teams will be considered if justified. UFZ and sDiv have many faculty on-site, and applicants may wish to take advantage of their expertise. Funding decisions will be based on external peer review by an international panel. **Proposals are due no later than October 9, 2013,** and decisions will be made no later than November 15, 2013.

Each project should have no more than two lead Principal Investigators (PIs) who will serve as the contacts for all organizational tasks and planning logistics. A two-day workshop with the PIs from all funded projects will occur at SESYNC February 24–25, 2014. Immediately following this workshop, the rest of the team members will arrive at SESYNC to participate in a three-day working meeting of their synthesis team. **To be eligible for funding,** all members of synthesis teams must be available to participate in this launching workshop February 26–28, 2014, at SESYNC in Annapolis, MD, USA. Future meetings of the teams will alternate between SESYNC, UFZ, and sDiv. With the exception of the first and final meeting in which all funded teams interact, each team may select its own three- to five-day meeting dates in collaboration with the hosting institution. In addition, funded teams may include up to two doctoral students to participate in team meetings.

SESYNC and the German hosting institutions (UFZ and sDiv) will facilitate opportunities for **graduate education and exchange** with students and researchers who are working on biodiversity and ESS at these institutions. Opportunities may also exist for doctoral students of the teams to attend a relevant graduate course offered by the graduate schools on-site.

Schedule Summary

- February 24–25, 2014: Launching workshop of all PIs at SESYNC
- February 26–28, 2014: Launching meeting of all funded teams at SESYNC
- Spring 2014: Meetings at UFZ or sDiv
- Fall 2014: Meetings at SESYNC
- Winter or Spring 2015: Meetings at the other German center (UFZ or sDiv)
- December 7–11, 2015: Final meeting of all funded teams for cross-project synthesis at SESYNC

Submission Instructions

Visit **www.sesync.org/bio-ess** for more information on this opportunity, including submission instructions. Proposals are due no later than October 9, 2013, at 5 p.m. (EST).