

SCIENCE, ENGINEERING, AND EDUCATION FOR SUSTAINABILITY

Al DeSena

EHR



National Science Foundation

February 6, 2012

Towards a Sustainable Human Future

A sustainable world is one in which human needs are met equitably without harm to the environment, and without sacrificing the ability of future generations to meet their needs.



Meeting this formidable challenge requires a substantial increase in our understanding of the integrated system of society, the natural world, and the alterations humans bring to Earth.

www.nsf.gov/sees



Science, Engineering, and Education for Sustainability (SEES)

NSF's Science, Engineering, and Education for Sustainability (SEES) activities aim to address this need through support for interdisciplinary research and education.

- ✧ SEES established in Fiscal Year 2010
- ✧ Cross-NSF investment
- ✧ Portfolio of existing and new programs
- ✧ Encouraging systems-based approaches
- ✧ Highlights NSF's unique role

SEES Mission Statement

- To advance science, engineering, and education to inform the societal actions needed for environmental and economic sustainability and sustainable human well-being

SEES – Major Aims

- Goal 1: Support interdisciplinary research and education that can facilitate the move towards global sustainability.
- Goal 2: Build linkages among existing projects and partners and add new participants in the sustainability research enterprise.
- Goal 3: Develop a workforce trained in the interdisciplinary scholarship needed to understand and address the complex issues of sustainability



FY 2010 Activities



- ✧ Ocean Acidification (*NSF 10-530*)
- ✧ Climate Change Education (*NSF 10-542*)
- ✧ Decadal and Regional Climate Prediction using Earth System Models (EaSM) (*NSF 10-554*)
- ✧ Dimensions of Biodiversity (*NSF 11-518*)
- ✧ Water Sustainability and Climate (*NSF 11-551*)

FY 2011 Activities



✧ Dear Colleague Letter (*NSF 11-022*)

✧ Research Coordination Networks – SEES track (*NSF 11-531*)

- ✧ 37 projects submitted, 11 awards, funding amount ~ \$8M

- ✧ Cross foundational support & coordination in review/panel process

- ✧ Interdisciplinary awards, network themes include:

 - ✧ Water and urban sustainability; Renewable resources, biofuels, bioenergy

 - ✧ Climate, energy, environment nexus; Human ecodynamics

- ✧ Several awards international and/or public-private partnerships

✧ SEES submission encouraged in Dynamics of Coupled Natural and Human Systems (*NSF 10-612*), *sample awards*:

- ✧ Integration of human choice into models of biogeochemical cycling in urban ecosystems

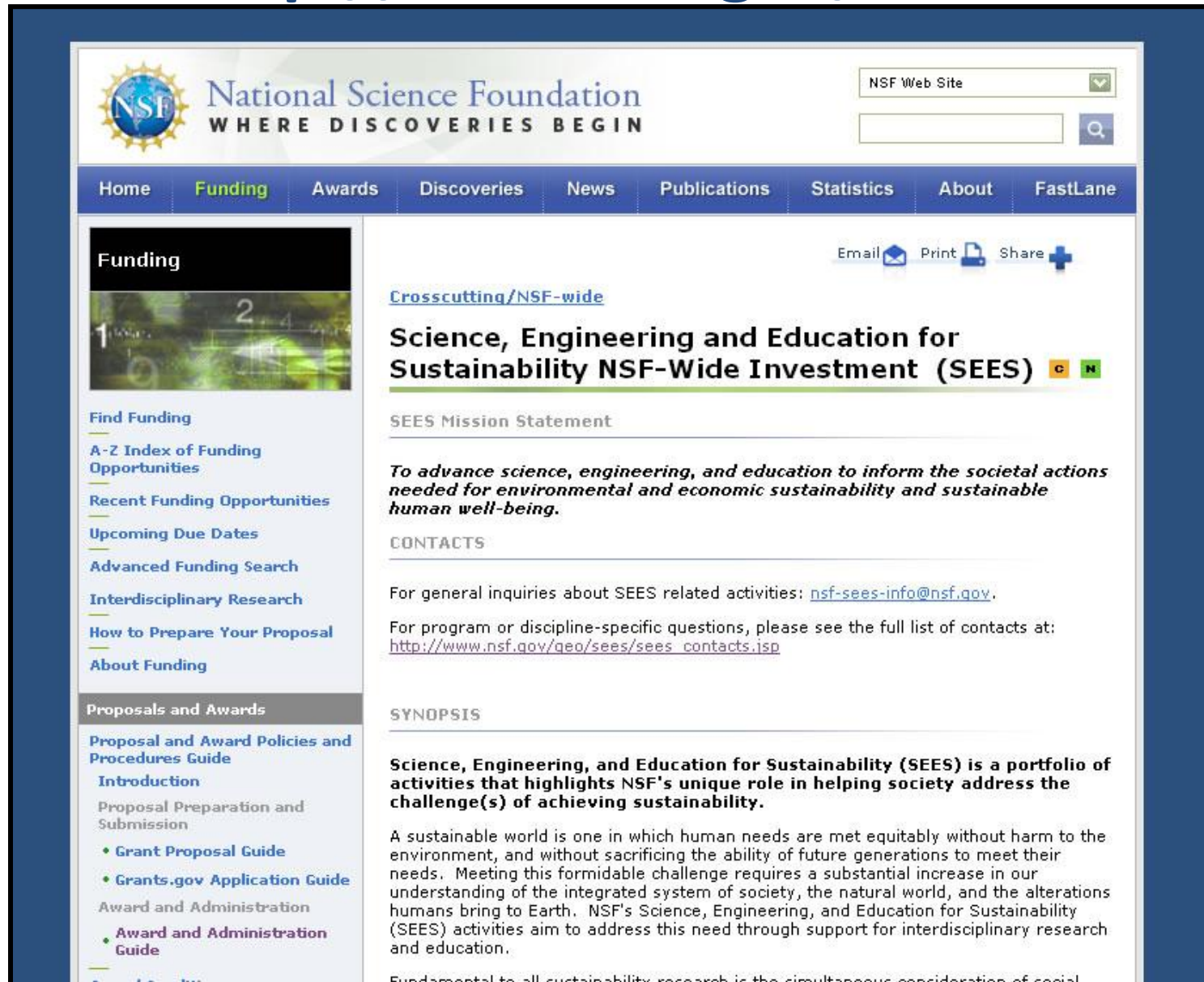
- ✧ Direct and indirect coupling of fisheries through economic, regulatory, environmental and ecological linkages

SEES FY 2012 Priorities



- Advance a clean energy future
 - Nurture the emerging SEES workforce
 - Expand research, education, and knowledge dissemination
 - Develop interdisciplinary research networks
 - Engage with global partners
-
- ✧ **New: SEES Fellows (NSF 11-575)**
 - ✧ **New: Sustainability Research Networks (NSF 11-574)**
 - ✧ **New: Sustainable Energy Pathways (NSF 11-590)**
 - ✧ Exclusive SEES focus in Partnerships for International Research and Education (PIRE) solicitation (NSF 11-564)
 - ✧ RCN – SEES track continue (NSF 11-531)
 - ✧ CNH – SEES projects continue (NSF 10-612)
 - ✧ Climate-related competitions continue; including CCEP Phase 2

http://www.nsf.gov/sees



The image shows a screenshot of the National Science Foundation (NSF) website, specifically the Science, Engineering and Education for Sustainability (SEES) page. The page features a blue header with the NSF logo and the tagline "WHERE DISCOVERIES BEGIN". A navigation menu includes links for Home, Funding, Awards, Discoveries, News, Publications, Statistics, About, and FastLane. The main content area is titled "Science, Engineering and Education for Sustainability NSF-Wide Investment (SEES)" and includes a mission statement, contact information, and a synopsis of the program. A sidebar on the left provides links to various funding and proposal-related resources.

National Science Foundation
WHERE DISCOVERIES BEGIN

NSF Web Site

Home Funding Awards Discoveries News Publications Statistics About FastLane

Funding

1 2

Find Funding

A-Z Index of Funding Opportunities

Recent Funding Opportunities

Upcoming Due Dates

Advanced Funding Search

Interdisciplinary Research

How to Prepare Your Proposal

About Funding

Proposals and Awards

Proposal and Award Policies and Procedures Guide

Introduction

Proposal Preparation and Submission

- Grant Proposal Guide
- Grants.gov Application Guide

Award and Administration

- Award and Administration Guide

Email Print Share

[Crosscutting/NSF-wide](#)

Science, Engineering and Education for Sustainability NSF-Wide Investment (SEES)

SEES Mission Statement

To advance science, engineering, and education to inform the societal actions needed for environmental and economic sustainability and sustainable human well-being.

CONTACTS

For general inquiries about SEES related activities: nsf-sees-info@nsf.gov.

For program or discipline-specific questions, please see the full list of contacts at: http://www.nsf.gov/qeo/sees/sees_contacts.isp

SYNOPSIS

Science, Engineering, and Education for Sustainability (SEES) is a portfolio of activities that highlights NSF's unique role in helping society address the challenge(s) of achieving sustainability.

A sustainable world is one in which human needs are met equitably without harm to the environment, and without sacrificing the ability of future generations to meet their needs. Meeting this formidable challenge requires a substantial increase in our understanding of the integrated system of society, the natural world, and the alterations humans bring to Earth. NSF's Science, Engineering, and Education for Sustainability (SEES) activities aim to address this need through support for interdisciplinary research and education.

Fundamental to all sustainability research is the simultaneous consideration of social



WHERE DISCOVERIES BEGIN

Questions?

Please visit:

www.nsf.gov/sees