

Did you know
that 10-50% of well-studied
taxonomic groups (mammals, birds,
amphibians, conifers, and cycads)
are threatened with extinction?

Source: The Millennium Ecosystem
Assessment Synthesis Report

INTEGRATING LONG-TERM EUROPEAN BIODIVERSITY RESEARCH

Europe has an ambitious target to halt the loss of biodiversity by 2010. Meeting this target requires that we understand biodiversity and the pressures it faces.

European biodiversity research is rich and varied. It is also dispersed and disconnected: it cannot be easily marshalled to help address major biodiversity issues at a European scale. To address this, six PEER institutes are working with 18 other institutes from across Europe in ALTER-Net, a five year project funded by the European Union's Framework VI programme. ALTER-Net – A Long-Term Biodiversity, Ecosystem and Awareness Research Network is a Network of Excellence aiming to build lasting integration of biodiversity research, monitoring and communication capacity.



THROUGH ALTER-NET, PEER INSTITUTES ARE ENGAGED IN A RANGE OF RELEVANT ACTIVITIES

Integrating capacity across Europe to assess and forecast changes in biodiversity, structure, functions and dynamics of ecosystems and their services.

Driving the creation of a European network of sites for long-term terrestrial and freshwater biodiversity and ecosystem research (Long-Term Ecosystem Research sites, LTER).

Developing a framework for data integration across the network, including the development of new online data discovery tools.

Establishing and running the (IPCB), a regularly updated online source of news and press releases about international biodiversity research, serving journalists and other users.

Helping train the next generation of scientists. ALTER-Net ran its first Summer School in 2006, the first in a series of such schools aimed at equipping young researchers with the

knowledge and skills to undertake integrated biodiversity research at a European level.

Enabling researchers to find new approaches for addressing a range of issues at the European scale, such as assessing biodiversity change, determining and making sense of public attitudes towards biodiversity and the development of new conservation management approaches. In all these, ALTER-Net provides the means to integrate ideas from a range of scientific disciplines.

Finding new ways to communicate scientific research with key audiences, such as policymakers and the general public.

Contributing to the development of LifeWatch (www.lifewatch.eu), an ambitious plan for a European biodiversity research infrastructure. LifeWatch will consist of a distributed data and informatics system for research on the protection, management and sustainable use of biodiversity.

ALTER-Net has also developed the concept of Long-Term Socio-Ecological Research (LTSER) platforms, larger areas which could be used to determine the socio-economic implications of, and public attitudes to, biodiversity loss. A pilot set of 10 such platforms is being used by ALTER-Net researchers to demonstrate their potential for interdisciplinary and policy-relevant research.

ALTER-Net is focusing on biodiversity in terrestrial and freshwater ecosystems, but it has good connections with the MARBEF Network of Excellence, which is concerned with the marine environment.



CONTACT

Terry Parr, ALTER-Net Coordinator
CEH Lancaster Lancaster Environment Centre
Library Avenue, Bailrigg, Lancaster LA1 4AP, UK
twp@ceh.ac.uk



THE DEVELOPMENT OF EUROPEAN LTER NETWORKS

- No information
 - Early stages of network development
 - National network under development
 - Network a formal member of ILTER
- The International Long-Term Ecological Research Network

Israel (not shown) also has a national LTER network

To detect and understand how Europe's biodiversity and ecosystems are changing requires long-term study. Typical variables measured are species abundance, climate variables and air and water pollution. Many European nations now have networks of sites repeatedly collecting such data. However, this was not always so. In 2001 a handful of countries – mainly in Eastern Europe – had 'long-term ecosystem research' (LTER) networks. By 2003, 10 national networks existed. However, since 2004, ALTER-Net has been a real catalyst in the creation of new networks: 16 European countries now have working networks with others in development. Through

ALTER-Net, these networks are also developing common measurements and methods of data collection which, if adopted, will make it easier to use data from different networks.

ALTER-Net is also developing an approach to allow datasets from these networks to be accessed via the internet. Substantial progress has been made, including developing ontologies: the means to cross-reference fields in one database to those in another. A pilot data access system is nearing completion.

LTER networks are a key resource for determining how biodiversity is changing. However, one factor has been missing from most of these sites:

detailed assessment of the human dimension. So, ALTER-Net has developed the concept of long-term socio-ecological research platforms, larger areas which provide a focus for inter-disciplinary studies of ecosystem change. It is also promoting the use of LTER and LTSER sites for a range of European-scale research. Working in harmony, LTER and LTSER sites are a key tool for understanding and responding to Europe's changing biodiversity. ALTER-Net – supported by PEER – is driving the development of this resource.