Correction

In the 18 November 2008 issue (Eos, 89(47), 42), a sentence in the fourth paragraph of the text was incorrect. It included "Ocean carbon cycling and climate impacts on marine ecosystems" incorrect. Instead of "One speaker described the application of linear-time networks to the development of anthropo- genic carbon uptake in the world's oceans," the sentence should have read: "One speaker described the application of linear-time networks to the development of anthropogenic carbon uptake in the world's oceans."

Eos regrets this error.

Managed Relocation of Species: Noah's Ark or Pandora's Box?

The world’s human population is growing rapidly, annually we may need to go to move more earth than natural geographical processes, and our dependent on food fuels is causing problems that have been caused by changes in our ecosystem systems. Although human impacts on the globe have long had major consequences for the Earth’s other inhabitants, the current combination of massive habitat destruction and rapid climate change is especially daunting challenge for many species. As anthropogenic environmental change from habitat alteration to modifications of the atmosphere, are so high that many species do not possess the capacity to "track" these changes through natural dispersal. In addition, "humanized" landscapes are now so pervasive in some parts of the globe that natural dispersal corridors have all but completely disappeared.

"Managed relocation" (MR) — also called "assisted migration" or "assisted colonization" — is the human-induced movement of species adversely affected by global change when those species cannot adapt or move themselves. Goals of MR include, but are not limited to conservation of biodiversity, reduction of extinction risk, enhancement of evolutionary potential, and maintenance or augmentation of ecosystem services. Recently there has been much talk, in the scientific literature as well as in the news, about the costs and benefits of MR. As a conservation strategy, MR has promise, but it could also have serious costs. For example, MR may succeed in rescuing a given species from extinction, but it could also introduce a species into habitat where it becomes invasive, causing ecosystem dysfunctions or extinctions of other taxa.

A working group met in August 2008, in conjunction with the annual meeting of the American Society of Ichthyologists and Herpetologists (ASIH) in Steamboat Springs, Colorado, USA. The group sought to develop a framework for understanding the degree to which MR could achieve its objectives, the risks that it might incur, and strategies that could be used to implement it. Participants in the workshop represented academic institutions, federal and land management agencies, and nongovernmental organizations involved in conservation. Themes treated at the workshop included: (1) the role of MR; (2) identification of trigger conditions for the implementation of MR; (3) other considerations: legal, policy, and ethical issues; (4) recombining MR with existing conservation strategies to deal with community- and ecosystem-level issues. The key outcome of the meeting was the development of four broad criteria for comparing strategies for conservation of a target species: (1) the risk of negative impact of climate change (or other anthropogenic disturbance) for the target species; (2) the risk of collateral effects of the strategy in consideration; (3) the feasibility of the strategy in question ("could we do this?"); and (4) the cost-effectiveness of the strategy ("should we do this?").

Current emphasis is on developing a set of effective strategies that can be used to objectively rank potential conservation strategies, including MR. The group then plans to use a set of model plant and animal taxa to pilot the test process. Focused working groups continue to work on all of the identified themes, and will be planned for early 2009. Further information is available at the Managed Relocation Web site www.mrworkinggroup.org/Managed_relocation.

In Brief
Launch of Astronomy Year 2009
The International Year of Astronomy 2009 (IYA2009) will involve 135 nations and thousands of events held worldwide. In addition to opening ceremonies in Paris on 15–16 January and in many other countries during January and February, of major interest in the IYA2009 events include the Cosmic Diary project about the daily lives of full-time astronomers and the launch of the 38 Hours of Astronomy project to publish one podcast per day during the entire year. The IYA2009 Web site: http://www.iya2009.org/

Critical Issues in Climate Change

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