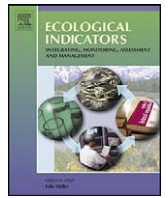


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# Ecological Indicators

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## Editorial

The South Florida Ecosystem Restoration Task Force (Task Force) (see [www.sfrestore.org](http://www.sfrestore.org)), is the organization established by the United States Congress to help guide and coordinate the Everglades restoration efforts that are being carried out by the many agencies involved in this large and expensive restoration program. The US National Academies of Science and the US Government Accountability Office recently reviewed the science efforts involved in Everglades Restoration. One of their strong recommendations was that the Task Force should identify and develop a small set of indicators that would allow them to determine the success (or failure) of restoration actions, and efforts. As a result, the Task Force requested that their science arm, the Science Coordination Group (SCG—a team of scientists and managers) develop a small set of system-wide indicators to help them understand *in the broadest terms* how the ecosystem and its key components are responding to restoration and management activities.

It was deemed important that the indicators – and the science behind them – be developed with the idea that they must be easy to communicate to non-scientists, such as policy-makers, and that the science must be transparent and clearly linkable to whatever communication system (“report card”) was developed. The SCG looked at many different ways of communicating complex information in simple and straightforward ways and made particular use of pre-existing systems such as the one used to report information on the economy and the use of the gross domestic product (GDP) as a way of communicating complex economic information in a simple way.

While the GDP indicator is used to communicate economic information, the ecological indicators are used to communicate information about the status of ecosystems and the impact human activity has on them. Ecosystems are complex and indicators can help describe them in simpler terms, particularly for non-scientists. Indicators make understanding an ecosystem possible in terms of management, time and costs. For example, it would be far too expensive and probably impossible to count every animal and plant in the Everglades to see if restoration was successful.

Instead, a few indicators can be monitored in a relatively few locations to help determine the success of restoration. Indicators are used because it is impossible to measure everything all the time, so scientists measure a few attributes of a few indicators precisely because these indicators integrate many ecological and biological functions in their life processes. Thus – through measuring more simple aspects of the lives of key organisms – scientists are able to take into account the innumerable biogeochemical and environmental processes that they integrate and, through more simple and affordable research and monitoring, scientists can accurately determine how and why they respond to ecosystem drivers and stressors. Dozens of scientists from many agencies working in South Florida focused efforts on establishing such indicators.

This special issue of *Ecological Indicators* contains 13 papers on the development and initial application of a suite of system-wide indicators that will be used to help the Task Force understand and evaluate the monumental efforts and actions of the South Florida Everglades Restoration Program.

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