

Note: The following news release is being issued by the National Center for Ecological Analysis and Synthesis. It describes a new index that will assess the natural and human dimensions of ocean health. The American Museum of Natural History is one of nearly 20 organizations involved in the study.



AMERICAN MUSEUM OF NATURAL HISTORY

Media Inquiries: Jai Ranganathan, National Center for Ecological Analysis and Synthesis
ranganathan@nceas.ucsb.edu

Kendra Snyder, American Museum of Natural History
212-496-3419; ksnyder@amnh.org

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NATURE STUDY HIGHLIGHTS MANY PATHS TO OCEAN HEALTH

NEW INDEX PROVIDES FIRST GLOBAL ASSESSMENT COMBINING NATURAL AND HUMAN DIMENSIONS OF SUSTAINABILITY

Santa Barbara, CA - Using a new comprehensive index designed to assess the benefits to people of healthy oceans, scientists have evaluated the ecological, social, economic, and political conditions for every coastal country in the world. Their findings, published in *Nature* today, show that the global ocean overall scores 60 out of 100 on the Index. Individual country scores range widely, from 36 to 86. The highest-scoring locations included both densely populated, highly developed nations such as Germany, as well as uninhabited islands, such as Jarvis Island in the Pacific.

Determining whether a score of 60 is better or worse than one would expect is less about the analysis and more about perspective. "Is the score far from perfect with ample room for improvement, or more than half way to perfect with plenty of reason to applaud success? I think it's both," says lead author Dr. Ben Halpern, an ecologist at University of California, Santa Barbara. "What the Index does is help us separate our gut feelings about good and bad from the measurement of what's happening."

The Index - being called the Ocean Health Index - is the first broad, quantitative assessment of the critical relationships between the ocean and people, framed in terms of

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the many benefits we derive from the ocean. Instead of simply assuming any human presence is negative, it asks what our impacts mean for the things we care about.

“Several years ago I led a project that mapped the cumulative impact of human activities on the world’s ocean, which was essentially an ocean pristine-ness index,” says Dr. Halpern. “That was and is a useful perspective to have, but it’s not enough. We tend to forget that people are part of *all* ecosystems – from the most remote deserts to the depths of the ocean. The Ocean Health Index is unique because it embraces people as part of the ocean ecosystem. So we’re not just the problem, but a major part of the solution, too.”

In all, more than 30 collaborators from universities, non-profit organizations, and government agencies, led by the National Center for Ecological Analysis and Synthesis and Conservation International, pulled together data on the current status and likely future condition for things like seafood, coastal livelihoods, and biodiversity. All together, ten ‘shared goals’ define the health of the ocean as its ability to provide such benefits now and in the future.

The Index emphasizes sustainability, penalizing practices that benefit people today at the expense of the ocean’s ability to deliver those benefits in the future. “Sustainability tends to be issue-specific, focused on sustainable agriculture, fisheries, or tourism, for example. The Index challenges us to consider what sustainability looks like across *all* of our many uses of the ocean, simultaneously,” says Dr. Karen McLeod, one of the lead authors. “It may not make our choices any easier, but it greatly improves our understanding of the available options and their potential consequences.”

By re-envisioning ocean health as a portfolio of benefits, the Ocean Health Index highlights the many different ways in which a place can be healthy. Just like a diversified stock portfolio can perform equally well in a variety of market conditions, many different combinations of goals can lead to a high Index score. In short, the Ocean Health Index highlights the variety of options for strategic action to improve ocean health.

“To many it may seem uncomfortable to focus on benefits to people as the definition of a healthy ocean,” says Dr. Steve Katona, another of the study’s lead authors. “Yet, policy and management initiatives around the world are embracing exactly this philosophy. Whether we like it or not,” he continues, “people are key. If thoughtful, sustainable use of

the oceans benefits human well-being, the oceans and their web of life will also benefit. The bottom line is 'healthy ocean, healthy people, healthy planet.'"

Around the world, ocean policy lacks a shared definition of what exactly 'health' means, and has no agreed-upon set of tools to measure status and progress. "The Index transforms the powerful metaphor of health into something concrete, transparent and quantitative. This understanding of the whole, not just the parts, is necessary to conserve and restore ocean ecosystems. We can't manage what we don't measure," said Dr. McLeod.

This first global assessment of the health of the ocean provides an important baseline against which future change can be measured. Without such a baseline, there is no way to know if things are actually getting better in response to management and conservation actions.

"The Index can provide strategic guidance for ocean policy," says Dr. Andrew Rosenberg, another of the lead authors and a former member of the US Commission on Ocean Policy. "Because the Index includes current status, trends, and factors affecting sustainability for ten broadly shared goals, it enables managers to focus on key actions that can really make a difference in improving the health of the ocean and benefits we derive from a healthier ocean."

According to Dr. Jake Rice, with the Department of Fisheries and Oceans, Canada, who was not involved in the study, "No index, by itself, can be a sufficient guide to case by case decision-making. However, the Index can inform the public policy dialogue that is essential to sound governance. Moreover, the Index will improve and adapt with use and experience. All who care about the health of the oceans and the well-being of human societies that depend on them, should be looking forward to both the near-term benefits we can take from this work, and to the evolution of the Index as we gain experience with it."

The authors readily acknowledge methodological challenges in calculating the Index, but emphasize it represents a critical step forward. "We recognize the Index is a bit audacious. With policy-makers and managers needing tools to actually measure ocean health – and with no time to waste – we felt it was audacious by necessity," said Dr. Halpern.

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The authors and project team have created an extensive website to view and explore results and learn more about ocean health (<http://oceanhealthindex.org>), and a web-portal for downloading all data and results used in the project, housed at NCEAS, at UC Santa Barbara, CA. (<http://ohi.nceas.ucsb.edu/data>). Both will be available at the time of embargo release. Please see embargoed materials from Nature for images of results from the paper. Below is the global map of Index scores.

Note: a call-in press briefing with the lead author and project partners will take place on Wednesday, 15 August 2012 at 17:00 GMT / 13:00 EDT / 10:00 PDT. Please contact Anu Ramamurty for dial-in details. Email: anu.ramamurty@edelman.com; phone: 212.704.8155.

The founding partners of the Ocean Health Index are Conservation International, National Geographic, and New England Aquarium. The founding presenting sponsor of the Ocean Health Index was Pacific Life Foundation and a founding grant was provided by Beau and Heather Wrigley

Primary author contact information

Ben Halpern
NCEAS
805.259.7474 (cell)
halpern@nceas.ucsb.edu

Andy Rosenberg
Union of Concerned Scientists
(previously Conservation International)
603.767.9501 (cell)
arosenberg@ucsusa.org

Karen McLeod
COMPASS
541.231.9505 (cell)
karen.mcleod@compassonline.org
(only available Friday Aug. 10)

Steve Katona
Conservation International
207.266.6018 (cell)
s.katona@conservation.org

Other authors (listed by institution; languages other than English noted)

National Center for Ecological Analysis & Synthesis (NCEAS): Catherine Longo (*fluent in Italian*), Darren Hardy, Jennifer O'Leary (*fluent in Spanish*), Marla Ranelletti, Courtney Scarborough, Ben Best

Conservation International: Elizabeth Selig, Leah Karrer, Greg Stone

NOAA: Jameal Samhuri (*conversant in Arabic*), Mike Fogarty

UC Santa Barbara: Sarah Lester, Steve Gaines, Kelsey Jacobsen, Cris Elfes (*fluent in Portuguese; conversant in German*)

University of British Columbia: Kristin Kleisner, Daniel Pauly (*fluent in French; fluent in German*), Rashid Sumaila, Dirk Zeller

American Museum of Natural History: Dan Brumbaugh

U. Alaska, Fairbanks: F. Stuart (Terry) Chapin

Stanford: Larry Crowder

U. South Florida: Kendra Daly

Woods Hole Oceanographic Institution: Scott Doney

Brown: Heather Leslie

COMPASS: Elizabeth Neeley

U. Minnesota: Steve Polasky

New England Aquarium: Bud Ris

Rutgers: Kevin St. Martin

Outside Perspectives:

Fiorenza Micheli: Professor, Stanford University

email: micheli@stanford.edu

phone: 0039 339 87 42422 (currently in Italy)

Pete Peterson: Professor, UNC Chapel Hill

email: cpeters@email.unc.edu

phone: 252.726.6841 x130

Jake Rice: DFO Scientist, Canada; Professor, University of Ottawa

email: jake.rice@dfo-mpo.gc.ca

phone: 613.990.0288

Full Paper Reference:

Halpern, B.S., C. Longo, D. Hardy, K.L. McLeod, J.F. Samhuri, S.K. Katona, K. Kleisner, S.E.

Lester, J. O'Leary, M. Ranelletti, A.A. Rosenberg, C. Scarborough, E.R. Selig, B.D. Best, D.R.

Brumbaugh, F.S. Chapin III, L.B. Crowder, K.L. Daly, S.C. Doney, C. Elfes, M.J. Fogarty, S.D. Gaines,

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The American Museum of Natural History, founded in 1869, is one of the world's preeminent scientific, educational, and cultural institutions. The Museum encompasses 46 permanent exhibition halls, including the Rose Center for Earth and Space and the Hayden Planetarium, as well as galleries for temporary exhibitions. Five active research divisions and three cross-disciplinary centers support 200 scientists, whose work draws on a world-class permanent collection of more than 32 million specimens and artifacts, including specialized collections for frozen tissue and genomic and astrophysical data, as well as one of the largest natural history libraries in the Western Hemisphere. Through its Richard Gilder Graduate School, it is the first American museum authorized to grant the Ph.D. degree. In 2012, the Museum will begin offering a pilot Master of Arts in Teaching with a specialization in earth science. Approximately 5 million visitors from around the world came to the Museum last year, and its exhibitions and Space Shows can be seen in venues on five continents. The Museum's website and collection of apps for mobile devices extend its collections, exhibitions, and educational programs to millions more beyond its walls. Visit amnh.org for more information.

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