

Ranking Forest Rarity: No Need to Reinvent that Wheel!

In the article by John L. Innes and Kenneth B. H. Er (“Questionable Utility of the Frontier Forest Concept,” *BioScience* 52: 1095–1109), the authors conclude by proposing that “the existing biodiversity element ranking system and indicators used by the Network of Natural Heritage Programs and Conservation Data Centers to identify and prioritize the conservation of endangered species in the United States, Canada, and Latin America be adapted and developed for use with forest ecosystems.” But that wheel already exists!

NatureServe and its network of natural heritage member programs have been assessing the status of both species and ecological community types for over 15 years using the global ranking system (G1 through G5) that Innes and Er highlight in their article (see table 4). Because determining forest status first requires agreement on the ecological units to be assessed, NatureServe has been instrumental in the development of a vegetation classification standard, the US component (Grossman et al. 1998) of which is formally recognized as a US federal standard (FGDC 1997). Efforts to develop a comparable classification system for Canada are currently under way in collaboration with the Canadian Forest Service, Parks Canada, and provincial partners. Currently recognized vegetation units (including forest and woodland types) and their conservation status ranks can be found on the NatureServe Explorer Web site (www.natureserve.org/explorer). These status assessments have proven enormously useful to private organizations and government agencies in setting land conservation and management goals, and recently have been adopted for use in forest certification by the Sustainable Forestry Initiative.

We would caution, however, that such a ranking system on its own is insufficient to define conservation priorities for forests. These ranks and the biolog-

ical data on which they are based represent an excellent starting point from which to incorporate a suite of criteria, including ecological, landscape, and socioeconomic factors, that together help to identify conservation priorities.

References cited

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DON FABER-LANGENDOEN
Senior Ecologist
NatureServe
3467 Amber Road
Syracuse, NY 13215

RESPONSE FROM INNES AND ER

Faber-Langendoen indicates that the approach we suggested is already in use. We concur: The system developed by NatureServe for the United States adopts the classification system that we recommend. The system that has been developed for the United States could certainly be copied by other countries or form the basis for an international effort, but this has yet to be done. The Canadian experience has shown how difficult it is to develop a national standard, and the challenge will be to develop and apply such a system for forest conservation at a global scale. However, use of the system in the United

States does not guarantee global use, and we reiterate our conclusion that we need to adopt a global approach to the identification of the forests most in need of conservation.

JOHN L. INNES
Center for Applied
Conservation Research
Faculty of Forestry
University of British Columbia
Vancouver, British Columbia
Canada V6T 1Z4

KENNETH B. H. ER
Faculty of Forestry
University of British Columbia
Vancouver, British Columbia
Canada V6T 1Z4

Editor's note: The open letter to which the following letters to the editor refer can be found at www.wwfus.org/news/attachments/whaling_ad.pdf.

“SCIENTISTS VERSUS WHALING”: WHOSE ERRORS OF JUDGMENT?

In “Scientists versus Whaling” (*BioScience* 52: 1137–1140), Aron, Burke, and Freeman defend Japan’s controversial “scientific” whaling program against a series of criticisms we made in an open letter to the Government of Japan last May in the *New York Times*. Our letter, signed by 21 eminent scientists, including three Nobel laureates and several pioneers of conservation biology, called on Japan to suspend its whaling program.

Aron and his coauthors claim that our letter contains numerous errors of fact and law, and they cite it as an example of “science advocacy” wherein scientists, driven by passion or politics, lower their professional standards in support of popular causes. To the contrary, our overriding concern is for sound science uncorrupted by a political

Letters to the Editor

BioScience
1444 I St., NW, Suite 200
Washington, DC 20005
E-mail: bioscience@aibs.org

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agenda, a standard that Japan's whaling program fails to meet.

Aron and colleagues also attribute nonscientific motives to the signatories of the letter, suggesting—without supporting evidence—that politics, emotion, or sentiment have undermined our professional responsibility. Such challenges to a scientist's motivation and scientific trustworthiness should not be made lightly. Yet so far as we are aware, Aron and coauthors made no effort to determine the validity of their charges.

As signatories to the *Times* letter, we stand resolute by our statements: Japan's scientific whaling program is poorly designed from a research perspective; it results in the needless deaths of hundreds of whales each year, despite a global moratorium to which Japan is legally bound; its commercial nature creates financial incentives to kill whales even in the absence of a clear scientific purpose; and it erodes public confidence in the legitimate role of science as a guide to policy.

Although Aron and his coauthors devote roughly a third of their article to general admonishments about the hazards of advocacy science, their article exemplifies the “lack of careful attention to relevant facts” that the authors decry. Among its erroneous statements and important omissions are the following:

- Aron and colleagues claim that “most of the scientists who signed the letter are not...involved with...wildlife science.” This sweeping indictment of critics of Japanese whaling is simply incorrect. In fact, 18 of the 21 signatories are highly qualified in wildlife-related disciplines. We cannot understand how such an error of fact made it through the peer review process. The claim is also irrelevant: Expertise in cetacean biology is hardly requisite for detecting the scientific deficiencies in Japan's whaling program.
- Aron and colleagues equate utilization of whales killed for research with commercial use—that is, they

intimate that the commercial sale of whale meat is necessary to meet the requirement of the International Convention for the Regulation of Whaling for “nonwasteful disposal” of carcasses. Yet nowhere does the convention state that the carcasses should be sold for commercial purposes. And Japan's “scientific” whaling yields tens of millions of dollars each year in revenue from Japanese seafood markets, thereby creating powerful financial incentives to kill increasing numbers of whales. Indeed, recent DNA analysis of whale meat sold in Japan indicates that scientific catches may conceal an undocumented trade in meat from endangered stocks.

- Aron and colleagues charge that we erred in stating Japan has claimed an exemption for scientific whaling under international law. Japan has done so for well over a decade, invoking a special provision under the whaling convention. Seeking to refute this well-documented history, Aron and coauthors argue that Japan never actually *needed* such an exemption. This novel (if unpersuasive) legal argument ignores the reality that Japan has in fact regularly invoked an exemption for scientific whaling, as we maintained.
- The authors dismiss as “an indiscriminate broadside without foundation” the key scientific failing that Japan's whaling program lacks a testable hypothesis. But Aron and colleagues never offer such a hypothesis. We know of no university graduate department that would sanction the sacrifice of thousands of vertebrates without one. Prevailing academic guidelines on the use of animals in university research require showings that Japan's whaling program simply could not meet.

In addition to its battery of misstatements, the article by Aron, Burke, and Freeman is noteworthy also for its omissions, in particular its failure to address

two points central to our letter. The first concerns Japan's decision last year to resume hunting sei whales, an internationally listed endangered species, ostensibly to determine the whales' diet. Japan had already analyzed the stomach contents of more than 20,000 sei whales in prior decades. We do not think it credible that Japan's motive for killing 50 sei whales a year is the expectation that more examinations will materially add to what is already known about the diet of the sei whale.

A second unanswered point concerns the increasingly transparent commercial nature of Japan's “scientific” whaling. Last year Japan allocated scientific whaling permits for 50 minke whales expressly to the individual whaling villages for which it has failed to secure commercial quotas since the advent of the moratorium. Using the guise of science to issue so-called relief whaling quotas took the pretense of scientific whaling to a new level of overtness, drawing heightened international condemnation of a program that continues to damage Japan's reputation.

As Aron, Burke, and Freeman claim to be informed professionals, they should recognize that disagreement on the scientific merits of Japanese whaling can hardly justify their highly public, strongly worded charge of professional irresponsibility on the part of the scientists who signed the open letter in the *New York Times*. Although Aron and his coauthors rightly see a danger to science from careless advocacy, they are wrong to ignore the equal danger posed when powerful governments use science as a pretext to advance an overtly political agenda. We believe that those who care deeply about the credibility of science have an obligation to speak out against the manifest abuse of science for political ends. We do not believe it would be responsible to do otherwise.

GORDON ORIAN
*Professor Emeritus of Zoology
 University of Washington
 Seattle, Washington, USA*

FREDERIC BRIAND
Director General
Commission Internationale pour
l'Exploration Scientifique
de la Méditerranée
Monaco

JARED DIAMOND
Professor of Physiology
School of Medicine
University of California
Los Angeles, California, USA

THEO COLBORN
Senior Scientist
World Wildlife Fund–US
(www.worldwildlife.org)

EDGARDO GOMEZ
Professor
Marine Sciences Institute
University of the Philippines
Quezon City, Philippines

ROGER GUILLEMIN
Distinguished Professor
Salk Institute
La Jolla, California, USA

SIR AARON KLUG
Nobel Laureate in Chemistry
Medical Research Council
Laboratory of Microbiology
Cambridge University
United Kingdom

MASAKAZU KONISHI
Professor
California Institute of Technology
Pasadena, California, USA

JANE LUBCHENCO
Distinguished Professor of Zoology
Oregon State University
Corvallis, Oregon, USA

LAURENCE MEE
Professor of Marine
and Coastal Policy
University of Plymouth
United Kingdom

ELLIOTT NORSE
President
Marine Conservation Biology Institute
Redmond, Washington, USA

GIUSEPPE NOTARBARTOLO
 DI SCIARA
President
Istituto Centrale per la Ricerca
Scientifica e Tecnologica
Applicata al Mare
Rome, Italy

ROGER PAYNE
Founder and President
Ocean Alliance
Lincoln, Massachusetts, USA

CARL SAFINA
Lecturer
Yale University School of
Forestry and Environmental Studies
New Haven, Connecticut, USA

DAVID SUZUKI
Professor Emeritus
University of British Columbia
Canada

EDWARD O. WILSON
Pellegrino University Research
Professor Emeritus
Harvard University
Cambridge, Massachusetts, USA

GEORGE WOODWELL
Director
Woods Hole Research Center
Woods Hole, Massachusetts, USA

NEUTRAL JUDGES IN A DEBATE ON SCIENTIFIC MERITS?

In a recent Forum article (“Scientists versus Whaling,” *BioScience* 52: 1137–1140), Aron, Burke, and Freeman cite World Wildlife Fund (WWF) in connection with an open letter about Japanese whaling. They claim that information in the letter was inaccurate and reflected poorly on the capability of the “instigating organization”—namely, WWF—and on the care taken by the 21 scientists who signed the letter. While the eminent scientists who signed the letter are quite capable of responding for themselves regarding their standards, here we point out two critical omissions by Aron and colleagues that we believe could seriously mislead *BioScience* readers.

In seeking to diminish the open letter’s criticisms of Japanese research whaling, Aron, Burke, and Freeman cast the criticisms as the careless errors of “scientist–advocates” who have incautiously strayed beyond their areas of expertise. Yet Aron and his colleagues were aware that identical criticisms of Japanese whaling had been published by expert whale biologists on the International Whaling Commission’s Scientific Committee. That they failed to disclose this, opting instead to assail the care taken by the letter signers, is characteristic of their entire article.

A second omission is the failure of Aron, Burke, and Freeman to level with *BioScience* readers (and, one presumes, with its editors) about their own ideological views and involvement with commercial whaling. While ordinarily this might not seem germane, Aron, Burke, and Freeman so pervasively question the professionalism of others that their failure to disclose their own background becomes relevant by implication. As it happens, they are far from the impartial observers readers might imagine: William Aron has traveled to Japan at the expense of the Japanese government to provide political and strategic advice on whaling; William Burke’s clients have included the Japanese Whaling Association; and Milton Freeman is the convenor of the World Council of Whalers, a private group that promotes commercial whaling and whose conferences are funded by Norway and Japan. In addition, three of the four individuals acknowledged as assisting the authors have professional ties to pro-whaling interests or are currently employed by the Japanese government in connection with commercial whaling.

Aron, Burke, and Freeman are, of course, fully entitled to their opinions on Japanese whaling, but they cannot pose as expert, neutral judges in a debate on its scientific merits. Their decision to submit to a scientific journal an article that questions the professional judgments of others while concealing their own relevant professional ties to commercial whaling—including client and sponsor relationships—is disingenuous at best.