Brazilians are proposing new laws that will allow them to consider non-native species as if they are indigenous. This is not the first time that political decisions have tried to categorize non-native species as native. In 2009, the Brazilian Congress proposed a law that intended to naturalize non-native species as native. In 2016, Brazil will become a major source of non-native species for other countries in South America. The rate of introductions in Brazil will likely outpace the research investigating their negative effects.

This retrogression conflicts with several Aichi Biodiversity Targets, especially the one related to the prevention, control, or eradicating non-native species. Brazil harbors the most diverse aquatic biota in the world, and it is imperative that local authorities take appropriate measures that value and preserve native biodiversity. Basic research and knowledge produced by scientists should play a vital role in these decisions.


*Programa de Pós-Graduação em Ecologia e Conservação, Universidade Federal de Sergipe, São Cristóvão, SE, 49100-000, Brazil. Programa de Pós-Graduação em Tecnologias para o Desenvolvimento Sustentável, Universidade Federal de São João Del Rei, Ouro Branco, MG, 36420-000, Brazil. Laboratório de Ecologia e Conservação de Ecosistemas Aquáticos, Universidade Federal do Mato Grosso, Pontal do Araguai, MT, 78698-000, Brazil. Núcleo de Estudos Ambientais, Universidade Federal do Tocantins, Porto Nacional, TO, 77500-000, Brazil. Universidade Estadual Paulista “Julio de Mesquita Filho,” Botucatu, SP, 18618-970, Brazil. Laboratório de Ecologia de Peixes e Invasões Biológicas, Universidade Estadual de Londrina, Londrina, PR, 86057-970, Brazil. Programa de Pós-Graduação em Aquicultura e Desenvolvimento Sustentável, Universidade Federal do Paraná, Paton, PR, 85950-000, Brazil. Laboratório de Ecologia e Conservação, Setor de Tecnologia, Departamento de Engenharia Ambiental, Universidade Federal do Paraná, Curitiba, PR, 81531-970, Brazil.

**Corresponding author.**

Email: marcelictio@gmail.com

**Free satellite data key to conservation**

Biodiversity is in crisis, with extinction rates orders of magnitude higher than background levels. Underfunded conservationists need to target their limited resources effectively. Over the past decade, satellite remote sensing has revolutionized our ability to monitor biodiversity globally, and is now used routinely, especially by nongovernmental organizations, to detect changes, set priorities, and target conservation action. The U.S. Geological Survey (USGS) unlocked high-resolution Landsat data in 2008, making data available online, and the Copernicus program from the European Commission subsequently made their data available as well. These resources have been instrumental to biodiversity research. Assessments of environmental changes such as deforestation are now readily available. The current spatial and spectral resolution of Landsat...
data make them appropriate to many conservation applications, and although they are not always ideal, pragmatic researchers with limited resources use them regularly. Conservationists have already called for these data to remain free (5). Consequently, the news that USGS may charge for data (6) is deeply troubling.

USGS has recently convened an advisory committee to determine whether users would be prepared to pay for increased spectral and spatial resolution images (7). Requiring users to pay would put these images beyond the reach of conservationists. It would halt time-series analyses that have been useful in monitoring the effects of climate change, land-cover change, and ocean surfaces, likely hindering the achievement of the Sustainable Development Goals (8). We urge the USGS to reconsider their position and continue to provide data from the Landsat program freely to all users.

G. M. Buchanan,* A. E. Beresford,1 M. Hebblewhite,2 F. J. Escobedo,2 H. M. De Klerk,9 P. F. Donald,10 P. Ersibrano,1 L. F. Koh,3 J. Martínez-López,9 N. Pettorelli,3 A. K. Skidmore,10 Z. Szantoi,4 K. Tabor,7 M. Wegmann,2 S. Wich10

1RSPB Centre for Conservation Science, Royal Society for the Protection of Birds, Edinburgh, EH12 9DH, UK. 2Wildlife Biology Program, Department of Ecosystem and Conservation Sciences, W.A. Franke College of Forestry and Conservation, University of Montana, Missoula, MT 59812, USA. 3Faculty of Natural Sciences and Mathematics, Universidad del Rosario, Bogotá, DC, 11122, Colombia. 4Department of Geography and Environmental Studies, Stellenbosch University, Stellenbosch 7602, South Africa. 5BirdLife International, David Attenborough Building, Pembroke Street, Cambridge, CB2 3QZ, UK. 6CAESCG, University of Almería, Cañada de San Urbano s/n 04120 Almería, Spain. 7Betty & Gordon Moore Center for Science, Conservation International, Arlington, VA 22202, USA. 8BC3-Basque Centre for Climate Change, Scientific Campus of the University of the Basque Country, 48940, Leioa, Spain. 9Institute of Zoology, Zoological Society of London, Regent’s Park, London, NW1 4RY, UK. 10University of Twente, Faculty of Geo-Information Science and Earth Observation, 7500 AE Enschede, Netherlands. 11Institute of Geography and Geology, 97074 Würzburg, Germany. 12School of Natural Sciences and Psychology, Liverpool John Moores University, Liverpool L3 3AF, UK.

*Corresponding author. Email: graeme.buchanan@rspb.org.uk

REFERENCES

4. European Commission, Copernicus (http://copernicus.eu/).

Funding agencies can prevent harassment

Harassment and lack of physical safety in fieldwork and laboratories exists across a range of disciplines (1, 2). Editorials and #MeToo stories have recently highlighted that research is often conducted under “macho” conditions in which harassment, bullying, and unsafe work environments are common (3, 4). In response, codes of conduct for researcher safety are on the rise (3, 5). However, national research funds, private funding organizations, and monitoring agencies rarely require that the recipients of their grants implement codes of conduct or safety standards (2). Opportunities for cultural change should rest not only with individual scientists, teams, and professional societies. Funding agencies should share the responsibility. The cost of ensuring researcher safety should be part of the overall budget, and predefined safety standards should prevent situations in which harassment could occur (2). For example, when companies or institutions need scientists to do contracted monitoring work, bidding prices often determine whom they select. Unless funding agencies require safety standards, such bidding prices will always favor low-cost solutions that neglect safety. As another example, when principal investigators (PIs) write applications, they should budget for training and counseling to prevent and address harassment. Such measures would be more widespread if funding agencies acknowledged them.

Funding agencies have the power to participate in changing the culture by requiring codes of conduct for acceptable behavior from their grant recipients. Forcing researchers and companies to incorporate safety standards into grant proposals and assignment bids will increase awareness about harassment and stressful working environments. Only through full support from the broad spectrum of players involved in science will it be possible to create an inclusive and responsible culture that ensures safe workspaces.

Lars L. Iversen1## and Mette Bendixen3

1School of Life Sciences, Arizona State University, Tempe, AZ 85281, USA. 2Center for Macroeology, Evolution and Climate, National Museum of Natural Sciences, University of Copenhagen, Denmark. 3Institute of Arctic and Alpine Research, University of Colorado, Boulder, CO 80309, USA.

*Corresponding author. Email: li.iversen@biok.u.dk

REFERENCES


10.1126/science.aau3979

TECHNICAL COMMENT ABSTRACTS

Comment on “Designing river flows to improve food security futures in the Lower Mekong Basin”

John G. Williams

Sabo et al. (Research Articles, 8 December 2017, p. 1270) use sophisticated analyses of flow and fishery data from the Lower Mekong Basin to design a “good” hydrograph that, if implemented by planned hydropower dams, would increase the catch by a factor of 3.7. However, the hydrograph is not implementable, and, if it were, it would devastate the fishery. Further, the analyses are questionable.

Full text: dx.doi.org/10.1126/science.aat1225

Comment on “Designing river flows to improve food security futures in the Lower Mekong Basin”

Ashley S. Halls and Peter B. Moyle

The designer flow regime proposed by Sabo et al. (Research Articles, 8 December 2017, p. 1270) to support fisheries in the Lower Mekong Basin fails to account for important ecological, political, and economic dimensions. In doing so, they indicate that dam impacts can be easily mitigated. Such an action would serve to increase risks to food and livelihood futures in the basin.

Full text: dx.doi.org/10.1126/science.aat1989

Response to Comments on “Designing river flows to improve food security futures in the Lower Mekong Basin”

G. W. Holtgrieve, M. E. Arias, A. Ruhl, V. Elliott, So Nam, Peng Bun Ngor, T. A. Råsåinen, J. L. Sabo

Sabo et al. presented an empirically derived algorithm defining the socioecological response of the Tonle Sap Dai fishery in the Cambodian Mekong to basin-scale variation in hydrologic flow regime. Williams suggests that the analysis leading to the algorithm is flawed because of the large distance between the gauge used to measure water levels (hydrology) and the site of harvest for the fishery. Halls and Moyle argue that Sabo et al.’s findings are well known, and contend that the algorithm is not a comprehensive assessment of sustainability. We argue that Williams’ critique stems from a misunderstanding about our analysis; further clarification of the analysis is provided. We regret not citing more of the work indicated by Halls and Moyle, yet we note that our empirical analysis provides additional new insights into Mekong flow-fishery relationships.

Full text: dx.doi.org/10.1126/science.aat1477

Published by AAAS
Free satellite data key to conservation


Science 361 (6398), 139-140.
DOI: 10.1126/science.aau2650