

# 'Wild west' approach to claiming the oceans' genetic resources must end: researchers

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New international agreements are required to ensure nations benefit equally from medicines, foods and biofuels derived from the ocean's untapped genetic riches, according to a panel of University of British Columbia and European researchers presenting at the 2012 Annual Meeting of the American Association for the Advancement of Science (AAAS) in Vancouver on Feb. 17.

"The reservoir of [genetic diversity](#) contained in the oceans' [microbial life](#) is a huge potential source of natural products and genes with applications in medicine, food development and bio-energy," says Curtis Suttle, an expert on marine virology and microbiology at the University of British Columbia and member of the panel.

"The question is whether they fall under a regime of 'freedom of the high seas' which allows the discoverer to keep what they find, or under a regime of 'the common heritage of mankind' which would require benefits from the use of genetic resources to be equitably shared amongst countries."

Marine genetic resources discovered in coastal waters are subject to bilateral 'benefit sharing' under international agreements currently being ratified. But no such agreements govern the patenting and commercialization of proteins and genes harvested from international waters.

"Marine [genetic resources](#) within national jurisdiction are subject to

requirements for benefit sharing under the Nagoya Protocol, and it is time to consider a parallel agreement for areas beyond national jurisdiction," says panelist Marjo Vierros with the United Nations University (UNU). The UNU is the academic arm of the United Nations system.

"Any agreement should include mechanisms to support marine scientific research and invention through creative tools such as patent pools, open access programs, and gene libraries. It should also include measures for tracing the geographic origin of organisms, conservation and sustainable use."

More than 5,000 genes derived from [marine organisms](#) have already been associated with patent claims. Ten countries own more than 90% of those claims, including 'marine genes'. Three countries own approximately 70%, a pattern similar to the one observed for human and plant crop genes, according to panelist Sophie Arnaud-Haond, from the Institut Francais de Reserche sur la Mer.

The panel--which alincludes UBC marine chemist Raymond Andersen and researchers from Spain and Germany--cites the need to enhance the capacity of developing countries to participate in this research and invention through capacity development and technology transfer.

Provided by University of British Columbia

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