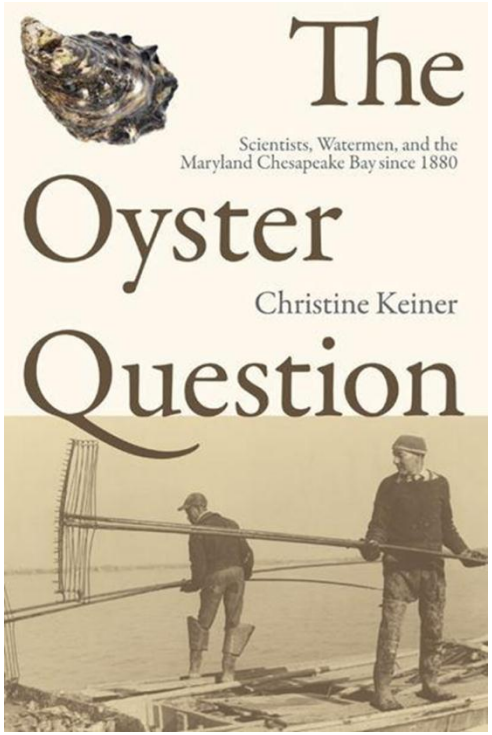

Science, Values, and the Clash of Cultures in Environmental Policymaking:

Potential Insights for Bay Restoration from the History of Maryland Oyster Conservation

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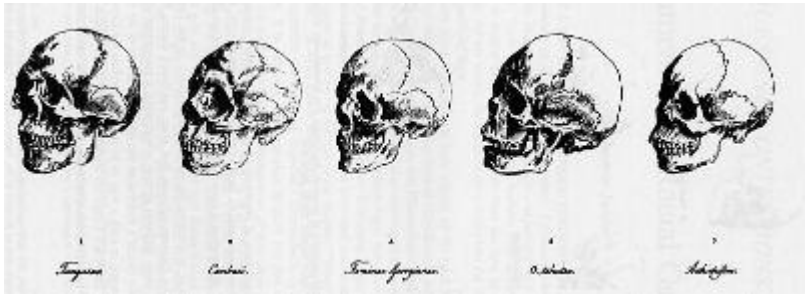
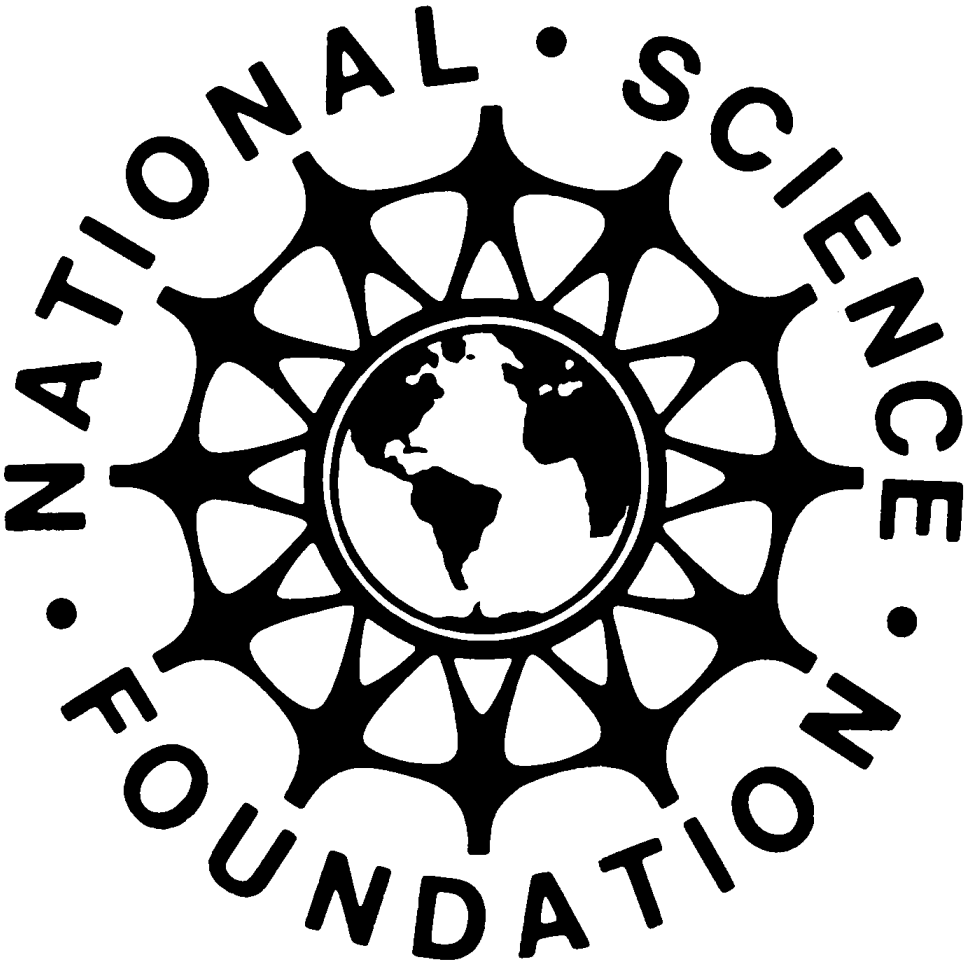
STS: Multi- and Inter-Disciplinary



http://en.wikipedia.org/wiki/File:Hevelius_and_wife.jpg, http://en.wikipedia.org/wiki/File:Estudiante_INTEC.jpg, http://en.wikipedia.org/wiki/File:Blumenbach%27s_five_races.JPG, http://en.wikipedia.org/wiki/File:Makati_city_glow.jpg, http://en.wikipedia.org/wiki/File:USAF_F-16A_F-15C_F-15E_Desert_Storm_edit2.jpg



http://www.nsf.gov/pubs/1999/nsf9932/nsf9932.htm

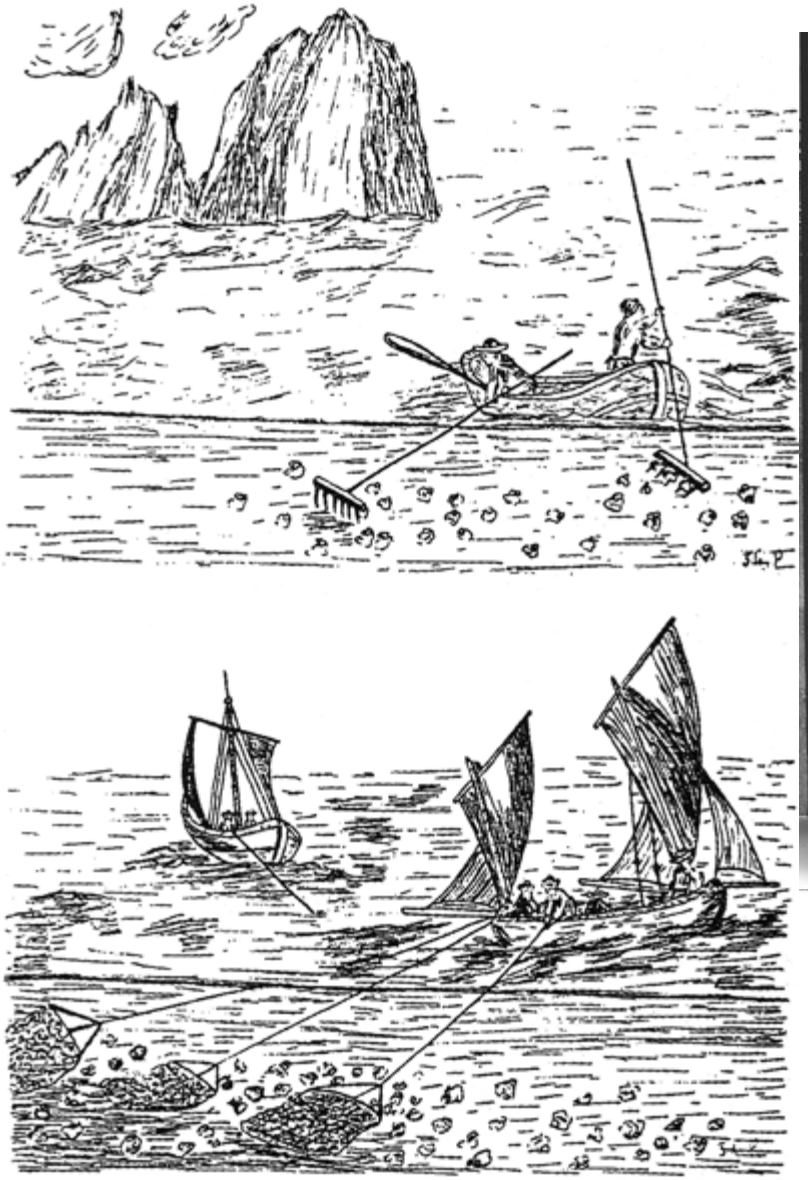
"…reviewers are asked to evaluate all proposals against two criteria:

Intellectual Merit: The Intellectual Merit criterion encompasses the potential to advance knowledge; and

Broader Impacts: The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes."

[some slides deleted due to copyright issues]

Should oysters be the product of nature, or of culture?



Oyster tonging and dredging, *L'Encyclopédie*, 1771
http://en.wikipedia.org/wiki/File:Oyster_Fishing_1771_c.gif

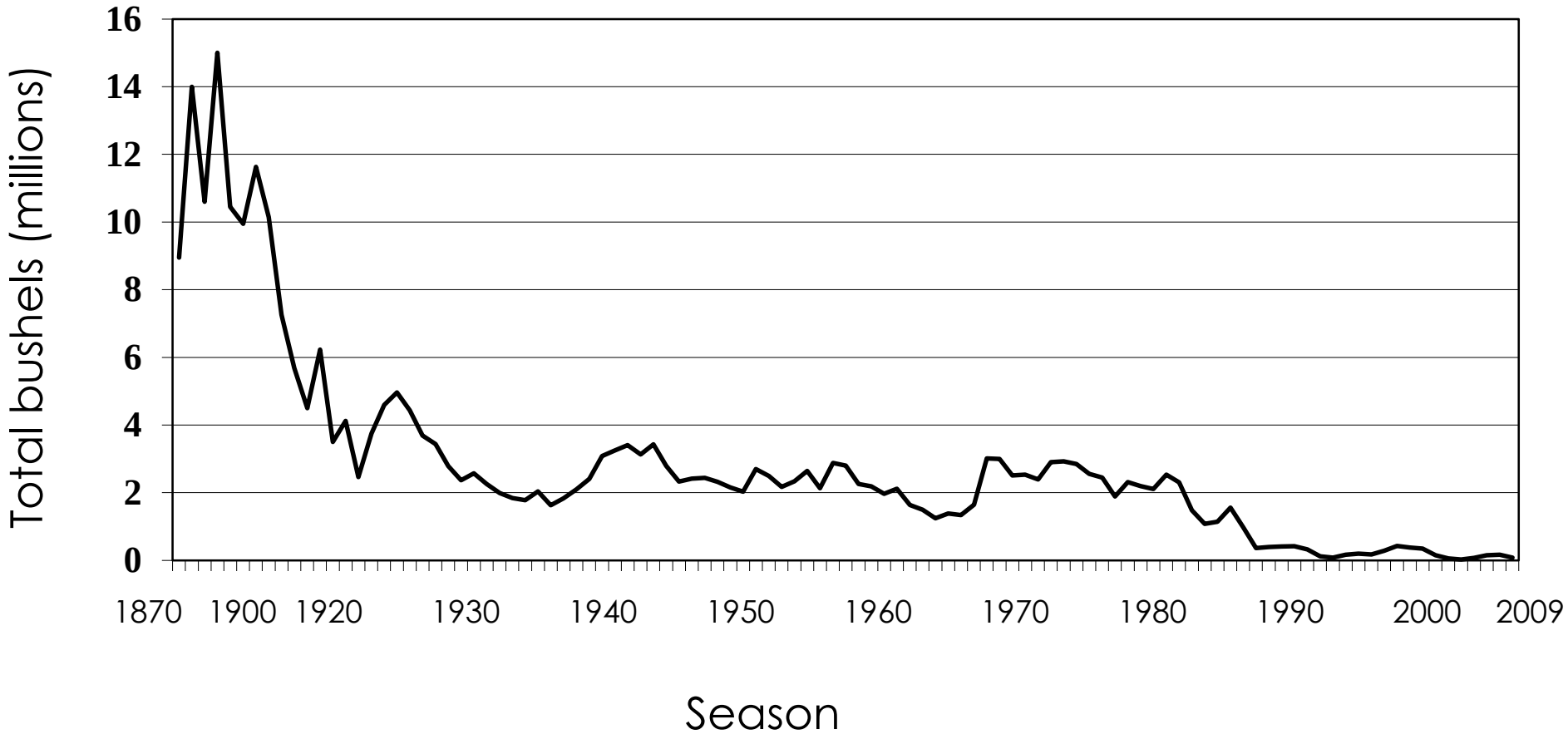
Highly engineered oyster plots, Cancale, France, c. 1880s
Courtesy of Photographic Collections of the Archives Center, National Museum of American History, Smithsonian Institution

The oyster conservation question as an issue of science-based agricultural modernization

http://www.oar.noaa.gov/spotlite/archive/spot_oysters.html

http://en.wikipedia.org/wiki/File:KerbauJawa.jpg

Maryland Oyster Harvest, 1870-2009



Note: Data not complete for several seasons between 1872 and 1916

During “the history of oyster management, starting with Dr. William Brooks…all the way through some of the recent committees during the last decade…, in virtually every case, science has in one way or another been compromised. So…let’s just not let the science be compromised this time and let’s see what it can do.”

– Testimony of William J. Goldsborough, *Efforts to Introduce Non-native Oyster Species to the Chesapeake Bay*, U.S. House of Representatives, 14 Oct. 2003

Potential insights for STAC

- Do not assume that science has been "compromised" in Chesapeake environmental policymaking

- Compromise—in terms of focusing on shared interests—is necessary for conflict resolution and compliance outcomes

Potential insights for STAC

- Strive to understand your fellow stakeholders and how they perceive your work → value of social science research

- "Managers and donors can help build the legitimacy, social capital, and trust that foster cooperation by making targeted investments that lead toward transparent and deliberative co-management systems, where all participants feel their voice is being heard."

  – Joshua E. Cinner, lead author of "Co-management of coral reef social-ecological systems," *Proceedings of the National Academy of Sciences* (2012)

Potential insights for STAC

- Do not assume that science simplifies environmental policymaking by clarifying objective reality and what is beyond the realm of political debate

- Even scientists who agree on a body of scientific research do not necessarily agree about the policy implications of that research

  – Ann Campbell Keller, S*cience in Environmental Policy* (2009)

Potential insights for STAC

- Acknowledge scientific uncertainties, and be careful about presenting value judgments as scientific results

  - 1999 “technical consensus” promoting the 10% oyster sanctuary goal

  - 2004 backlash: “Everybody recognizes [the consensus] wasn’t based on really hard science. That was just a direction the scientists wanted the sanctuaries to go.”

    - Chris Judy, Md. DNR Shellfish Program