

ESA HISTORICAL RECORDS COMMITTEE

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NEWSLETTER

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and the history of ecology and allied sciences*

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The Anthropocene: Implications for Use of Historical Records

ESA's theme for the 2016 meeting is "Novel Ecosystems in the Anthropocene." The theme builds on current discussion of whether the Anthropocene should be formally recognized as a geological epoch distinct from the Holocene. HRC member Hal Balbach drew our attention to a recent BBC report by Jonathan Amos on these discussions, based on an article from the Anthropocene Working Group published in *Science* on January 8, 2016.

To obtain formal recognition of the Anthropocene as a geological epoch, distinct stratigraphic signatures must be identified in sediments and ice. The Working Group argues that potentially the lower boundary of the Anthropocene should be placed in the mid-20th century, where the markers consist of a combination of plastics, fly ash, radionuclides, metals, pesticides, reactive nitrogen, and the consequences of increasing greenhouse gas concentrations.

But the authors realize that 1950 really marks the start of a "Great Acceleration" caused by population growth and industrialization. Human impact on the environment has a much longer history, going back millennia to the spread of agriculture

and deforestation. As thoughtful people realized by the mid-19th century, human impact on the earth was massive. George Perkins Marsh (left) published his classic treatise *Man and Nature, Or Physical Geography as Modified by Human Action* in 1864 to draw attention to the extent of these impacts and the need for more scientific study.



The Historical Records Committee will build on this year's theme to explore ways to use different kinds of historical records to assess human impact on the environment. We begin (below) by profiling a new project that uses old whaling logbooks to understand climate change. The April and July Newsletters will have information

about upcoming HRC-sponsored sessions and related sessions at the annual meeting in Ft. Lauderdale in August.

See the BBC report at:

<http://www.bbc.com/news/science-environment-35259194>

Reference:

C. N. Waters et al., 8 Jan. 2016. "The Anthropocene is functionally and stratigraphically distinct from the Holocene," *Science* 351(6269).

Old Weather: Whaling

Old Weather: Whaling is a recent offshoot of an ongoing project called *Old Weather* led by NOAA, the University of Washington and Zooniverse (a citizen science web portal). As described on its website:

<http://www.oldweather.org/#/>

Old Weather extracts weather observations from U.S. ships' logs since the 19th century. These data help scientists understand the past environment and contribute to climate model projections. Citizens are invited to work on these transcriptions. Currently *Old Weather* has 310 active users and has transcribed over 12,000 log pages from 15 ships.

Old Weather: Whaling was launched in December 2015 and focuses on whaling logbooks.

These include observations of sea ice as well as other information about weather, whales and other animals encountered, and "notable events" that chart life on board ship. Members of the public are invited to read and transcribe the logbooks:

<http://whaling.oldweather.org/#/>

Much of the data comes from books kept at the New Bedford Whaling Museum in Massachusetts, which is digitizing its logbooks. After they are posted online, "citizen-scientists" are enlisted to help transcribe data. As explained on the website, the data in these logbooks are unusual. As whale populations were driven down by hunting, whalers increasingly had to explore frigid Arctic waters to find their prey. The logbooks contain detailed information about weather and sea ice from regions that few others visited.

Michael Lapidés, Director of Digital Initiatives at the New Bedford Whaling Museum, is leading the logbook digitization project. The team has digitized over 500,000 log pages and estimates that the project will last a year.

Projects of this kind provide ways to compare conditions of the past and present as humans exerted ever greater impact on the world's ecosystems. Museums play an important role as repositories of historical records and as educational institutions. The role of "citizen-scientists" is vital in making error-free transcriptions, for machines

cannot accurately read these handwritten documents.

For more information on *Old Weather: Whaling* see the website Arctic Rediscovery, Pacific Marine Environmental Laboratory, NOAA:

<http://www.pmel.noaa.gov/rediscover/>

From the **ARCTIC REDISCOVERY** website, on the importance of historical environmental data:

"Our ability to understand the present and future Arctic and global climate, its physical drivers and linkages across spatial scales, and the probable impacts on ecosystems and society, depends on our knowledge of the past climate. This in turn requires the preservation, recovery, and analysis of historical environmental data, especially synoptic and hourly resolution weather and ocean observations. Together these documents comprise a unique first-hand record of the human experience in the North, and contain a vast but largely untapped wealth of scientific and cultural information."

<http://www.pmel.noaa.gov/rediscover/pmel-theme/historical-data-recovery>

The Institute of Ecology: Oral Histories Digitized at University of Georgia Libraries

Steven Armour, specialist in electronic records at the University of Georgia, sends news that the Hargrett Library has digitized the oral histories done in 1984 and 1985 as part of a historical project on The Institute of Ecology (TIE). TIE grew from discussions within the Ecological Society of America during the 1960s, but was incorporated in 1971 as an independent entity and lasted until 1984. Josephine Doherty headed the historical project after the demise of TIE and interviewed 23 ecologists, most of whom were closely involved with TIE. These can be accessed from the Hargrett Rare Book and Manuscript Library's online catalogue:

<http://hmfa.libs.uga.edu/hmfa/search?keyword=institute+of+ecology+interview&title=&creator=&year=&year-max=&smode=advanced>

From this website, select an interview, click on the title, and scroll to the bottom to find the link that says "view online." The library has divided each interview into indexed segments, roughly corresponding to the questions that Doherty asked. The Hargrett Library uses a web-based system called OHMS (Oral History Metadata Synchronizer), which enables researchers to locate information in oral histories more efficiently. (Doherty and Art Cooper published their history of TIE in *ESA's Bulletin* in 1990, 71(1): 6-17.)

TIE was an unusual experiment in cross-disciplinary dialogue meant to increase the reach and impact of ecological science as the environmental movement was growing. Doherty wanted to know how ESA members initially viewed TIE, TIE's relationship with universities and research institutes, how ecologists assessed the value of TIE's work, its problems in fostering interdisciplinary programs, and the reasons for its eventual demise. In the process of reflecting on TIE, the ecologists interviewed also reflected on the nature of ecology as a discipline encompassing many voices, levels of analysis, and perspectives.

Her questions elicited several reflections on the nature of ecology as a discipline (see sidebar on Frank B. Golley's interview).

After Josephine Doherty asked Frank Golley whether TIE had made a strategic error by initially emphasizing basic research over environmental management, thereby placing it in competition with university programs, Golley commented:

[The question] raises another issue which has never been resolved and that's the complexity of the opinion of the ecological community. The community itself is exceedingly diverse and has very strong personalities with very diverse opinions. And there's no mechanism available to bring the opinions together. Particularly during the period of environment[alism] there was so much support [of ecology] that anyone with an opinion who was vigorous in expressing it, and had an opinion that was reasonable and logical, could find funds for it, so that the diversity became even greater, then was reinforced by the public support for environmental and ecological work. But ecologists during this period never were forced to seek common positions. And it's only with the more recent limitation of resources that ecologists are beginning to see the need to work together to accomplish certain objectives.

Frank B. Golley interview, 4 Dec. 1984

Update on HRC's Ongoing Oral Histories of ESA members

By Dennis Knight

In 2012 the HRC initiated a project to record the reflections of past-presidents, eminent ecologists, and others who have played notable roles in the development of ESA and ecology as a profession. Three oral history kits are now available for loan to any member who wishes to participate in this very interesting activity. The kit includes a simple-to-use, high quality recorder, plus instructions on how to use the recorder, guidelines for doing an oral history, and the release form that must be signed before the oral history can be archived.

After receiving the interview file (in WAV format), notes are made of the topics that were discussed in the order they were discussed. These notes, along with the file and release form, are then sent to Christian Lopez, the oral history archivist at the University of Georgia Libraries. It is expected

that the recordings will become generally available at some time in the future. Transcriptions have not been made, due to the time and expense involved, but the notes can be searched for key words that are of interest.

During the last three years, oral histories have been completed for the following individuals: Robert Paine, Larry Bliss, Gordon Orians, Ori Loucks, Yaffa Grossman, Jean Langenheim, John Hobbie, Patricia Werner, James Brown, Scott Collins, Art Cooper, George Woodwell, Margaret Davis, Stuart Chapin, Hal Mooney, Katherine McCarter, Marge Holland, Simon Levin, William Reiners, and Fran James.

ESA members who would like to do an interview should contact HRC's oral history coordinator, Dennis Knight, at dhknight@uwoyo.edu.

The HRC newsletter is a quarterly and welcomes contributions from HRC members and friends. Please send Newsletter items to Sharon Kingsland at

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