

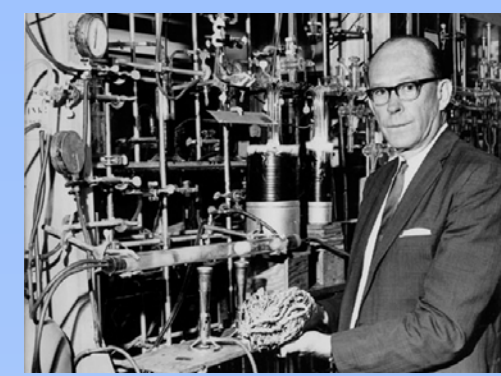
Introduction

The US National Park Service (NPS) is raising awareness of the scientific value of parks. National parks are not just places of recreation and beauty. They are also ideal for conducting, experiencing, and learning about science and its relevance to society.

Furthermore, many parks have been central in the development of major scientific ideas and practices. They protect unique examples of global scientific heritage and intellectual history.

There are fascinating stories to be told about these places and the history of science. ESA members and other scientists can help identify and tell those stories.

¹⁴C Dating Methods Willard Libby at Tule Springs Fossil Beds



http://www.columbia.edu/~wr14/libby_willard2

In the fossil beds of Tule Springs, NV, archeologists hypothesized that early humans hunted and cooked the abundant large Ice Age mammals. In 1962 Willard Libby, Nobel laureate in chemistry, used his new ¹⁴C dating method to test the hypothesis on material collected from the site. This was the first use of radiocarbon dating on field samples.

Libby's data showed that charcoal associated with obsidian points – and thus human presence -- dated to 10,000 – 11,000 years. Charcoal associated with fossils dated to 30,000 years – well before humans – and was probably the result of wild fire, not cooking fires. The hypothesis was falsified, demonstrating how the process of science works to accept or refute ideas.

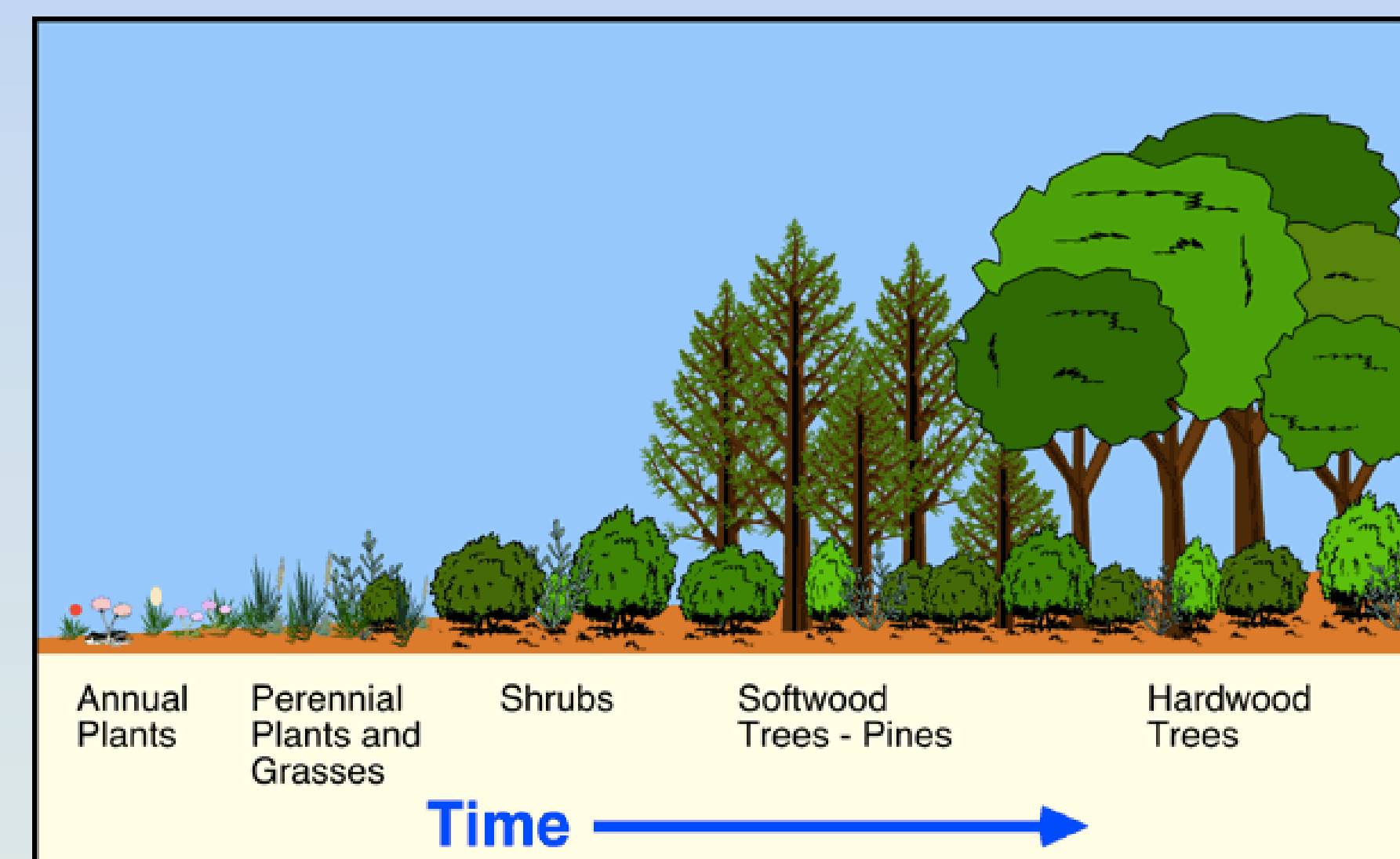


Developing Plant Succession Theory Henry Cowles at Indiana Dunes National Lakeshore



Photo by Rafi Wilkenson

In the late 1890s, Henry Cowles studied plant communities on dunes at the southern tip of Lake Michigan. He observed that species consistently replaced one another from young near-shore dunes to old inland dunes. Cowles interpreted these observations as the first convincing evidence for ecological succession. The dunes are now preserved within Indiana Dunes National Lakeshore.



Ecological succession is today a fundamental concept in ecology that refers to more-or-less predictable and orderly changes in the composition or structure of an ecological community over time. Knowledge of succession informs resource management including restoration, invasive species removal, and responses to disturbances.



Henry Cowles and Arthur Tansley, Chicago Historical Society photograph



Cowles and class on favorite dune
University of Chicago Library Archives photo AEE5D3

Recognizing Historic American Scientific Achievement

In 2015 the National Park Service Science Advisory Board, aided by professional societies, including **esa**, recommended establishment of new sites intended to enhance the role of NPS in educating and inspiring the next generation and build public support for science



RECOGNIZING SCIENCE:
American Scientific
Achievement and the Role of
The National Park Service

A Report
of the
National Park System Advisory Board
Science Committee

12 potential sites/scientists, drawn from all major science disciplines. Each recognizes significant scientific achievement and might serve as a transformative STEM portal. All emphasize the role of science as a process of discovery.

ESA nominated **Sapelo Island, GA** to recognize its role in launching the field of ecosystem ecology and honor the accomplishments of outstanding ecologists Eugene P. Odum, Evelyn Sherr, Barry Sherr, and many others.



E.P. Odum, U. GA
Photographic Services

Odum's research helped launch ecosystems ecology, the science that connects the flow of energy and materials across scales from molecular to global. Today the ecosystem approach is fundamental to understanding the causes and consequences of global change, and to helping to develop solutions for the world's most pressing problems.

Do you have a story to share about the role that a national park has played in the history of science?

Please tell us so we can build a dynamic website and digital story library.

Contact us at

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