

Saved in Time: The Fight to Establish Florissant Fossil Beds National Monument, Colorado

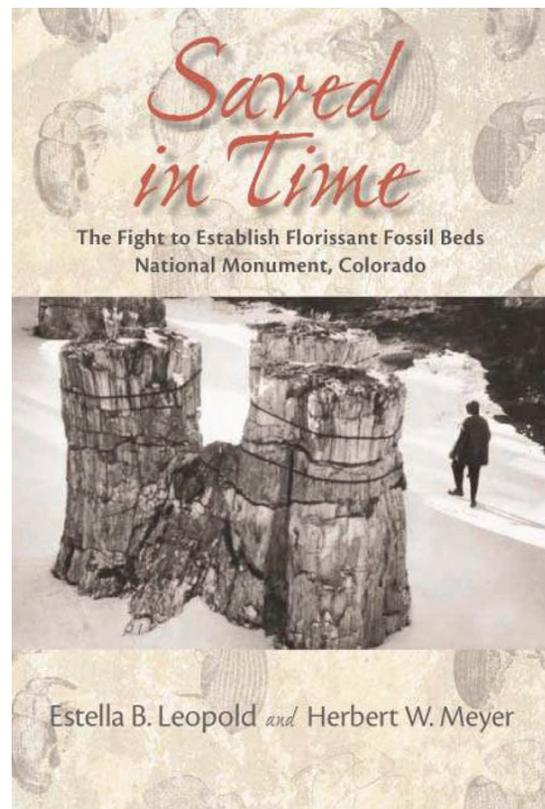
Book reviewed by Ted Fremd

Preventing geological book burning

Saved in Time: The Fight to Establish Florissant Fossil Beds National Monument, Colorado
Estella B. Leopold and Herbert W. Meyer, 2012,
New Mexico University Press. 139 pages, 13
colour plates, ISBN 978-0-826-35236-1

Entering a fossil locality is similar to walking into an old-growth forest, such as a redwood grove. How you conduct yourself depends entirely on your motivation. In the forest, if you plan to harvest the trees for their immediate economic value, chances are you won't be as interested in studying and documenting the habitat as a scientist would be, much less saving it for the benefit of others to appreciate.

The cleverly titled *Saved in Time: The Fight to Establish Florissant Fossil Beds National Monument, Colorado* is the definitive account of arduous efforts that were made in the 1960's to save the Florissant Valley Eocene lacustrine beds by an interesting mélange of conservationists in Colorado, led by the paleobotanist Estella Leopold (the daughter of Aldo Leopold, the famous conservationist and author of the *Sand County Almanac*). She and National Park Service (NPS) paleobotanist Herb Meyer prepared separate chapters for the book, with Meyer offering a concise description of the area and NPS efforts to preserve it, and Leop-



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old writing a vivid and compelling narration of her observations of the struggles leading up to the authorization of the park in 1969. Most of Leopold's efforts were engaged while many of us were still hanging around the playground and visiting Disneyland (including her coauthor). As a result, the asynchronous text may strike readers as a bit jarring at first, but the disjointed styles of the two authors is emblematic of the passionate conservationists who worked in often disjointed synchrony with dispassionate, though well-meaning federal government bureaucrats. There really isn't a better way to present this material than through the words of both of these knowledgeable authors.

Some fascinating glimpses into the contrasting motivations of conservationists versus developers emerge, as scientists and preservation-minded people noted that many of the fossils were rapidly disappearing and the NPS was "dragging its feet". There was reason for concern; in the 1920's, for example, the NPS had been authorized to manage a paleobotanical area in South Dakota that contained a marvelous concentration of fossil cycads. After horrific neglect and mismanagement, collectors carted off every last specimen. Thus, Fossil Cycad National Monument – which many people have never heard of – was removed from the National Park system in 1957 because there was simply nothing left of any significance. At the rate material was disappearing at Florissant, it appeared those beds could disappear as well - before it was even made into a national monument. As the "valley became an economic temptation", the perceived loss of the fossil resources to collectors and land developers was seen by some to be the equivalent of "Geological Book Burning".

There are interesting anecdotes and amusing quotes throughout the book, such as this rather impassioned statement by an attorney representing the Defenders of Florissant during a U. S. Court of Appeals hearing:

"The Florissant fossils are to geology, paleontology, paleobotany, palynology and evolution what the Rosetta Stone was to Egyptology. To sacrifice this 34-million-year-old record, a record you might say written by the mighty hand of God, for 30-year mortgages and the basements of the A-frame ghettos of the seventies is like wrapping fish with the Dead Sea Scrolls."

I am familiar with the (sometimes painful) histories of developing protected status for classic

paleontological sites around the world, and these efforts continue to this day with a new generation of dedicated workers. *Saved in Time*, however, convinced me that few of these preservation efforts compare to the epic struggle that transpired at Florissant. This book offers a well-documented, authoritative, and sometimes astonishing history of a classic fight populated by heroic figures to preserve a great area. In this case, wise stewardship won out over greed. With current struggles, such as at the proposed Tule Springs National Monument north of Las Vegas, where as of this writing a rich paleontological heritage is still in jeopardy - with opponents and political shenanigans depressingly similar to the ones portrayed in this book – the story told by *Saved in Time* is extremely relevant today.

The authors make good use of black and white illustrations throughout the text, and include 13 excellent color plates of localities, artwork, and beautiful specimen images that are helpful for those unfortunate readers that have not visited the park to see what was at stake. *Saved in Time* will be of interest to a very broad readership of professional scientists, educators, conservationists, and many visitors who might take protected natural areas such as Florissant for granted.

What many people misunderstand is that establishment of a park such as Florissant is simply the first step in the process of conservation, that must be followed with knowledgeable science-based resource management guided by permanent advisors. In any paleontological site, if your motivation is to conduct research using appropriate scientific methodology, you will probably begin by taking detailed measurements of the stratigraphic section, collecting lithologic samples for various compositional tests and radiometric dating, geologic mapping, and a host of other techniques requiring technical training. As the specimens are carefully retrieved, many assets are invested in recording the occurrences that often consume far more time than the actual collecting.

Scientists are just as prone to follow "the Me Plan" as other kinds of collectors, however, and not all are interested in or capable of documenting material for the benefit of multiple disciplines. Anticipating research questions by thoroughly gathering as much information as possible is the hallmark of mature scientific investigations on public lands. This allows future investigators to access data and curated specimens in public repositories that build on - and improve - the sometimes poorly documented material common in existing collec-

tions. The good old days of simply picking up the cool stuff are over.

If one's purpose is commercial, on the other hand, and the entombed biotas are thought to be marketable commodities, then there is little motivation to spend hundreds of hours and thousands of dollars this way – any profits would be burned up. One can collect far more specimens without the onerous task of documenting everything. This is not to say that the logging approach to paleontology is entirely misguided; some point out that there are places where fossils are so abundant that strict procrustean preservation legislation is unnecessary, using examples such as private quarries in the Green River Formation in Wyoming where there are more than enough fossil clupeids (herrings) to supply every human on earth with a souvenir fish. Others argue vehemently that until the entire trade in scientifically significant fossils is completely delegitimized, poaching of non-renewable fossil resources will continue, even from “protected areas”. Most agree that there are certain fossiliferous sites where the market mindset simply is not appropriate – especially on public lands. There are a few (perhaps far too few) significant paleontological localities that have been set aside so that future generations may appreciate myriad approaches of understanding the past, and it is easy to take for granted the efforts that went into

establishing these areas. Rarely do we get a glimpse into the often behind-the-scenes struggles that have occurred to preserve fossil sites such as those chronicled in this book.

Some readers may be surprised to discover how impassioned many professional paleontologists have been to protect important sites such as the petrified redwood groves and surrounding biotas at Florissant. They shouldn't be; paleontologists and preservationists have a long history of coevolution. For example, if you ever have a chance to visit what's left of the once-magnificent extant redwood forests in Northern California, you may discover the “Founders Grove”. On the tree commemorating the establishment of the Save the Redwoods League, there is a plaque honoring the three men who had the vision to establish this conservation group in 1918 “before it was too late”. Two of these, John C. Merriam of the University of California at Berkeley and Henry Fairfield Osborn of the American Museum of Natural History, were among the nation's leading vertebrate paleontologists, and spent hundreds of hours working to defend wild areas, with or without fossil localities, from the logging mentality. They would have applauded the efforts to preserve Florissant, and they definitely would have enjoyed reading this book and seeing how, in this case, their descendants won the fight.