

A "Whale" of a Resource:

Fossils of National Capital Parks-East

Jason Kenworthy

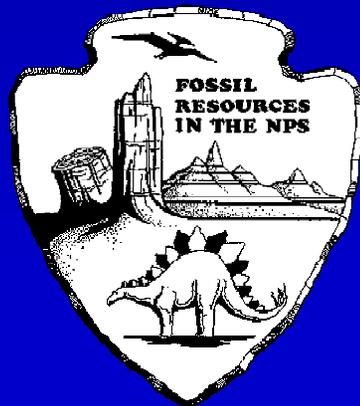
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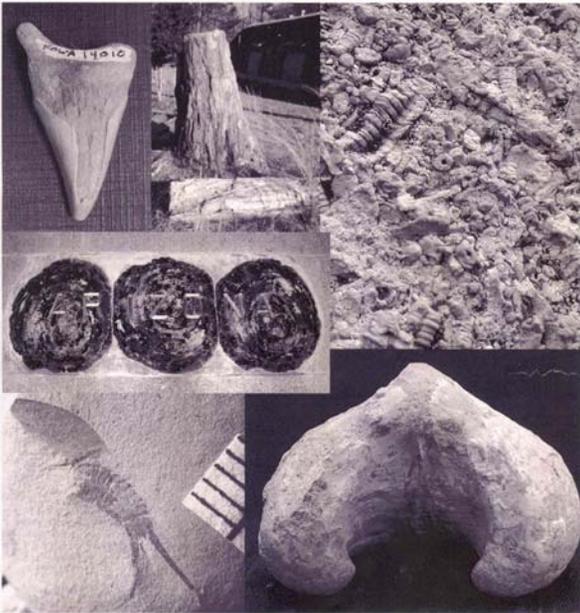


National Capital Region Paleo Summary

National Park Service
U.S. Department of the Interior
National Capital Region



Paleontological Resource Inventory and Monitoring NATIONAL CAPITAL REGION

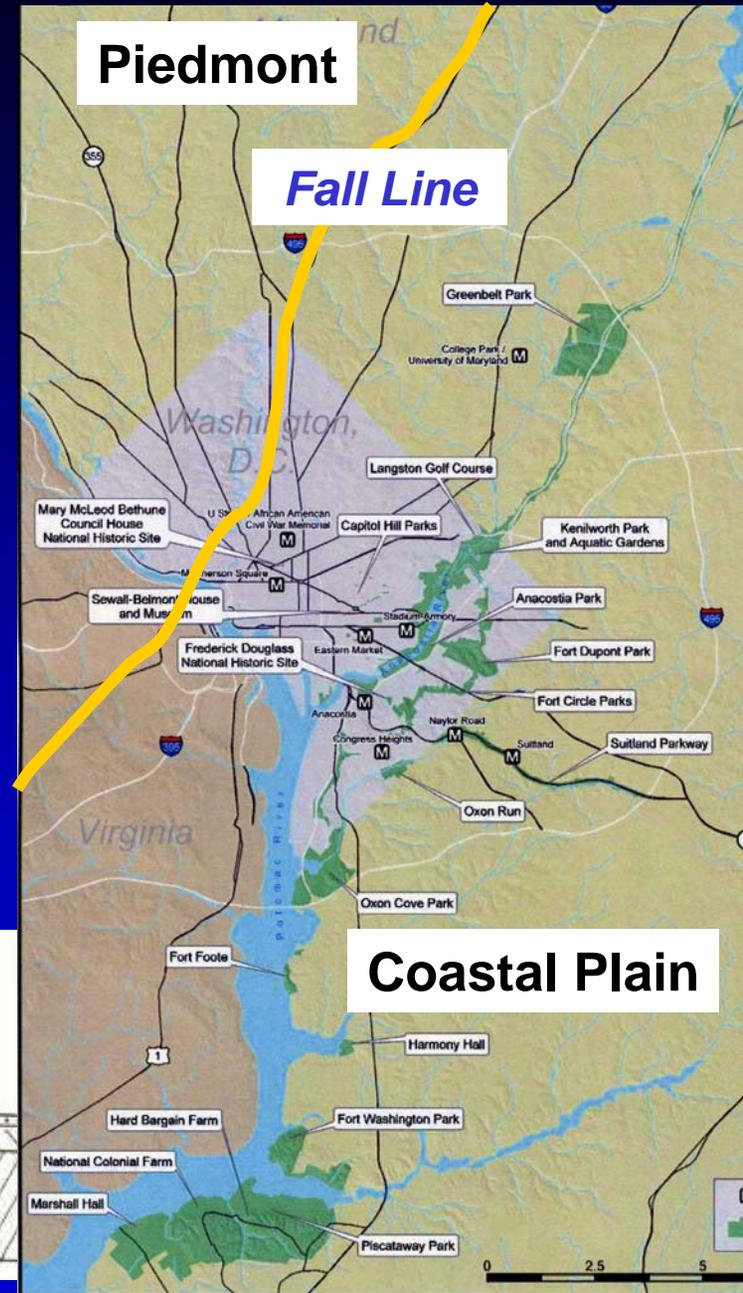
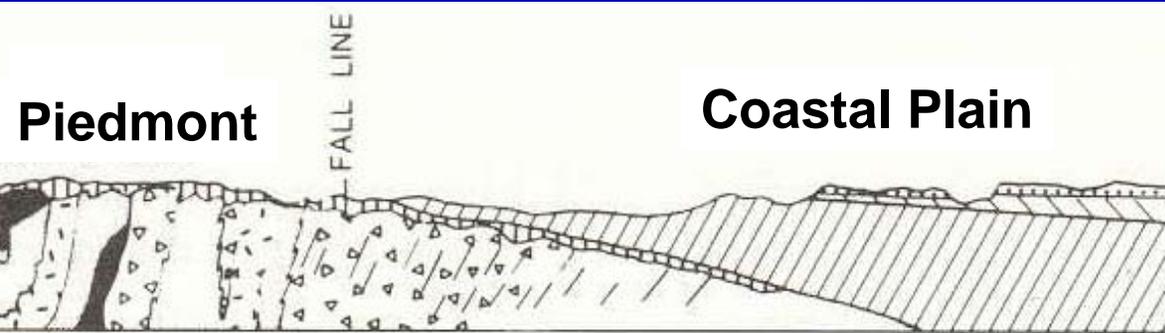


Draft

- First comprehensive geology & paleo summary for NCR, 2004
- Past work: 170 years
- Inspire future work
 - Field research
 - Museum collections
- Resource management issues
 - Erosion
 - Unauthorized collecting
- 15+ NCR sites with fossils
- NACE good example

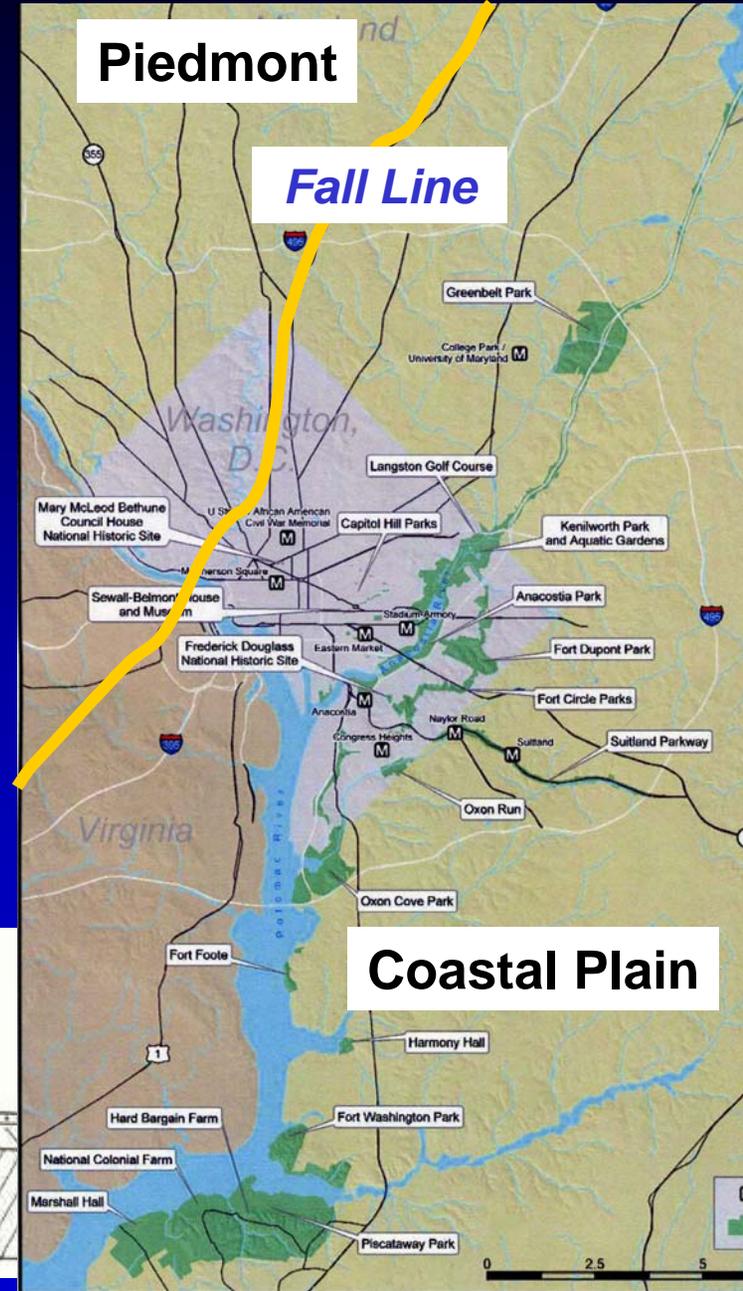
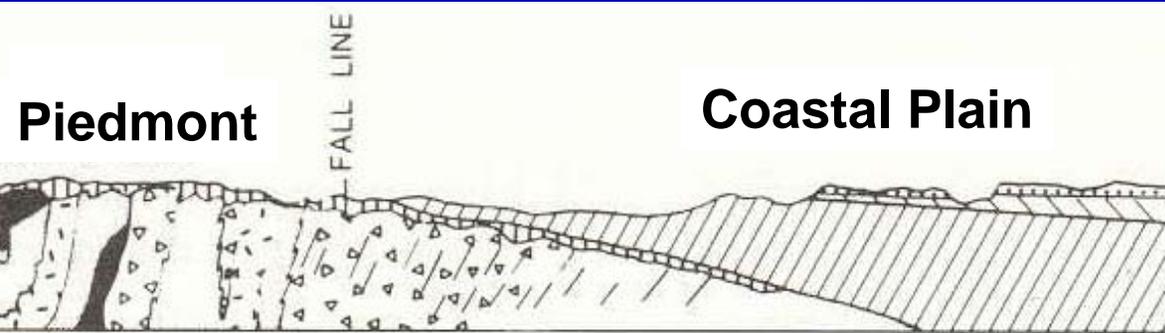
NACE Coastal Plain

- “Plain” but not boring!
- Thick wedge of sediment
- Terrestrial and marine settings
- 120 million – Wed, 3/29/06



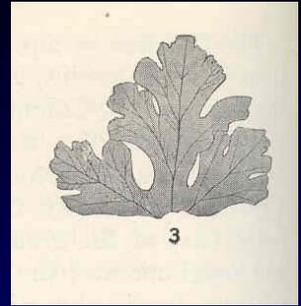
NACE Coastal Plain

- “Plain” but not boring!
- Thick wedge of sediment
- Terrestrial and marine settings
- 120 million – Wed, 3/29/06
- **FOSSILS!**



“Plain” Sediments and Fossils

- >1/2 Doz. Fossiliferous Formations
- Terrestrial:
 - Plant Fossils (first angiosperms)
 - Dinosaurs (“Dino Alley”)
- Marine:
 - Mollusks (100s of species)
 - Sharks teeth
 - Marine Vertebrates
 - Marine Mammals

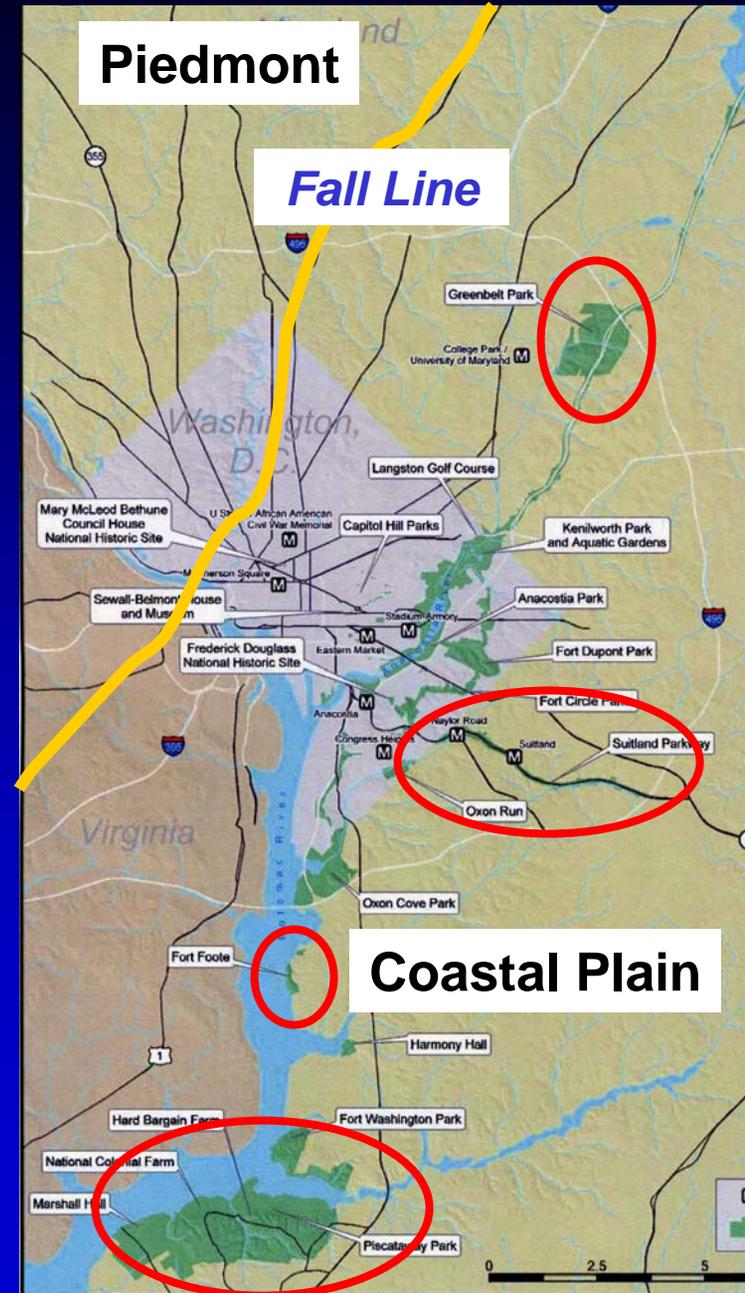


National Capital Parks-East

“Fossil Parks”

- Greenbelt Park*
- Fort Foote Park*
- Suitland Parkway*
- Fort Washington Park*
- Piscataway Park

+ lots of potential!



Terrestrial

Potomac Group Plants

MARYLAND GEOLOGICAL SURVEY

Brachyphyllum crassicaule
LOCALITY:

Fort Foote Md
Patapsco

COLLECTOR: EWB
DATE: 6/7/09
NOTE BOOK:
PAGE:



Fort Foote 1909

Terrestrial

Potomac Group Plants

WITH NAMES LIKE THIS, THEY DESERVE EACH OTHER
Fauna + Flora WASH. DAILY NEWS OCT 8 1970

Hey! A paleobiologist finds a *cycadeoidea marylandica* here

By LOUISE LAGUE

Long, long ago when Washington was a low fresh water swamp with dinosaurs roaming around on it, and Greenbelt Park was a large stream and delta, there lived a plant called *cycadeoidea marylandica*.

The plant was about three feet tall in the shape of a large pineapple with a crown of leaves resembling palm fronds. The *cycadeoidea* had scales and hair,

ing up in the early 18th century when the colonial farmers in a 15-mile wide corridor between Washington and Baltimore started clearing the land. They piled them up, thinking they were petrified beehives. The first identification of the fossils was made in 1860, and almost 300 fossils are now on display at the Museum of Natural History.

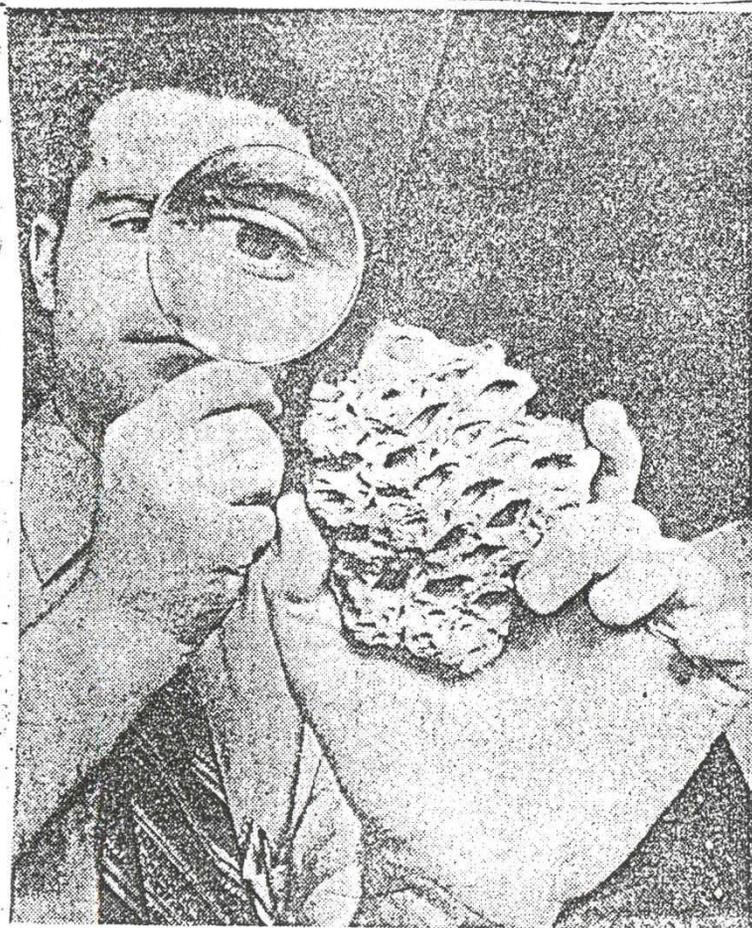
On Sept. 25, Dr. Leo Hickey, a paleobiologist (specialist in ancient life) from the Smithsonian, and L. K. Thomas Jr., a National Park Service research biologist, found a small *cycadeoidea marylandica* fossil in a streambed in Greenbelt Park.

NOT EARTHSHAKING

It is the size of a hand, and it looks, in the words of Mr. Thomas, "like a rock with holes in it."

Dr. Hickey, who brought the fossil back to the Smithsonian said: "It's interesting, it's rare, and it's exciting, but it's not earthshaking. The common fern, which dates from the same era has stayed alive like a small business—just marginally.

"But the *cycadeoidea marylandica* didn't even make it that far."



—Photo by Geoffrey Gilbert

Dr. Hickey and the fossil.



2005

Greenbelt Park 1970

Terrestrial

Potomac Group Dinosaurs

E. Capitol St. Antediluvian

100 Million-Yr.-Old Dinosaur Bone Unearthed Here by Sewer Diggers

District workmen dug up a dinosaur bone yesterday while excavating for a storm sewer in northeast Washington.

"It's about 3½ inches long and about 2 inches wide. It was found 70 feet below E. Capitol St. between Burns St. and Texas Ave., in a tunnel excavation for a storm-water sewer," explained Howard D. Phornett, construction management engineer for the Sanitary Engineering Department.

Phornett said David Dunkle, in the division of Vertebrate Paleontology at the Smithsonian, said it is part of a tail bone of a coelurosaur, a car-

nivorous dinosaur that lived in the lower cretaceous period.

"It's a meat eater that stands on large hind legs and has very short front limbs, a small head and a long tail. This animal lived toward the end of the period of dinosaurs at the time

Picture on Page A7.

when they were dying out," Phornett reported.

"This fella was only about 6 feet from head to tail hundred million years ago," Dunkle says, give or take a little."

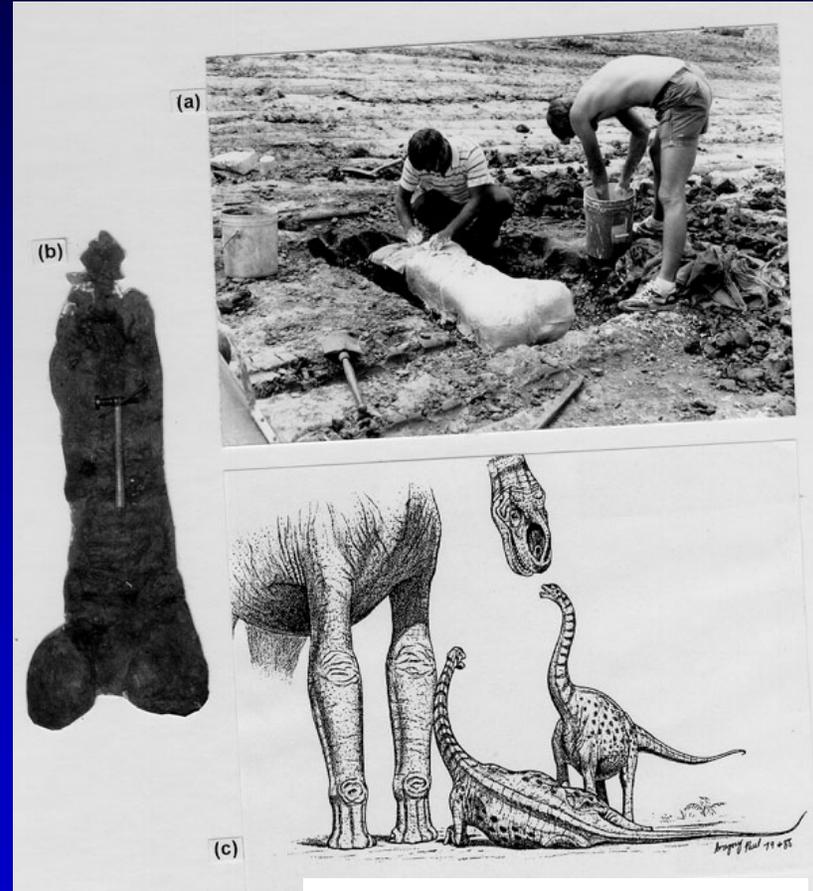
This was not the

dinosaur bones have been found in the Washington area. Since the 1870s, isolated bones and teeth have been discovered at least three times.

Phornett has an amateur enthusiast's interest in the newly discovered bone. "I took a course in geology at George Washington University years ago. It was just an introductory course about the more permanent types of dinosaurs — Allosaurus, Stego-

Ft. Stanton

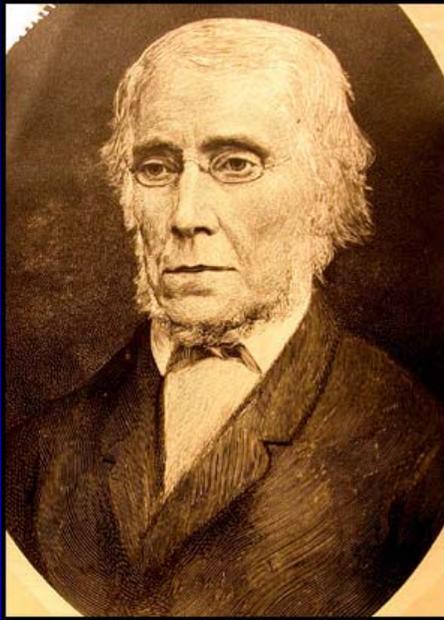
**"Dinosaur Alley"
Discoveries near NACE**



B/W Parkway

Marine Mollusks

Aquia Formation



T.A. Conrad
1830s



Cucullaea gigantea



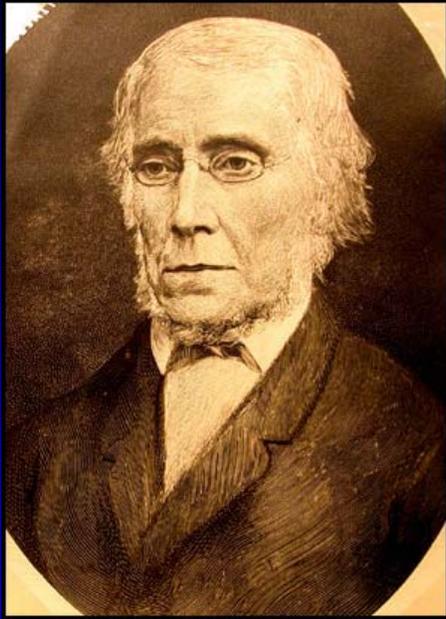
Turritella

Fort Washington Park, Piscataway Park

“among the best known localities in Mid Atlantic Slope”

Marine Mollusks

Aquia Formation



T.A. Conrad
1830s!



FOWA



V. nodosa
Athleta nodosus

England

FOWA/PISC = London Clay

“among the best known localities in Mid Atlantic Slope”

Marine Mammals

Calvert Formation



- “Willy”
- Baleen whale
- Suitland Parkway 1997
- Far from Calvert Cliffs
- To Smithsonian
- Returned to NPS 2004
- Cleaned/Prepared
- 16 million years old



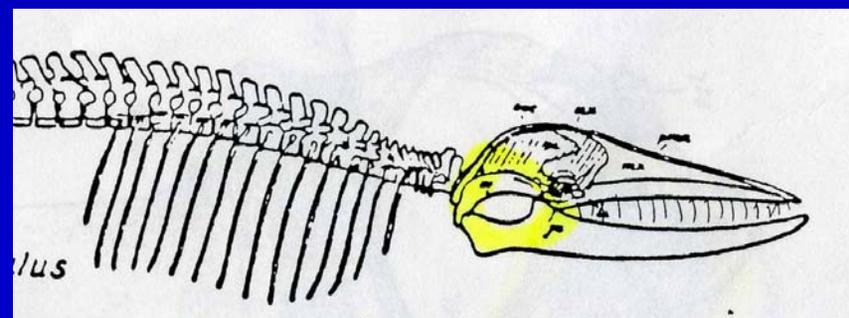
BEFORE



AFTER



New/rare species??



Where to next?

- Continue research
- Continue updating collections
- Resource management
- Resource protection
- Interpretation



Most of what is to be learned about the history of life remains to be discovered!



GO MASON!

What's still out there??

Fort Washington, S. Syphax