

Share Your History

If you're a Landmark Society Member or friend—and you must be if you are reading this—you have history in your head that we would like to share with other members. These memories might be of incidents, of places or people, your own relatives or others—teachers, merchants, religious leaders, farmers—all those who played a part in the daily life of the community. These stories, when written with corresponding letters or photographs, combine to represent the tapestry of Garland's past from which we can all learn. We encourage you to write your memories of Garland's history and send them, along with supporting pictures, letters or newspaper articles, to us for possible use in the On Track newsletter.

Send your stories to:

Heritage@GarlandTX.gov

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NOW!!

\$8

Get your 2020
Garland Landmark Calendar
at the Landmark Museum
FREE Admission

Open Every Saturday
10 a.m. to 2 p.m.

ON



TRACK

VOLUME 17 NO. 2

GARLAND LANDMARK SOCIETY NEWSLETTER

April May June 2020

Garland Sharks

Evidence of what lurked in Garland's past.



Fossilized shark tooth, still imbedded in a Cretaceous rock matrix and found in Garland during the '90s. The specimen dates from dinosaur times, when shallow seas covered land in this area. Mud from the sea floor hardened around some teeth and prevented their decay. Provided through the George E. Wolf family collection in Pasadena, Texas. *Garland Landmark Society Archives*

Biologists now agree that sharks, unreported here for more than 70 million years, have been eradicated from Garland waters, but parts of them still exist in our area if you know where to look.

During the late Cretaceous period, which long predated Garland's Duck Creek flooding, the entire state of Texas was under the water of a shallow sea. This Western Interior Seaway existed from 95 million to 68 million years ago. It cut a large swath across North America from the Gulf of Mexico to the Arctic Ocean and from the Allegheny Mountains to the east and to what would become the Rocky Mountains on the west. The Seaway was created when tectonic shifts lowered the middle of the continental all the

way through the U.S., all the way through Canada, and even past Alaska. It filled with water as sea levels rose from melting polar ice caps as a result of "global warming" on a huge scale.

Eventually, the North American tectonic plates re-shifted and the land rose again as sea levels subsided, leaving the dirt we live on here in Garland that now covers shallow-to-deep deposits of Cretaceous sedimentary rock. The chalky rock we find around here and the harder limestone in other areas both formed from uncounted trillions of tiny calciferous marine organisms that died, and over millions of years, they accumulated on the sea floor and coalesced slowly into rock. This sedimentary rock from the Cretaceous is often exposed by erosion around creek beds. A quick glance downward during a drive over Duck Creek or Spring Creek will expose you to at least 68 million years of history and explain why the companies laying fiber optic cables in North Garland are working so hard.

Sharks were abundant in these warm sea waters, each one continuously shedding teeth onto the sea floor. Unlike humans, who have only one set of replacement teeth, most sharks have new teeth continuously

Movie Houses of Garland

Let's All Go To The Movies...

A new exhibit at the Garland Landmark Museum

Opens April 11, 2020

Saturdays 10 a.m.-2 p.m.

GARLAND
HERITAGE CROSSING

393 N. Sixth St.

GarlandHeritage.com



Are you a long-time Garland resident with 1-2 hours to spare?
Make an appointment to visit the museum and help us identify hundreds of photographs.
We are looking for information on WHO is in the picture, WHAT they are doing,
WHERE the picture was taken and by WHOM, as well as WHEN the photographer pushed the button!

Appointments available

Mondays and Wednesdays 10 a.m. and 12 p.m.

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This collection of shark's teeth demonstrates their variety. Depending upon their local food supplies and hunting conditions, even sharks of the same species could possess different teeth. *Garland Landmark Society Archives*

growing and rotating into biting position throughout the animal's life. Depending upon the type of shark, this process could involve up to 35,000 teeth over its lifetime. Eventually, the shark contributed its entire carcass to the Cretaceous sediment, but teeth represent almost the only part in a shark's body that fossilized and escaped decay.

It takes a very specific set of circumstances for a fossil to form. After about 10,000 years' time, calcium phosphate content in shark's teeth enabled them to fossilize replacing the organic material with mineral substances. During fossilization, being buried in sediment prevents decomposition by bacteria and oxygen, and the tooth darkens in the ageing process as it slowly turns completely to mineral. As the blizzard of bodies of

calciferous plankton falls around these teeth, the whole mass turns to rock, preserving the now embedded fossils for us to display and study. These ancient dental records enable scientists to study not only tooth structure, but also individual shark species, dietary preferences and migration patterns.

Landmark's samples were assembled and provided by the Wolf family of Pasadena, Texas. George E. Wolf, Sr., *pater familias*, was a retired longshoreman who recast himself as an amateur-but-dedicated naturalist. Often joined for camping weekends by his wife, two daughters and two sons, he liberated tons of fossils before his death in 2017 at the age of 82. Hunting also for arrowheads and other ancient items, the family combed nearby Galveston and sites around Texas, then other states,

including Florida. None of their finds was purchased, so they were able to record the location of each discovery. In addition to participating with local hobbyist groups, Wolf was a 35-year member of the Texas Archeological Society. Over decades the Wolf family shared its collection by displays in local schools and libraries, as well as gem and mineral shows. Landmark is one of its museum beneficiaries.

Politely declining to pinpoint the exact site of his '90s Garland find for other collectors, David Wolf added "This was one of my favorite sites to collect [from] and...I plan on taking my son there. I had found some really nice mosasaur material in it."

In addition to sharks, the abundant fossils of other and even more fearsome predators indicate the seaway would not have been a pleasant Ray Hubbard-type recreational area. In addition to the over 20 species of sharks swimming about, there were many other large fish that displayed awe-inspiring dentition. Scarier still were huge predator reptiles like 40 ft. plesiosaurs and mosasaurs, some up to 50 ft. long with 2 sets of dagger-like teeth that could easily bite through large ammonites or anything else swimming in the ocean that whetted their appetite. Entire fossilized skeletons of plesiosaurs and mosasaurs are displayed in museums around the world, even here at the Perot Museum of Natural History. Sharks left us a lot of teeth but very few complete



These structures are the fossilized remnants of shark vertebrae. Most of a shark skeleton is cartilage, which does not fossilize well, if at all. *Garland Landmark Society Archives*



Not an actual photograph, but an artist's depiction of a bad day for a shark during shark week, showing a huge shark about to be eaten by a giant mosasaur somewhere around where Roach Feed and Seed now lie. A close look into its open mouth will reveal its second set of teeth set back in its palate. As air-breathing reptiles, mosasaurs usually hunted in relatively shallow water.

skeletons. Their skeletons are made of cartilage, not bone; and cartilage usually disappears before it becomes mineralized.

Except for our ancestors, mouse-sized furry mammals hiding in their holes from the carnage around them, most of the plants and animals of the Cretaceous would look unusual to us. Grass had not yet evolved. Neither had whales or dolphins. Many birds still had teeth. A search for clams in the Seaway might produce a bivalve over a yard in diameter, enough to feed everyone who survived their brief swim in the surf before the clambake. Dry land was not any safer; dinosaurs were at their peak diversity and vitality including many apex predator theropods, from speedy velociraptors to the gigantic *T. rex*.

All the formidable reptilian denizens of the Seaway, many other sea creatures such as ammonites, and all the dinosaurs (except for birds), died in the K-Pg event when the asteroid hit not that far south of us on the Yucatan. Half of all animal species became extinct, gone now for 66 million years, while sharks, existing relatively unchanged for about 400 million years, are still with us. Fortunately, some of them from long ago left some teeth behind for us to find here around Garland and for us to have in our Landmark collection.

-Jim Barnes & Michael R. Hayslip