The opening of the river otter exhibit on June 25, 1994, culminates fifteen years of planning, fundraising, and construction of aquariums and live animal exhibits featuring the estuarine ecology of the Chesapeake Bay and Patuxent River — one of the three themes of the Calvert Marine Museum. In 1992, following the opening of the Estuarium where the aquariums are located, the museum hired an architect, Charles H. Shaw, to begin the final design work on the otter exhibit. The entire project was advanced significantly by a generous grant from the Baltimore Gas and Electric Company, and this sponsorship also greatly assisted the successful match of a bond bill from the state of Maryland.

The otter exhibit presented numerous design and construction challenges. Prior to construction, soil borings were taken, and it was determined that the subsoil at the southeast end of the Exhibition Building could not support the exhibit weight. It was necessary to excavate to about four feet below the water table and back fill with soil that could properly compact and support the weight. This was somewhat awkward in an area that is boxed in by the Exhibition Building and the boardwalk on two sides, and the boatbasin and freshwater pond on the other sides. The excavation contractor, Morgan Russell, was able to find enough room to work, removing partially the subsoil and constructing a bulkhead to prevent the sides from collapsing. A large roll-off trash container was brought in from the county landfill and lined with filter cloth so that water could be pumped in as digging proceeded below the water table. The filter cloth removed sediment from the water as it drained from the trash container. The first pump used could not pump fast enough to overcome the water flowing in, so the biggest pump available was rented to handle the massive flow into the hole as excavation proceeded. Later, in checking the trash container, fifty live fish were discovered that had flowed in during the excavation and passed through the pump. The fish were collected and released into the boatbasin, but they most likely decided after the experience that they would not hang around the museum in the future!

Once it was certain that the soil would support the exhibit, another contractor — Hegarty-Kopicki, Inc. — was hired to construct the concrete base and side walls. Because of the “uncooperative” weather in February and March, whenever a concrete pour was attempted it would rain, freeze, or snow, and it was necessary to dig out and start over. During a few good hours break in the weather, however, it was finally possible to pour concrete successfully by pumping it over the top of the exhibition building and down into the exhibit forms, using a hose attached to a large hydraulic boom.

When the walls had been completed, Wren Haven Construction was hired to construct the simulated “mud bank.” This involved building a wire and steel framework and spraying it with a concrete mixture. A texture coat was applied by hand to give a finished “mud bank” appearance. A ten-inch diameter tunnel was constructed through the building wall to allow the otters to pass into the outside exhibit pool from the holding/sleeping area located in the back of the Estuarium.

By Kenneth R. Kaumeyer, Curator of Estuarine Biology, and Paula W. Bohaska, Aquarist

Continued to page 3
FOSSIL FACTS

by Sandy Roberts

Stone Tongues

Folklore and shark teeth were seemingly made for each other. Early man, seeing fossilized shark teeth buried or protruding from rocks, noted their gruesome resemblance to tongues turned to stone and invented countless tales, myths, and legends to explain their presence. The Roman historian Pliny (A.D. 23-79), in his Natural History, made perhaps the earliest reference to these strange rock-bound teeth, calling them Glossopetrae (stone tongues). Pliny asserted that they fell from the sky during lunar eclipses, but questioned the common belief that they had the power to excite sexual desires or prevent flatulence. Another legend pertains to the island of Malta, in the Mediterranean Sea, where fossil shark teeth are common, including the large triangular teeth of white sharks (Carcharodon). It seems that in A.D. 59 the Apostle Paul was shipwrecked off of Malta and was bitten by a viper as he struggled ashore. The angry saint, miraculously unaffected by the poisonous attack, seized the snake and threw it into a fire and cursed it. Pilgrims would receive the saint’s protection if they carried one of his stones in their pocket, a belief still held in certain parts of the world even today. For centuries, in parts of rural England, shark teeth have been worn to ward off cramps and rheumatism, and in modern Italy they are still carried to prevent the Evil Eye and to counteract poison. Even on the beaches and by-ways of Southern Maryland, a large fossil shark’s tooth, proudly displayed on a gold or silver chain, is not an unfamiliar sight.

CHANGES IN THE MUSEUM CALENDAR

With this issue of the Bugeye Times the dates covered by each quarterly calendar of museum events will change. The calendar in this issue covers the four months of July through October 1994, thus giving members and friends information about activities in October, in the event that their issue of the Bugeye Times is delayed in delivery. Future calendars will return to coverage of only three months, but will begin with a month further advanced: November through January, February through April, May through July, and August through October. The museum values the participation of all its members in museum activities, so this calendar schedule should assure sufficient advance information for everyone. Questions about museum events can always be obtained by calling the museum on weekdays at (410) 326-2042 during museum open hours.

STAFF CHANGES

There have been a few changes in museum staff since the report in the spring issue of the Bugeye Times. The position of curator of exhibitions, vacant since Curt Bowman moved to Florida earlier this year, will be filled on August 1 by Tom Ewart, presently in Corpus Christi, Texas. Maureen Baughman is the new manager of the museum store, coming to CMM from Loeffler Marine in St. Mary’s County. Katherine Childress has been appointed as aquarist, and Edward Plourde, Sr., is the new mate of the Wm. B. Tennison. Two summer exhibit interpreters are Marah DeMeule and Carin Stringer.

CORRECTIONS

In the spring issue, the caption for the photograph of the Volunteer Dinner on page 7 had two names incorrect. These names should have been Ginny Thayer and Bill Loughrey. In the list of contributors to the Year-End Appeal on page 8, W. S. Bushell’s name was incorrect. The editor regrets these errors.
Summer 1994

Since river otters are well-known escape artists, the exhibit had to be designed to minimize any possible escape. This required that the exhibit mud banks and glass viewing panels have smooth vertical surfaces at least five feet high above the water to prevent the otters from jumping out. Numerous adjustments to the concrete walls were necessary to achieve this goal. The final construction task was to install the four, one-thousand pound glass viewing panels without breaking them. Although it was expected that the panels would be shipped on a flat-bed trailer, making them easily accessible for lifting by a crane, they actually arrived in the front end of a standard covered tractor-trailer. It was necessary to slide each glass sheet out to the end of the trailer, balance it, and attach slings from the crane before it fell off. The crane then dragged the glass the remainder of the way out and set it on the ground. Eight men were needed to carry each sheet of glass to the exhibit and to lift it into place. The rain stopped as soon as the final sheet of glass was in place!

While all this construction was going on, arrangements were made to bring the otters to the museum. The quarantine room, containing sleeping quarters, a food-preparation area, and a three-by-five-by-three-foot pool had been completed first. An ozone-bromine filtration system was installed to maintain water quality, and a separate heating/cooling system was installed in the otters' sleeping area.

Born in the spring of 1993, the otters were kept for over a year at the Bayou Otter Farm in Louisiana. Lee Roy and Diane Sevin run the family business there and handle over two hundred otters a year. They capture wild, pregnant females, selling the offspring to aquariums, zoos, or to states wishing to reintroduce otters to habitats in which they were once abundant. The Sevins founded their business in 1957 and are now considered experts in otter care. The museum requested two female otters so as not to get into the otter-breeding business itself.

On Saturday, May 21, Ken Kaumeyer, Doug Alves, and Paula Bohaska drove to the BWI airport to receive the otters. During the wait for the animals to be brought from the cargo plane, the atmosphere was as tense as that of a hospital delivery room. A loud caterwauling announced their arrival—forty pounds of tired, angry mustelids in a wire cage. But the otters' wail was drowned out by Ken's "What??!!" on reviewing the shipping papers that declared one male and one female otter. It wasn't until a phone call on the following Monday that this was determined to be just a clerical error. CMM does in fact have two females.

Surprisingly enough, otters do not naturally move into deep water. Mother otters frequently have to drag their young into the water at about three months of age. Our fifteen-month-old otters, who have never been in water over their heads, refuse to jump into their pool. Even live fish will not entice them in. Their keeper may have to don a wetsuit, pretend to be their mother, and drag them in by the skin of their backs.

We chose river otters to exhibit because, in addition to their lively entertaining nature, many museum visitors are not aware that a significant number of them live in the Patuxent River. Otters exist year-round in almost all of the creeks of the river, but are seldom observed by people due to their peculiar habit of being active primarily during the twilight hours of dawn and dusk. The scientific term for this behavior is "crepuscular." Otter dens can frequently be found hidden in a mud bank near the high tide line. The animals move into an abandoned burrow or other natural void in the bank, the entrance often concealed with a stump or branch.

River otters are well adapted to the estuarine and freshwater environment where they find an abundance of crabs, fish, frogs, and occasional waterfowl upon which to feed. Perhaps it is the ease with which otters obtain their food and the lack of natural predators that have allowed them to develop their reputation for playful behavior. Whether the otters' romping, pouncing, and batting around various objects is actual playing or a more complex social behavior is a matter of scientific debate. In either event, they do seem oblivious to the constant demands of food, shelter, and reproduction that consume the time of other animals.

In past years, otter populations were decimated by trapping, destruction of habitat, pollution, and pesticides. With present-day conservation efforts and reintroduction programs, the otters are making a comeback in many areas. Now that our otters are finally here, we urge members and their friends to stop by and see these fascinating animals first hand. Visitors will also have an opportunity to help name the museum's otters. Forms will be located at the exhibit for this purpose.

After nearly five years of declaring "The Otters are Coming," it is a proud moment to now declare that "The Otters are Here!"
NEW EXHIBIT EXPLORES CALVERT CLIFFS FOSSILS
By Michael D. Gottfried, Curator of Paleontology

CMM's new fossil hall, TREASURE FROM THE CLIFFS: Exploring Marine Fossils, is scheduled to open in 1996. This innovative new exhibit will explore the incredibly rich record of fossil marine life preserved in Calvert Cliffs and other regional sites. These fossils accumulated during the Miocene Epoch ten to twenty million years ago, when what is now southern Maryland and eastern Virginia were underwater. When completed, TREASURE will join the maritime history and estuarine exhibits in presenting a uniquely holistic view of the natural and cultural history of the Chesapeake region.

TREASURE has been planned, designed, and is mainly being built by staff at CMM—"Team Paleo"—who began formulating ideas for the new exhibit back in 1991. The planning stage involved trips to a number of other museums that have new fossil halls, including the Smithsonian Institution, the Academy of Natural Sciences in Philadelphia, the American Museum of Natural History in New York City, the New Mexico Museum of Natural History in Albuquerque, and the Tyrrell Museum of Paleontology in Alberta, Canada. Seeing the displays and talking with the helpful staff at each of these museums stimulated many ideas for CMM's exhibit. The next step involved conducting visitor surveys to evaluate what our visitors know about paleontology and what they were interested in knowing more about. With all of this information in hand, we began thinking about the emphasis and storyline of our exhibit and its general layout.

One key factor that became apparent during this planning is that paleontology holds a unique position as the scientific field that most engages and stimulates the imagination of children and adults. Because of the high level of public interest in fossils, we believe that the new exhibit will not only educate our visitors about Calvert Cliffs paleontology, but also get them thinking and using their own imaginations in approaching scientific questions.

TREASURE will therefore include opportunities for visitors to explore on their own through both "high tech" and "low tech" interactive devices dealing with such topics as how to identify a fossil and how ancient forms of life are reconstructed from fossil remains.

TREASURE includes ten major areas, as shown on the floor plan. Highlights of the new exhibit include:

- a replicated full-sized section of Calvert Cliffs, showing how fossils are collected and the geologic structure of the cliffs;
- a fossil identification area with a systematically arranged collection for self-exploration, as well as a fossil laboratory where visitors will watch fossils being prepared;
- realistic habitat settings showing the animals and plants that lived here along the coast and under water millions of years ago, including a life-sized skeletal reconstruction of the giant fossil Great White Shark (described in the fall 1992 issue of the Bugeye Times);
- a depiction of how the modern Chesapeake Bay formed after the end of the Ice Ages;
- a resource area with books and articles that will provide information for school groups, fossil collectors, and visitors interested in exploring specific topics in greater detail;
- and a theater featuring videos, informal talks, and other programs relating to marine life of the past and present.

Construction on the new hall began in 1993 and has continued in phases as funding and commitments to other projects have allowed. Now that we have moved into the renovated Administration Building and the otter habitat is completed, TREASURE will be moving into high gear as CMM's priority project for the immediate future. The next major phase will be construction of the Calvert Cliffs replication, which will take place this summer. At the same time, work will continue on the full-sized giant shark skeleton and on refining the storyline and text for the exhibit. As much as possible, the public will be able to walk through the exhibit as it is being built — this will allow visitors to watch as progress is made, and will also help to maintain the flow of traffic through to the Estuarium. We hope that many CMM members and guests will stop by regularly to see the hall being built, and also keep an eye out for the giant "megatooth" shark Carcharodon megalodon.

*TEAM PALEO members are Mike Gottfried, Curt Bowman, Lynne Warren, Denise Weller, Alan Manuel, and Jimmy Langley.

Photo by Mike Gottfried

The giant "megatooth" shark Carcharodon megalodon.
opportunities to provide feedback when we test sample text and interactive device mock-ups—we always welcome your comments and input!

Funding to date for the new exhibit has been provided by generous grants from Mobil Oil, Washington Gas Light Company, and the proceeds from the 1993 Bugeye Ball, as well as a portion of a state of Maryland bond bill. Research on the fossil shark skeleton has been funded by the American Association of Museums' International Partnerships program, in collaboration with the South African Museum in Cape Town. We are very pleased to announce that a new bond bill of $100,000 was recently approved for TREASURE FROM THE CLIFFS: Exploring Marine Fossils, continuing Maryland's history of strong support for CMM. This bond bill and the funds raised to match it, including contributions to our new "Get a Piece of the Shark" campaign (see insert in this issue), will provide the bulk of the funds needed to complete the project. As always, it is support from the community, including the many individual members and friends of CMM, that will make this exciting new exhibit a reality.

Al Lavish(right) of Patuxent Small Craft Guild presents check to director Doug Alves to support maritime program.

Photo by Richard Dodds
WATERSIDE MUSIC FESTIVAL

The Calvert Marine Museum’s annual Waterside Music Festival on May 28 was a sparkling success. The cool, clear evening, with the canopy-covered food court permeated by the delightful aromas from the grills of Solomons’ best restaurants, added a new ambiance to the Drum Point Lighthouse.

The Hard Travelers, while missing their lead tenor (Mack Bailey, awaiting the birth of his daughter Carolyn who arrived at 11:00 p.m.), performed a varied and imaginative concert. Although they describe their music as “songs from the sixties with nineties flare,” the performance also included original pieces and well-known folk favorites, combined with witty dialogue. The evening appealed to all ages, and everyone had a good time. The surprise of the evening was The Hard Travelers’ announcement that they were donating the evening’s performance to the museum, a generous gesture acknowledged by Jack Williams, chairman of the museum’s Board of Governors.

Thanks to all who attended for their support of this fundraising event. And thanks to The Hard Travelers—we hope they’ll be back.

Patuxent Family Discovery Day at CMM

Coopering demonstration by Robert Harvey (left).

Row to the Oyster House

Identification of fossils in the Paleontology Hall

Photos by Doug Alves and Jack Krolak
VOLUNTEER COUNCIL TURNS CASTOFFS INTO CASH

The second annual yard sale, held on May 7 during Patuxent Family Discovery Day, was a success. Items ranged from water skis to Waterford crystal. Thanks to the help of many of you, the final tally was nearly $800.

Organized by volunteer chairman Linda McGilvery, yard and bake sale proceeds are donated to the museum. MEMBERS: if you didn’t cull your closets this year, there is always next. And remember — it doesn’t have to be “marine” or “maritime” in nature, just marketable.

MUSEUM ADMISSION PRICES INCREASE

Effective July 1, 1994, the charge for admission to the museum exhibition areas will increase. The new prices will be: $4.00 for adults, $3.00 for seniors, $2.00 for children five to twelve years of age, and children under five are free. Admission will cover the exhibition halls, the boat basin, and the small craft exhibit building. The woodcarving shop, the Drum Point Lighthouse, and the Lore Oyster House are open, weather permitting and when available. Members of the Calvert Marine Museum Society will continue to enjoy free admission upon presentation of their membership cards. All members of the immediate family (including grandchildren under the age of eighteen) are covered in the free admission for memberships in the family and higher categories.
VOLUNTEER SPOTLIGHT —
BUCK and KAY McCLELLAN
Development Volunteers

To build up or expand, to make stronger or more effective, to bring into reality — all of these phrases define what it means to "develop." As CMM development department volunteers, Buck and Kay McClellan are catalysts for these types of outcomes in service to the museum.

The McClellans' most recent reality was the May 28 Waterside Music Festival. Buck and Kay, co-chairs of the volunteer organizational committee, began work on this spring event last December. Monthly meetings narrowed to weekly meetings to stay on top of advertising, tickets, food concessions, seating, staffing, and all the details that are part of a successful evening. What appealed to them about the waterside concert event? Said Buck: "I think it's a good idea. The setting is beautiful ... it's really spectacular." And putting on a good show was the obvious priority of all.

The Waterside Music Festival committee members were praised by the chairmen. "I've been impressed by the professional attitude of the volunteers, as serious as on a highly paid job," observed Kay. By the time the last thank-you note is written, Buck and Kay estimate they alone will have put in 250 hours on the project.

So how did they get into museum volunteering? Avid sailors with a thirty-year Navy association, the McClellans come by marine interests naturally and organizational talents by necessity: they moved twenty-three times in their married life! They have two children. In early 1992, the McClellans received a complimentary membership when they purchased their home at Patuxent Point. But Buck had become familiar with the Solomons Island Model Boat Club years before and was a natural choice for a host in the model shop, a role he still fills as an exhibits department volunteer. Kay was interested in behind-the-scenes projects and eventually became the development department liaison to the Volunteer Council board. Pairing up for the Waterside Music Festival event was an opportunity to work together. Says museum director Doug Alves: "Kay and Buck exemplify the dedication and hard work that all our volunteers give to the museum. The museum was founded by volunteers and it is the continued support of volunteers that adds so much to what the visitors experience. I can't thank them enough to show our appreciation of their time, expertise, and service."

"In the long run," offered Buck, "you meet other volunteers that are nice people, that want to do a good job — and it's a lot of fun!"

Contact volunteer coordinator Layne Bergin for information on how you can join the crew — and the fun!