



Janus

THE NEWSLETTER
OF THE
NORTH CAROLINA
FOSSIL CLUB
WWW.NCFOSSILCLUB.ORG

2002 NUMBER 1

Spring Calendar

March

- 2 **PCS Lee Creek** - (35 slots-Trip full)-See special note below for details
- 17 **NCFC Meeting**, NCMNS, 11 West Jones Street, Raleigh, NC. 1:30 pm Level A conference room. Speaker- **Jim Mickle, NCSU** - "Experiences in Developing a Paleobotany Museum in Italy"
- 21 **Castle Hayne** - Contact John Everette 919-847-4485 (ncjde@aol.com)

April

- 6 **PCS Lee Creek Call in** - See special note below for details
- 20 **Beachcombing-Liverpool Pt., Maryland** - Contact George Fonger 301-977-0318 (paleotoxin@netscape.net) for times, directions and instructions.
- 25 **Rocky Point** - Contact John Everette 919-847-4485 (ncjde@aol.com)
- 28 **Green's Mill Run** - Contact Cindy Muston (910) 353-8897 (fossilgal@hotmail.com) for info and possible changes from past trips. Bobby Tant will lead trip. We will meet at Elm Street Park but also work other areas downstream.

May

- 11 **Onslow Beach** - Contact Mark Goodman 910-937-7718 (colgood@gibraltar.net)
- 19 **NCFC Meeting** - NCMNS, 11 West Jones Street, Raleigh, NC., 1:30 pm Level A conference room. Speaker- **George Philips**- " **Determining Terrestrial Vegetation Structure Using the Vertebrate Fossil Record: A Study-in-Progress in the Black Prairie of Mississippi and Alabama**" Speaker and topic may change do to scheduling conflicts
- 19 **PCS Lee Creek** - 25 slots, 15 avail.- See special note below for details
- 24 **Aurora Fossil Festival** - May 24 (evening) & 25 (Exhibit day), Aurora, NC

June

- 15 **Pennsylvania fern and plant fossil trip** - Contact Charlie Noye (717) 792-5012 (charles.noye@suscom.net) for directions and information.

PCS Lee Creek Spring Season Special Note

The available collecting area and group size are limited by operations this season for which Curtis Ormond of PCS

expresses his apologies. No individual will be permitted more than one trip this season. The NCFC and Aurora club have been given more access than other groups and have priority on cancellations because of our support of the Fossil Festival. It is hoped that future seasons will see the return to larger groups as operations in the new area expand, but this is highly dependent upon the behavior and respect for safety demonstrated by this year's collectors. The mine will immediately expel and permanently ban rule violators.

The March trip has already been filled by "priority list" helpers or exhibitors at the Aurora Festival or NCFC Fossil Fair in 2001.

Fifteen (15) slots remain for Sunday, May 19 and will be filled by a call-in to Rich Olsen open to all paid-up NCFC members who have not attended any other PCS trips this season with any group. The call-in will begin at 8 AM on Sat., April 6. The number is 252-247-3450. NOTE that this is not Rich's home number, please do not call his home number. This number will be available only until 11am.

Rich will fill the 15 slots and take 10 additional "waiting list" names that may wish to be contacted in case of cancellations. **The cancellation spots may occur on other dates with very short notice.**

Please be prepared to furnish address, email address and phone number when you call in.

General Rules

Trips, except Rocky Point and Castle Hayne, generally begin at 9AM at the site. Always contact the leader in advance of attending any trip. In advance of any new or out of state trips always maintain close contact with the leader for special instructions and last minute changes. Be certain that accurate phone and/or email addresses are given to the leader and updated as needed. Some trips may be limited in size at the option of the leader.

Castle Hayne and Rocky Point begin at 11:15 AM and hard hats are usually required and not furnished by the company. The terrain at these sites is rugged and can be somewhat dangerous and challenging for persons not used to climbing or physical exertion.

Green's Mill Run involves wading in and digging gravel from a creek bottom. There is a possibility of pollution. Waders, a floating screen and a long handled shovel are highly recommended. This is not an appropriate trip for young children.

Always arrive early. Be sure to fully understand rules and instructions. Safety is our main concern – **Never do anything which might endanger you or any other collector. Children,**

where permitted, must always be under your direct control and supervision.

Safety rule violations are a sure way to lose all fossil collecting privileges at any site.

President's Column

Our spring collecting season is about to begin-Good Luck to all! On the good side there is an Aurora Fall season - even if a highly restricted one. On the bad side, weekend access to Belgrade Quarry has been cancelled by quarry management. This has caused a cancellation of our club picnic. Collecting is still permitted at the old quarry picnic site only but is very limited and available only during weekday working hours. We hope this will eventually change, but are not encouraged for the short term. We are once again offering trips to Maryland and Pennsylvania, please check your schedule and participate in these fun trips if possible.

The restriction of access to Belgrade simply highlights the increasing sensitivity of quarry operators to our activities. We get no slack anymore and must be increasingly alert to any activities that even *appear* unsafe whether or not they are truly dangerous. There is little else we can do. Our safety record is good, we follow rules to the best of our understanding but still have problems. Curtis Ormond of PCS tells me that he really had to fight to get fall collecting and that safety was a major concern. Please make sure that you completely understand and strictly follow all rules at the trip sites. If you see a problem, don't stand on ceremony or worry about hurt feelings, act immediately! It is *everyone's* responsibility.

Again on the good side, a number of members are pursuing new opportunities in the NC Cretaceous (John Paschal, Bobby Tant, Cindy Muston), Florida (Ron and Sharron Edwards), West Virginia (Cindy Muston), Tennessee (Joy Pierce). Hopefully we can find opportunities to offset the local problems. We will talk about preliminary results at the March meeting.

Thanks to all who are working on speakers-keep me informed as leads develop. July and September are still open.

Finally, we are getting a lot of new members who are new to the hobby. Please seek these people out and share your knowledge, particularly in the field. I plan to ask a few veterans to "adopt" some of the new folks who have asked for help on trips. Please volunteer or help out if requested. *Rich Olsen*

Aurora Fossil Festival 2002

NCFC has again been asked to exhibit at the annual Fossil Festival in Aurora, NC. I have been informed by Pat Young that the exhibit portion of the fair will be held Saturday, May 25 only. We will have our usual 15 tables in the same small air conditioned(?) building. **Members who exhibit or help at the Festival will be the only people eligible for "priority list" status for the Fall 2002 collecting season at PCS Lee Creek - assuming collecting is permitted.**

Sign-up for the 15 tables and 10 "official helper" slots will take place at the March 17 NCFC meeting. A maximum of 4 members may share an exhibit table provided that all sign up as a group in advance and that all are present at the exhibit. Requests for more than one table will be filled only if there are available tables after all have had a chance to sign up or if we are offered additional tables due to cancellations from other groups.

Anyone who does not attend the March 17 meeting may call Rich Olsen at 252-247-4762 on March 18 after 9 AM for

unfilled slots, if any, on a first come-first served basis. Emails will not be accepted for this purpose.

Rich Olsen

Proposed Changes to Bylaws and Rules of Procedure

As discussed at the January 2002 NCFC meeting, the following changes to Bylaws and Rules of Procedure are being recommended to accomplish the following:

1. To clarify and formalize the Club's non-profit status and show that our revenue generating activities are designed to comply with NC sales tax laws
2. To clarify and formalize the voting rights of members.
3. To change certain rules of procedure which address the appointment of the Nominating committee and the performance of certain financial duties so that they reflect actually Club practices

These changes will be voted on by the membership at the March 17, 2002 meeting. The proposed changes are as follows:

Bylaws

Change 1
Existing

Article I - PURPOSE

Section 1. The principal purposes of this Club are to engage in a progressive program of planning and action to advance the knowledge and interest in the study, collecting and enjoyment of fossils, to bring fossil collecting enthusiasts together to share information on identification and collecting, and to distribute educational information

Proposed (additions and changes are in italics)

Article I- PURPOSE and GUIDELINES

Section 1. The principal purposes of this Club, *a non-profit organization chartered under the laws of the state of North Carolina*, are to engage in a progressive program of planning and action to advance the knowledge and interest in the study, collecting and enjoyment of fossils, to bring fossil collecting enthusiasts together to share information on identification and collecting, and to distribute educational information.

Section 2. *From time to time the Club will fund and publish educational materials related to fossils for distribution to the public directly and through retail outlets. Any excess profits generated by the sale of such products will be donated to museums and other North Carolina state agencies and instrumentalities. Other activities, such as sales of Club clothing or educational materials published by entities other than the Club, will be handled as group purchases and sold to members at cost, so as not to constitute retail sales.*

Section 3. *If from time to time income from dues exceeds Club expenses the excess may be donated to students or educational entities which do not qualify as North Carolina state agencies.*

Change 2
Existing

Article II - MEMBERSHIP

Section 4. Complimentary Members do not have the right to vote or hold office.

Proposed (additions and changes are in italics)

Section 4. All members in good standing except Complimentary Members shall have the right to participate in the election of officers and directors at the annual meeting and to vote on any bylaw changes or any recall election held according to Article V, sec.5 of the Bylaws. Decisions made concerning any other Club business will be the sole responsibility of the sitting Board of Directors.

Change 3

Existing

Article IV - MEETINGS

Section 2. Those present at the annual meeting shall constitute a quorum for the transaction of business for which prior notice has been mailed to members not less than two (2) weeks-previously.

Proposed (additions and changes are in italics)

Section 2. Those members *in good standing* present at the annual meeting shall constitute a quorum for *the purpose of elections. All Board members present will constitute a quorum* for the transaction of *other Club* business.

Rules of Procedure

Change 1

Existing

Article IV - OFFICERS AND ELECTIONS

Section 6. **The Nominating Committee**

a.) At least one hundred twenty (120) days prior to the election, the Nominating Committee shall be appointed annually by the President with the advice and consent of the Board of Directors.

Proposed (additions and changes are in italics)

Section 6. **The Nominating Committee**

a.) *At the regular July NCFC meeting* , the Nominating Committee shall be appointed annually by the President with the advice and consent of the Board of Directors.

Change 2

Existing

Article V - FINANCES

Section 1. The Board of Directors shall appoint a Budget and Finance Committee of at least three (3) members as a Standing Committee. The President shall, in addition, be an ex-officio member. The Budget and Finance Committee shall prepare budgetary and financial information, including an annual audit, as required by the Board of Directors

Proposed (additions and changes are in italics)

Section 1. The Board of Directors shall *serve as the* Budget and Finance Committee. The Budget and Finance Committee shall prepare *any* budgetary and financial information *or perform audits as needed.*

Recent *Squalodon calvertensis* quarried from the Calvert Cliffs of Maryland

By Paul R. Murdoch Jr.

Over the course of several weeks in the Fall of 2001 the Calvert Marine Museum excavated from zone 11 of the Calvert formation along the Western shores of the Chesapeake Bay, what has been preliminarily identified as an adult specimen of the Miocene "shark toothed whale" - *Squalodon calvertensis*. This specimen has been most likely eroding out of the cliffs for the several years yet was only recently identified and brought to the attention of the museum when it's teeth and pieces of the skull were found. The following is it's story.

In early September I was in the area to show the staff paleontologist at the CMM, Stephen Godfrey, some partially articulated porpoise vertebra that I was hoping the museum would find of interest and be willing to excavate. (This will be another article in and of itself to follow shortly.) I had extra time to spare that morning before we were to meet up so I decided to go to one of my favorite spots and see what I could find. In the past two trips I had found within 6 feet of the same spot a total of two squalodon teeth (1 incisor & 1 molar) and was hoping to find some more. After spending several minutes at the spot and finding nothing I walked the rest of the beach. Hours later it was now a rather uneventful trip and it was soon time to meet up with the group to go see the porpoise but I wanted to come back to try again. Again after finding nothing I became frustrated and tossed my equipment rather soundly onto the beach. When I did this I noticed that the weight of my belongings hit the beach with enough force that it caused the sand to bounce back up and briefly expose something that caught my eye. I went over to pick it up but it wouldn't budge! I almost gave up on it, thinking it to be a root, but the color, a reddish brown, just wasn't right so I tried to pry it out with a shovel. To my surprise it was a cantaloupe-sized piece of skull, a large squalmosal!!! Now I was ecstatic and didn't want to leave, but I had used up all the time I had available that day but planned on returning immediately the next day.

The trip to the porpoise site went well and even though the site was far from undisturbed there was enough of the specimen present to warrant an excavation attempt. It was a great feeling to know that find would end up in a museum but I couldn't keep wondering if more of the squalodon would be found. I showed everyone the skull piece and loaned it to the CMM for identification and for possible future donation. Everyone was excited to go look for more of it right then and there but everyone's schedule was already full (it was, after all, Labor Day weekend). I, however, had planned for a full fossil weekend and went back the next day and found - - the other squalmosal and another tooth! I also spotted high above in the cliff (30+ feet) what appeared to be bone of the same color as the skull pieces protruding out from the cliff. I immediately informed the museum that much more was most probably still out there to be found and they arranged to visit the site early the next week.

I was unable to attend when the museum went out to the site but the email report I received nearly knocked my socks off! They had recovered from the nearby slump pile the following: the base of the skull where the atlas would attach, the atlas itself, a few cervical vertebra, 13 teeth - including a portion of

jawbone with two teeth still intact and several portions of jaw with the roots of the teeth viewable. I was ecstatic! Other pieces of other animals that were found included: the arm bone of a baleen whale, an 8" piece of porpoise snout and a piece of wahoo jaw with teeth. I was even told that before the museum was able to get to the site another collector had spotted a porpoise skull in the slump but it crumbled when he tried to remove it. All of this that day with the CMM that a collector who was there was impolite to the museum team (to say the least) and who I later heard continued to work the site for his own collection after the museum team left and is reported to currently possess two teeth from the find.

After consulting on the find with the area squalodon expert, Alton Dooley of the VMNH, it was determined that all of the teeth collected by the CMM seemed to represent only those from the uppers jaws. This was great news!! The lower jaws could have easily detached after the animal's death and may still be located nearby. Also the lack of lumbar and thoracic vertebra material found in the slump pile had me excited with the possibility that only the very front of the animal had begun to erode out and that the whole animal would be found – if we could get up the cliff to it.

To view the article on line as well as see more photos of the site and specimen preparation visit www.fossilguy.com/articles

Part II

I continued to visit the spot whenever possible and found a vertebra that was identified as being only one of seven known squalodon lumbar vertebrae. Although it was not in great shape (it's processes were mostly either damaged or missing) it was an exciting find and is now in the possession of the CMM. Although I was happy to have found more of the animal this made me less confident that all of the squalodon would be found and that in fact only a small portion would still remain in the cliff. Especially considering that the vertebra was found in the water several feet from the slump pile and washed clean of all sediment. I now believed that the specimen most likely had been coming out of the cliffs for a long time and now, only after that the skull and teeth had fallen out, had the find been properly identified and the significance of all of the pieces realized.

News of the find spread like wildfire. Within weeks, the slump pile where the pieces were found was no more as other collectors descended on the spot to see what they could find. Also, reports of collectors bringing ladders to the site to try and reach the possible protruding bone area were received and their presence could be noticed by dig marks and unnatural wearing in the cliff face. Unfortunately this reflects poorly on all fossil collectors and this type of activity will damage future collecting of specimens for both individuals and museums if it continues unchecked.

As days passed an occasional tooth was found, including a beauty by David Bohaska of the NMNH which was donated to the CMM, lending me hope that the find remained intact above and that the teeth had somehow eroded out and tumbled down the cliff face. It soon became evident though that if it still was in the cliff it was over 30 feet up and would be quite a trek. This got me thinking... I had heard through the grapevine that a "friend of a friend" from my high school days had opened one of the premier rock climbing gyms along the east coast and I thought what a better way to get to the find – we will rappel to it!! It took several weeks to coordinate everyone's schedule for

this trip. The landowner was thrilled that a find of such importance – less than 10 skulls have been found in such a good condition worldwide – was made on her property and readily agreed to grant permission for an excavation. Even though it was severely damaged when it hit and broke up on the beach, it still had details not found in other skulls. Finally all was a go and on a beautiful November day we all meet to see what we could find.

The day of the dig did not start well for myself and the rock-climbing guide. Although traveling separately, both of us had to contend with a horrible accident on I-95 involving a tractor trailer, a tanker and a minivan which closed all 4 lanes in the opposite direction. Needless to say we got a very late start and it was well after 1:00 when the Stephen cautiously went down the cliff with the guide to check out the spot. We were instantly rewarded...

The fractured ends of both of the lower jaws was in the cliffs and teeth were present!!! It was also possible that the front of the upper jaws and snout was intact as well. Quarrying quickly began and continued through the day. It soon became evident that it would go longer than the time allotted and the exposed bones were jacketed and a return trip planned ASAP. It would be until December 11th that schedules could be coordinated and a return trip made. Mother Nature was not as kind to us this time with colder weather, a stiff breeze and harsh tides making the effort strenuous for all. It was worth it... the very beginning of the right lower jaw was found broken off from the jaws and was jacketed separately. Quarrying continued around the lower jaws and by late afternoon a jacket nearly 3 feet long and 2 feet wide and weighing nearly 120 lbs. was lowered down the cliff.

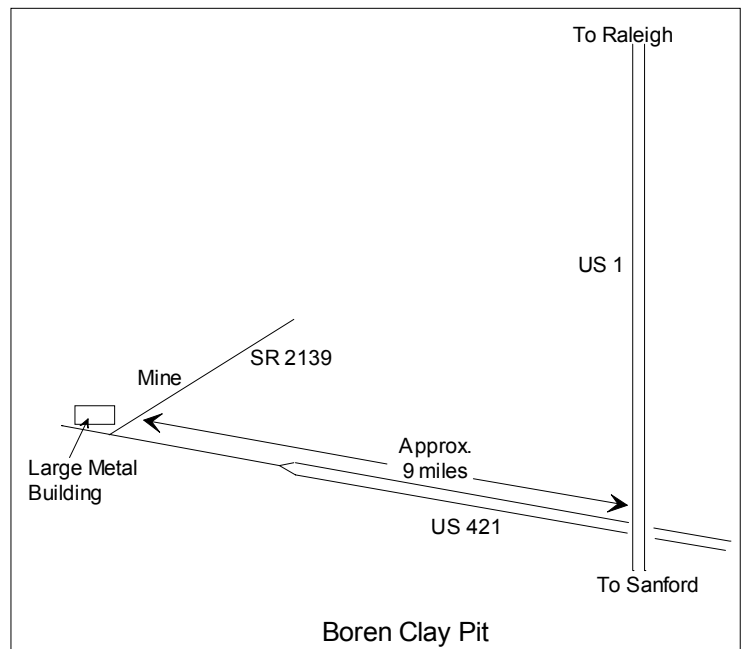
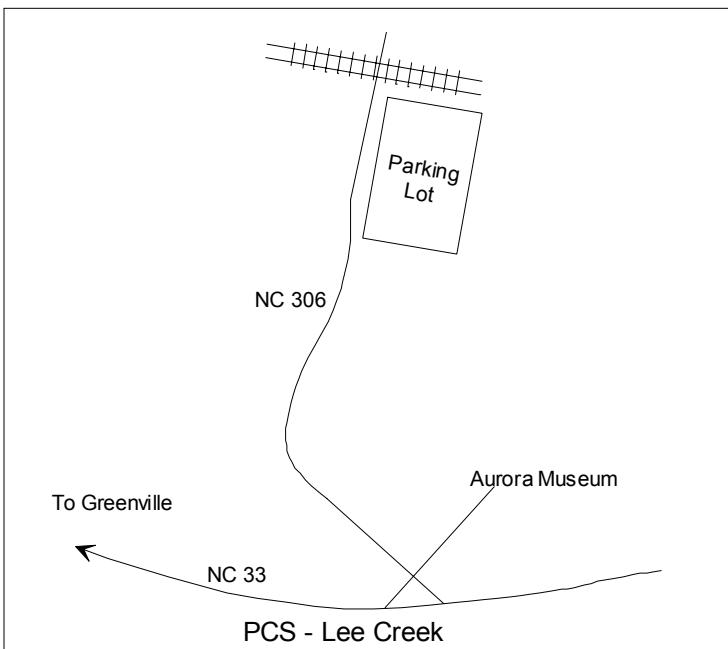
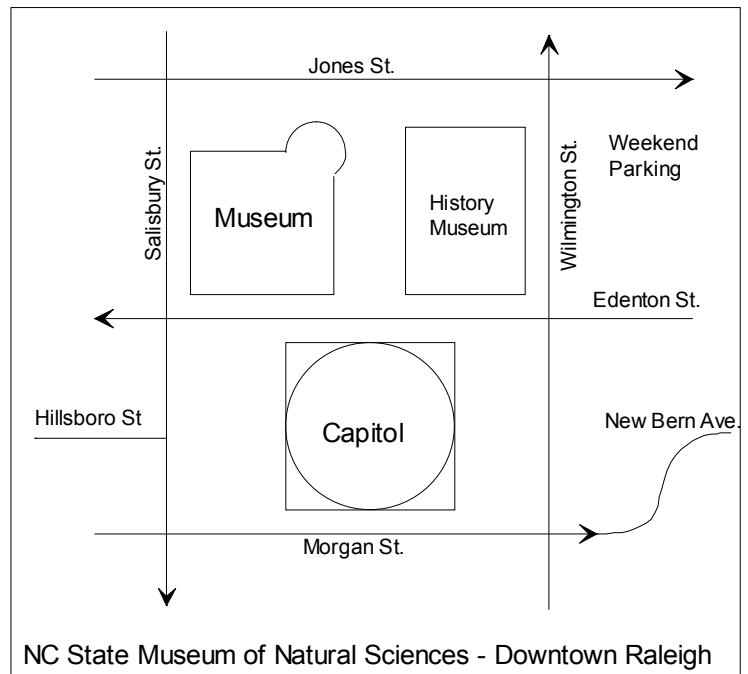
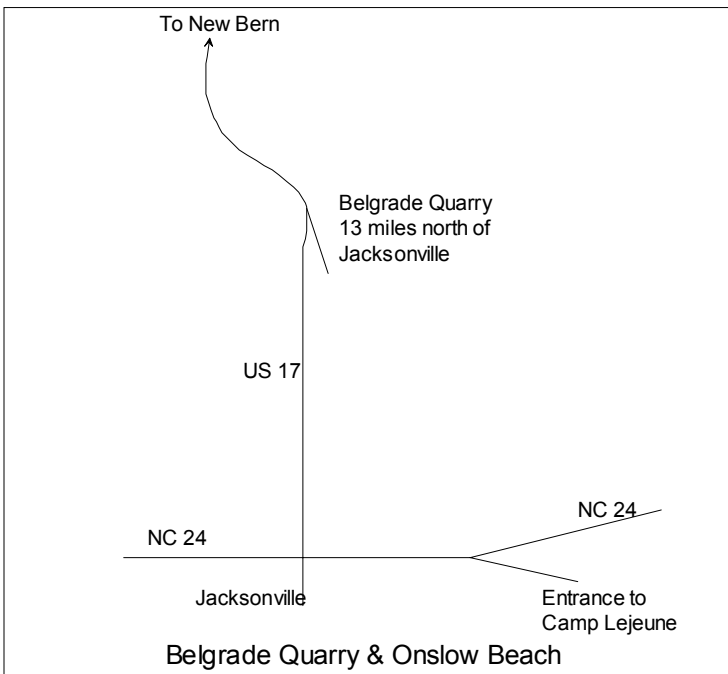
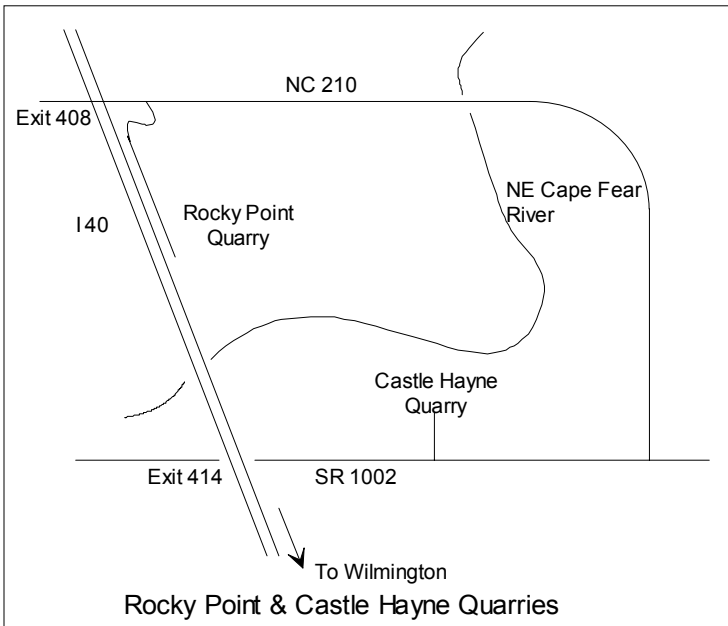
After a few weeks I was allowed to prep the find for the CMM and kept them and the landowner appraised of my progress through emails and digital photos. A 14+ inch section of both lower jaws was in the jacket as well as nearly a 20+ inch section of the snout with at least one tooth still intact. In addition, 2 complete teeth in beautiful shape and a root and broken tip of another tooth were also found scattered about in sediment of the jacket. The next step will be to flip the jacket and expose the other side of the jaws. Hopefully more teeth will be found intact in the snout. Both lower jaws no longer hold any teeth. I'm anxiously looking forward to the next step when we plan to try to piece together the shattered pieces in an attempt to reconstruct the skull. It will have to be a team effort and I'm grateful that all involved have been gracious enough to offer their help and are as excited as me to have it put back together. Once done it will hopefully be placed on display at the CMM.

The only other point I'd like to note is that although the find was in zone 11 it was just barely so. Most of the jacket contained material from the famous zone 10 and after sifting the leftover matrix material it did not disappoint. Over 130 teeth were found, most under 3mm in size!! Hopefully some useful analysis can be made from those finds as well.

Paul

Email Notification

If you want to receive information regarding downloading Janus and other NCFC items by email you must keep your address up to date. Send me (chandler@math.ncsu.edu) and Robert Story (rstoryst@mindspring.com) an email notifying us of any change.



NORTH CAROLINA FOSSIL CLUB, INC.
(FOUNDED 1977)

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2002 MEMBERSHIP APPLICATION - N. C. FOSSIL CLUB

NAME(S) _____

ADDRESS _____

CITY, STATE, ZIP _____

PHONE(S) (INCLUDE AREA CODE) _____

E-MAIL ADDRESS _____

SELECT <u>ONE</u> TYPE OF MEMBERSHIP	INDIVIDUAL (NEW)	\$20.00	_____
(ENCLOSE CHECK OR MONEY ORDER	INDIVIDUAL (RENEWAL)	\$10.00	_____
FOR THE INDICATED AMOUNT.)	HOUSEHOLD (NEW)	\$25.00	_____
	HOUSEHOLD (RENEWAL)	\$15.00	_____

Children of NCFC members who are dependent minors and living at home may accompany parents on any trip *EXCEPT* PCS-Lee Creek or where otherwise noted. Only 15 positions on the PCS-Lee Creek trip are available to members who reside outside of North Carolina.

Memberships are effective from January through December of the year (or portion of the year) of the date of application. For example, persons joining in August will need to renew their membership 5 months later in January.

NCFC Liability Statement

The Undersigned hereby acknowledges his/her understanding that fossil collecting is an inherently dangerous activity which can result in serious bodily injury or death, and/or property damage and hereby confirms his/her voluntary assumption of the risk of such injury, death or damage.

The Undersigned, in return for the privilege of attending field trips Related to the collection of and/or study of fossils, or any other event or activity conducted or hosted by the North Carolina Fossil Club (NCFC), hereinafter collectively and individually referred to as "NCFC Events", hereby releases the NCFC, NCFC Board members and officers, NCFC Event leaders or organizers and hosts, landowners and mine or quarry operators from any and all liability claims resulting from injury to or death of the undersigned or his/her minor children or damage to his/her property resulting from any cause whatsoever related to participation in NCFC Events.

The Undersigned agrees to comply with any and all rules and restrictions which may be communicated to the undersigned by the NCFC Event leader and/or landowner and mine or quarry operator and acknowledges that failure to comply will result in immediate expulsion from the premises.

The Undersigned acknowledges that this release covers all NCFC Events and will remain in effect at all times unless or until it is revoked by written notice to the current President of the NCFC and receipt of such revocation is acknowledged.

The Undersigned further attests to his/her intent to be legally bound by affixing his /her signature to this release.

Name _____ Signature _____ Date _____

Name _____ Signature _____ Date _____

MAIL TO: NORTH CAROLINA FOSSIL CLUB, P.O. BOX 13075, RESEARCH TRIANGLE PARK, NORTH CAROLINA 27709

NORTH CAROLINA FOSSIL CLUB
P.O. Box 13075
RESEARCH TRIANGLE PARK, NC 27709



Dedication! Stephen Godfrey of the CMM
(see Paul R. Murdoch Jr's *Squalodon* article inside)