

### Updates on North Carolina's Sheltering Trainings and Strategy

by Dr. Jimmy Tickel, NCDA&CS

As we have seen recently with the tornadoes in April, events do not always give us warnings which allow significant lead time to set up shelters. North Carolina is recognized for its ability to respond to disasters due to demonstrable capabilities used during devastating hurricanes. There are other events that present different sheltering challenges. Tornadoes, ice storms, earthquakes and hazmat events that require evacuation are some of the toughest challenges because there is little to no warning for preparation of sites. When people have to evacuate for whatever reason, providing shelters for the animals evacuating with their owners becomes an important part of North Carolina's response. Thus, the concerted need remains to continue building the capability to shelter pets after a storm, while providing shelter for those evacuating (or fleeing the storm). North Carolinians have always shown remarkable resiliency to recover from natural disasters due to the way citizens/communities support one another.

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Stay tuned to [www.ncvrc.org](http://www.ncvrc.org) for the posting of the webinar!

### SAVE THE DATE

#### Sheltering Team Development Webinar

May 12, 2011, 10:00am - 11:30am OR May 17, 2011, 6:00pm - 7:30pm  
<https://agr.ncgovconnect.com/eptrain1> <https://agr.ncgovconnect.com/eptrain2>

**Register Here:** [www.ncmhtd.com/webinar](http://www.ncmhtd.com/webinar)  
 Conference Number: (877) 402-9753 Access Code: 7907401

This webinar addresses the roles of county and regional shelter teams, with a focus on team leadership.

The target audience includes:  
 CART Members  
 Local and Regional Sheltering Teams  
 NC Cooperative Extension Service  
 Veterinary Response Corp  
 Animal Control  
 State and County Emergency Management  
 Other SART Partners



Hosted by: NCDA&CS, Emergency Programs Division

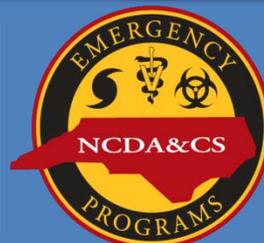


### NORTH CAROLINA DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

#### Emergency Programs Division

*Steve Troxler, Commissioner*

*Sharron Stewart, Director*



# Training at NCSU CVM

by Dr. Dianne Dunning, NCSU CVM

In the fall of 2007, North Carolina State University College of Veterinary Medicine (NCSU CVM) established a Veterinary Credentialed Responder (VCR) Training Program based upon core competencies adapted from the veterinary and human literature. This new program is part of a broad college initiative, in partnership with the NC Department of Agriculture and Consumer Services (NCDA&CS), University of North Carolina-Chapel Hill **Gilling's** School of Global Public Health (UNC-CH GSGPH), and the NC State Animal Response Team (NC SART), to provide the training necessary for all veterinary students to achieve entry-level federal credentials in emergency response.

Training within the VCR program is multidisciplinary and focuses on skill sets and knowledge needed to respond to disasters holistically. As a part of the core curriculum, all professional veterinary students receive training to ensure the physical, mental, societal, economic and emotional health for all animals (including man), as well as an awareness of the importance of the ecosystems within which they reside. With these credentials, all our senior veterinary students and graduates will be able to officially assist emergency responders in the event of a disaster.

Students are required to complete six hours of classroom training (euthanasia, psychological first aid (PFA), general principles and theory of emergency management, and Hazmat awareness), nine hours of online training, and an eight hour Scenario-Based Disaster and Community Response Lab. The Response Lab includes FAD material/training, scenario based disaster and community response exercise, and personal protective equipment (PPE) training at the CVM Teaching Animal Unit, which is a dynamic teaching lab/farm for veterinary students to learn husbandry, production management and routine procedures used in livestock production. To the **author's** knowledge, this is the first cooperative program in emergency management and response at a U.S. veterinary institution that is also a part of the required core academic curriculum.



Veterinary students learning proper PPE donning and doffing.



Dr. Jimmy Tickel teaching the students about the CAMETs.

## VRC COORDINATOR

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**COMPLETE YOUR VRC  
REGISTRATION AT  
[www.servnc.org](http://www.servnc.org)**

## Upcoming Events:

**Please see our website  
([www.ncvrc.org](http://www.ncvrc.org)) for future training  
and activities.**

**Sheltering Team Development  
Webinar – May 12 and 17**

**Don't forget to plan to join us on  
November 4, 2011 at NCVV for the  
public practice track!**

## REQUIREMENTS FOR VRC DEPLOYMENT

- ICS 100, 200 and 700
- Biosecurity/PPE Training
- Knowledge of NC Emergency Management
- Knowledge of Emergency Support Functions
- Attendance at VRC Meetings
- Sign a Code of Conduct

To help ensure animals are properly cared for during both the evacuation and response phases, the NCD&CS Emergency Programs Division has partnered to implement a strategy which aims to build local shelter capacity with NC Emergency Management, the NCSU College of Veterinary Medicine, industry, local animal control agencies, and Cooperative Extension Service (CES)- all of whom are SART Partners. A crucial component of the strategy is to train and prepare community members to serve their fellow citizens when shelters are needed. This is important because mission assignments for tasks like evacuation shelters are often needed before outside resources can be activated and deployed. Keys to helping counties prepare for sheltering tasks include:

- Working with county EM, CES, and animal control to establish co-located sheltering sites as well as alternatives for counties who do not choose to co-locate evacuees and their pets (site component);
- Training third-year veterinary students in the roles they can play in supporting county shelters (Veterinary Medical component);
- Developing regional sheltering sites/agreements for large scale events (surge capacity component); and
- Developing and providing training to counties on the use of CAMETs and position specific training for sheltering teams (staffing component).

As you can see, the focus of community preparedness for sheltering that includes pets, is for locals to continue efforts to provide the sheltering staff, pre-identified sites and equipment for the evacuation phase of an event. For hurricanes, the example would be sheltering evacuees and their pets who evacuate to a safer area upon leaving where the storm is projected to hit. The ability to shelter evacuees for a hurricane requires the same resources needed to quickly set up shelters for events like tornados, ice storms and hazmat events. If counties can hold their own for the evacuation phase, then outside resources can be brought in to deal with the rescue and sheltering that occurs after large storms pass the area. Again, advanced site preparation planning, training the staff (shelter staff and support staff like veterinarians), and training staff on the mechanics of using the equipment, are important. The preparedness efforts are provided in the hope that counties will be more than capable to provide local shelter for the evacuation phase of events.

**VRC MISSION** To train and prepare professionals in the animal care community to respond to disaster events (all hazards) that affect both production and companion animals. Our members will serve as a resource for our state and the nation.



by Dr. Barrett Slenning

Barrett Slenning is a Marine Corps brat. He was born in California, and had lived in England, Virginia, Hawaii and different parts of California all before high school. He did his college training at UC Davis, earning a BS in Animal Science, an MS in Agricultural Economics and Nutrition, his DVM degree (food animal track) and a Masters in Preventive Veterinary Medicine (epidemiology). This proves one can be educated beyond **one's** level of intelligence.

Barrett started his career in a California central valley mixed animal practice, where he shared production medicine duties on 40+ dairies (~1,000 cows each). These clients taught him about the biological and economic impacts of farm decisions. He also experienced how national disease response programs can help and/or harm farmers. Finally, he learned to help his clinic and clients be ready for earthquakes, floods and wildfires. He enjoyed practice, but after eight years he sought a career change.

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*To see recent news and updates, please visit the VRC website at [www.ncvrc.org](http://www.ncvrc.org). If you have questions about the VRC or would like to offer suggestions or articles for future newsletters, contact Mandy at [mandy.tolson@ncagr.gov](mailto:mandy.tolson@ncagr.gov).*



# Rabies Basics for Volunteers in Animal Disasters



by Dr. Marilyn Goss Haskell, DVM MPH, NC DHHS

On April 16, 2011 25 tornados ravaged North Carolina, touching down dozens of times affecting 33 NC counties, resulting in 24 deaths, and causing destruction to hundreds of homes and damaging thousands of others. The day was a frightful yet sobering reminder of our vulnerability to natural disasters and a rude awakening to what storms may lay ahead.<sup>1</sup> NC is predisposed to Atlantic hurricanes, its projection into the Atlantic Ocean and Gulf Stream has resulted in a long history of hurricane destruction. In fact, we can expect our coast to be hit by a tropical storm or a hurricane once every four years and a tropical cyclone affects the state every 1.3 years. In 1586 the first hurricane was noted during expeditions to Roanoke Island. Since recording began in 1886, 166 tropical cyclones have passed within 300 miles of NC.<sup>2</sup> Hurricane Floyd (Cat 4) in 1999 was remarkable, the flooding and impact resulted in the loss of more than 3 million domestic and farm animals and instigated the development of the NC State Animal Response Team (SART) .<sup>3</sup> Three major hurricanes followed Floyd within five years: Isabel a Cat 5 in 2003, and 2 Cat 4s in 2004, Alex and Charlie.<sup>2</sup>

NCVRC responders who rescue animals in natural disasters are at risk for animal bites and exposure to rabies. NC is enzootic with eastern raccoon variant rabies; terrestrial wild carnivores (raccoons, skunks, foxes, and coyotes) are the vector species that transmit throughout the state. Bats are also a significant carrier of bat variant rabies. The raccoon variant was first detected in NC raccoons by the State Laboratory Public Health in 1991. From that point in time rabies spread through the state like wildfire as a result of 2 major epizootics that originated in Florida.<sup>5</sup> The southeastern raccoon rabies epizootic, first detected in Florida (1947), crept northward up the eastern seaboard states infecting raccoon after raccoon, until it extended through most of Georgia and entered South Carolina by 1977, then moved into NC in the early 1990s. The mid-Atlantic raccoon rabies epizootic moved southward into NC from a hypothesized focus in West Virginia where a rabid raccoon had been translocated from Florida for hunting purposes.<sup>6</sup>

In 2010 the State Laboratory Public Health tested 3,862 exposed animals, typically by a bite to either a human or unvaccinated domestic animal; 10% of tested animals were positive. Since 1991, raccoons have tested positive from virtually every county in NC. All mammals are susceptible to rabies, and the disease commonly spills over from the raccoon reservoir to other mammals. In 2010, among wild species tested 74% of skunks, 52% of foxes, 43% of raccoons, and 3% of bats were positive. Among domestics tested 8% (6/74) cattle, 2% (17/953) cats, 3% (2/742) dogs, and one donkey tested positive.<sup>5</sup> Dogs, cats and livestock that share the environment with raccoons and other wildlife are at considerable risk for infection with rabies if not vaccinated against the disease.

All owned dogs, cats and ferrets are required by NC law to be vaccinated against rabies by 4 months of age (GS130A-185).<sup>7</sup> Unique to North Carolina is our certified rabies vaccinator (CRV) program. The state public health veterinarians at North Carolina Department of Health and Human Services (NC DHHS) train individuals that are appointed by local health directors pursuant to NCGS 130-186. CRVs are a resource in the event of a disaster when there is a need for mass vaccination of animals in their county. All rabies vaccines administered by CRVs are only valid for one year (10A NCAC 41G .0101), regardless of vaccine manufacturer labeling and animal vaccination history. Stray dogs and cats with unknown vaccination histories in shelter and disaster situations are appropriately vaccinated by CRVs. Owned dogs and cats with a rabies certificate indicating previous vaccination should be boosted (usually with a 3 or 4 year vaccine duration depending on package insert) by a veterinarian or registered veterinary technician (under the supervision of a veterinarian at the facility) to avoid over-vaccination.<sup>7</sup>

For humans, recommendations for rabies pre-exposure and post-exposure prophylaxis are developed by the **CDC's** Advisory Committee for Immunization Practices.

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# What About Our Animals In A Nuclear Event?

by Dr. Christina Law, NCDA&CS

The recent catastrophic events in Japan have raised many questions about what happens to animals in a nuclear event, whether it be a nuclear release from an energy facility or nuclear material from a “dirty” bomb. The disaster in Japan was an extreme example of why it is so important to be prepared for the worst. It is amazing to see the outreach when our animals are affected by any type of disaster, both small and large. When it comes to our companion animals or our food supply, disaster preparedness, including mitigation, response, and recovery, is taken very seriously.

In our society, we value the human-animal bond more than ever. Not only do animals sustain and nourish us physically and economically, but they also sustain us mentally and emotionally. It is important to know that in the United States, and especially in North Carolina, all agencies of federal and state government, as well as the energy utilities that use nuclear power, realize the value of the human-animal bond.

There is continual research, discussion and planning going on to establish best practices for being able to protect our animals in a nuclear event.

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Here you see a cat being tested for radiation exposure.

## Bioterrorism Exercise – Fifth Plague

by Dr. Bruce Akers, NCDA &CS

Earlier this month the Division of Public Health (DPH) and the NCDA&CS exercised a scenario based on a bioterrorism agent using anthrax. Humans and animals were affected in the scenario in an effort to test NC's Bioterrorism Plan. Epidemiologists applied all their tools to the affected populations: isolation, segregation, sampling, testing and mapping. These are essential items used to establish the magnitude of the problem, contain it and figure out what the respiratory disease was and how it started. The illness, a respiratory disease in cattle from a farm animal festival, was the concern of NCDA&CS Emergency Programs and NCDA&CS Veterinary Division. The Division of Public Health was working with the human side, and had cases from people that had been at the farm animal festival but also had cases from many counties that had not been involved at activities that included animals. Many of the human cases had another common event in their recent history, a seafood festival in a coastal county. These cases submitted samples in large quantities to the State Lab of Public Health (SLPH) in Mecklenburg and Raleigh. Both agencies responded to the “injects” and prepared for the functional exercise that happened on May 3 and 4. These activities set the stage for representatives of both agencies when they arrived early on May 3 to the State Emergency Operations Center (EOC) at 0730 hours.

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NCVRC volunteers should complete the entire rabies pre-exposure rabies vaccination regimen (Days 0, 7, and 21 or 28) fourteen days prior to handling animals. A serum antibody test, Rapid Fluorescent Foci Inhibition Test (RFFIT), should be done every 2 years to determine if a booster vaccination is necessary.<sup>9</sup> Dogs and cats rescued during disasters are often very frightened and bites are not uncommon. After a person is bitten by an animal, the most important initial preventive measures against rabies and infection are to wash the wound thoroughly with soap and water for 15 minutes and visit a health care provider to assess the need for tetanus and rabies postexposure prophylaxis, wound care and antibiotics. Notify the local health department and animal control about the bite incident and to capture the animal within 24 hours. Also, pursuant to GS 130a-196 any biting dog, cat or ferret shall be confined by animal control for 10 days (regardless of vaccine status) to observe for signs of rabies. The animal should not be vaccinated during the confinement period; an adverse reaction could be confused with rabies. If a person is bitten by a potentially rabid animal that is not available for confinement or testing, or tests positive, post-exposure prophylaxis must begin as soon as possible. If the bite victim previously completed a rabies vaccine regimen they need only receive two rabies boosters, on Days 0 and 3, no human rabies immune globulin (HRIG). However, if the person never received a complete rabies PEP regimen (Pre or Post), they will require HRIG (Day 0) and 4 rabies vaccines (Days 0, 3, 7 & 14).<sup>9, 10</sup> NCVRC volunteers, including North Carolina veterinarians, registered veterinary technicians, veterinary students, animal control officers and shelter workers, should be well trained in personal protection and the prevention and control of infectious diseases.<sup>8</sup> Use of personal protective equipment, knowledge of infection control practices and pre-vaccination against rabies and tetanus are necessary prevention measures for those who work with animals.

About 70% of human diseases are zoonotic or transmitted to humans by animals. In addition to rabies, common zoonoses include roundworms, hookworms, toxoplasmosis, leptospirosis, ringworm, E. coli O157:H7, salmonella, campylobacter and brucellosis. Detailed information about zoonotic diseases can be found at <http://www.cfsph.iastate.edu/Zoonoses/zoonotic-disease-resources.php>.

For more information about rabies and zoonotic disease prevention contact NC Veterinary Public Health at 919-733-3410.

1. *Weather service releases detailed report on path of tornadoes.* April 18, 2011. Newsandobserver.com.
2. State Climate Office of North Carolina. Hurricanes. Accessed April 25, 2011. <http://www.nc-climate.ncsu.edu/climate/hurricane.php>
3. North Carolina State Animal Response Team. About SART. Accessed April 25, 2011. <http://www.ncsart.org/>
4. **Centers for Disease Control. Update on CDC's response to hurricanes.** Accessed April 25, 2011. <file:///E:/NCVRC/09-30-05.htm>
5. Veterinary Public Health. Rabies Data, Maps and Other Information. Accessed April 25, 2011. <http://www.epi.state.nc.us/epi/rabies/state.html>
6. Winkler, W.G., Jenkins, S.R., Raccoon Rabies in *The Natural History of Rabies*, 2<sup>nd</sup> Edition, Baer, G. M., CRC Press, Boca Raton, 1991.
7. Veterinary Public Health. Rabies Resources for the Medical Professional. NC Rabies Laws (February 2010). <http://www.epi.state.nc.us/epi/rabies/pdf/NCRabiesLaws.pdf>
8. North Carolina Department of Agriculture and Consumer Services. Emergency Programs. Accessed April 25, 2011. <http://www.ncagr.gov/oep/veterinary/VetCorps.htm>
9. Human Rabies Prevention --- United States, 2008. Recommendations of the Advisory, Committee on Immunization Practices. *MMWR*. May 7, 2008 / 57(Early Release):1-26,28. <http://www.cdc.gov/mmwr/pdf/rr/rr57e507.pdf>
10. Use of a Reduced (4-dose) Vaccine Schedule for Postexposure Prophylaxis to Prevent Human Rabies. *MMWR*. Recommendations and Reports. March 19, 2010/59(RR02):1-9. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm>

Barrett joined the faculty at the NCSU CVM in the fall of 1989, just in time for his first hurricane (Hugo). The 1990s had very active hurricane seasons, nudging his work away from clinical practice towards preparedness and response for weather- or human-caused disasters and foreign animal diseases. Following 1999's Hurricane Floyd, he helped establish NC's State Animal Response Team and began assisting the NC Departments of Agriculture and Health, and our animal agriculture private sectors, to develop disease/disaster preparedness plans.

More recently, Barrett has focused his efforts on the intersection of human and animal health, food security and agricultural disaster prevention and management. He has served on numerous public service bodies at industry, state and national levels. He became an NC VRC credentialed responder in 2009 and has helped design and deliver the Credentialed Veterinary Responder Program that credentials every NCSU DVM student as a federal emergency responder.



## What About our Animals in a Nuclear Event? (continued from page 5)

The radioactive material that we commonly hear about, particularly associated with nuclear release from a power plant, as in the nuclear release in Japan, is Iodine 131. It is well-known that people should take potassium iodide to prevent the thyroid gland from taking up the Iodine 131 and thereby preventing thyroid cancer that could occur some 20 years later.

A very common question that needs to be addressed is whether or not one should give potassium iodide to their pets as well. General consensus from the veterinary community is a resounding NO! The lifespan of most pets is not long enough to see the effects of contamination from Iodine 131. Potassium iodide can be extremely toxic to pets, particularly if dosed incorrectly. The medication can actually cause more problems for animals than the radiologic contamination. It should only be administered under the strictest of veterinary advice.

In the event of a nuclear release, detection of radiologic contamination using approved monitoring equipment is available not only for us, but for our animals as well. Decontamination protocols for animals will essentially mirror those used for humans. Knowing that we are actively and continually preparing, and that the care of our animals is absolutely on the list of priorities, makes me proud of how we, as a nation, regard the idea of such a disaster. Of course it is foremost that any nuclear event is prevented in the first place, but we all realize the "what if" factor. In order to address this issue, plans are scrutinized and evaluated to make sure we are on top of the "what if." With humans and animals alike, very stringent public health, welfare and environmental protocols will have to be followed. For more information on potassium iodide use in people and pets visit [www.epi.state.nc.us/epi/phpr/ki/ki.html](http://www.epi.state.nc.us/epi/phpr/ki/ki.html).

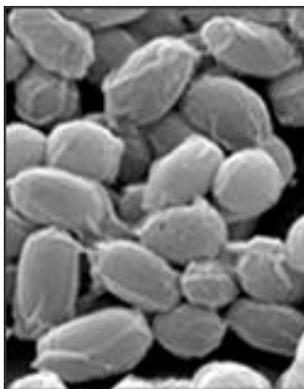
# Bioterrorism Exercise – Fifth Plague

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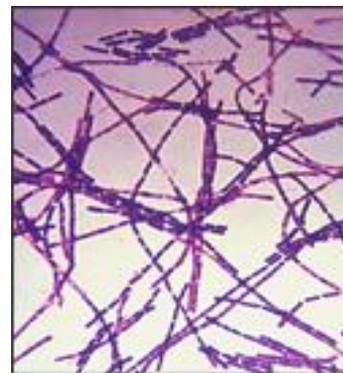
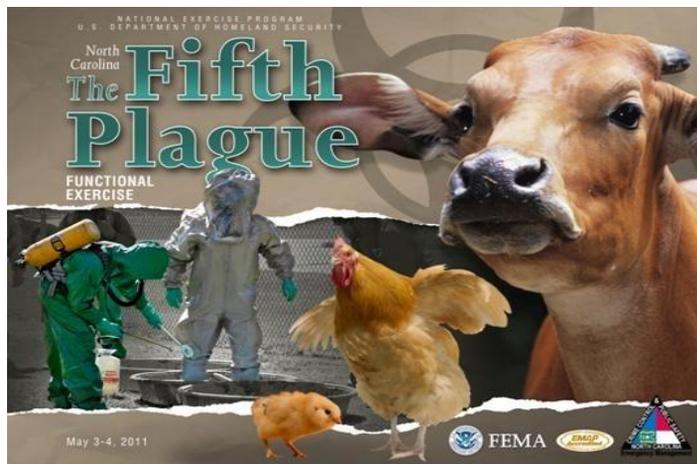
The day started with the State Bureau of **Investigation's** Information Sharing and Analysis Center (ISAAC) conducting an intelligence briefing; ISAAC had been receiving intelligence summaries over the last two weeks. Information was shared with partner agencies (DPH, NCDA&CS and others) as appropriate. ISAAC, an intelligence center mainly for law enforcement, has started working with partner agencies to enhance their capabilities. Emergency Programs Division Director Sharron Stewart and Dr. Julie Casani from Public Health Preparedness & Response meet with them weekly as liaisons. On May 3 at the EOC, participants heard about some terrorist groups and other related law enforcement investigations that may or may not be related including trespassing, breaking and entering, and thefts of lab equipment. Both the DPH and NCDA&CS gave current situation reports of activities. We were working with our epidemiology investigations. The day was totally wrapped around coordinating and tracking the diseases and their progressions. The DPH and the SLPH were receiving an overwhelming amount of real samples (at least 150) in real time in an attempt to test their surge capacity in the lab. Both agencies were doing their daily business of disease management on an increased scale.

By noon, the lab reports came in from the SLPH and Rollins Animal Diagnostic Lab the terrible thing we were all afraid of.....anthrax! Law enforcement now had even more suspicions that this may have been intentional but only by working together in unison could that fact be proven. They had the identified events at the farm animal and seafood festivals to now dig deeper into hoping to prove a connection and proof of bioterrorism. By the end of the day, all agencies were deep into their respective investigations and mitigation measures. The animals were being isolated and segregated. The trespassers previously under investigation had been spraying a solution in the vicinity of the animals. Two sheep and four goats were moved back to their respective farms near the unit where the cattle were kept and the location of the festival. Human cases were being identified from the farm animal and seafood festivals.

The announcement of anthrax caused a sequence of high level decisions/actions. DPH ordered the Strategic National Stockpile (SNS) for treatment of cases and prophylaxis of emergency workers. NCDA&CS contacted the State Veterinarian for recommended guidance on disposal preferences of the animals. On May 4, the Governor issued a Disaster Declaration. Now the DPH was working with local health departments to establish Points of Distribution (PODS) to get the medications out quickly to NC residents. The State Veterinarian had chosen a disposal method and plans were being made to bring the animals back together at the original farm for a humane euthanasia and disposal by incineration to destroy the organism. Plans were ongoing for environmental assessments of all the locations. This is where we completed our activities.....all a bit exhausted, but NC is safe again.



Electromicrograph of bacillus anthracis (from [www.cdc.gov](http://www.cdc.gov)).



Photomicrograph of anthrax spores (from [www.cdc.gov](http://www.cdc.gov)).