CHEROKEE COUNTY

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COUNTY ADMINISTRATOR
J. HOLLAND BELUE

For Immediate Release
October 12, 2017

Cherokee County - Equine West Nile Virus

CHEROKEE COUNTY, S.C. – Cherokee County has received notification from SCDHEC that a horse has tested positive for West Nile Virus. The response area is to the South East of the Town of Blacksburg and is identified on the map attached to this publication.

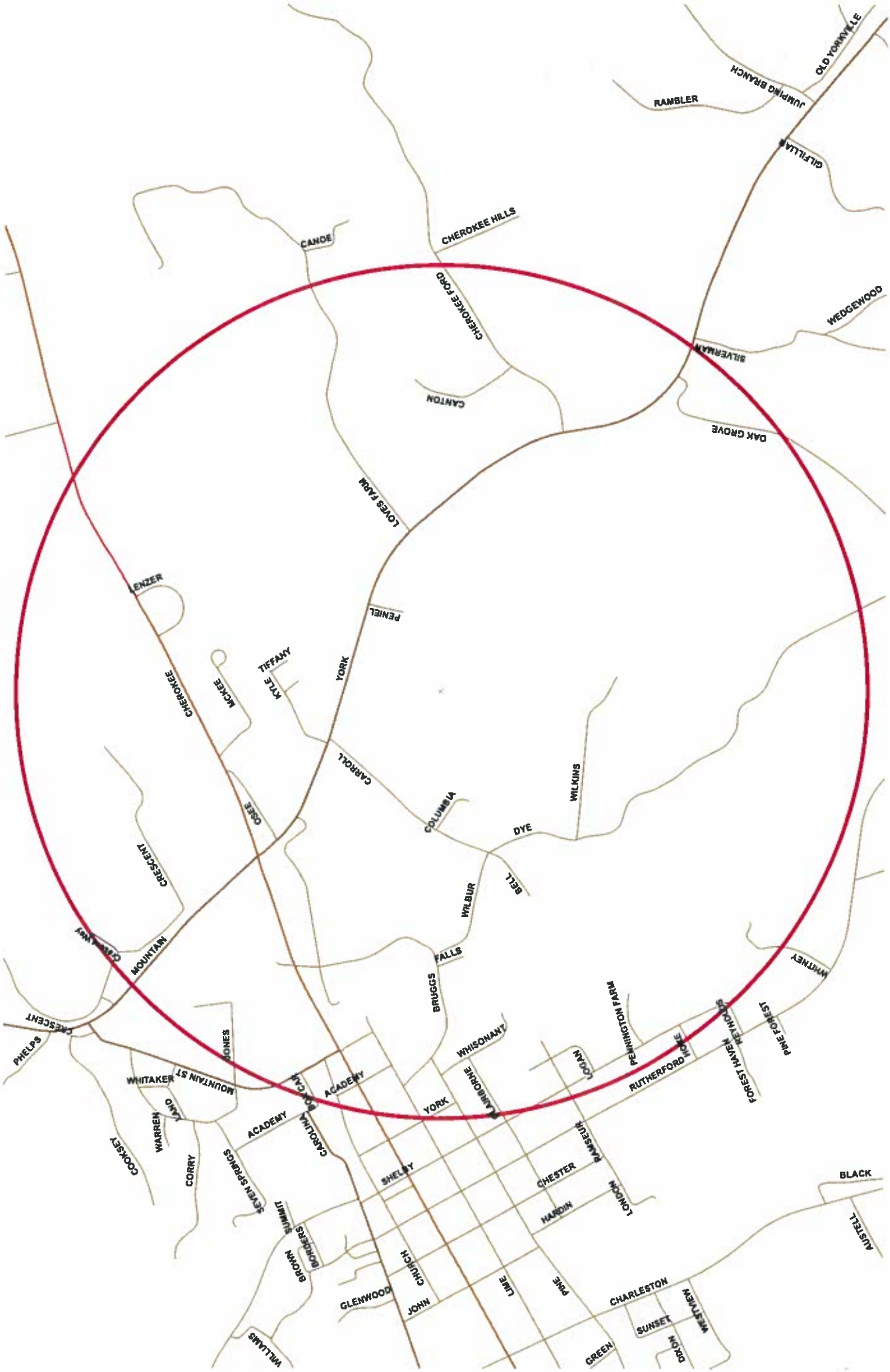
Information related to West Nile Virus and mosquito control can be found on the South Carolina Department of Health and Environmental Control (SCDHEC) website at the following link: www.scdhec.gov/HomeAndEnvironment/Insects/Mosquitoes. Cherokee County will notify local media outlets and Cherokee County residents of mosquito control activities through the following methods:

- Door to door home and business visits by Cherokee County, South Carolina Department of Natural Resources and the Town of Blacksburg law enforcement officers for all locations within the treatment area
- Spraying of adulticiding (mosquito control agent) by spray truck application will begin within the next few days (possibly as early as 6:00 PM on Sunday, October 15, 2017)
- Additional application(s) of adulticiding treatment(s) will be in 10-14 day intervals from the initial application (Information on the dates of these treatments will be posted on the Cherokee County website at: www.cherokeecountysc.gov/emergency-services/emergency-management)
- Please see all attachments included with this notice

All emergency services related inquiries should be directed to Rick Peterson, Cherokee County Emergency Management Director at rick.peterson@cherokeecountysc.com.

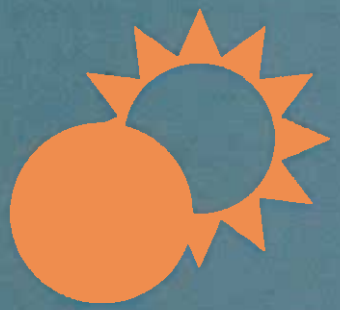
All other animal, livestock, poultry, bee or agricultural questions or concerns should be directed to the Cherokee County Clemson Extension Service.

MEDIA CONTACT:
Holland Belue
County Administrator
Cherokee County
holland.belue@cherokeecountysc.com


OLD YORKVILLE
JUMPING BRANCH
RAMBLER
GILFILLAN
CHEROKEE HILLS
CANOE
CHEROKEE FORD
WEDGEWOOD
SILVERMAN
CANTON
OAK GROVE
LOVES FARM
LENZER
PENIEL
TIFFANY
MYLE
MCKEE
YORK
CHEROKEE
CARROLL
COLUMBIA
WILKINS
DYE
BELL
WILBUR
OSEE
CRESCENT
MOUNTAIN
FALLS
BRUGGS
WHITNEY
PHELPS
JONES
WHISONANT
PENNINGTON FARM
FOREST HAVEN RETIREMENT
PINE FOREST
RUTHERFORD
LOGAN
WHITAKER
MOUNTAIN ST
LAND
WARREN
ACADEMY
CAROLINA
YORK
LANDRUM
RAMSEUR
COOKSEY
CORRY
SEVEN SPRINGS
SHELBY
CHESTER
LOMDON
HARDIN
BLACK
AUSTELL
SUMMIT
BROOKERS
BROWN
CHURCH
GLENWOOD
JOHN
LINE
PINE
CHARLESTON
SUNSET
WESTVIEW
DIXON
GREEN
WILLIAMS

PROTECT YOURSELF FROM MOSQUITO BITES

Mosquitoes spread Zika and other viruses.



Night or day, be prepared

Mosquitoes that spread Zika are aggressive daytime biters. They can also bite at night. Other mosquitoes are active at dawn and dusk.

Use insect repellent

It works!

Look for these active ingredients:

- DEET • PICARIDIN • IR3535
- OIL of LEMON EUCALYPTUS
- PARA-MENTHANE-DIOL

A few brand examples:

- *OFF! • Cutter • Repel • Sawyer*
- *Skin So Soft Bug Guard Plus*
- *Skin Smart*

Wear protective clothes

Wear long-sleeved shirts and long pants. For extra protection, treat clothing with permethrin. Use insect repellent on exposed skin, but not under clothes.

Mosquito-proof your home

Use screens on windows and doors. Use air conditioning when available. Rid your yard and home of standing water where mosquitoes breed. Empty and turn over containers that hold water, such as cans, bottles and flower pots, and clean out clogged gutters.

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For more information: www.scdhec.gov/mosquitoes

DHEC CR-011739

Protect your home against MOSQUITOES

Mosquitoes develop in water that stands for more than five days. To reduce the mosquito population around your home and property, eliminate all standing water and debris. Here are some spots where water can collect or where poor maintenance can cause problems.

1. Pool cover that collects water; neglected swimming pool or child's wading pool

2. Birdbath (change water weekly) and garden pond (stock with fish)

3. Any toy, garden equipment, or container that can hold water

4. Flat roof with standing water

5. Clogged rain gutter (home and street)

6. Trash and old tires; Drill drain holes in bottom of tire swings

7. Tree rot hole, hollow stump, or rain puddle

8. Missing, damaged, or improperly installed screens

9. Uncovered boat or boat cover that collects water

10. Leaky faucet or pet bowl (change water daily)

MOSQUITO CONTROL ADVICE

Photos of larvae and pupae courtesy of *www.scientificillustrator.com*
Photo of adult mosquito courtesy of *http://commons.wikimedia.org*

Locate Sites Where Mosquitoes Breed

All mosquitoes need standing water to begin their life cycle. Any site where water stands for 5 days or more may breed mosquitoes. Locate all sites that hold water.

Drain, Fill, or Get Rid of Areas that Hold Water

- ***Containers that hold water***—Empty and store dry or change water every few days.
- ***Swimming pools***—Maintain with proper chemicals. Cover or drain if not in use.
- ***Plastic sheeting or tarps used to cover yard items***—Pull tight so water won't pool.
- ***Garden pools/ponds***—Stock with fish that eat mosquitoes, such as "mosquito fish" (Gambusia) or small goldfish.
- ***Shallow edges of ponds***—Keep cleared of plants and weeds. Do not plant cattail plants in wetlands or retention ponds.
- ***Clogged ditches and pipes***—Clean out weeds, dirt, and debris so water flows freely.
- ***Low places, such as tire ruts or puddles***—Fill with dirt or cement.
- ***Tree holes and hollow stumps***—Pack with sand or cement.
- ***Failing septic tanks that cause sewage water to pool on top of the ground***—Repair.
- ***Leaky pipes and outdoor faucets***—Repair.
- ***Small areas of water that can't be drained***—Treat with mosquito control products sold at lawn and garden stores. Buy products labeled for use in water.

Protect Yourself from Biting Mosquitoes

- ***Mosquitoes are active at dawn, dusk, twilight hours, and night***—If possible, avoid mosquitoes at these times. Some may bite in daylight, especially in shaded areas.
- ***Screens on windows, doors, and porches***—Install or keep in good repair.
- ***Car windows and garage doors***—Keep closed at night.
- ***Overgrown shrubs, grass, weeds, vines, and ground cover***—Trim or remove overgrown plants that provide cool/dark/damp areas where adult mosquitoes rest.
- ***Outside lighting***—Use yellow light bulbs or sodium-vapor orange lights.
- ***Scented products***—Avoid wearing products that smell like fruit or flowers.
- ***Protective clothing***—Wear a long-sleeved shirt and long pants. Treat clothing with permethrin to provide protection even through several wash cycles.
- ***Light-colored clothing***—Wear light colors. Mosquitoes are attracted to dark colors.
- ***Insect repellent***—Wear mosquito repellents that contain DEET, IR3535, Oil of Lemon Eucalyptus, or Picaridin.
- ***Mosquito coils or heated repellent pads found in lamps, lanterns, or portable units***—Use to repel mosquitoes in small areas.
- ***Hand-held foggers***—Apply a pesticidal fog to provide temporary relief outdoors.

Sites with Standing Water That May Breed Mosquitoes

Man-Made Containers

- Cans
- Bottles
- Buckets
- Flower pot saucers
- Plant cuttings rooting in water
- Pet bowls or animal troughs
- Tires
- Birdbaths
- Wheel barrows
- Children's toys and wading pools
- Unmaintained swimming pools
- Rain barrels
- Clogged roof gutters & downspouts
- Boats
- Junk cars
- Plastic sheeting or tarps used to cover yard items

Natural Containers

- Rock pools
- Tree holes
- Stump holes
- Bamboo stumps
- Magnolia leaves
- Bromeliad and Pitcher plants

Natural Areas

- Ground pools
- Clogged ditches or streams
- Irrigated pastures or farmland
- River and stream floodplains
- Freshwater marsh and swamps
- Salt marsh margins
- Lake/Pond margins with plant growth

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Call your local mosquito control program to request help in locating breeding sites if you are unable to locate them yourself. ***We need your help controlling mosquitoes.***

CR-011740 4/16

West Nile virus is a risk you *can* do something about.

West Nile virus is now in most of the United States.

The most important way people become infected is through the bite of an infected mosquito. You can reduce your chance of getting infected by **avoiding mosquito bites.**

Adults are at highest risk.

People over age 50 and people who have ever received a solid organ transplant are more likely to develop serious symptoms of West Nile virus if they do get sick and should take special care to avoid mosquito bites.

What happens if I get infected?

A small number of people (about 1 in 150) who get infected with West Nile virus develop severe disease, called West Nile encephalitis or West Nile meningitis (inflammation of the brain or the area around the brain). Symptoms of severe illness include headache, high fever, stiff neck, mental confusion, muscle weakness, tremors (shaking), convulsions, coma, and paralysis. These symptoms may last several weeks, and neurological effects may be permanent. **See your health care provider** if you develop these symptoms.

About 1 in 5 people who become infected have symptoms such as fever, headache, body aches, nausea, vomiting, swollen lymph glands or a skin rash on the chest, stomach and back. Symptoms can last for a few days to several weeks. **See your health care provider** if you develop these symptoms.

Most people who get infected with West Nile virus do not have any symptoms. There is no specific treatment for West Nile virus infection. There is no vaccine available for people.

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FOR MORE INFORMATION:

www.scdhec.gov/mosquitoes/westnile

Call DHEC at 1-800-868-0404

Three steps you can take to reduce your risk...

Avoid mosquito bites!

Apply insect repellent on exposed skin and clothing when you go outdoors. Use an EPA-registered insect repellent such as those containing DEET, picaridin or oil of lemon eucalyptus. Permethrin sprayed on clothing provides protection through several washes. Products with a higher percentage of DEET as an active ingredient generally give longer protection. *Don't spray repellent on skin under clothing. Don't use permethrin on skin.*

For details on when and how to apply repellent, see **www.cdc.gov/westnile**, and look for **Insect Repellent Use and Safety** in the **Questions and Answers** pages.

Cover up! Wearing long sleeve shirts, long pants and socks sprayed with repellent while outdoors can further help prevent mosquito bites.

Avoid mosquitoes! Many mosquitoes bite between dusk and dawn. Limit time outdoors during these hours, or be especially sure to use repellents and protective clothing.

Mosquito-proof your home!

Screens: Keep mosquitoes outside by fixing or installing window and door screens.

Drain standing water. Don't give mosquitoes a place to breed. A small amount of standing water can be enough for a mosquito to lay her eggs.

Look around every week for possible mosquito breeding places. Empty water from buckets, cans, pool covers, flower pots and other items. Throw away or cover up stored tires and other items that aren't being used. Clean pet water bowls weekly. Check if rain gutters are clogged. If you store water outside or have a well, make sure it's covered up. Encourage your neighbors to do the same.

Help your community!

Dead birds help health departments track West Nile virus. For instructions on how to safely pick up and transport a bird to the closest DHEC local county health department or Environmental Quality Control office, visit **www.scdhec.gov/birdtesting**.

CR-011860 9/16

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Symptoms, Diagnosis, & Treatment

Symptoms

No symptoms in most people. Most people (8 out of 10) infected with West Nile virus do not develop any symptoms.

Febrile illness (fever) in some people. About 1 in 5 people who are infected develop a fever with other symptoms such as headache, body aches, joint pains, vomiting, diarrhea, or rash. Most people with this type of West Nile virus disease recover completely, but fatigue and weakness can last for weeks or months.

Serious symptoms in a few people. About 1 in 150 people who are infected develop a severe illness affecting the central nervous system such as encephalitis (inflammation of the brain) or meningitis (inflammation of the membranes that surround the brain and spinal cord).

- Symptoms of severe illness include high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness and paralysis.
- Severe illness can occur in people of any age; however, people over 60 years of age are at greater risk. People with certain medical conditions, such as cancer, diabetes, hypertension, kidney disease, and people who have received organ transplants, are also at greater risk.
- Recovery from severe illness might take several weeks or months. Some effects to the central nervous system might be permanent.
- About 1 out of 10 people who develop severe illness affecting the central nervous system die.

Diagnosis

- See your healthcare provider if you develop the symptoms described above.
- Your healthcare provider can order tests to look for West Nile virus infection.

Treatment

- No vaccine or specific antiviral treatments for West Nile virus infection are available.

- Over-the-counter pain relievers can be used to reduce fever and relieve some symptoms
- In severe cases, patients often need to be hospitalized to receive supportive treatment, such as intravenous fluids, pain medication, and nursing care.
- If you think you or a family member might have West Nile virus disease, talk with your health care provider.

Report and Submit Dead Birds to Help DHEC Track West Nile Virus

Birds play an important role in maintaining and spreading West Nile virus (WNV). Mosquitoes become infected with WNV when they feed on infected birds that carry the virus in their blood. After 1½ to 2 weeks, infected mosquitoes can then transmit WNV to humans and other animals.

Tracking the virus in birds that have a high death rate from WNV alerts us to virus activity in a certain area of the state.

Signs of WNV illness in birds include weakness, sluggishness, shaking, seizures, inability to walk/fly/perch, blindness, or lack of fear of humans.

You Can Help

Please help DHEC monitor West Nile virus activity in South Carolina. **Between mid-March through the end of November**, please report and/or submit freshly dead (non-injured, non-decayed) crows, Blue jays, House Finches, and House Sparrows. (See instructions below for submitting other types of birds.)

What Kinds of Birds Do We Test?

Between mid-March through November, when mosquitoes are most active in South Carolina, DHEC monitors WNV activity in birds. When we find evidence of WNV in birds, we contact the local mosquito control agency in the area where the bird was found. (That's if the area has a mosquito control agency - some S.C. communities do not.)

Our early warning gives the mosquito control agency an opportunity to help safeguard the health of local residents by boosting mosquito control and reminding citizens to take steps to protect themselves from mosquito bites.

We mainly test these five types of birds:

- **American Crows** are 17-21 inches long and all black.
- **Fish Crows** look almost exactly like the American Crow except for their silkier appearance and slightly narrower build.
- **Blue Jays** are 9-12 inches long. Blue Jays are bright blue on top and whitish gray on the belly and chin, and have a gray-blue crest on the head. Their wings and tail are bright sky-blue with heavy black barring, and they have a black collar or "necklace" across the throat and around the head, and a black bill, legs, feet, and eyes.

- **House Finches** are 6 inches long. House finches are birds with grayish-brown upperparts, whitish lowerparts with streaks of brown, brown and gray wings with two narrow whitish bars, and brown uppertails. *Male house finches* are rosy red around the face, neck, and shoulders, as well as having a red rump. The red color sometimes extends down the belly and down the back between the wings. Variant males show the same markings, but in yellow or orange instead of red. *Female house finches* lack any yellow, orange, or red color and have a plain, unmarked face.
- **Dead House Sparrows** are 5.5 to 6.5 inches long. *Male house sparrows* are brightly colored birds with gray heads, gray or white cheeks, black throats (or "bibs"), white collars, reddish-brown upperparts with black streaking, wings with a single white bar, and pale gray underparts. *Female house sparrows* are birds with buffy-brown upperparts with black streaking, wings with a single white bar, and dingy grayish-brown underparts.

Please do not submit grackles, which are black or brown birds that look a lot like crows, but are much smaller (11-13 inches long), with a purple or green sheen to their head depending on the angle and light.

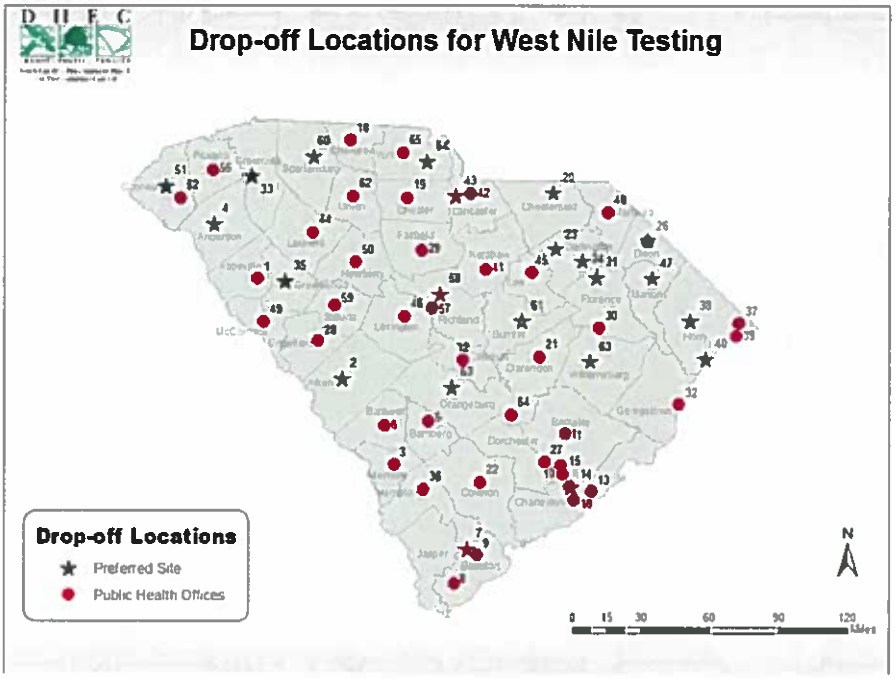
Crows and Blue jays (Corvids) are more likely to die from West Nile virus, which makes them good candidates for detecting the virus. However, the number of dead crows and Blue jays sent in for testing by the public has dropped over the past few years. Reasons for this drop might include decreased public participation, smaller bird populations due to West Nile virus die-offs, or an increase in survival rates.

House Finches and House Sparrows are not as likely to die from a West Nile virus infection as compared to crows and jays, but they were chosen as target species because of their abundance and high infection rates compared to other birds.

When people submit birds other than Blue Jays, crows, house finches, and house sparrows, we decide whether or not to test those on a case-by-case basis. We will *not* test birds that die as a part of a mass die-off at a single time and place, which indicates that illness was caused by something else other than WNV.

We will accept other types of birds from veterinarians affiliated with zoos, raptor rehabilitation centers, and similar facilities if WNV is suspected as the cause of illness.

How to Report Illness in Birds or Submit Dead Birds to DHEC



1. Between mid-March and the end of November, submit any dead Blue Jays, crows, House Finches, and House Sparrows found to your local county environmental health department. Staff there will make sure the bird qualifies for testing and then send it to DHEC's lab in Columbia.
2. Please submit **only** *freshly dead wild birds* that show no signs of physical trauma or decay. In other words, please do *not* submit road kill or birds with missing eyes, an obvious odor, skin discoloration, feathers or skin that easily rub off, maggots, or gunshot or other types of wounds.
3. To protect your own health, follow these instructions when picking up a dead bird:
    - **Do not touch a bird (dead or alive) with your bare hands. Either:**
        - Use gloves, or
        - Pick the bird up with doubled clear plastic bags that have been turned inside out (covering your hand). Invert the bag over the bird (uncovering your hand) and seal the bird in the doubled plastic bags. If possible, use clear plastic or clear zipper bags so that the bird can be seen through the bags.
4. Keep the bagged bird cool until it can be placed on ice or in a refrigerator. If you can not deliver the bird carcass to DHEC within 24-36 hours of collection, freeze it until you are able to deliver it or ship it.
5. Complete the DHEC Dead Bird Submission and Reporting Sheet for West Nile Virus (pdf) and submit it, along with the dead bird, to your local county environmental health department. When you fill out the form:

- Make sure to provide the physical location of the site where the bird was found - either an address or directions to the site, indicating distances from nearby intersections. If necessary, draw a map on the back of the form. We will not test a bird without clear information on where the bird was found.
- Do not fill out the boxed areas located at the top and bottom of the form - DHEC lab staff will complete those sections.

Getting Lab Results

We test birds for West Nile virus at DHEC's lab in Columbia. Testing can sometimes take up to two weeks to complete based on our workload.
The DHEC lab in Columbia will send the test results back to your local environmental health department, and the local department will notify you of the results.

Reporting Other Types of Dead or Sick Birds

Other S.C. agencies also test or track certain types of sick or dead birds:

- **For unexplained bird die-offs in flocks being raised for farming/agribusiness (chickens, turkeys, quail, pheasants, ducks, geese, or emus)**, owners or farmers should call the Clemson University Livestock-Poultry Health Programs (CULPH) in Columbia and speak to a field veterinarian at (803) 788-2260.
- If you find **sick or dead Bald Eagles and waterfowl, especially American Coots**, at inland lakes or ponds **between October and February**, please report/submit them to the S.C. Department of Natural Resources (DNR) by calling Derrell Shipes at (803) 734-3938. DNR tests these types of birds for Avian Vacuolar Myelinopathy (AVM). A bird suffering from AVM may have difficulty flying, swimming, walking, or show other signs of incoordination. DNR will arrange to have the birds tested for West Nile virus also. Please ask DNR to fax the Bureau of Labs a copy of the dead bird submission sheet so that we may keep track of the birds being tested. If you find a sick or dead bald eagle or waterfowl and want to submit it to DNR, make sure to keep the carcass cold on gel ice packs, but **do not freeze**

Equine West Nile Virus

What is West Nile Virus (WNV)? WNV is a mosquito-borne virus that may cause encephalitis in horses and humans. This virus has a normal life-cycle in birds and mosquitoes. Although this disease has been known in the Eastern Hemisphere (Mid-East, parts of Europe, North Africa), it surfaced on Long Island, NY in 1999 for the first time in the Western Hemisphere. It has since spread rapidly south and west and has now been documented in at least 45 states.

What is the disease cycle? This is one of many mosquito borne viral diseases that can cause serious disease in animals and man. Birds serve as the major host and reservoir. Horses, humans, and a number of other mammals (and even reptiles) are considered aberrant hosts. When a mosquito bites a bird that is carrying the virus, there may be enough virus in the blood meal to be infectious when the mosquito later bites another animal, human or bird. When a mosquito bites a horse or man that is sick with WNV, the amount of virus is the blood is so low that, under normal circumstances, there is not enough virus to be infectious when the mosquito next bites an animal/man. There has never been a documented case of transmission of WNV from horse to horse or horse to human. Horses and humans are therefore considered to be "dead end hosts".

What are the symptoms? Many horses that are exposed to WNV will have an adequate immune response and may show no clinical symptoms. Of the horses that become ill, symptoms may vary from mild to severe. Mild cases may just not feel well a few days or go off feed. In a low percentage of cases, perhaps 10% of sick horses, the virus may infect the central nervous system and cause mild to severe encephalitis. The most common symptoms reported in the South Carolina cases are rear leg weakness or paralysis, stumbling, general incoordination, muscle fasciculations (tremors) of the face, drooling and inability to eat or drink well, depression, and in severe cases, recumbency, seizures and death. Fever is not a commonly noted sign.

What are the treatments? Therapy is based on symptomatic treatment and supportive care. A majority of cases (60% to 65%) can be expected to recover, with total recovery from days to weeks, depending on the severity of the case. Anti-inflammatory medications (butezolidin, banamine, IV DMSO), antibiotics against secondary bacterial infections, and IV or stomach-tubed fluids are the most commonly used therapies. Treating veterinarians may use a number of other treatments and medications on a case-by-case basis. Caring

for a horse with CNS disease may be difficult and dangerous. Euthanization is usually determined by a poor prognosis and humane considerations. What are other disease ruleouts? It is important to remember that WNV may look like EEE, Rabies and a number of other central nervous system diseases. Because WNV, EEE (WEE, VEE) and Rabies are considered public health disease threats and are reportable in South Carolina, it is important that veterinarians and owners report horses with this type of symptoms to the State Veterinarian and attempt to gain a laboratory diagnosis. Other non-reportable diseases that may look similar are Equine Protozoal Myelitis (EPM), Herpesvirus I (Rhino), or more rarely, cancer, bacterial abscesses, trauma, liver disease, moldy corn poisoning, and other. Serum, cerebral spinal fluid (CSF) and brain tissue are the samples usually recommended for testing. All persons handling a horse suspected of having an infectious CNS disease should take general sanitary precautions to avoid contact of horse's body fluids with eyes or breaks in skin and to wash and disinfect hands, clothing and boots as needed.

Will horses be quarantined with this disease? Because the horse is not considered to transmit the disease, there is no need to quarantine a horse or premise where WNV has been diagnosed. Certainly owners should be sure horses are vaccinated before putting them at facilities where WNV has been diagnosed, since that is evidence that birds and mosquitoes in that area are carrying virus levels high enough to cause disease. The same is true for EEE. Rabies, on the other hand, is cause for extreme caution in handling the sick or rapidly dying horse and any contact with body fluids, and cannot be ruled out except by laboratory testing of brain tissue after the death of the animal. Rabies usually kills within 3-7 days, so longer term illnesses are probably not rabies. In general, CNS cases in horses should be handled as potential public health risks until proven otherwise by time or testing, and definitive laboratory confirmation is important for both horse and public health plans and protocols.

What can a horse owner do to prevent the disease? USDA granted a conditional license for a Fort Dodge WNV Vaccine in the fall of 2000. This means the vaccine is considered safe, pure and to have a reasonable expectation of efficacy. USDA compilation of data from 2001-02, supports the vaccine is very safe and with better than 94% protection with proper vaccination protocol. Recommendations are for horses to receive an initial inoculation, a booster in 3-6 weeks, and repeat boosters in the face of an outbreak, or every 6 months, to best cover mosquito season. It is very important that horses receive the first two vaccinations at least 30 days prior to exposure to the virus for best protection. Although there is record of horses getting West Nile Virus after 1, 2, or even 3 vaccines, the disease is usually

milder in those cases. As in most viral diseases, the very young, very old and stressed or immune compromised horses are at most risk. But because our horse population is totally naïve to this virus, WNV can cause serious disease even in healthy adult horses. All horses should receive vaccination in order to provide protection from WNV. What about mosquito control? In addition to vaccination, owners should take practical measures to control and protect from mosquitoes. Using insect repellants (especially those containing DEET), reducing standing/stagnant water sources, aerating ornamental ponds and keeping fish in them, keeping fans on in stalls and run-in sheds, and keeping horses in less mosquito laden areas during dusk until dawn times can all help reduce risk of mosquito transmission to the horse. Owners may check with their county Mosquito Control Officer about local mosquito control plans and activities. Owners should remember to protect themselves as well as the horses from this mosquito-borne disease.

The role of Clemson Livestock Poultry Health (LPH) is to protect animal health through control of endemic, foreign, and emerging diseases in livestock and poultry and to protect the health of S.C. consumers by providing a comprehensive inspection service to ensure that meat and poultry products are safe, wholesome and accurately labeled. LPH serves as South Carolina's animal health authority, state meat and poultry inspection department, and the state's veterinary diagnostic center in fulfilling its role.

Source: https://www.clemson.edu/public/lph/ahp/reportable-diseases/equine-disease/west-nile-virus.html

News from Clemson's Apiculture Program

Know how to close up your hives

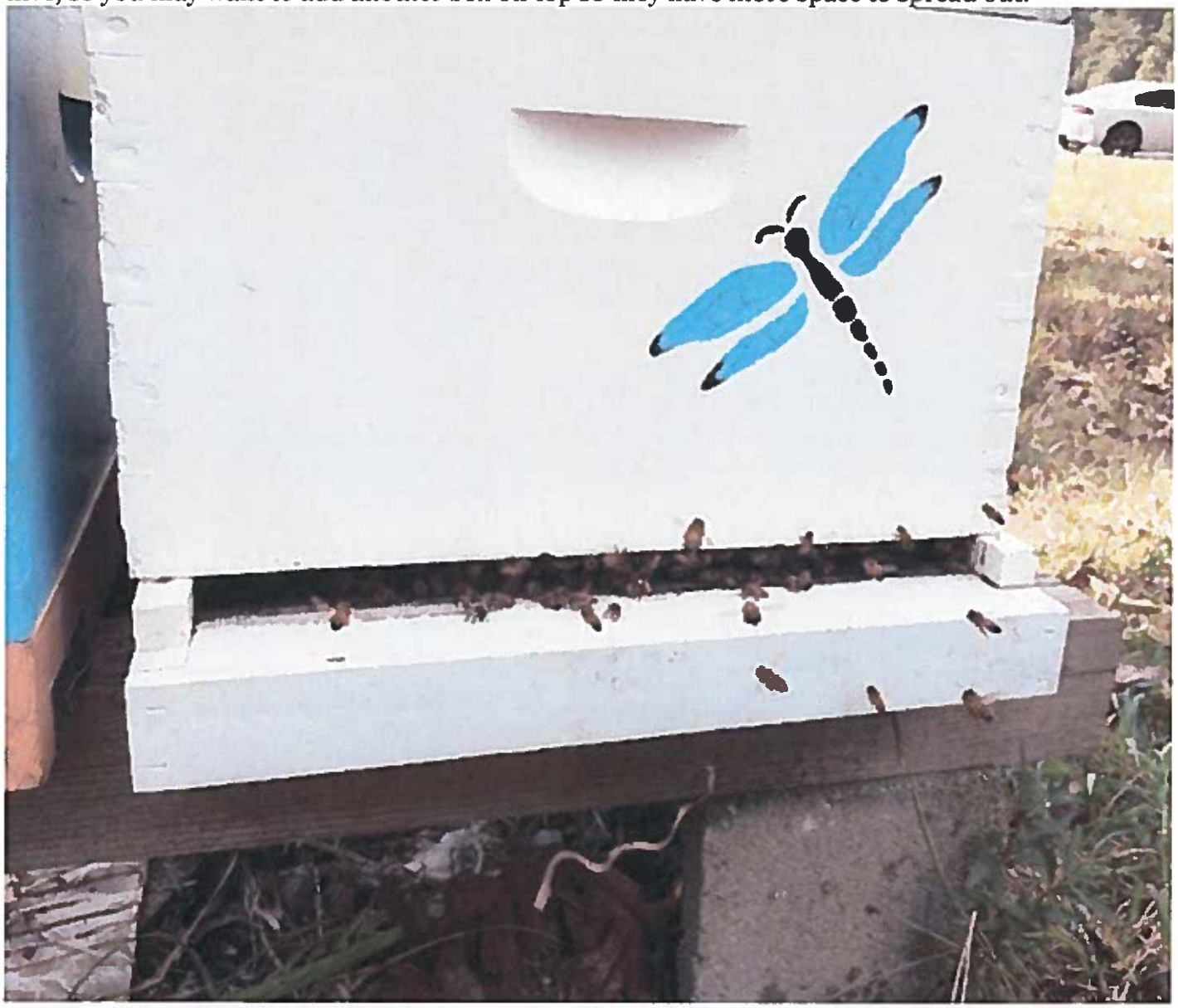
Do you know what to do when you get a call/email/notice about a pesticide application in your area? Knowing how to cover, close, and move your hives is part of being a responsible beekeeper these days, as these skills will allow you to help protect your bees from pesticide exposure. If you do not know how to close, cover, or move your hives, please contact your mentor or a knowledgable beekeeper from your local club. Below are some of the factors you should consider and some pictures of options for closing off your hives. These suggestions do not guarantee your bees will be unaffected and you must use common sense regarding your specific situation.

- **Are you on a notification list?**
  - Communication is key - please make sure you are on your local mosquito control notification list and the Clemson Bee Stewardship list. Both are free and voluntary. Scroll down for an ealier post with links.
- **When is the treatment going to occur?**
  - The time of the treatment will affect what time you close or cover your hives. You will want to try to get most, if not all, of the bees in the hive but you will have to weigh your options depending when the treatment is going to occur.
- **What is temperature like?**
  - You should always consider ventiliation for your hive but you should be especially considerate about closing/covering your hives when it is especially hot out. You can add additional boxes of frames to allow the bees more space to spread out in the hive, reducing the likelihood of overheating. If you have a screen bottom board, this can also help with ventilation.
- **Do you have supplemental feed available?**
  - Many pesticides break down rapidly but if you are concerned about the residuals on floral resources, consider providing you hives with supplemental feed during and after the pesticide application to reduce the foraging need.
- **What do you need to close off a hive?**

- Like many things in beekeeping, there are several options and there is no single "right" way to protect your hives. You can use an entrance reducer to block the entrance (depending on the manufacturer, you may still need to close off a small opening), mesh screen (allowing for ventilation), a robbing screen, or even newspaper and duct tape!

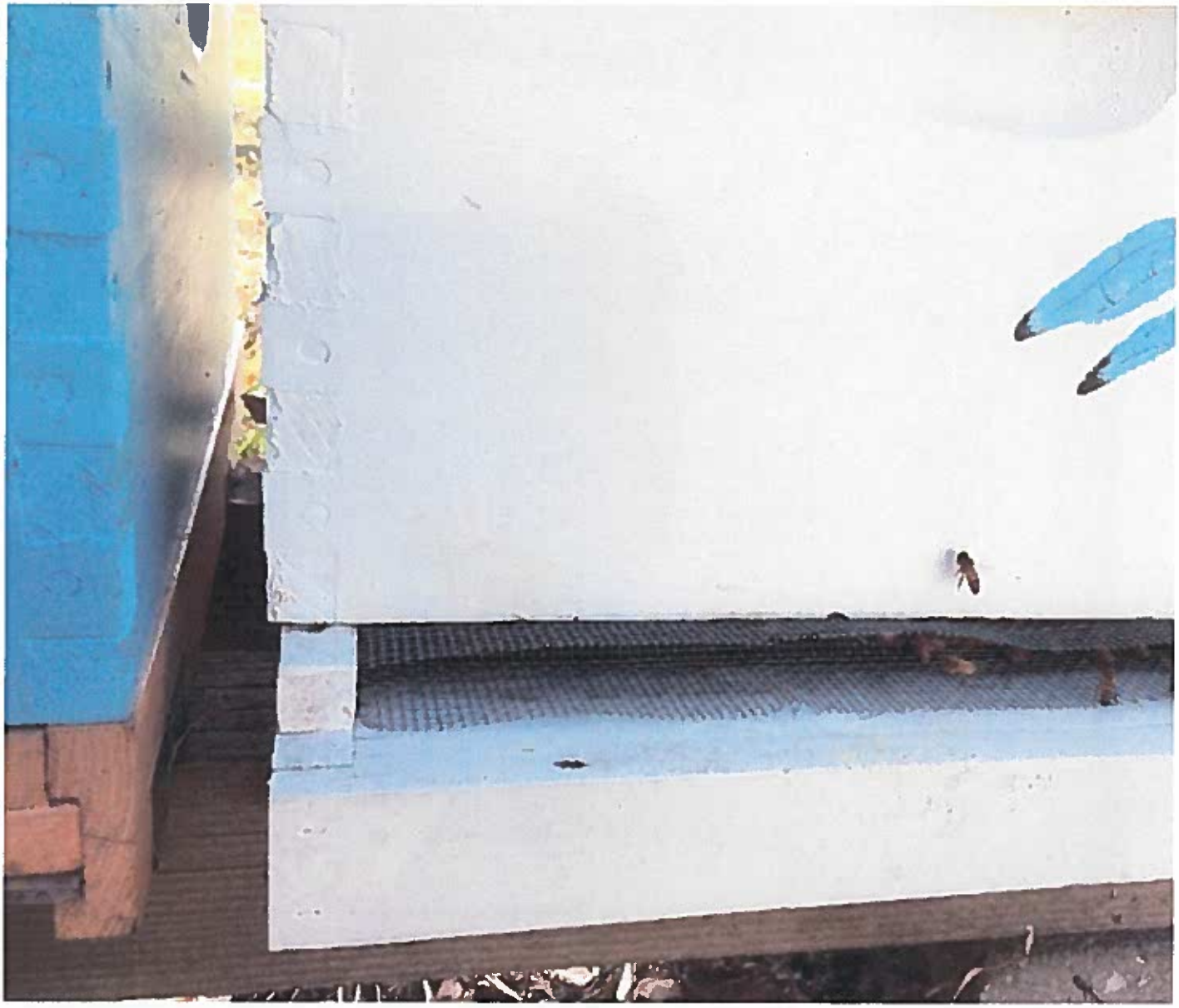
*Please note, photos were taken during the middle of the day so the bees were actively foraging and many would have been shut out from their hive had I actually closed the hives. This is why it is best to close off hives when it gets dark or before it gets light, since most of the bees will be in the hives.

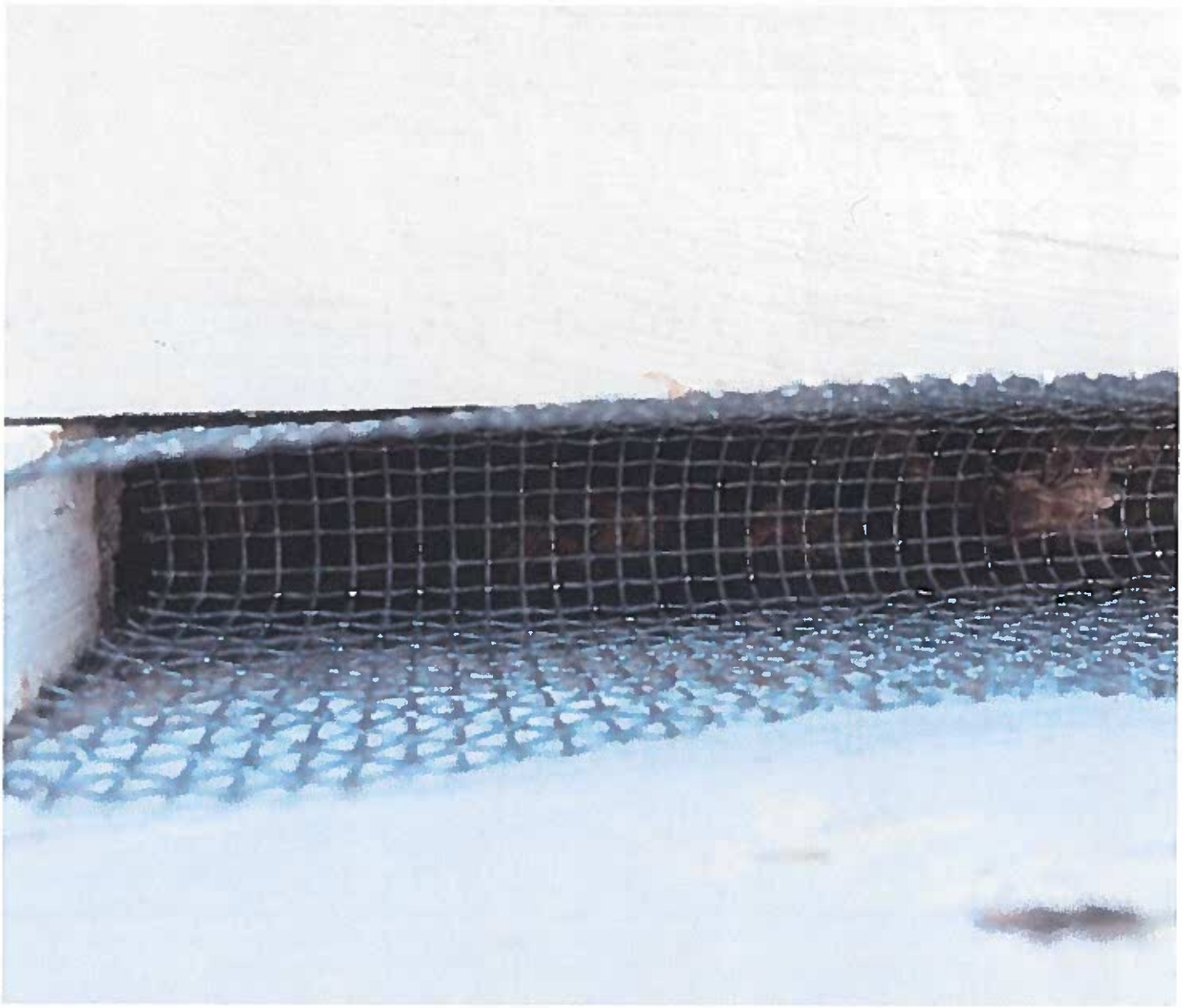
If the bees are bearding outisde the hive, you can smoke them to get most of them into the hive but remember that if they are bearding, they are likely a bit congested inside the hive, so you may want to add another box on top so they have more space to spread out.



The first photo above shows a ompletely open entrance while the second photo shows an entrance reducer (not put into place yet). The entrance reducer can limit the entrance size down to a small notch (towards the right end of the reducer) or a medium width (towards the left end of the reducer), depending on what side of you you have facing out.

The entrance reducer has been put into place and as you can see, is limiting the amount of space from which foragers exit and return, as well as the space that needs guarding. When closing off a hive, you can use a reducer and then plus the space with newspaper and put duct tape over the entire thing to secure it. In a pinch, you can also just wedge newspaper into the entrance and duct tape over it if they will not be closed off for too long of a period (they will start chewing through the newspaper).





You can also use #8 wire mesh. The advantage of this is that you can shove it into the entrance so that the hive is ventilated but the bees can not come to the edge of the entrance (where they could be more exposured to pesticides).
You can also buy plastic mesh; it is cheaper but does not hold a nice, rigid shape like the wire mesh so you may want to use multiple layers.
If you use robbing screens, you can also use them to close off the entrance. In the first photo in the set above, the upper left exit is opened and the entrance on the bottom right is reduced, but open. In the second photo, the upper exit is closed but the bottom is still reduced and open. In third photo the upper exit is closed and the bottom entrance is closed. One disadvantage is that many of the bees will fill in the screened area, in hopes of going to forage, so you could have some bees possibly exposed to a pesticide treatment, but it would likely be less than free-flying foragers. Hives can recover from some loss of bees but an overwhelming number of lost bees could be too large of a challenge to overcome.

In the first photo above, the hive is essentailly closed off - the upper entrance of the robbing screen is closed and the bottom entrance is blocked. But if you look closely, you can see a small gap on the left side between the super and the upper hive body (which is an extra box I placed on the hive so they would have room to spread out and reduce the chance of overheating). Equipment gets damaged over time and sometimes the assembled boxes are not perfect so you end up with little gaps. In the close up photo above, you can see that the bees have started to use propolis to seal that gap and you might be able to make out the head of a bee about 1/3 of the photo from the left. If the hive was closed off at the entrance and the bees were anxious to get out, they could start chewing through that propolis and leave the colony through that gap. So, even after you have closed of the entrance, inspect your equipment and see if you need to touch up any spots with some duct tape.
These are just some considerations and is not an all-inclusive list of options and does not provide any guarantees. Again, please consult with mentors and local beekeepers if you are in need of assistance before an application is to take place. Please protect your bees!

Source:
http://www.clemson.edu/extension/beekeepers/news_feed.html

Clemson University Extension Service and Public Service and Agriculture (PSA) is dedicated to the educational support of SC's beekeeping industry and agriculture through pollination. We at Clemson want to strengthen the bee industry through research-based educational programs on honey bees and other pollinators and will do all we can to accomplish those goals by working with beekeepers, scientists, and the general public.