

[SuperVMO: Sampling ducks for Wellfleet Bay virus disease, Cape Cod, Massachusetts](#)

by [Kordick, Stephanie K - APHIS](#) on 11/19/2014 7:43 AM

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Article contributed by Robert C. Brady, DVM (APHIS Veterinary Services, Epidemiologist, Massachusetts).  
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**Figure 1. Robert Brady with a female eider banded and ready for release.**

Mortality events have occurred almost annually among common eiders on Cape Cod, Massachusetts, since 1998 (1). Common eiders (*Somateria mollissima*) are migratory sea ducks. In 2010, an

orthomyxovirus was isolated from dead eiders collected by APHIS Wildlife Services biologists on Cape Cod beaches. It was designated Wellfleet Bay virus after the location where the duck carcasses were found. Lesions associated with this virus include necrosis of the liver and spleen. At least 18 different agencies have been involved in studying Wellfleet Bay virus disease. Samples have been collected every year from migrating common eiders arriving in Cape Cod. This year I was invited to participate in sampling by APHIS Wildlife Services Wildlife Disease Biologist Randall Mickley.

The goal of this field work is to ascertain the viral infection status of migrating sea ducks when they arrive at wintering sites. This is part of the effort to determine where the eiders acquire the virus. Ducks are banded to see whether any of the tested birds are later found sick or dead on Massachusetts beaches.

Our day started under a starry sky long before sunrise on October 28, 2014. I joined Randy and biologists Lucas Savoy, Dustin Meattley, and William Hanson from the Biodiversity Research Institute (<http://www.briloon.org/>) at Wellfleet Harbor. We motored two boats to a location in Wellfleet Bay that has shallow water and mussel beds where eiders feed. The biologists suspended a mist net between posts mounted on two floats 36 meters apart (Figure 2). The net extended from the waterline to a height of about five feet. Three long strings of eider decoys were attached to the leeward side of the net. We then withdrew to a few hundred meters away and anchored our boats as we watched the sun rise and waited.



**Figure 2. Mist net with eider decoys in Wellfleet Bay.**

When eiders or scoters (Figure 3, another sea duck) landed near the net, one of the boats would try to herd the ducks into the net. Sea ducks take off and land into the wind, and are heavy birds relative to their wing size, so they often flew into the net and became entangled. A boat would then race to the net to free the ducks and put them in plastic poultry crates (Figures 4 and 5). Then they would transport them to the other boat (Figure 6), still anchored and ready to begin sampling.



Figure 3. Robert Brady holds a white-winged scoter.



**Figure 4. Female common eider caught in a mist net next to a male eider decoy.**



**Figure 5. William Hanson and Lucas Savoy remove a female common eider from the mist net.**



**Figure 6. Lucas Savoy holds a male eider as Dustin Meattley steers the boat.**

First we determined the species, sex, and age class of the bird. Then we measured the length of the tarsus, an indicator of growth (Figure 7).





**Figure 7. Measuring tarsal length of a male common eider.**

We collected a cloacal swab for PCR and virus isolation and put it into Brain Heart Infusion broth. We drew a blood sample from the tarsal vein (Figure 8) for antibody testing, and filled 3 capillary tubes from each duck for a study of mercury levels that the Biodiversity Research Institute is conducting.



**Figure 8. Drawing blood from the tarsal vein of a male common eider.**

We placed an aluminum leg band on each duck, weighed it (Figure 9), and finally released it (Figure 1). Most ducks were quiet and still while being handled, but all flew or swam away rapidly as soon as they were released.



Figure 9. Wildlife Services Disease Biologist Randall Mickley weighs an eider.

We had a successful day, capturing and sampling 26 ducks (21 common eiders and 5 scoters, which represent each of the 3 species of North American scoters). This was the most ducks captured during any of the 8 days of sampling this October. The swabs and serum samples were sent to the Southeastern Cooperative Wildlife Disease Study (<http://vet.uga.edu/scwds>) for testing.

This was an enjoyable and satisfying day for me. The weather was good, there was plenty of action, and the biologists I worked with were friendly and expert at their jobs. In past years I have seen dead and dying eiders while vacationing on Cape Cod, and I was glad to learn some more about the disease and make a very small contribution toward unravelling its mysteries.

**Reference:**

1. Mickley R.. 2012. Investigating the newly described Wellfleet Bay virus. *The Carrier* (4)1: 4. Accessed on November 4, at [http://www.aphis.usda.gov/wildlife\\_damage/nwdp/Carrier/pdfs/The%20Carrier%20Vol%204%20Iss%201.pdf](http://www.aphis.usda.gov/wildlife_damage/nwdp/Carrier/pdfs/The%20Carrier%20Vol%204%20Iss%201.pdf).