Chincoteague NWR Does its Part to Monitor Effects of the Gulf Oil Spill on Piping Plovers

By: Aaron Griffith

On April 20, 2010 an explosion occurred on the Deepwater Horizon oil drilling rig in the Gulf of Mexico, leading to the largest marine oil spill in U.S. history. Many people are wondering how this oil spill will affect wildlife that permanently inhabit and migrate to this region. While these questions cannot yet be fully answered, Chincoteague National Wildlife Refuge is doing its part to help understand the impacts of the spill on Piping Plovers.

Beginning June 8 a research team from Virginia Tech began capturing nesting plovers throughout the Refuge in order to obtain blood samples and band the plovers as part of a USFWS study on how the plovers will be affected by the oil spill. Plovers that nest on the refuge are part of the Atlantic Coast breeding population. Studies have shown plovers that nest along the Atlantic coast spend the winter months in the Bahamas and Florida's east and west coast, thus the possibility of these birds being exposed to oil from the spill exists. By taking blood samples from the plovers prior to their departure for the winter, baseline data for a healthy plover was obtained. Next year when the plovers return to their nesting grounds the same birds will be identified by their bands and captured for another blood sample. Researchers will look for the presence of both polycyclic aromatic hydrocarbons (direct products of oil exposure) and corticosteroids (an indicator of physiological stress). Data will be analyzed for the effects of oil exposure to the birds and compared across all three breeding populations, which also includes the Great Plains and Great Lakes Regions.

I personally had the opportunity to oversee the Virginia Tech crew when they conducted their sampling on the Cedar Island portion of the refuge. The first task in the process was catching a plover. The team captured plovers that were still incubating their nests with walk-in nest traps or drop traps. Walk-in nest traps work by placing a small cylindrical woven wire cage, with one small opening, around the plover's nest. The team would then distance themselves from the nest and wait for the plover to enter the trap and sit back down on the nest. Once the bird was sitting down on the nest the team would approach the cage from the side with the opening and the plover would run in the opposite direction from the opening and be held in the cage by the wire. Members of the team would then simply reach in the opening and gently grab the bird. Drop traps are square woven wire baskets that are placed over the nest. One side of the basket is then propped up on a stick with a string attached to it. A team member would then carry the loose end of the string and hide. When the plover sat back down on its nest, the string would be pulled and the plover would be captured in the trap. Once captured various measurements of the bird were taken. The birds were banded with unique color combinations of two bands on each upper leg. After banding, approximately 210 microliters of blood were collected from a vein in the bird's wing. At the fifteen minute mark of capture an additional 70 microliters of blood was collected to look for stress indicators. Six plovers were banded on Cedar Island, four on Assawoman, and nineteen on Assateague Island.

Banded Piping Plover

Virginia Tech research team member and Aaron Griffith taking a blood sample.