

OFFICE OF FISH AND WILDLIFE HEALTH AND FORENSICS
MONTHLY REPORT
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FISH AND WILDLIFE HEALTH PROJECT (FW-69-R20)

Diagnosis of Diseases in Freshwater Fish (Job F-1)

Contacting private hatcheries for annual fish health inspections:

A letter and fish health history request form were sent to private hatcheries that wish to provide fish for stocking within the state. Nearly 20 hatcheries were provided with the information and the fish health history request form was posted on the Division website under the Bureau of Freshwater Fisheries. This year, letters were distributed by email and it was encouraged to provide documentation electronically.

Fish health portion of the Warmwater Fish Management Plan:

Progress has continued toward developing a warmwater/coolwater fish health management plan that will be included in the Bureau of Freshwater Fisheries Warmwater/Coolwater Fisheries Management Plan.

Mortality in Rainbow Trout fry at the Pequest Trout Hatchery (1/14/21):

Elevated mortality of trout fry at Pequest was investigated. Preliminary necropsy showed bacteria in the gills, suggestive of bacterial gill disease. Bacteriological cultures were taken from fish. These cultures are pending. Appropriate treatment will be recommended based on the culture results.

Diagnosis and research of Diseases in Marine Fish (Job F-2)

Menhaden kill update:

A pathology report was prepared documenting the menhaden mortalities that occurred in November and December. Fish exhibited pathologic lesions in the brain, liver, kidney and spleen which was suggestive of a bacterial or rickettsial etiology. Special histologic stains including Giemsa, Gram and acid-fast demonstrated that cells contained variously staining inclusions which were negative for acid-fast. This month samples of affected tissues were processed for transmission electron microscopy (TEM) to evaluate the lesions and determine an etiology. Samples were processed and embedded in resin. Future processing will require trimming, cutting and preparing the samples to view on the TEM. Due to the COVID pandemic, there will likely be a delay in the TEM results, since microscopy is conducted at an outside laboratory (Rutgers).

Wildlife Disease Surveillance and Investigations (Job W-1) and Wildlife Toxicology (Job W-2)

Updates:

White-Tailed Deer Male, 3.5+ years, Milford NJ (12/11/2020):

Resident contacted USDA WS with pictures of a buck that had died at the back of their property. The pictures showed a very thin older buck. Dr. Lewis transported the deer to the Clinton Pathology Lab for necropsy. The deer had a large oral ulcer on the hard palate with bone fracture and infection. This likely made it difficult for the deer to eat, making him thin. He eventually succumbed to his injuries. Retropharyngeal lymph nodes were collected and submitted for CWD testing; results were negative.

Bald eagle, female, adult from Daretown NJ (12/9/2020):

On Saturday, December 5th the eagle was delivered to Tri-State by conservation officers for showing neurological symptoms. The eagle had some older injuries as well and was treated for several days at Tri-State and appeared stable until 12/7/2020 when it suddenly crashed and was put in the O2 chamber where it eventually died. The eagle was then transported to the Clinton Pathology Lab for necropsy. On necropsy there was approximately 10 mL of straw-colored fluid in the sac surrounding the heart as well as the presence of fibrin, which is suggestive of an active infection. There was also a grey/silver sheen over the organ surfaces and air sacs, suggestive of a fungal infection. Impression smears and histopathology are still pending.

Bald Eagle, female, juvenile from Cumberland Landfill (12/9/2020):

A bald eagle was brought to Tri-State with neurological signs classic of poisoning. The eagle died shortly after arriving at Tri-State and was submitted to the Clinton Pathology Lab for necropsy. On necropsy the presence of sarcocystis (a common parasite seen in the liver of birds) was seen. There were multiple tan lesions throughout the heart. Samples were sent for toxicology testing, where pentobarbital (euthanasia solution) was detected.

White-Tailed Deer, female, 1.5yr, Columbus NJ (12/15/2020):

USDA WS was contacted by a resident who had a doe that was neurologic on their property on 12/13 and they found it dead the next morning. CPOs Bickerton and Garafolo picked up the deer and transported it to the Clinton Pathology Lab for necropsy. On necropsy the liver was rounded and significantly congested with blood, the lungs were also congested with blood and there was petechial (pinpoint) hemorrhage on the surface of the heart. On examination of the skull, there was a significant amount of congestion in the muscles surrounding the skull. Histopathology and additional testing are still pending.

New Cases:

Great-horned owl (12/29/20):

Raptor Trust reached out to Dr. Lewis with regards to a great-horned owl that had been brought to their facility that they suspected were poisoned. The owl was transported to

the Clinton Pathology Lab for necropsy. No significant findings were seen on gross necropsy and samples were sent for rodenticide testing, which detected brodifacoum toxicity in the liver suggesting poisoning from anticoagulant rodenticides.

Red-tailed hawk (12/29/20):

On the same day the owl was transported to the Clinton Pathology Lab, a red-tailed hawk that had died several months prior and frozen was submitted for suspected rodenticide poisoning. Gross necropsy was unremarkable, and samples were sent for testing, which detected bromadiolone toxicity in both the liver and the GI contents, suggesting poisoning from anticoagulant rodenticides.

Meetings:

- Dr. Lewis continues to participate in weekly One Health SARS-COV2 calls hosted virtually by the CDC.
- Dr. Lewis attended the Virtual Symposium on One Health

NON-PROJECT ACTIVITIES:

- Dr. Lovy has been coordinating with the Bureau of Shellfisheries to conduct shellfish disease surveillance in 2021. Work is being done to set up a new molecular assay for the detection of oyster pathogens in collaboration with the Animal Health Diagnostic Laboratory, NJ Department of Agriculture.
- Dr. Lovy provided reviews for three scientific manuscripts for the journals, BMC Zoology, Journal of Aquatic Animal Health, and Journal of Fish Diseases.
- Dr. Lewis attended a virtual webinar on Ocean Plastics
- Dr. Lewis assisted on an interview panel for the Principle Biologist position in the Office of Mosquito Control Coordination