USDA United States Department of Agriculture

USGS science for a changing world

U.S. FISH & WILDLIFE SERVICE

U.S. DEPARTMENT OF THE INTERIOR U.S. Fish and Wildlife Service NATIONAL WILDLIFE REFUGE SYSTEM

NATIONAL FLYWAY COUNCIL

Pacific est. 1952 - **Central** est. 1948 - **Mississippi** est. 1952 - **Atlantic** est. 1952

Wild Bird Avian Influenza Surveillance Procedure Manual

Photo Courtesy of Jay Cumbee

Version 3.0 August 7, 2015

Table of Contents

I. Introduction

A. Purpose

This document describes the surveillance guidelines and procedures for Wildlife Services employees and their State, Federal and university Cooperators within the framework of the *Early Detection and Monitoring for Avian Influenzas of Significance in Wild Birds, A U.S. Interagency Strategic Plan (2015)*. The goals of this surveillance effort are to maximize our ability to detect AIVs in wild waterfowl so that we can identify the distribution of avian influenzas in the U.S., detect spread of influenzas to new areas of concern, to provide a flexible surveillance framework to monitor wild dabbling duck populations for reassortants of influenzas and introductions of new viruses, and to estimate apparent prevalence of important influenzas once detected. The purpose of this document is to specify:

- Sampling strategies
- Protocols for each sampling technique
- Safety and personal protective equipment (PPE)
- Shipping wild bird samples to the National Animal Health Laboratory Network
- Data entry, management and reporting
- Capture equipment and sampling supplies

B. Supporting Documents

The background and planning documents are available on the internet: *Early Detection and Monitoring for Avian Influenzas of Significance in Wild Birds: A U.S. Interagency Strategic Plan* at http://www.aphis.usda.gov/animal_health/downloads/animal_diseases/ai/wild-bird-strategic-plan.pdf and *The Surveillance Plan for Highly Pathogenic Avian Influenza in Waterfowl in the United States* at http://www.aphis.usda.gov/animal_health/downloads/animal_diseases/ai/2015-hpai-surveillance-plan.pdf. The *Implementation Plan for Highly Pathogenic Avian Influenza Surveillance in Waterfowl in the United States* is available by contacting the National Wildlife Disease Program (NWDP) staff at the National Wildlife Research Center (NWRC), Fort Collins, CO.

Questions regarding the plans should be directed to the NWDP staff at the National Wildlife Research Center, Fort Collins, CO. See Appendix C for contact information.

C. 2015 Surveillance Plan Highlights

The plan calls for active surveillance of apparently healthy dabbling ducks only, along with continued passive surveillance of morbidity and mortality events of any species.

- The new plan is designed to collect samples from targeted watersheds selected by an analysis of historic banding data and the results of the 2006-2011 H5N1 HPAI surveillance effort. The plan is not linked directly to state boundaries as in the past. Rather, watershed-based targets were developed by season. Many watersheds span more than one state.
- Seven National Animal Health Laboratory Network (NAHLN) laboratories will be used for all diagnostics. See Appendix G for details.

- As in the past, non-APHIS collectors will be required to obtain a USDA level 2 eAuthentication account in addition to filling out an APHIS 513 form that will provide access to the VSLS website for data entry. All APHIS employees should already have level 2 eAuthentication privileges.
- The *Implementation Plan for Highly Pathogenic Avian Influenza Surveillance in Waterfowl in the United States* (hereafter, the Implementation Plan) provides details on sample sizes, species, and watersheds where sampling should occur.

II. Detailed Sampling Procedures

A. Sampling Strategies

- **Live Wild Birds**

  This strategy incorporates sampling of live-captured, apparently healthy wild birds to detect the presence of HPAI virus. Birds are captured using a variety of methods, sampled, and released on site (Appendix B). One oropharyngeal and one cloacal swab should be collected from each bird and placed in the **same** tube of media.
  NOTE: Although condition of the bird is not a required data field when entering samples collected via the live wild bird method, condition should be entered for any wild birds that die during capture. These individuals were still caught for "live wild bird" surveillance but the condition should be marked as "dead." For example, the collection strategy for a dabbling duck that dies during extraction from a rocket net would be labeled as live wild bird and the condition would be dead.

- **Hunter Harvested Birds**

  Hunter check stations, hunting clubs, and guide services provide excellent opportunities to conduct surveillance for HPAI in hunter harvested birds. For surveillance purposes these are also classified as apparently healthy birds. If it is possible to determine the location where the hunter harvested the bird (name of lake, refuge, wetland, closed intersection of roads, etc.) based on the hunter's description, then the GPS points and actual county can be recorded post-sample collection by referencing a software program such as **Google Earth, ArcView, Precision Mapping** or any other software program that will allow you to pinpoint the location where the samples were collected. Remember that the **GPS points must be recorded in decimal degrees using datum WGS-84**.

  It is also acceptable to record the GPS coordinates of the check station rather than the exact location that the bird was harvested if more accurate information on collection site is not available. If the GPS point is collected at the check station then the county written on the datasheet must match the county of the check station. **Do not record GPS points for the approximate location where the bird was harvested and list the check station county (if they are different)**.

  Samples collected at a duck processor may also be submitted under this collection strategy. However, carcasses must be fresh when swabbed, not frozen, to ensure that virus particles are transferred to the swab. Collectors who choose to use this collection

strategy should ask hunters to point out the approximate location where each bird was harvested on a map. GPS points and county can be recorded post sample collection by referencing software programs described above. **The processing plant may not be used as the location for the samples**. If it is not possible to acquire more accurate information on where the birds were collected then samples should not be collected.

One oropharyngeal and one cloacal swab should be collected from each bird and placed in the **same** tube of media (see section II C). Samples should be collected within 24 hours of death. If wild birds are kept cool or refrigerated (not frozen), and out of direct sunlight, samples may be collected ≤ 48 hours after death. These samples should be shipped to the NAHLN lab as soon as possible; but in case of holidays or weekends, samples may be held up to 72 hours after collection if kept refrigerated. These steps allow for Friday and weekend sampling of birds and should only be implemented when necessary. The ability to identify influenza in a sample is inversely related to the time it takes to test the sample and the number of freeze/thaw cycles to which the sample is subjected. **The best case scenario remains collecting and shipping chilled (e.g., ≈4°C/39°F) samples to the NAHLN lab within 24 hours of the bird being harvested to ensure the goal of early detection.**

- ## Agency Harvested Birds

  Wild birds that are harvested by a government agency as part of regular wildlife management activities (e.g., wildlife damage management) should be labeled as Agency Harvest. One oropharyngeal and one cloacal swab should be collected from each bird and placed in the **same** tube of media. The scientific collecting permit issued to Wildlife Services by the US Fish and Wildlife Service (USFWS) for Avian Influenza Surveillance does not permit agency personnel to take birds solely for the purpose of collecting disease samples.

- ## Investigation of Morbidity/Mortality Events

  The investigation of morbidity/mortality events is an important strategy for detection of HPAI in wild birds. Detection of HPAI will most likely occur by sampling mortality events in birds with little or no natural immunity to HPAI subtypes. Investigations related to morbidity/mortality events should be conducted regardless of the time of year, species involved, or the number of samples already collected in the state. Morbidity/mortality events may involve one bird or hundreds of birds.

  For all morbidity/mortality events, please contact the National Wildlife Health Center (NWHC) Field Epidemiology Team at 608-270-2480 or NWHC-epi@usgs.gov for consultation to determine the appropriate samples are collected and testing is performed. Use this number to report all morbidity/mortality events in the US. You may also use an in-state veterinary diagnostic lab if that is the state's preference. **State and federal agency personnel responding to avian morbidity and mortality events should consult first with their state wildlife veterinarian/health specialist to locally triage cases and determine the most appropriate disposition of the case/carcass to in-state or regionally-located veterinary diagnostic laboratories or federal laboratories.**

Please do not take swabs on carcasses being submitted to the NWHC for morbidity/mortality investigations. Shipping costs for sending the carcasses are the responsibility of the shipper. If you are investigating a morbidity/mortality event on a weekend and cannot reach the NWHC, it is advisable to take swab samples while some of the birds are fresh. In this case, you may take cloacal and tracheal swabs and place them into the **same** tube (this is a change from previous years). Submit the swabs to your regular NAHLN laboratory only if the NWHC has declined to receive samples.

NOTE: Investigation of morbidity/mortality events is the only collection strategy in which the condition of the bird (live, sick or dead) is a required data field when entering the data into the online database, regardless of sample type.

- ### Environmental Sampling
  Collection of environmental (fecal) samples is not part of this surveillance plan, but can be useful in specific situations. Contact the NWDP program staff for guidance (Appendix C).

- ### Sentinel Birds
  As with environmental sampling, the use of sentinel birds was not incorporated into this plan. Contact the NWDP program staff for guidance (Appendix C).

B. Aging Birds

- ### General Guidelines
  Do not guess age. Inexperienced sample collectors should use the undetermined category if there is any doubt about the age of the bird. Wild birds are categorized as either hatch year, after hatch year or undetermined. A wild bird that is sampled after January 1st and before the nesting season for that species, is in at least the second calendar year of its life and by definition is an after hatch year bird regardless of when it hatched in the previous year. A hatch year bird is defined as a bird in the first calendar year of its life.

- ### References
  1. http://www.birdpop.org/docs/pubs/Pyle_2005_Molts_and_Plumages_of_Ducks.pdf.
  2. Pyle, P. 2008. Identification Guide to North American Birds, Slate Creek Press, Bolinas, CA. 836 pg.

C. Personal Safety Guidelines and Equipment*

* **Be aware of the possibility of cross-contamination between samples and between sampling sites. Disinfect gloves or change them between birds to prevent cross contamination. Clean and disinfect boots, PPE and vehicle when moving between sampling sites. Carry a garden sprayer filled with HPAI approved disinfectant in your vehicle to use on boots, tires, etc. Do not wear the same PPE at two different sampling locations within the same day. If the locations are far enough apart that**

you would assign them a new referral number, then that should be sufficient criteria to change PPE as well.

The following guidance is adapted from USGS, National Wildlife Health Center Guidelines:
http://www.nwhc.usgs.gov/publications/wildlife_health_bulletins/WHB_2015-05_HPAI_Natl_surveillance_rev.pdf

- **Recommendations for field biologists handling apparently healthy wild birds in areas where HPAI H5Nx is not suspected**
  1. Work in well-ventilated areas if working indoors. When working outdoors, work upwind of wild birds to the extent practical, to decrease the risk of inhaling aerosols such as dust, feathers or dander.
  2. Wear rubber or disposable latex gloves and protective eye wear or a face shield while handling wild birds.
  3. Wash hands thoroughly with soap and water (or with alcohol-based hand products if soap and water are not available).
  4. Thoroughly clean equipment and surfaces that come in contact with wild birds. These should be cleaned with a 10% bleach solution (applied for 10 min.) or an alcohol- based hand sanitizer.
  5. Do not eat, drink, or smoke while handling birds.

- **Recommendations for field biologists handling sick or dead birds associated with a morbidity/mortality event**
  1. Follow the recommendations above and at a minimum wear protective clothing including coveralls, rubber boots, latex or rubber gloves that can be disinfected or discarded.
  2. A particulate respirator (NIOSH N95 respirator/mask or better) is recommended when working in confined spaces or conditions that promote aerosolization of debris. Check with your agency policies for specific respirator guidance while handling sick and dead wildlife
  3. Decontaminate work areas with 10% bleach solution and properly dispose of potentially infectious material including carcasses.
  4. Do not eat, drink, or smoke while handling animals or until hands have been washed or sanitized with alcohol based hand sanitizer.
  5. Wash hands thoroughly with soap and water (or with alcohol-based hand products if soap and water are unavailable).

- **Recommendations for field biologists working with wild birds in areas (if) where HPAI H5Nx has been detected**
  1. Follow the recommendations above and the basic guidelines for infection control, including how to put on and use, remove, disinfect, or dispose of personal protective equipment and clothing.
  2. Wash hands frequently and disinfect exposed surfaces and field equipment

between work sites.

3. Do not eat, drink, or smoke while handling birds or until hands have been washed or sanitized.
4. Wear coveralls, gloves, shoe covers, or boots that can be disinfected or discarded, a respirator (preferably a NIOSH N95 respirator/mask) and protective eyewear (goggles) or full-face shield.
5. Monitor your health for clinical signs of influenza infection during and for one week after your last exposure to potentially HPAI virus-infected or exposed birds.
6. Contact your healthcare provider if you develop fever, flu-like symptoms or conjunctivitis (eye inflammation). Inform them prior to arrival that you have potentially been exposed to HPAI.

- **Disinfectants (see Web Sites, #4 below, for more information)**
  1. 10% solution of household bleach for 10 min. (use within 30 days)
  2. 70% ethanol solution allowed to air dry
  3. Benzalkonium chloride based commercial disinfectant allowed to dry

- **Disposal of gloves and sample-related waste**
  1. Gloves, swab handles, and miscellaneous paper from sampling may be combined into a re-sealable bag.
  2. Use a spray bottle with 10% bleach solution to disinfect waste or add 20 mL to a one gallon re-sealable bag with the waste. Seal the bag and spray outside of bag with 10% bleach solution.
  3. Shake bag to mix the bleach solution and waste.
  4. Throw away with regular trash.

- **Web Sites**

  Please refer to the following web sites for additional guidelines for personal protection and disinfection methods and materials:
  1. http://www.nwhc.usgs.gov/publications/wildlife_health_bulletins/WHB_2015-01_HPAI.pdf)
  2. http://www.cdc.gov/flu/avianflu/severe-potential.htm
  3. http://www.aphis.usda.gov/library/directives/pdf/APHIS6800_1.pdf
  4. http://www.cfsph.iastate.edu/Disinfection/

D. Procedures for Collecting and Shipping Wild Bird Samples

All samples collected under the **live wild bird**, **hunter harvest**, and **agency harvest** strategies will consist of a cloacal swab and separate oropharyngeal swab placed into the **same** tube of Brain Heart Infusion (BHI) media and labeled with a single barcode. **Morbidity/mortality** swab samples consist of a cloacal swab and a separate **tracheal** swab placed into the same tube of BHI media that is labeled with a single barcode. (See Appendix D for a list of sampling supplies)

- ## Cloacal Swabs

1. Unwrap a Dacron (polyester) swab from the stem-end of the packaging.
2. Remove swab and insert the tip of the swab into the cloaca of the bird.
3. Gently rotate the swab inside the cloaca taking care to insert the swab just far enough to completely over the tip of the swab.
4. Open a vial containing Brain-Heart Infusion (BHI) media.
5. Insert the swab into the media. Raise the swab about 1 inch from the bottom of the vial. While holding the vial in one hand, leverage the shaft of the swab against the lip of the vial and break the swab handle at the lip of the vial. The remaining portion of the polyester tip will slide to the bottom of the vial allowing room for the cap to fit over the vial. Secure the cap to the vial and discard the remaining portion of the handle of the polyester swab.

6. Label the vial using one of the barcodes provided in the sampling kit. Place the barcode lengthwise along the tube so that the lab can read the barcode using a barcode scanner.
7. Indicate the species (Appendix E), and all other information requested on the datasheet (Appendix F).
8. Prepare to obtain an oropharyngeal swab (live wild bird, hunter harvest, agency harvest) or tracheal swab (morbidity/mortality) depending upon sampling strategy.

- ## Oropharyngeal Swabs (combined with cloacal swab)

1. Gently pinch both sides of the head of the bird near the base of its bill or beak. This will cause the bird to open its mouth and expose its oral cavity.
2. Insert the new swab into the oral cavity while gently rotating the swab in an up and down motion coming into contact with mucosal surfaces. Do not insert the swab into the trachea of live birds.
3. Open the vial containing the cloacal swab from the same bird.
4. Insert the swab into the media already containing the cloacal swab.
5. Raise the swab about 1 inch from the bottom of the vial and break off handle as described in the 5th step of the cloacal swab procedure.
6. The vial should already have been labeled with a barcode when the cloacal swab was collected. Do not affix another barcode to the same tube.
7. Place the vial into a cooler containing ice packs for storage in the field. Upon returning from the field, store the samples in a refrigerator until they are shipped to the laboratory. Samples **should** be shipped to the laboratory within 24 hours of collection. Do not save samples to consolidate into one shipment. ***This may mean that separate shipments are sent on Monday, Tuesday, Wednesday and Thursday. Samples collected on Friday or over the weekend should be refrigerated and then shipped first thing Monday morning. It is

important to ship samples as quickly as possible to ensure the best possible chance of detecting the virus before the sample degrades or becomes overgrown with bacteria.

- **Tracheal Swabs (combined with cloacal swab – M/M events only)**

1. Ensure a clear understanding and an ability to differentiate between tracheal opening and oropharyngeal area.
2. Pinch both sides of the head of the bird near the base of its bill or beak. This will cause the bird to open its mouth and expose its oral cavity.
3. In most waterfowl, you can open the trachea by pushing upwards on the neck just below the lower bill.
4. Insert the swab into the trachea while swirling the swab in an up and down motion.
5. Open the vial containing the cloacal swab from the same bird and insert the tracheal swab into the media.
6. Raise the swab about 1 inch from the bottom of the vial and break off handle as described in the 5th step of the cloacal swab procedure.

8. The vial should already have been labeled with a barcode when the cloacal swab was collected. Do not affix another barcode to the same tube.
9. Place the vial into a cooler containing ice packs for storage in the field. Upon returning from the field, store the samples in a refrigerator until they are shipped to the laboratory. Samples **should** be shipped to the laboratory within 24 hours of collection. Do not save samples to consolidate into one shipment. ***This may mean that separate shipments are sent on Monday, Tuesday, Wednesday and Thursday. Samples collected on Friday or over the weekend should be refrigerated and then shipped first thing Monday morning. It is important to ship samples as quickly as possible to ensure the best possible chance of detecting the virus before the sample degrades or becomes overgrown with bacteria.

- **Data Sheet**

Instructions for Wildlife Avian Health/HPAI Surveillance Data Sheet

1. Record collector information in the upper left hand corner of the data sheet. List one collector name even if multiple collectors are present.
2. Record the laboratory name where the samples are submitted. Please include city and state of the laboratory.
3. In the purchase order box include the last 4 digits of the purchase order # (different for each laboratory and changes each year) See Appendix G.
4. One referral number should be assigned per location per day. The referral number should consist of the state abbreviation followed by the collector's initials and the date (ex. COBS061615). If multiple collectors are at one site on the same day, only one referral number should be assigned to the

shipment. A different referral number should be used for samples collected at multiple sites on the same day by the same collector. For example, if I collect samples at two locations, the referral for the first location would be COBS061615A and the referral for the second location would be COBS061615B.

5. Record the name of the watershed from the watershed maps distributed with the Implementation Plan. **Watershed will be entered into the "Comments" field of the "Collection Site Information" section in VSLS. (see Data Entry section)
6. Record the county and state where the samples were collected.
7. Record GPS location. The GPS unit **must** be set in the WGS 84 datum and in decimal degrees before recording the location (ddd.ddddd). For hunter check stations, coordinates may be taken at the check station where the birds are sampled unless more accurate information can be obtained from the hunter.
8. Collection site is defined as the refuge, lake, or name used to refer to the area where the samples are collected.
9. Record the date samples were collected.
10. Circle the collection strategy used to collect the samples. Detailed information regarding the classification of each of these strategies is outlined in section II. A. If you use more than one collection strategy then you should create another referral number.
11. Place one of the barcodes on the sample vial and a corresponding barcode on the data sheet. Once a barcode has been used it cannot be used again. Extra barcodes should be discarded.
12. Multiple species may be listed per page. Use the 4 letter species code corresponding with the species sampled so that each sample can be appropriately identified (Appendix E).
13. Circle one each in the categories of sex and age class.
14. Circle the type of sample that is collected from the wild birds.
15. Record any additional information such as band number in the comments section.
16. For morbidity/mortality events or any unusual circumstances where the condition is not evident by the collection strategy, please indicate the condition (healthy, sick, or dead) of the bird in the comments section. For other collection strategies it will be understood that the condition or fate of the bird will be dead for hunter-harvested and agency-harvested wild birds, and healthy for birds marked as live wild birds unless otherwise indicated in the comments section.
17. At the bottom of the data sheet record the date the samples are shipped to the lab and the total number of samples that are included in the referral. Record the name and phone number of the person who actually sends the samples to the lab (this may be different from the person collecting the samples). If the submitter is the same as the collector check the box indicating they are the same.
18. Make a copy of the form and include it in the box with the samples when they are sent to the laboratory. Use a black marker to completely cross

out the GPS coordinates and Collection Site before submitting to the lab. This step is necessary for the datasheet to double as a lab submission form. Redacting all but county level location information takes care of Privacy Act concerns when private properties are used for HPAI surveillance. Original data sheets should be kept at the collecting agency office. Please create a PDF version of the datasheets and send to NWDPdata@aphis.usda.gov. Alternatively, you may fax a copy of the datasheet including GPS points and collection site to Brandon Schmit or John Baroch at (970) 266-6215 or send via overnight mail to Brandon Schmit/John Baroch at National Wildlife Disease Program, 4101 LaPorte Avenue, Fort Collins, CO 80521.

USDA APHIS **Wildlife Avian Health/HPAI Surveillance Data Sheet** Page 1 of 1

Collector: Brandon Schmit | Testing Laboratory: CSU Vet Diag Lab | Please charge to purchase order #: AG-6395-K-15 - test

Agency: APHIS Wildlife Services | City: Fort Collins | State: CO

Phone number: 970-266-6079

Referral # (State, Initials, month, day, year): CO BS 07 01 15 | Watershed: South Platte | County: Larimer | State: CO

GPS location (In WGS 84 and decimal degrees): [redacted] | Collection Site: [redacted]

Date collected: 7/1/15 | Collection Strategy (circle one): Live bird / Hunter Harvest / Agency Harvest / Sentinel / Morbidity/Mortality / Environmental

Sample Bar Code	Bird Species Code	Sex	Age Class	Sample Type	Comments (Band #, condition, etc.)
Avian Health AH0023297	MALL	1. Male; 2. Female; 3. Unknown	1. Hatch Year; 2. After Hatch Year; 3. Undetermined	1. Oral + Cloacal; 2. Tracheal + Cloacal; 3. Environmental; 4. Sera (WS only)	
Avian Health AH0023298	MALL	1. Male; 2. Female; 3. Unknown	1. Hatch Year; 2. After Hatch Year; 3. Undetermined	1. Oral + Cloacal; 2. Tracheal + Cloacal; 3. Environmental; 4. Sera (WS only)	

19. Notify the laboratory of the number of samples to be shipped and confirm prior to sending the samples that the lab can complete the testing within 48 hours. All wild bird samples should be sent to a NAHLN lab (Appendix G). If the lab is unable to meet the 48 hour deadline, call another NAHLN lab (Appendix G) and confirm that they will be able to process the samples in 48 hours. After identifying the alternate NAHLN lab, Wildlife Services employees must notify the NWDP program staff in Fort Collins, CO, so that the samples can be credited to the appropriate account.

- ## Proper Labeling of Samples

You will receive barcodes from the NWDP that were printed in sets of three identical labels. They should be used as follows:

- Place one barcode on the sample tube. Be sure to place the barcode **lengthwise** along the vial. Please see the picture to the right.
- Place the matching barcode on the datasheet
- The third (extra) barcode supplied is occasionally used by WS employees to label serum samples from birds. The third barcode should be destroyed if not used. **Barcodes cannot be used more than once. Any attempts to enter duplicate sample barcodes into the VSLS database will be rejected by the system.**

Please contact John Baroch or Brandon Schmit if you run into this situation. Often times another collector has mistakenly entered the wrong barcode number for their sample.

- ## Storage of BHI Media

A cooler containing frozen vials of BHI media will be shipped directly from NVSL. If the media thaws in transit, place the vials in the refrigerator (4°C) and use them before any other vials. Refrigerated media should be viable for over one year, however, any media that appears to have changed color or clarity should be discarded. If refrigeration is not possible, or if the media received from NVSL is still frozen, the vials should be stored in a freezer.

IMPORTANT: Unused frozen BHI vials should be stored in a deep chest freezer because regular frost-free freezers undergo repeated freeze/thaw cycles that may spoil the media. Frozen media should be thawed prior to use and once thawed, should not be refrozen. To request additional BHI media, please contact Meredith Grady or Brandon Schmit.

- ## Sample Supplies

Each State WS office or state agency cooperator is responsible for ordering swabs and shipping supplies, including shipping boxes. Inner leak proof bags and absorbent materials may be ordered from a commercial source or re-sealable bags and paper towels may be used. An example of a supplier for each of these items is listed in Appendix D. There may be better/cheaper alternatives available, however.

- ## Proper Communication

It is essential to have good communication between the individuals responsible for sample collection and the designated NAHLN laboratories.

1. Record all relevant information on the Wildlife Avian Health/HPAI Surveillance Data Sheet (Appendix F).
    - Make a copy of the original (remove the GPS coordinates and collection site using a black marker) to include with the samples when shipping to the lab. **NOTE**: If the data is entered online before samples are submitted to the lab, a packing slip can be printed to include with the samples.
    - The submitter should keep the original datasheet on file.
    - Please create a PDF version of the datasheets and send to NWDPdata@aphis.usda.gov. Alternatively, you may fax a copy of the data sheet including GPS points and collection site to Brandon Schmit or John Baroch at (970) 266-6215 or send via overnight mail to Brandon Schmit/John Baroch at National Wildlife Disease Program, 4101 LaPorte Avenue, Fort Collins, CO 80521.
2. Call the lab to confirm that they will be able to test the samples within 48 hours prior to shipping.
3. **SUGGESTION**: Whenever possible, notify the NAHLN lab well ahead of

time as to approximately how many samples you anticipate submitting in the next few weeks so they can plan for the sample influx.

4. If for any reason you need to submit samples to a different NAHLN lab than your designated lab as listed in Appendix G, please notify the NWDP staff at the NWRC.

• Shipping Wild Bird Samples

1. When shipping ≤ 20 samples the vials should be scotch-taped together (do not tape over barcode) in numerical order and placed in a re-sealable bag. For more than 20 sample vials, a 40 vial box is useful. Please place vials in numerical order or the order they have been entered onto the datasheet(s). Organized samples make the process more efficient and help the laboratory avoid mistakes. See Appendix D for sources.
2. Place frozen ice packs both below and on top of the samples. Do not use Dry Ice.



3. Place a copy of the completed **Wildlife Avian Health/HPAI Surveillance Data Sheet (**with GPS coordinates and collection site marked out with a black marker) between styrofoam cooler and cardboard box. Do not place packing slips (datasheets) inside styrofoam cooler.

4. Use an **Exempt Animal Specimens** sticker to cover up the UN3373 label that is pre-labeled on the box. If you are reusing a box or if you do not have a sticker, mark out the UN3373 code with a black marker or cover it with a white piece of paper. Do not attach the UN3373 label because the samples are **not** classified as dangerous goods.

5. Once the box is labeled as an exempt animal specimen, check the box on the FedEx or UPS airbill that the shipment does **not** contain dangerous goods.
6. Ship by overnight delivery and be sure to note the tracking number so that you can investigate the whereabouts of your shipment if it's delayed.
7. **Samples must be shipped Monday, Tuesday, Wednesday or Thursday of each week unless different arrangements are made with the laboratory.**

• Hand Delivery of Samples to Laboratory

Collectors with the opportunity to hand deliver samples to the lab should:

1. Confirm with the NAHLN lab that hand deliveries are acceptable.
2. Submit samples with ice packs.
3. Include a *copy* of the **Wildlife Avian Health/HPAI Surveillance Data Sheet**

with the GPS coordinates and collection site marked out with a black marker.

4. Call the lab prior to arrival to confirm that the samples will be processed within 48 hours of submission and submit samples elsewhere if there will be a delay.

- **Identification of a NAHLN Laboratory**

Ship specimens via the overnight contract delivery service to the designated NAHLN laboratory (Appendix G). **Call the laboratory before sending samples so that they know a shipment is coming and to make sure that they can test the samples within 48 hours**. Notify the NAHLN laboratory of incoming samples via fax, telephone, or e-mail. The NWHC requires an email to NWHC-EPI@USGS.GOV. The information to be communicated includes:

- The overnight delivery service tracking number
- The state where the samples were collected
- The unique referral number of the submission
- The number of samples

If the NAHLN lab is unable to process the samples call another NAHLN lab from the list (Appendix G) and confirm that they will be able to test the samples in 48 hours. Also notify the NWDP staff at NWRC if you are sending samples to a different laboratory.

- **Reporting of Results**

All results will be sent to the NWDP in Fort Collins, CO as well as electronically messaged into VSLS by the NAHLN laboratories. Results will not be sent to the submitter. Submitters may view results by logging into the Veterinary Services Laboratory Submission (VSLS) system and either running reports or reviewing single submissions. It is also possible to download all data and results by using the Wildlife Services Spreadsheet Report (see III. C.). Please be aware that having presumptive positive samples within your referral will delay reporting of results in VSLS for all samples within the submission. However, the NWDP will provide presumptive positive HPAI results to the Wildlife Services State Director, the State Wildlife Veterinarian/Health Expert, and the State Agriculture Veterinarian within 24 hours of notification from the NVSL. Results do not show up in the reporting section until all are finalized. This can take a month or more with HPAI presumptive positive samples.

III. Data Management

A. Overview

The wild bird surveillance data will be entered into the Veterinary Services Laboratory Submissions System (VSLS). This is an efficient and powerful online data management and results reporting system. We are working with VSLS developers to incorporate data elements (i.e. watershed) and tests/results that are new for the BY2015 HPAI surveillance effort. It is important to fax or send a PDF copy of all datasheets to the NWDP office in Fort Collins, CO. Please store all original datasheets in your office so that a hard copy of your surveillance sample data exists.

B. Data Entry

- ## Web Site Access

  All data will be entered into the online USDA APHIS VSLS system. The following URL should be used for entering all surveillance data as well as for viewing results and running sample summary reports:
  https://vsapps.aphis.usda.gov/vslabsub/login.do

- ## Usernames and Passwords

  There are two sets of usernames/passwords that you will need in order to log into VSLS the **very first time** you use it: 1) eAuthentication credentials 2) VSLS account. Once you login using the two sets of usernames/passwords, the VSLS application will synchronize your accounts and future logins will require **only** your eAuthentication account.

  Step 1 – obtain eAuthentication account
  The Veterinary Services Laboratory Submissions (VSLS) Web site has been modified to accept only USDA Level 2 eAuthentication (eAuth) as a login option. All Wildlife Services employees should already have a LincPass or a Level 2 eAuthentication account (ie. for taking Aglearn classes). State Cooperators will need to obtain a USDA Level 2 eAuthentication account in order to have the proper security in place to access VSLS. Your eAuthentication account consists of a User ID, a password and your customer profile which contains information about you that will permit USDA applications to identify if you have the correct permissions to view the website you are attempting to access. Either click on the hotlink above to start the eAuthentication account application process or visit the URL below:
  https://www.eauth.usda.gov/MainPAges/eauthsitemap.aspx

  Registering for an account with Level 2 access is easy. You will create a customer profile with your name, personal contact information, a User ID and a password for your USDA account. You will then receive a confirmation email from the USDA asking you to respond to the email to confirm your account within seven (7) days. If you do not respond to the email asking you to confirm your account within seven (7) days, you will have to restart the registration process by creating another profile and will need to select a new User ID.
  Hints: Once you create an eAuthentication User ID it cannot be changed. Your first and last names must be entered in your profile exactly as they appear on the identification you will be taking to the Service Center to prove your identity. Create a password that you will be able to remember.

  The next step in the Level 2 process is to call and make an appointment with a Local Registration Authority (LRA) at a USDA Service Center. Please click on (or copy paste into a browser) the following link
  http://offices.sc.egov.usda.gov/locator/app?type=lra to locate a center that is convenient for you. You will need to appear in person before the LRA so that they may validate your identification and match it to your USDA Level 2 profile. You must respond to the confirmation email before going to the Service Center to visit the

LRA or the LRA will not be able to activate your account.

Step 2 – obtain VSLS account by filling out APHIS form 513 (April 2015 –electronic version only).

Wildlife Services employees - please email Brandon Schmit brandon.s.schmit@aphis.usda.gov and request the partially pre-filled out APHIS 513 for WS employees. You will be required to fill out blocks that the form says are for non-aphis employees (Blocks 11,12). Do not fill out Block 10. Access should be permanent (Block 6). ALL forms must be electronic and MUST be signed ELECTRONICALLY by your supervisor in block 16 even though the instructions say otherwise. Email the signed form to Brandon Schmit and it will be forwarded to VS IT for account creation.

State Cooperators - please email Brandon Schmit brandon.s.schmit@aphis.usda.gov and request the partially pre-filled out APHIS 513 for non-APHIS employees. Do not fill out Block 10. Access should be permanent (Block 6). ALL forms must be electronic and MUST be signed ELECTRONICALLY by your supervisor in block 16. Email the signed form to Brandon Schmit and it will be forwarded to VS IT for account creation.

In a day or two, you will receive an email from Veterinary Services with your VSLS account login information. You will need to log in once you access VSLS using your eAuthentication credentials. Please change your VSLS password upon logging in the first time. Contact Brandon Schmit or John Baroch with any access issues you may have (Appendix C).

- ## Data Entry Responsibilities

Each Wildlife Services office and Cooperating State Natural Resource Agency is responsible for entering all field collection data into the VSLS system. All data should be entered within **24 hours** of submission to the NAHLN laboratory as results are often ready to be reported within 24 hours. See Appendix I for detailed instructions on entering data into VSLS. Instructions can also be found online by clicking on the help tab at the top of the screen after logging into the VSLS submission page. Please contact Brandon Schmit or John Baroch if you need help navigating through VSLS, run into an issue while entering data (i.e. duplicate barcode exists), or would like help with interpreting your sample results.

NOTE: The watershed field is currently not available for entry in VSLS. Please enter the watershed name into the "Comments" field of the "Collection Site Information" section when entering your referral information.

Most of the NAHLN laboratories are electronically messaging their results directly into VSLS. It is important to enter all data as quickly as possible into VSLS because results cannot be sent to the system until the data has been entered. ALL referrals should be entered into VSLS within **24 hours** of being shipped to the NAHLN laboratory.

- **Data Corrections and Editing**
  Data can be edited by the person who entered it for up to 7 days after the results have been entered online. Once a referral has all of the corresponding results entered and has been finalized (labeled - time delay complete), any data corrections will need to be performed by someone at the NWDP office in Fort Collins, CO. Please contact Brandon Schmit or John Baroch in these situations.

- **Helpful Hint – Barcode Scanners**
  Barcode scanners are recommended for data entry. Barcode scanners facilitate data entry and ensure that barcodes are entered correctly. The following barcode scanner is compatible with the online system:

  • USB Port Barcode Scanner: Symbol Laser LS 2208 ≈ $135

  NOTE: If you are scanning the barcode using a copy rather than an original please double check that the scanned number matches the number on the datasheet. If the copy is difficult to read, the barcode scanner output may be incorrect.

- **Electronic Datasheet/Mobile PDA application**
  There is an option for the use of PDAs for field data entry and subsequent uploading to VSLS. We are in the process of configuring an update for the Symbol MC70s that were used during the 2006-2011 H5N1 surveillance effort so that they will work with the present system. We do have a very limited number of PDAs available for mobile uploading of data. Please contact Brandon Schmit for more details. We hope to provide a supplemental guide for those interested in completely electronic data management by Fall 2015.

C. Data and Results Reporting

- **VSLS Reporting Functions**
  Once data has been entered online, it is possible to run a large number of reports to summarize the work you've done and review the results that were obtained on your samples. As mentioned in the "**Reporting of Results**" section of this manual, having presumptive positive samples within your referral will delay reporting. Any samples that have been sent to NVSL for confirmation testing will hold up the results for the remainder of samples within the submission. Results do not show up in the reporting section until results for ALL tests for ALL samples in the referral have been finalized. This can take a month or more with HPAI presumptive positive samples.

  Use the following procedures to access all of the reports:
  1. Login to the VSLS system.
  2. Select "Generate Reports" under action items on the main screen.
  3. Select "National Avian Health Program" (Not everyone will see this)
  4. Choose from one of the five following reports:

- **Wildlife Services Custom Report**

This report allows the user to specify the columns to include in the report as well as the option to include a group header and/or a column to sort by. The barcode will be included with the other selected columns.

- **Wildlife Services Sample Details Report**

This report lists details for samples given a collection date range. The user may specify species, test type, and result.

- **Wildlife Services Sample Summary**

This report is very useful when you want a quick summary of the number of samples that you have collected during a certain time period. Data can be broken down by agency, county, sampling strategy, and species.

- **Wildlife Services Spreadsheet Report**

This report allows you to do a complete export of all of the data that you have entered into the online system without having to re-enter it into an Excel format. It will export a pipe delimited file of your data to your computer's download folder or the location where your downloaded files are saved.

1. Open Excel and create an empty document. Be sure the cell you currently have selected is the upper-left most cell (A1). If you want the data to appear elsewhere, select the cell where you wish to begin.
2. Click on the **Data** menu and choose **Import External Data** and then **Import Data.** A pop up window will appear…
3. Select **All Files** in the **Files of Type** drop-down menu, and then browse to the location where you saved the pipe delimited file. Open the file by clicking the **Open** button.
4. A **Text Import Wizard** window will appear. Make sure the **Delimited** radio button is selected. At this time, note the **Start import at row** option, which will allow you to select which row you wish to begin at. Click the **Next** button to continue.
5. When the **Text Import Wizard - Step 2 of 3** window appears, in the **Delimiters** area, uncheck the **tab** option if it is already selected. Check the **Other** option and enter the pipe character | next to the **Other** text box. On most modern keyboards, the | character is located between the enter key and the backspace key. You'll have to hold shift and press the key to get a | character. Change the **Text Qualifier** option to **{none}**. Click the **next** button.
6. The **Text Import Wizard - Step 3 of 3** window will appear. Nothing is required here, but this window will allow you to customize the format of each column. You may do so by selecting the column and adjusting the data format. When you are done, click the **Finish** button.
7. Depending on the size of the file, the import could take some time!

- **Wildlife Services Test Result Summary**

This report summarizes the number of samples by state and other criteria according to user input. Input dates are based on the date the sample was collected. The user may select a specific test type and test result.

USGS-National Wildlife Health Center

Diagnostic Case Submission Guidelines

The National Wildlife Health Center (NWHC) conducts diagnostic investigations to determine causes of wildlife morbidity and mortality events. The following guidelines outline the framework used by the NWHC to determine acceptance for diagnostic evaluation. All submissions must be submitted through, or in consultation with, an appropriate Federal, State, or Tribal agency and the NWHC point of contact. The general public, rehabilitation facilities, universities, or other laboratories will be directed to coordinate submissions through the Federal, State, or Tribal agency prior to acceptance of submissions.

1. **Species Accepted by NWHC**
   Free-living wildlife species (birds, mammals, reptiles, and amphibians, some marine invertebrates [corals, sea urchins, and sea stars], and fish [Honolulu Field Station only]) including but not limited to:

- Species under Federal authority
  - Migratory birds under Migratory Bird Treaty Act or Eagle Protection Act
  - Federal endangered/threatened species (including candidates for listing)
  - Marine mammals under USFWS jurisdiction (walrus, manatee, sea otter, polar bear)

- Species under state authority at the request of the State wildlife agency or by a Federal/Tribal agency when the species is found on Federal/Tribal managed lands.
  - State listed Threatened and Endangered species
- Marine mammals under NOAA authority (whales, dolphins, seals, or sea lions) at the request of NOAA

2. **Submissions from Morbidity and Mortality Events**
   NWHC focuses on wildlife population and ecosystem health (e.g., transmission of diseases from wildlife to humans and domestic animals). The following criteria are used to define a wildlife health "event":

- Mortality events involving ≥5 individuals of free-living wildlife species.
- Mortality involving <5 individuals of free-living wildlife if the case includes:
  - Federal or State endangered/threatened species; candidate species; species of special management concern
  - Species that are typically solitary in nature (e.g. owls, raptors, snakes, turtles, etc.)
  - Potential concern for zoonotic or domestic animal diseases
  - Emerging disease currently being investigated by NWHC (including, but not limited to avian influenza, white-nose syndrome, snake fungal disease)

2.1. Type of Specimens (other than Carcasses) Generally Accepted by NWHC for cause of death determination

Intact fresh or frozen carcasses that meet one or more of the above criteria are preferred to maximize diagnostic potential and to allow for the variety of testing that may be required for cause of death determination. If whole carcass submission is not possible, other tissues may be accepted for cause of death determination when diagnostic yield is expected to be high. Prior to necropsy or sample collection, consult with NWHC on recommendations for tissue collection and storage. The two most common examples of when whole carcass submission is not possible are:

- Animals are larger than a wolf (and therefore difficult to ship); NWHC can provide protocols on tissue collection, preservation and shipping methods
- Access to shipping is limited (e.g. samples collected from a remote location); NWHC can provide recommendations on best diagnostic preservation method(s) for harvesting, freezing, and/or fixing of tissues

3. Submission criteria for HPAI diagnostics (full diagnostic necropsy may not be performed):

- Mortality events involving ≥ 5 waterfowl (ducks, geese, or swans) or other water birds (loons, grebes, coots, shorebirds, or wading birds such as egrets, herons, or cranes).
- Mortality events involving single raptors, waterfowl or other avian scavengers (ravens, crows, or gulls), observed in the same county as or adjacent to counties with confirmed HPAI in poultry or wild birds and near locations with on-going water bird mortality.
  - NOTE: Once HPAI is identified in a particular raptor species within a state, NWHC may limit acceptance of additional individuals of the same species.
- Events involving single raptors, waterfowl or other avian scavengers (ravens, crows, or gulls) observed with clinical signs consistent with neurological impairment
  - NOTE: Clinical signs may include swimming in circles, moving the head in a "jerky" motion, holding the neck and head in an unusual position (more than drooping). The neurological signs associated with HPAI infection are not well characterized, so collect as detailed descriptions of the observed signs as possible and call NWHC with questions
- Mortality events involving gallinaceous birds such as wild turkeys, quail and sage grouse.
- Mortality events involving wild birds of any species in close proximity to facilities harboring domestic birds in which HPAI has been detected
- Any mortality events involving wild bird species where estimated dead exceeds 500 birds.
- Wild raptors with neurologic/respiratory signs that die or are euthanized within 72 hours of admission to a rehabilitation facility. Please also provide treatment records
- Raptors held in captivity (i.e., falconer birds, rehabilitation facility) with sudden, unexplained morbidity/mortality after exposure to wild waterfowl or a known/suspect case of HPAI H5

NOTE: If, at any time, your agency receives a mortality report that falls outside of these stated criteria that elevates your suspicion for potential HPAI, don't hesitate to contact us about submission. Unless otherwise discussed, we may only screen carcasses for HPAI if this is the primary reason for submission.

4. Types of Cases Not Generally Accepted by NWHC

- Individual animals for which the cause of death or disease is evident. NWHC may recommend freezing carcasses and monitoring for additional mortality; if additional mortality occurs, submission of specimens may be warranted.
- Carcasses that have been scavenged or their body cavities are already opened
- Animals that die in rehabilitation. Exceptions may include:
  - Federally protected species
  - Animals that died within 72 hours of admission and no drug therapies were administered (supportive care only)
  - An unusual increase in morbidity/mortality in the source wild population has been reported
  - Emerging disease currently being investigated by NWHC is suspected (e.g., turtle Ranavirus and snake fungal disease)
- Captive animals (originating from zoos, private collections. Exceptions may include:
  - Federally protected species
  - Animals from State, Federal or Tribal species reintroduction efforts or captive propagation programs for species recovery
  - Animals recently captured from the wild for captive propagation
  - Instances where there is potential for pathogen spill-over into free-ranging wildlife
- Routine diagnostic services for live animal health screens, unless NWHC is a project collaborator (see below)

5. Diagnostic Services for Research Activities

- Partner requests for research-oriented diagnostic services must be communicated to NWHC early in the study planning process as these projects may require additional resources. Inclusion of NWHC in the study planning process will ensure that partner and project objectives can be met.

6. NWHC's Involvement in Legal Wildlife Issues

6.1. Federal (USFWS) Law Enforcement Cases:

- Mortality events where USFWS Special Agents suspect unlawful human involvement in the death of animal(s) are referred to the USFWS Forensic Laboratory (USFL)
- On an individually determined basis, NWHC accepts law enforcement cases from USFWS Special Agents under chain of custody and with a federal investigation case number (INV#). This may occur if a cause of death determination is needed and the USFL is unable to accept animal(s) or make this determination, or if the Special Agent specifically requests NWHC assistance with the investigation

6.2. State Law Enforcement Cases:

- NWHC does not accept legal cases from State wildlife law enforcement agencies. State law enforcement officers are referred to their State wildlife agency (health program/veterinarian if applicable). Mortality events can be reported to USFWS Special Agents who can submit animals to USFL or NWHC in accordance with the above criteria.

7. Safety guidelines for handling wildlife*:

- Field biologists should follow these precautions when handling sick or dead birds associated with a mortality event, particularly when working within a HPAI zone:
  - Wear protective clothing including coveralls, rubber boots, and rubber or latex gloves that can be disinfected or discarded.
  - A particulate respirator (NIOSH N95 respirator/mask or better) is recommended when working in confined spaces or conditions that promote aerosolization of debris. Check with your agency policies for specific respirator guidance while handling sick and dead wildlifeWash hands often with soap and disinfect work surfaces and equipment between sites.
  - Do not eat, drink, or smoke while handling animals.
  - Decontaminate work areas and properly dispose of potentially infectious material including carcasses.

***Field Biologists working with wild birds in areas where H5 HPAIs have been detected** should monitor their health for any signs of fever and respiratory symptoms for one week following exposure to live or dead wild birds. If symptoms develop please contact your health care provider.

USGS – National Wildlife Health Center

INSTRUCTIONS FOR COLLECTION AND SHIPMENT OF SPECIMENS

Contact the NWHC Field Epidemiology Team
Email: NWHC-epi@usgs.gov, Phone: 608-270-2480, Fax: 608-270-2415

For Hawaii/Pacific Islands shipping instructions, contact Thierry Work. Email: thierry_work@usgs.gov, Phone: 808-792-9520

The following instructions should be used for collecting and shipping wildlife carcasses, carcass parts, and samples extracted from animals to the USGS National Wildlife Health Center (NWHC) in Madison, Wisconsin, to ensure adequate and well preserved specimens.

- ☐ Complete the "Wildlife Mortality Reporting and Diagnostic Services Request Form" and email/fax it to the NWHC epidemiology team to initiate discussion of the case you would like to submit and get shipping approval. **Packages will not be opened if form does not arrive first.**

- ☐ For most cases, NWHC prefers to receive fresh chilled specimens if they can be sent within 24-36 hours of collection or death, as freezing/thawing impedes isolation of some pathogens and causes tissue damage. As a general guideline: if you cannot call or ship within 24-36 hours, immediately freeze the animal(s) and keep frozen during shipment.

- ☐ Specimens should be shipped by 1-day (overnight) service, Monday through Wednesday, to guarantee arrival at NWHC before the weekend. If specimens are fresh and need to be shipped on Thursday or Friday, prior arrangements must be made. Email/fax shipment tracking number to NWHC.

- ☐ Collect animals under the assumption that an infectious disease or toxin is involved and other animals may be at risk. Protect yourself as some diseases and toxins are hazardous to humans. Use rubber, vinyl, or nitrile gloves when picking up sick or dead animals. If you do not have gloves, invert a plastic bag over your hand and use it as a glove to scoop specimen directly in to the bag.

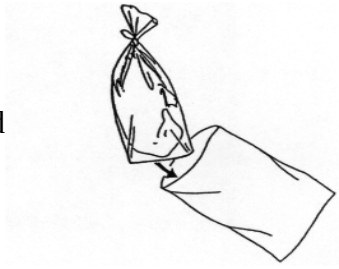
- ☐ More than one disease may be affecting the population simultaneously. When possible, collect both sick and dead animals. Note behavior of sick animals before euthanizing. Record on carcass tags and "Wildlife Mortality Reporting and Diagnostic Services Request Form" which animals were euthanized.

- ☐ Collect specimens that are representative of all species and geographic areas involved.

- ☐ Suitable specimens should have intact body, eyes, and body cavity; have no maggots; and have no foul odors. Decomposed or scavenged carcasses are usually of limited diagnostic value. If you plan to collect animals in the field, take along a cooler containing ice to immediately chill carcasses.

- ☐ Contact NWHC for assistance when collecting specimens or samples from animals that are too large to ship. Other specimens might also require unique collection and shipping instructions (e.g., amphibians, bats, snakes); contact NWHC.

Appendix A1: NWHC Morbidity & Mortality Event Guidance



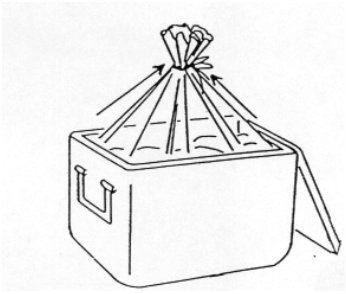
☐ Immediately attach a leg tag to each animal with the following information in pencil or waterproof ink:
- Date collected
- Species
- Location (specific site, town, county, state)
- Found dead or euthanized
- Collector (name/address/phone)
- Your reference #

☐ Place each animal in a separate plastic bag, close, and seal the bag. Cover zipper bag closure with strapping or duct tape after sealing zipper. Twist non-zipper bags closed, fold over on itself, and secure with package strapping or duct tape.

☐ Place 1st bag inside a 2nd bag, close and seal. More than one individually bagged animal can be placed in the 2nd bag. This prevents cross-contamination of individual specimens and leaking shipping containers.

☐ Tag the outside of 2nd bag and list number of animals and type, date collected, location, and name of collector.
Reminder order: TAG, BAG, BAG, TAG.

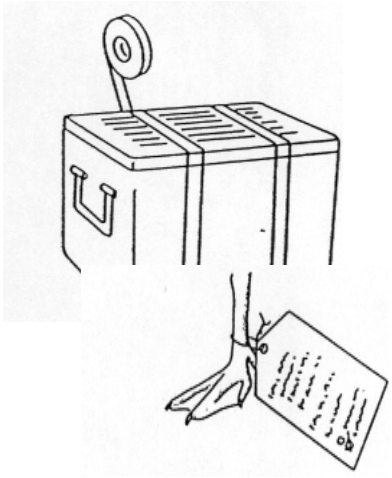
☐ Use a hard-sided cooler in good condition for shipment. Close the drain plug of cooler and tape over inside. Line cooler with a thick bag (1 mil thickness, 3rd layer of bags).



☐ Place absorbent material in the 3rd plastic bag to absorb any liquids that might leak during shipping.
See appendix for examples of bags and absorbent materials.

☐ Pack individually bagged animal(s) contained within the 2nd sealed bag into the 3rd bag with enough FROZEN BLUE ICE PACKS or similar coolant to keep carcasses cold. Use enough coolant to keep samples chilled if there is a delay in delivery.
- Blue ice (unfrozen) can be obtained at hardware, sporting goods, or grocery stores.
- Wet ice can be used if frozen in a sealed plastic container (i.e., soda or water bottle).
- **Do not ship using dry ice.**

☐ Seal the 3rd bag with methods described for 1st bag.



☐ Place the completed "Wildlife Mortality Reporting and Diagnostic Services Request Form" and return shipping label (if you want the cooler returned) in a re-sealable bag and tape to the inside lid of the cooler. NWHC cannot pay for shipping.

☐ Tape the cooler shut around the lid and at each end using a continuous wrap around the cooler.

☐ Attach the shipping document (airbill) with the information below to the outside of each cooler in a resealable pouch. Also attach "to" and "from" addresses and phone numbers directly to the cooler.

Appendix A1: NWHC Morbidity & Mortality Event Guidance

To Address:

Necropsy Loading Dock
National Wildlife Health Center
6006 Schroeder Road
Madison, WI 53711
608-270-2480

From Address/Emergency Contact:

Your Agency's Address
Your Phone Number

Supplementary Labels**:**

Keep Cold

☐ Mark the cooler with the appropriate information:
(See last page of these instructions for printable marking labels – do not shrink size of labels)

- Carcasses of animals that died of unknown causes:
  UN3373 and **BIOLOGICAL SUBSTANCE, CATEGORY B**.
- Blood and tissue samples from dead or sick animals:
  UN3373 and **BIOLOGICAL SUBSTANCE, CATEGORY B**.
- Blood and tissue samples from apparently healthy animals (hunter-killed, live captured):
  EXEMPT ANIMAL SPECIMENS.

☐ Note the shipment tracking number in case packages are delayed.

☐ These instructions cover shipping regulations for commercial carriers.

Appendix:

Example of bags available at large supermarkets (list not all inclusive):

Inner and second layer bags:

Hefty Big Bag – 22 gal	re-sealable Freezer – 1 gallon
Hefty Freezer – 1 gal	re-sealable Big Bag – 20 gallon
Hefty Jumbo – 2.5 gal	Glad Freezer – 1 qt, 2 qt, 1 gal

Third layer for cooler liner:

Hefty Cinch Sak (1.1 mil) – 33 and 39 gal	Glad Force Flex (1.05 mil) – 25 gal
Hefty Lawn and Leaf (1.1 mil) – 33 and 39 gal	Hefty Ultra Flex (1.3 mil) – 30 gal
House brand large trash (1.1 mil) – 30 gal	House Lawn - Leaf (1.2 mil) – 39 gal

Absorbent material:

Super absorbent packet or pads for water	Cellulose wadding
Paper towels	Cotton batting or cotton balls

Do not use packing peanuts or shredded paper.

..

BIOLOGICAL SUBSTANCES, CATEGORY B

EXEMPT ANIMAL SPECIMENS

Appendix A2: NWHC Morbidity & Mortality Event Guidance

NOTE: The USGS form below is available as a fillable pdf form at http://www.nwhc.usgs.gov/mortality_events/reporting.jsp. The form must be filled out and submitted electronically to NWHC-epi@usgs.gov prior to shipping carcasses or samples.

USGS science for a changing world

WILDLIFE MORTALITY REPORTING AND DIAGNOSTIC SERVICES REQUEST FORM

United States Geological Survey
National Wildlife Health Center
6006 Schroeder Road
Madison, WI 53711
Phone: (608) 270-2480
Fax: (608) 270-2415
www.nwhc.usgs.gov

INSTRUCTIONS (to be completed by federal/tribal/state wildlife resource agencies only; members of the public should contact their state natural resources agency):

TO REQUEST DIAGNOSTIC EVALUATION OF WILDLIFE SPECIMENS:

1. Complete sections 1 and 2, then save the filled form as a PDF
2. Email completed form to NWHC field epidemiologists (NWHC-epi@usgs.gov) prior to shipping carcasses
   - Also email photos, videos, maps, reports, news articles, etc., that provide relevant information
3. Wait for shipping approval from epidemiologist (typically within 24 hours)
4. Review shipping instructions at www.nwhc.usgs.gov/services/ -abbreviated instructions are:
   - Ship with ice packs (no wet ice) in hard sided cooler or insulated shipping container
   - Attach "UN3373" and "BIOLOGICAL SUBSTANCE, CATEGORY B" labels to cooler if necessary
   - Put "ATTN: NECROPSY LOADING DOCK" in shipping address
   - Ship using overnight courier
   - Do not ship on Fridays or prior to federal holidays
5. Email tracking number to NWHC when package has shipped
6. If wildlife mortality event is ongoing, please monitor and contact NWHC epidemiologist with updates and/or for disease management and personal protective equipment recommendations. When event is over, provide an end date, final numbers and species affected, and diagnostics performed by other laboratories.

TO REPORT WILDLIFE MORTALITY OR MORBIDITY WITHOUT SUBMITTING SPECIMENS:

Complete section 1, save the filled form as a PDF, then follow step 2 and step 6 above

SECTION 1: WILDLIFE MORTALITY REPORTING

Submitter/Reporter Name *: _____ **Today's Date:** _____

Affiliation: _____

Address: _____

City/State/Zip: _____

Email: _____

Phone: _____

Collector/Field Contact Name (if applicable): _____

Email: _____

Phone: _____

*The person listed as specimen submitter will receive "Findings to Date" reports by email throughout the diagnostic investigation.

Event Onset Date: _____ **Event End Date:** _____

State/Territory of Die-off: _____

County(ies) of Die-off: _____

Nearest Town or Township: _____

Specific Die-off Location(s): _____

Lat/Long: _____ **GPS Datum** (check one) ☐ **WGS84** ☐ **NAD83** ☐ **unk** ☐ **other** (please specify) _____

List Species Affected:

Species	# Known Dead	# Estimated Dead*	# Known Sick	# Estimated Sick*	Estimated Population at Risk	Biased Age/Sex Distribution**

*Consider removal by scavengers, density of vegetation, etc.

**Any selective mortality related to age and/or sex? If yes, describe.

CONTINUE ON SECOND PAGE. Please use additional sheets as necessary.

Appendix A2: NWHC Morbidity & Mortality Event Guidance

NWHC Wildlife Mortality Reporting and Diagnostic Services Request Form continued…

Die-off Area Description (land use, habitat types, other species present, or other additional information that may be of value such as past occurrences of disease in area, public health warnings, hunting and agriculture activities, etc.):

Environmental factors (storms, precipitation, temperature changes, migration, or other that may contribute to stress):

Clinical Signs (any unusual behavior or physical appearance):

Diagnosis (if unknown, put "Open"):

Basis of Diagnosis (check one):

- ○ **Not Applicable/Open**
- ○ **Location, history, physical evidence, and/or clinical signs only**
- ○ **Necropsy conducted by wildlife health personnel in the field**
- ○ **Necropsy and/or tests performed at a diagnostic laboratory**

Diagnostic laboratory that made diagnosis:

SECTION 2: DIAGNOSTIC SERVICES REQUEST

Priority: ○ **High** (please explain):

(domestic animal/zoonotic concern, high profile/public involvement, other extenuating circumstances)

- ○ **Medium** (mortality event is ongoing and timely results are needed for disease management)
- ○ **Low** (mortality event is over but would like a cause of death determination)

Note: Laboratory prioritization is based on priority of all incoming cases. Contact NWHC (NWHC-epi@usgs.gov) if your priority level changes.

List specimens to submit to NWHC:

Species	Date Collected	Location Collected	Status*	Specimen Type**	Method of Preservation***	Method of Euthanasia**** (if applicable)	# of Specimens

*Status – found dead, died in hand, euthanized, or live

**Specimen Type – carcass, tissues, swab, blood, parasite, other (please specify)

***Method of Preservation – chilled, frozen, or fixed

****Method of Euthanasia – cervical dislocation, gunshot, CO_2, other (please specify).

Comments and Special Instructions/Requests:

Thank you! Remember, also email photos, videos, maps, reports, news articles, etc., that provide relevant information.

Since 1975, NWHC has routinely summarized and disseminated basic information on wildlife mortality events to provide situational awareness of wildlife health on a national scale. For an example of the types of information available to our partners and the public please visit www.nwhc.usgs.gov/mortality_events/ongoing.jsp.

Please use additional sheets as necessary.

- **Mist nets**
  1. Avinet, Inc., P. O. Box 1103, Dryden, NY 13053-1103, (888) 284-6387, Email: orders@avinet.com Web site: www.avinet.com
     - 38 mm mesh-polyester (sparrows to jays and small shorebirds)
     - 38 mm Mesh – canopy nets
     - 60 mm Mesh– (small to medium shorebirds, robin-sized birds)
     - 100 mm Mesh – (small hawks-medium shorebirds)
     - 127 mm Mesh (Hawks, ducks)

  2. HotFoot America, P.O. Box 1339, Sausalito, CA, 94966
     Phone: 415-789-5135, 800-533-8421
     Fax: 415-789-0564
     Email: techdata@hotfoot.com
     Web site: www.hotfoot.com
- **Q Net: (waterfowl, pigeons, shorebirds, raptors, vultures)**
  Fuhrman Diversified, 2912 Bayport, Seabrook, TX 77586-1501, (281) 474-1388
  Contact R.C. Carver, Email: fdi@flash.net

- **Walk-in decoy traps: small birds (i.e. sparrows, pigeons, cardinals or starling size birds)**
  1. Bird-B-Gone, Inc., Mission Viejo, CA, (800) 392-6915 www.birdbgone.com
  2. Fly-Bye Bird Control Products, 13609 NE 126th Pl., #150, Kirkland, WA 98034, 800-820-1980, 425-820-8496, Email: nobirds@flybye.com
     Web site: www.flybye.com

- **Snare traps: raptors, eagles, kites, vultures, sparrows**
  Brad Wood, PO Box 874, Rainer, Washington 98576, (800) 446-5080
  www.northwoodsfalconry.com

- **Padded leg holds traps: cranes, pelicans, cormorants, storks**
  Oneida Victor Inc., PO Box 32398, Euclid, OH 44132, (216) 761-9010
  www.nwtrappers.com

- **Nest traps: gulls or ground nesting birds**
  Spike Construction, 16347 Stoneledge Dr., Parker, CO 80134, (303) 941-4202
  Contact: Jim Spykstra

- **Cannon nets**
  1. Coda Enterprises, 1038 E. Norwood, Mesa, AZ 85203, (480) 964-0155, Fax: (480) 461-1574, www.codaenterprises.com
  2. Nichols Net and Twine, 1-800-878-6387, www.nicholsnetandtwine.com; 2200 highway 111, Granite City, Illinois 62040, Email: nicholsnt@yahoo.com

COORDINATOR'S OFFICE

NWRC ASSISTANT DIRECTOR
Thomas DeLiberto USDA/APHIS/WS
4101 LaPorte Ave. Fort Collins, CO 80521
Office (970) 266-6088
Thomas.J.DeLiberto@aphis.usda.gov

WILDLIFE DISEASE COORDINATOR
Tom Gidlewski USDA/APHIS/WS
4101 LaPorte Ave.
Fort Collins, CO 80521
Office (970) 266-6350
Thomas.Gidlewski@aphis.usda.gov

WILDLIFE DISEASE BIOLOGIST
John Baroch USDA/APHIS/WS
4101 LaPorte Ave.
Fort Collins, CO 80521
Office (970) 266-6308
John.A.Baroch@aphis.usda.gov

WILDLIFE DISEASE BIOLOGIST
Brandon Schmit USDA/APHIS/WS
4101 LaPorte Ave.
Fort Collins, CO 80521
Office (970) 266-6079
Fax (970) 266-6089
Brandon.S.Schmit@aphis.usda.gov

ARCHIVE TECHNICIAN
Ted Anderson, Colo. State Univ.
300 West Drake Rd.
Fort Collins, CO 80523
Office (970)-297-5152
tanders@mail.colostate.edu

ARCHIVE TECHNICIAN
Sean McCluskey, Colo. State Univ.
300 West Drake Rd.
Fort Collins, CO 80523
Office: (970) 297-5152
Sean.McCluskey@colostate.edu

WILDLIFE TECHNICIAN
Meredith Grady USDA/APHIS/WS
4101 LaPorte Ave.
Fort Collins, CO 80521
Office (970)-266-6328
Meredith.J.Grady@aphis.usda.gov

BUDGET ANALYST
Mary Kimball USDA/APHIS/WS
422 Vernon Rd,
Jenkintown PA 19046
Cell (970) 980-1546
Fax (215) 885-3632
Mary.L.Kimball@aphis.usda.gov

NATIONAL WILDLIFE RESEARCH CENTER
USDA/APHIS/Wildlife Services
4101 LaPorte Ave.
Fort Collins, CO 80521
Receptionist: (970) 266-6000

Appendix C: National Wildlife Disease Program Contact Info

WESTERN REGION

ALASKA
David Sinnett USDA/APHIS/WS
9001 Frontage Rd., Suite A
Palmer, AK 99645
Office (907) 745-0871
David.R.Sinnett@aphis.usda.gov

ARIZONA
Chris Carrillo USDA/APHIS/WS
8836 N. 23rd Ave., Suite 2
Phoenix, AZ 85021
Office (602) 870-2081
Chris.D.Carrillo@aphis.usda.gov

CALIFORNIA
Rebecca L. Mihalco USDA/APHIS/WS
3419A Arden Way Sacramento, CA 95825
Office (916) 979-2030 x105
Rebecca.L.Mihalco@aphis.usda.gov

COLORADO
Todd Felix USDA/APHIS/WS
12345 W. Alameda Pkwy., Ste. 204
Lakewood, CO 80228
Office (303) 236-5820
Todd.A.Felix@aphis.usda.gov

HAWAII
Sam Goldstein USDA/APHIS/WS
91-329 Kauhi Street Suite 100A
Kapolie, HI 96707
Office (808) 674-5031
Samuel.M.Goldstein@aphis.usda.gov

IDAHO
Scott Stopak USDA/APHIS/WS
9134 West Blackeagle Drive
Boise, ID 83709
Office (208) 373-1630
Scott.R.Stopak@aphis.usda.gov

KANSAS
Vacant - USDA/APHIS/WS
4070 Ft. Riley Blvd.
Manhattan, KS 66502
Office (785) 537-6855

MONTANA
Gerald Wiscomb
Mail Address:
USDA/APHIS Wildlife Services
P.O. Box 1938 Billings, MT 59103
FedEx Address: 2441 Overlook Dr.
Billings, MT 59105
Office (406) 657-6464
Gerald.W.Wiscomb@aphis.usda.gov

NEBRASKA
Vacant - USDA/APHIS/WS
5940 S. 58TH St.
P. O. Box 81866
Lincoln, NE 68501-1866
Office (402) 434-2343

NEVADA
Jack Sengl USDA/APHIS/WS
8775 Technology Way
Reno, NV 89521
Office (775) 851-4848
Jack.W.Sengl@aphis.usda.gov

NEW MEXICO
Dallas Virchow USDA/APHIS/WS
8411 Washington NE
Albuquerque, NM 87113-1001
Office (505) 346-2640
Dallas.R.Virchow@aphis.usdas.gov

NORTH DAKOTA/SOUTH DAKOTA
Ryan Powers USDA/APHIS/WS
2110 Miriam Cir., Ste. A
Bismarck, ND 58501-2502
Office (701) 250-4405
Ryan.A.Powers@aphis.usda.gov

Pierre, SD Office:
Chad or Matt USDA/APHIS/WS
420 Garfield Suite 300
Pierre, SD 57501
Office (701) 471-0416

OKLAHOMA
Patrick Whitley USDA/APHIS/WS
2020 Three Mile Road
Durant, OK 74701
Office (580)380-2466
Patrick.N.Whitley@aphis.usda.gov

OREGON
Vacant - USDA/APHIS/WS
3413 Del Webb Ave.
Salem, OR 97301
Office (503) 399-5814

TEXAS
Brian Mesenbrink USDA/APHIS/WS
P. O. Box 100401
San Antonio, TX 78201-1710
Office (210) 472-5451
Brian.T.Mesenbrink@aphis.usda.gov

UTAH
Brook Zscheile USDA/APHIS/WS
1860 W. Alexander Street, Suite A
West Valley City, UT 84119
Office (801) 975-3315
Brook.Zscheile@aphis.usda.gov

WASHINGTON
Laurence Schafer USDA/APHIS/WS
720 O'Leary Street, NW
Olympia, WA 98502
Office (360) 753-9884
Laurence.M.Schafer@aphis.usda.gov

WYOMING
Mike Pipas USDA/APHIS/WS
6731 W. Coal Rd.
Casper, WY 82604
Office (307) 261- 5336
Michael.J.Pipas@aphis.usda.gov

EASTERN REGION

ALABAMA
Wesson Gaston USDA/APHIS/WS
1445 Federal Dr. Room 228
Montgomery, AL 36107
Office (334) 240-7217
Wesson.Gaston@aphis.usda.gov

ARKANSAS
Clint Turnage USDA/APHIS/WS
1020 Lantrip Road
Sherwood, AR 72120
Office (501) 835-2318
Clint.T.Turnage@aphis.usda.gov

FLORIDA
Michael Milleson USDA/APHIS/WS
2820 E. University Ave.
Gainesville, FL 32601
Office (352) 377-5556
Michael.P.Milleson@aphis.usda.gov

GEORGIA
Darrell Kavanaugh
USDA/APHIS/WS
200 Phoenix Rd.
Athens, GA 30605
Office (706) 546-5637
Darrell.M.Kavanaugh@aphis.usda.gov

ILLINOIS
Tim White USDA/APHIS/WS
2869 Via Verde Dr.
Springfield, IL 62703-4325
Office (217) 241-6700
Timothy.S.White@aphis.usda.gov

INDIANA
Vacant - USDA/APHIS/WS
Purdue University, Smith Hall
901 W. State Street
West Lafayette, IN 47907
Office (765) 494-6229

LOUISIANA
Scott Woodruff USDA/APHIS/WS
1780 Commercial Drive
Port Allen, LA 70767
Office (225) 389-0229
Scott.Woodruff@aphis.usda.gov

MAINE
Jesse Morris USDA/APHIS/WS
79 Leighton Rd., Suite 12
Augusta, ME 04330
Office (207) 629-5181
Jesse.Morris@aphis.usda.gov

MARYLAND/DELAWARE/DC
Daniel Emanueli USDA/APHIS/WS
1568 Whitehall Rd.
Annapolis, MD 21409
Office (410) 349-8055
Daniel.C.Emanueli@aphis.usda.gov

MASS/CT/RI
Randall Mickley USDA/APHIS/WS
9 Main St., Suite 1M
Sutton, MA 01590
Office (508) 476-2715
Randall.M.Mickley@aphis.usda.gov

MICHIGAN
David Marks USDA/APHIS/WS
2803 Jolly Road, Suite 100
Okemos, MI 48864
Office (517) 336-1928 ext. 25
David.R.Marks@aphis.usda.gov

MINNESOTA
Paul Wolf
St. Paul Downtown Airport
644 Bayfield Street, Ste. 215
Saint Paul, MN 55107
Office (651) 224-6027
Paul.C.Wolf@aphis.usda.gov

MISSISSIPPI
Jonathan Lewis USDA/APHIS/WS
Room 200, Thompson Hall
775 Stone Blvd.,
Mississippi State, MS 39762
Office (662) 325-3314
Jonathan.R.Lewis@aphis.usda.gov

MISSOURI/IOWA
Josh Wisdom USDA/APHIS/WS
502 E. 9th St.
Des Moines, IA 50319
(217) 306-8287
Joshua.P.Wisdom@aphis.usda.gov

NEW HAMPSHIRE/VERMONT
Anthony Musante USDA/APHIS/WS
59 Chenell Drive, Suite 7
Concord, NH 03301-8548
Office (603) 223-6832
Anthony.R.Musante@aphis.usda.gov

NEW JERSEY
Adam Randall USDA/APHIS/WS
140-C Locust Grove Rd.
Pittstown, NJ 08867-4049
Office (908) 735-5654 ext. 2
Adam.R.Randall@aphis.usda.gov

NEW YORK
Justin Gansowski USDA/APHIS/WS
1930 Route 9
Castleton, NY 12033-9653
Office (518) 477-4837
Justin.Gansowski@aphis.usda.gov

NORTH CAROLINA
Jerry (Toby) Hairston USDA/APHIS/WS
6213 Angus Drive, Suite E
Raleigh, NC 27617
Office (919) 786-4480 ext. 229
Jerry.R.Hairston@aphis.usda.gov

OHIO
Craig Hicks USDA/APHIS/WS
4469 Professional Parkway
Groveport, OH 43125
Office (614) 993-3447
Craig.R.Hicks@aphis.usda.gov

PENNSYLVANIA
Kyle Van Why USDA/APHIS/WS
State Farm Show Complex
Maclay Street Entrance, 2nd Floor
Harrisburg, PA 17110
Office (717) 236-9451
Kyle.R.VanWhy@aphis.usda.gov

SOUTH CAROLINA
James Cumbee USDA/APHIS/WS
400 Northeast Drive, Suite L
Columbia, SC 29203-5182
Office (803) 786-9455
James.C.Cumbee@aphis.usda.gov

TENNESSEE/KENTUCKY
JD Freye USDA/APHIS/WS
537 Myatt Drive
Madison, TN 37115
Office (615) 736-5506
James.D.Freye@aphis.usda.gov

VIRGINIA
Vacant USDA/APHIS/WS
Mail address:
P.O. Box 130
Street Address:
21321 Hull Street Road
Moseley, VA 23120
Office (804) 739-7739

WISCONSIN
J.D. McComas USDA/APHIS/WS
732 Lois Drive
Sun Prairie, WI 53590-1100
Office (608) 837-2727
John.D.McComas@aphis.usda.gov

WEST VIRGINIA
Vacant USDA/APHIS/WS
730 Yokum Street
Elkins, WV 26421
Office (304) 636-1785

Sample Media from NVSL

- Vials with BHI media will be sent from NVSL. Please request additional media through NWDP headquarters staff. We will relay your order to NVSL and have the order drop shipped directly to you, overnight.
- Sample tubes contain 3.0 mL of Brain Heart Infusion (BHI) media
- The BHI is shipped in boxes of 40 tubes. If you'd like to purchase additional 40 cell divided boxes, they can be purchased from Crown Packaging in Des Moines, IA. Their phone number is (515) 282-1544. Part No. USDA 40 cell box with 40 cell tall dividers. Pricing may vary from $1- $2 each depending on the market. Minimum order = 200 boxes.
- Another source for BHI vial boxes:
  http://www.chem-tran.com/packaging/medical/40-cell-veterinary-blood-transport-box.php

  Price: $2.62 each

Swabs

All swabs should be polyester/Dacron. Do not use cotton tipped swabs or swabs with wooden handles.

Fisher Scientific Company LLC
4500 Turnberry Drive
Hanover Park, IL 60133
800-766-7000 or 800-926-1166

Item 22-029-574 STRL POLY/TIP PP6 2 ENV 200PK
6" polyester tipped sterile swab for specimen collection, diagnostic testing
Vendor Catalog # 25-806 2PD
$77.00 for 2000

Sample Shipping Coolers and Containment Bags (10-20 samples)

Smaller shipping coolers may be purchased for use when shipping < 20 samples. All supplies listed below can be purchased from SAFTPAK (www.saftpak.com).

- Cooler (STP #309 or equivalent shipper)
- Secondary containment bag for shipping diagnostic specimens (STP #710) or re-sealable bags with paper towels for absorbent requirement.
- Frozen cold packs

Appendix E: **Species Codes**

Target Species Four Letter Codes*

	Dabbling Ducks		
American Green-winged Teal	AGWT	Mallard	MALL
Northern Pintail	NOPI	American Black Duck	ABDU
Wood Duck	WODU	Blue-winged Teal	BWTE
Cinnamon Teal	CITE	Northern Shoveler	NSHO
Gadwall	GADW	American Wigeon	AMWI
Mottled Duck	MODU	Muscovy Duck	MUDU
Fulvous Whistling Duck	FUWD		

*For a complete list of species refer to the USGS Bird Banding Laboratory at Patuxent Wildlife Research Center https://www.pwrc.usgs.gov/bbl/manual/speclist.cfm

USDA APHIS

Wildlife Avian Health/HPAI Surveillance Data Sheet

Page 1 of 1

Collector: Brandon Schmit
Agency: APHIS Wildlife Services
Phone number: 970-266-6079

Testing Laboratory: CSU Vet Diag Lab
City: Fort Collins State: CO

Please charge to purchase order #:
AG-6395-K-15 - test

Referral # CO BS 07 01 15 (State, initials, month, day, year)

Watershed: South Platte (3 most abundant species here for environmental sampling)

County: Larimer State: CO

GPS location (In WGS 84 and decimal degrees): N 40.58606 W -105.14977

Collection Site: Brandon's Office

Date collected: 7/1/15

Collection Strategy (circle one): (Live bird) Hunter Harvest Agency Harvest Sentinel Morbidity/Mortality Environmental

Sample Bar Code	Bird Species Code	Sex	Age Class	Sample Type	Comments (Band #, condition, etc.)
Avian Health AH0023297	MALL	(1. Male) 2. Female 3. Unknown	1. Hatch Year (2. After Hatch Year) 3. Undetermined	(1. Oral + Cloacal) 2. Tracheal + Cloacal 3. Environmental 4. Sera (WS only)	
Avian Health AH0023298	MALL	1. Male (2. Female) 3. Unknown	1. Hatch Year (2. After Hatch Year) 3. Undetermined	(1. Oral + Cloacal) 2. Tracheal + Cloacal 3. Environmental 4. Sera (WS only)	
Avian Health AH0023299	AMWI	1. Male 2. Female (3. Unknown)	1. Hatch Year (2. After Hatch Year) 3. Undetermined	(1. Oral + Cloacal) 2. Tracheal + Cloacal 3. Environmental 4. Sera (WS only)	
Avian Health AH0023300	AMWI	1. Male 2. Female (3. Unknown)	1. Hatch Year 2. After Hatch Year (3. Undetermined)	(1. Oral + Cloacal) 2. Tracheal + Cloacal 3. Environmental 4. Sera (WS only)	
		1. Male 2. Female 3. Unknown	1. Hatch Year 2. After Hatch Year 3. Undetermined	1. Oral + Cloacal 2. Tracheal + Cloacal 3. Environmental 4. Sera (WS only)	

Date Swabs Shipped to NAHLN Lab: 07/01/2015 # of samples in referral: 4

Date Sera Shipped to NWDP (WS only): ___/___/___ ☑ Check here if collector info is same as submitter

Name of Submitter: _____ Phone # of submitter _____

Please send all results to Dr. Thomas DeLiberto by email (WSlabresults@aphis.usda.gov) or by fax to (970) 266-6215. Call NVSL immediately at (515) 337-7551 with all positive H5/H7 rRT-PCR results. Results may be messaged/entered directly to the lab submission website: https://vsapps.aphis.usda.gov/vslabsub/login.do

Revision 7-09-15

Comments: Note to self - get this entered into VSLS within 24 hrs...

USDA APHIS

Wildlife Avian Health/HPAI Surveillance Data Sheet

Page 1 of 1

Collector: Brandon Schmit
Agency: APHIS Wildlife Services
Phone number: 970-266-6079

Testing Laboratory: CSU Vet Diag Lab
City: Fort Collins State: CO

Please charge to purchase order #:
AG-6395-K-15 - test

Referral #: CO BS 07 01 15 (State, initials, month, day, year)

Watershed: South Platte

County: Larimer State: CO

GPS location (In WGS 84 and decimal degrees): [redacted]

Collection Site: [redacted]

Date collected: 7/1/15

Collection Strategy (circle one): (Live bird) Hunter Harvest Agency Harvest Sentinel Morbidity Mortality Environmental

Sample Bar Code	Bird Species Code	Sex	Age Class	Sample Type	Comments (Band #, condition, etc.)
Avian Health AH0023297	MALL	(1. Male) 2. Female 3. Unknown	1. Hatch Year (2. After Hatch Year) 3. Undetermined	(1. Oral + Cloacal) 2. Tracheal + Cloacal 3. Environmental 4. Sera (WS only)	
Avian Health AH0023298	MALL	1. Male (2. Female) 3. Unknown	1. Hatch Year (2. After Hatch Year) 3. Undetermined	(1. Oral + Cloacal) 2. Tracheal + Cloacal 3. Environmental 4. Sera (WS only)	
Avian Health AH0023299	AMWI	1. Male 2. Female (3. Unknown)	1. Hatch Year (2. After Hatch Year) 3. Undetermined	(1. Oral + Cloacal) 2. Tracheal + Cloacal 3. Environmental 4. Sera (WS only)	
Avian Health AH0023300	AMWI	1. Male 2. Female (3. Unknown)	1. Hatch Year 2. After Hatch Year (3. Undetermined)	(1. Oral + Cloacal) 2. Tracheal + Cloacal 3. Environmental 4. Sera (WS only)	
		1. Male 2. Female 3. Unknown	1. Hatch Year 2. After Hatch Year 3. Undetermined	1. Oral + Cloacal 2. Tracheal + Cloacal 3. Environmental 4. Sera (WS only)	

Date Swabs Shipped to NAHLN Lab: 07/01/2015 # of samples in referral: 4

Date Sera Shipped to NWDP (WS only): ___/___/___ ☑ Check here if collector info is same as submitter

Name of Submitter: _____ Phone # of submitter _____

Please send all results to Dr. Thomas DeLiberto by email (WSlabresults@aphis.usda.gov) or by fax to (970) 266-6215. Call NVSL immediately at (515) 337-7551 with all positive H5/H7 rRT-PCR results. Results may be messaged/entered directly to the lab submission website: https://vsapps.aphis.usda.gov/vslabsub/login.do

Revision 7-09-15

Comments: Note to self - get this entered into VSLS within 24 hrs...

F

Appendix G: NAHLN Labs

NAHLN Laboratories and State Assignments

STATES	NAHLN LAB	SHIPPING ADDRESS/PHONE	BPA #
AZ, CA, HI, NV	California Animal Health & Food Safety Laboratory	University of California, School of Veterinary Med 620 West Health Science Drive, Davis, California 95616 530-752-8709	AG-6395-K-15-0300
AK, ID, OR, UT, WA	Washington Animal Disease Diagnostic Laboratory	Bustad Hall, Rm 155-N Pullman, Washington 99164 509-335-9696	AG-6395-K-15-0295
CO, MT, NM, OK, WY	Colorado State University Veterinary Diagnostic Lab	300 West Drake Road, Building C Fort Collins, Colorado 80523-1644 970-297-1281	AG-6395-K-15-0293
KS, ND, SD, NE, TX	Kansas State University Veterinary Diagnostic Laboratory	L232 Mosier Hall, 1800 Dennison Ave. Manhattan, Kansas 66506 785-532-4454	AG-6395-K-15-0294
AL, IN, KY, TN, MI, MS, OH	Michigan State University Diagnostic Center for Population and Animal Health	Michigan State University 4125 Beaumont Rd, Suite 201H Lansing, Michigan 48910 517-353-1683	AG-6395-K-15-0296
PA, FL, GA, NC, SC, VA	Pennsylvania Veterinary Laboratory	Pennsylvania Department of Agriculture 2305 N. Cameron Street, Harrisburg, Pennsylvania 17110 717-787-8808	AG-6395-K-15-0301
AR, IA, MO, IL, LA, MN, WI	National Wildlife Health Center (MISS Flyway)	Attn: Necropsy Loading Dock 6006 Schroeder Road Madison, Wisconsin 53711 608-270-2480 or 608-270-2400	15-7440-1142-IA
CT, DE, MD, MA, ME, NH, NJ, NY, RI, VT, WV	National Wildlife Health Center (ATLA Flyway)	Attn: Necropsy Loading Dock 6006 Schroeder Road Madison, Wisconsin 53711 608-270-2480 or 608-270-2400	15-7440-1142-IA

Appendix H: APHIS 513 Form

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
MARKETING AND REGULATORY PROGRAMS BUSINESS SERVICES
INFORMATION TECHNOLOGY DIVISION

APHIS NEW USER ACCOUNT AND PRIVILEGED ACCESS CONTROL FORM

Blocks 1 through 10 to be completed by requestor

1. USER NAME
Last Name: First Name: Middle Initial:

2. DATE OF REQUEST

3. USER PHONE NUMBER *(Including area code)*

4. USER EMAIL ADDRESS

5. USER EMPLOYER *(choose only one)*
- ☒ APHIS
- ☐ CONTRACTOR
- ☐ OTHER Specify: _____

6. TYPE OF REQUESTED ACCESS *(choose only one)*
- ☒ PERMANENT
- ☐ TEMPORARY/EMERGENCY *(must complete Block 10)*
- ☐ ID not required

7. SYSTEM(S) TO WHICH ACCESS IS REQUESTED *(server/system names and/or database names, if applicable)*
VSLS

8. ACTION REQUESTED *(choose only one)*
- ☐ Establish new user account
- ☐ Terminate user account
- ☐ Modify user account *(use Block 9 to specify instructions)*

9. INSTRUCTIONS *(if any)* **FOR ACCOUNT PRIVILEGED ACCESS MODIFICATION**
If existing user then Role = WS State Coordinator Role (for HPAI surveillance in wild birds)

Please grant data entry and and the ability to generate reports for {INSERT STATE(S) HERE}.

10. DURATION/HOURS OF REQUESTED ACCESS
- ☐ Temporary/emergency *(less than 1 year)*

Access end date: _____

Periods of access *(annual renewal required)*
- ☐ Core work hours
- ☐ Weekends *(12:00 AM Saturday-11:59 PM Sunday)*
- ☐ Other Specify: _____

Blocks 11 through 14 to be completed by requestor if user is not an APHIS employee

11. NAME AND ADDRESS OF USER'S EMPLOYER *(company or Federal/State/local agency)*

12. USER'S SUPERVISOR *(name, title, phone number)*

13. CONTRACT NUMBER *(if applicable)*
N/A

14. APHIS POINT OF CONTACT *(e.g., Contracting Officer's Representative)*
Brandon Schmit (brandon.s.schmit@aphis.usda.gov)

Block 15 must be completed for all requests

15. REASON FOR ACCESS *(describe clearly and precisely the detailed nature of the tasks being performed by the user)*
If existing user then Role = WS State Coordinator Role (for HPAI surveillance in wild birds)

Please grant data entry and and the ability to generate reports for {INSERT STATE(S) HERE}.

Block 16 to be completed by System owner or employee's supervisor, Program ISSM (*if user is an APHIS employee*), or APHIS contracting officer representative (COR) (*if user is a contractor*) of the system for which the user is requesting elevated privileges. Check the appropriate box and apply signature.
For digital signatures, please use LincPass.

16.
- ☒ Supervisor
- ☐ System Owner
- ☐ Program ISSM
- ☐ COR

System Owner/Program/ISSM/COR printed name *(If not using digital signature)*: _____

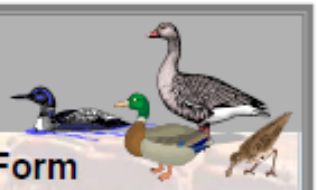
Blocks 17 and 18 to be completed by APHIS CISO or Deputy CIO/CIO
For digital signatures, please use LincPass.

17. APHIS AUTHORIZING OFFICIAL:
- ☐ CISO
- ☐ Deputy CIO
- ☐ CIO

18. ADDITIONAL INFORMATION
This is a user request for VSLS access in order to enter surveillance data and generate reports in support of the "Surveillance Plan for Highly Pathogenic Avian Influenza in Waterfowl in the United States, June 2015". For further questions, please contact Brandon Schmit at brandon.s.schmit@aphis.usda.gov or 970-266-6079. Thank you.

APHIS FORM 513 (APR 2015)

Wildlife Avian Program



Lab Submission (LS) Data Entry using Web Form

- **Help Desk Phone #** (877) 944-8457
- **URL**https://vsapps.aphis.usda.gov/vslabsub/login.do
- **Assumptions** You know how to navigate in the web form, and have a login & password to the VS Lab Submission application.
- **Required fields** You must enter information into the fields next to red-colored text with asterisk (*).
- **Pop-up Blockers** To perform all tasks in application, it is recommended that you temporarily turn off pop-up blocker in web browser.

Action Items

Create Lab Submission
Review Lab Submissions
Enter Lab Results
Release Submissions

This job aid provides field descriptions & process flows for action items listed above. User permissions allow access.

These buttons Home | Logout | Help appear in the top-right corner on each lab submission form.

- **Home** takes you to the Welcome/Home screen.
- **Logout** takes you completely out of the VS Lab Submission module.
- **Help** provides links to relevant documents.
- **USE** Back, **NOT** Back in application.

Section #1 - Create Lab Submission

If you start to create a Lab Submission (LS) record, and do not complete it, an incomplete copy is accessible from the Welcome/Home screen. Click on the Referral # to open it. Another way to access it is through the Review Lab Submissions Action Item on the Welcome/Home screen.

1 SUBMISSION INFORMATION

- **Program** - National Avian Health Program
- **Operation Type** - Wildlife Avian
- **Referral #** - Number that uniquely IDs a lab submission (LS). Manually enter, using this format: State abbreviation, your initials, the date, letter to differentiate multiple submissions in a day. Example: COSRV06212006A.
- **Collection Date** – Date sample was taken from subject. Default is current date. To change date:
  - Select date from calendar at end of field, or
  - Remove date and type T for today, or T-1 for yesterday, etc. then press tab or click outside the field, or
  - Manually enter the date using this format: mm/dd/yyyy.
- **Submission Status** – Default is *Incomplete* until the record is completed.

Create New Submission Click, to continue.

2 COLLECTION INFORMATION Hide Display

- **Biologist Agency** – Agency/service with which biologist is associated.
- **First/Last Name** – Name of wildlife biologist collecting the sample. Can click in field & use Search to see if name is already in database. If so, the Collector Info & Testing Lab Info fields will auto-fill when name is selected.
- **Address/City/State/Zip** – Address of wildlife biologist's residence.
- **Testing Laboratory** – Name of lab that initially tests samples. Call ahead to notify lab that samples have been sent.
- **GPS Location: N** – GPS latitude (decimal degrees) of location where bird was collected; used for mapping and tracking purposes. Use WGS 84. Click on ? for more info.
- **GPS Location: W** - GPS longitude (decimal degrees) of location where bird was collected; used for mapping and tracking purposes. Use WGS 84. Automatically saves as a negative number. Click on ? for more info.
- **Collection Site** – A familiar name of the location where bird was collected. (i.e. Rolland Moore Park, Roosevelt N.F.)
- **County/State** – County & state in which bird was collected.
- **3 Most Abundant Species on Site** – Select first, second, and third most noticed species on site where bird was collected. Use menus. If you select *Other species*, enter species name in *Comments* box.

3 NEW SUBJECT INFORMATION

- **Subject (Animal) ID** - Characters or numbers used to ID a subject/bird. Can use barcode number.
- **Bird Species** – Type of bird from which sample was collected. Select from menu. The alpha code is listed after species name (i.e. CAGO for Canada Goose).
- **Band #** – ID number on band (If band is available on bird).
- **Collection Strategy** – Strategy of the sampling event.
  - Live Wild Bird (released) – Take sample from bird; set it free.
  - Agency Harvest – Take opportunistic sample from bird;
  - Hunter killed wild bird – Take sample from bird; return bird to hunter.
  - Morbidity/Mortality Event – Take sample from sick bird; dispose of bird.
  - Sentinel Species – Take sample from monitored bird; set it free.
- **Sex** – Gender of bird (male, female, unknown).
- **Condition** – Applies to Morbidity/Mortality Event and Sentinel Species only. Select from menu, Healthy, Morbid/Sick, or Dead.
- **Age Class** – Bird's stage of life. Choices are: Hatch Year Nestling, Hatch Year Local, Hatch Year, After Hatch Year, and Undetermined.

Note: Multiple subjects are allowed in the same LS record/accession; however, they must all be from the same GPS location.

- **Sample Bar Code** – Unique bar code that identifies a specific sample collected from a bird. Each sample must be identified by its own bar code.
- **Sample Type** – Type of sample collected from bird. Select Cloacal or Tracheal swab, or Carcass. Click on 🗑 to remove a sample record.

Note: You can only enter one sample per subject unless Collection Strategy of Morbidity/Mortality Event or Sentinel Species is selected; then multiple, but not duplicate, samples are allowed.

Add Another Sample Click, to add other samples.

Save and Add Another Subject Click, to save the current subject record, and add another one. All of the fields retain information from the last record, except the Subject ID and Sample Bar Code fields become blank (ready for you to input unique info). You can also change any information.

The message "The subject was successfully saved!" is displayed to let you know your data was saved.

Continue >> Click, if you do not want to save the new subject record. You will then go directly to Review Submission.

Save and Continue >> Click, to save the current subject record, and go to Review Submission screen.

Delete This Submission Click, to delete the entire LS record.

Note: The Review Submission screen displays:

- Submission Information (can edit Referral # & Collection Date)
- Collection Information (can edit)
- Completed Subjects List (can edit)
- Shipping Information (can edit)

Create Lab Submission (continued)

4 COMPLETED SUBJECTS LIST

After you add the first subject record, a Completed Subjects List is generated at bottom of form. All subsequent subject records are added to the list. You can select a record by clicking in the round radio button next to it. You then have the following options:

Edit Click, to modify existing information in a subject record.

Copy Click, to copy info from selected subject record into a new subject record. This is useful when info is similar. You must always add the unique info (Subject ID and Sample Bar Code).

Delete Click, to delete a subject record.

Note: On the Review Submission page, an Add Subject button is available instead of the Copy button. After you complete the submission, click on View Subject to view a subject record.

5 SHIPPING INFORMATION

- **Submitter Last/First Name** – Name of person sending samples.
- **Date Samples Shipped to Testing Lab** – Defaults to current date; change if incorrect. Refer to Submission Info for date entry options.
- **Number of Samples Shipped** – Auto-filled field.

Complete Submission Click, to submit the entire LS record.

The message "The accession was successfully completed!" is displayed to let you know that the LS record was successfully submitted.

Delete This Submission Click, to delete the entire LS record.

Back Click, to go to the Welcome/Home screen.

Generate Packing Slip This button is available AFTER you click on Complete Submission. It allows you to view & print a packing slip. Once printed, the packing slip should be placed in shipping container with samples.

Lab Submission Packing Slip Information

• Program name	• Total # of Specimens
• Lab name	• Collected By name & address
• Submitted By name	• Remarks
• Referral #	• Specimens List with sample barcodes, species, and sample types.
• Collection Date	

Section #2 – Review Lab Submission

1 SEARCH CRITERIA

Click on ? in Search Criteria heading to see detailed instructions for entering search criteria. Basically, the Program field and Operation Type field are the ONLY mandatory fields. Adding criteria in other fields is optional. The instructions address criteria in menu fields, text fields, and date fields.

- **Program** - Select National Avian Health Program from menu.
- **Operation Type** – Select Wildlife Avian from menu.
- **Referral #** - Default is wildcard %. Follow the instructions in the help message for text field data-entry if you want to enter criteria.
- **Specimen Bar Code** - Default is wildcard %. Follow the instructions in the help message for text field data-entry if you want to enter criteria.
- **Submission Status** - Can select a value from the menu.
  - Incomplete: A lab submission record is in process; it has not yet been submitted. Note: A list of Incomplete Lab Submissions is also displayed on the Welcome/Home page. You can select one of the incomplete submissions from that list also and view/edit it.
  - Submitted to Lab: A lab submission record has been submitted, and physical samples have been sent to a lab.
  - Results Approved: A lab submission record has been submitted, physical samples have been sent to a lab, and the lab has tested the sample and added test results.

Review Lab Submission (continued)

- **Collection Date Between** - Default is blank. If you want to enter criteria, you can select dates from calendars at end of fields, or manually enter dates using mm/dd/yyyy format. You can search by start date, end date, or both.
- **Collection State** - Can select a state by using the drop-down menu to select the state code (ex. CA for California).
- **Collected By (Last, First)** - Can enter name of person who collected sample. Follow the instructions in the help message ? for text field data-entry.
- **Collection Site Name** – Can enter name of collection site if you know it. Follow the instructions in the help message for text field data-entry.

Search Click, to see list of LS records that meet search criteria.

Reset Search Criteria Click, to remove your search criteria and display the defaults; you can now add new search criteria.

Cancel Click, to stop the search & go to Welcome/Home screen.

1 SEARCH RESULTS

After you click on the Search button, a list of LS records that meet your criteria is displayed. If you do not see the submission you are looking for, check to see if there is a View Next button at top-right corner of list. This indicates there are more submissions in the list. Click on it to see the continued list. You will now notice that a View Previous button is also available to help you navigate back and forth between pages of the list.

You can change the sort direction of the list.

Double-click in a column header (Referral#, Collection Date or State, Submission Status, Date Submitted) and click on arrow.

Records are currently sorted in ascending order (lower to higher).

Records are currently sorted in descending order (higher to lower).

Once you find the desired LS record:

- **Select the record** by clicking in the round radio-button directly to the left of it.
- **Click on the appropriate button**, depending on what you want to accomplish.

Review Submission Click, to display the LS record.

Cancel Click, to exit the search environment and return to the Main Menu.

If you clicked on Review Submission:

Other buttons become available depending on submission status.

- **Submitted to Lab status**

View Subject Click, to view the record.

Back Click, to go to Search Criteria/Results screen.

Generate Packing Slip Click, to display/print LS Packing Slip.

- **Incomplete status**

Edit Click, to edit Collection Information

Edit Delete Add Subject Click on one of these buttons to edit, delete, or add a subject to the Completed Subjects List.

Click on one of these buttons to complete the LS record, delete the LS record, or go back to Search Criteria/ Results Screen.

Complete Submission Delete This Submission Back

- **Results Approved**

View Subject Click, to view the record.

Generate Packing Slip Click, to display/print LS Packing Slip.

View Lab Results Click, to view sample barcodes, sample types, testing lab, tests performed, and test results.

Back Click, to go to the Search Criteria/Results screen.