



## Avian Health and Disease Program Division of Migratory Bird Management



# National Strategic Plan      January 2011

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## Executive overview

This document details the reasoning behind, and the resources and actions necessary, to effect a transition from the **Highly Pathogenic Avian Influenza Surveillance Program** to the **Avian Health and Disease Program** within the Division of Migratory Bird Management.

Since 2006, live bird, hunter killed bird, and prospective morbidity and mortality surveillance activities have combined to provide a highly successful, integral part of the national avian influenza surveillance program under "*An Early Detection System for Highly Pathogenic H5N1 Avian Influenza in Wild Migratory Birds U.S. Interagency Strategic Plan*". Over 400,000 avian samples have been collected from every state in the U.S. since the beginning of the program. These samples were then tested at laboratories to provide an early warning system for the detection of incursion of highly pathogenic H5N1 avian influenza (HPAI H5N1). Thus far, HPAI H5N1 has not been detected in North America.

While the introduction of HPAI H5N1 will remain a threat to North America as long as this virus subtype circulates in the global poultry industry, outbreaks in wild birds in Asia, Europe, and Africa during the past few years have demonstrated that the impacts of this disease on wild birds are focal and short-lived, and the role of infected free-ranging wild birds in the transmission of HPAI H5N1 to poultry appears to be very limited. Meanwhile, the health and disease risks to the wild bird population associated with climate change and human ecosystem impacts are increasing. It is time, therefore, to adjust our focus from one disease (HPAI H5N1) to include a broad spectrum of infectious and noninfectious diseases which impact the health of our avian natural resources.

In response to this need for increased avian health capacity, the Division of Migratory Bird Management will scale-back the HPAI H5N1 program beginning in April FY2011 and shift resources to the more comprehensive Avian Health and Disease Program. The scaled-back HPAI H5N1 program will fit as a component within the Avian Health and Disease Program. It will focus on passive morbidity and mortality surveillance as the primary tool for avian influenza disease detection. Each component of the "*Morbidity and mortality monitoring, response, and technical assistance*" section below will address the needs of the new HPAI H5N1 program as it fits within the broader Avian Health and Disease Program.

The activities outlined in this document are integral to the comprehensive functions of the Avian Health and Disease Program. This work better supports the avian conservation, surveillance, and management

goals of the U.S. Fish and Wildlife Service by encompassing disease and health issues beyond avian influenza and includes all migratory bird species.

## Avian Health and Disease Proposed FY11 Budget

### *Total funding amount for FY2011*

The proposed FY2011 budget for the National Avian Health and Disease Program is \$3,884,000.

### *Distribution of funds to the regions:*

Available funds will be distributed to the Regional Avian Health and Disease Program Coordinators. After an initial adjustment phase in FY2011, funds will be distributed on the fiscal year rather than the biological year cycle (which was used for the avian influenza surveillance program). Once received, the Regional Coordinator will direct the funds as necessary to support the regional activities of the program. The ratio of funds between activities will not be fixed and may be adjusted to meet region-specific needs.

### *Activity and expenditure planning*

Expenditures will be made in accordance with the **Regional Avian Health and Disease Implementation Plans** drafted by the Regional Coordinators under guidance from the National Avian Health and Disease Coordinator. Please see the “Regional Planning” section below for more details on implementation plans.

## Avian Health and Disease Program Vision

Increasing expansion of human populations has led to habitat fragmentation, changes in land-use patterns, and increased pressure on wild bird populations. Globalization of marketing and distribution has increased zoonotic and emerging disease risks. Many of these emerging diseases involve avian reservoirs or susceptible hosts. Increasing the complexity of this picture are changes in climate. Avian populations may need to alter site fidelity in response to weather patterns; this will introduce new opportunities for transmission of avian diseases and place pressure on populations already stressed by anthropogenic factors. To address these issues, the USFWS has established the Avian Health and Disease Program to conduct work in avian health and disease surveillance, response, and management. This program will be far greater in scope than the HPAI H5N1 surveillance program while operating on a much smaller budget (\$1million less than FY10 and FY09, and \$3.6million less than FY08)

### *Objectives*

Conduct health and disease surveillance of wild bird populations to:

1. Establish avian health baselines
2. Identify existing and emerging avian health and disease risks
3. Ensure disease preparedness and prevention
4. Develop, guide, and implement appropriate and effective management actions

The activities outlined in this document are integral to the comprehensive functions of the Avian Health and Disease Program. This work supports the avian conservation, surveillance, and management goals of the U.S. Fish and Wildlife Service by encompassing disease and health issues, including all migratory bird species.

## **A. Personnel**

The Avian Health and Disease Program will require 10 FTE equivalents. Most of these personnel will also be partially supported by other programs. The HPAI H5N1 program currently supports 35 FTE equivalents, so this is a substantial decrease in salary support. Personnel supported by the Avian Health and Disease Program funds include the National Avian Disease Coordinator, 8 Regional Disease Coordinators, regional assistants, field biologists, and laboratory support.

## **B. Morbidity and mortality monitoring, response, and technical assistance**

- Assemble and distribute morbidity and mortality response kits
- Conduct training and preparedness activities for response to mortality events:
  - Regional (refuges – field investigation, management plans, contingency plans)
  - Incident response (managerial level – incident command training, communications plans, contingency plans)
  - Building expertise: present courses providing in depth information on emerging, exotic, and indigenous avian diseases; work with NCTC, NWHC, SCWDS to present training sessions
- Conduct table top and field exercises for disease response
- Collaborate with refuges, state agencies, disease laboratories to ensure carcass collection, mortality investigation

## **C. Disease impact investigations**

### *Integrate health surveillance into field activities*

- Expand investigation of regionally specific avian health and disease problems
- Continue to create baseline health and disease data to identify population impacts
- Evaluate critical avian populations: species of concern, threatened and endangered species (conduct field investigations in combination with the ongoing research)
- Investigate infectious diseases (viruses, bacteria, fungal infections)
- Investigate non-infectious diseases (parasites, biotoxins, contaminants)
- Conduct targeted pathogen surveillance
- Investigate indigenous and exotic disease problems

## *Climate change*

- Coordinate with and support LCCs with technical assistance, planning
- Guide avian disease activities of the DOI climate change strategic plan
- Integrate health surveillance with National Wildlife Refuges Inventories and Monitoring disease surveillance priorities
- Investigate the impact of climate change on the biology of wildlife disease reservoirs and vector species
- Investigate disease impacts on species adaptation strategies
- Identify ancillary stressors influencing avian susceptibility to disease (decoupling of biological processes)

## *Human-induced effects on disease transmission*

- Assess the increased disease risks associated with urban, suburban, and agricultural environments (water quality, habitat fragmentation, contaminants)
- Aid in the prevention and management of invasive species introduction
- Adjust FWS personnel behaviors during field activities to decrease the potential of disease transmission to humans, other wildlife, other geographic sites

## **D. Provide technical assistance for management issues**

- Provide assistance during the design and application of the LCCs and climate change strategic plan
- Work closely with FWS Refuges, Contaminants and Invasive Species divisions to inject disease expertise into their work
- Provide guidance on the preservation and restoration of biodiversity on refuges to decrease disease risk

## **E. Infrastructure and provisions needed for field operations**

- Infrastructure:
  - Office space for national and regional avian health and disease coordinators
  - Mini-biomedical laboratories where needed with associated equipment and supplies.
    - Refrigerator/freezer, sink, liquid nitrogen shippers, shipping materials, storage space for personal protective equipment and field equipment.
  - Vehicles for field investigations and emergency response
- Diagnostic lab costs: Interagency agreements will be developed with the National Wildlife Health Center, Southeastern Cooperative Wildlife Disease Study, the National Animal Health Laboratory Network, and one or two university veterinary diagnostic laboratories.
- Personal protective equipment stock rotation for field response
- Grants to refuges, support to state wildlife agencies
- Field equipment and supplies

## F. Communications and informing policy

- Conduct education and outreach within USFWS and to other federal agencies, state agencies, universities, NGOs, etc.
  - Week-long Avian health and disease course at the National Conservation Training Center (NCTC). This course will cover disease biology, contaminants, morbidity and mortality investigations, mortality event emergency response protocols, what goes on in lab, and biological specimen collection for disease investigations.
    - Travel for attendees will be supported to the greatest extent possible.
    - Materials will be supplied for each attendee to take to back to their duty stations (disease investigation field manuals, fact sheets, brochures)
    - The course will be taught in collaboration with the National Wildlife Health Center and the Southeastern Cooperative Wildlife Disease Study.
  - On-site training sessions at refuges will also be conducted in each region to address specific disease topics, and to conduct training in morbidity/mortality surveillance, mortality event response, and specimen collection techniques.
- Create national website with links from the FWS regional websites and out to other wildlife disease resources
- Establish technological links to the public (Facebook, Twitter, etc.)
- Create fact sheets and brochures, distribute brochures to refuges and state agencies
- Attend and present at scientific meetings
- Draft publications in peer-reviewed journals, grey literature, and popular press.
- Provide technical assistance, information for policy makers; formulate policy

## G. Collaborations

### *Current*

- USFWS National Wildlife Refuges Inventories and Monitoring Program
- USFWS Environmental Contaminants Program
- Southeastern Cooperative Wildlife Disease Study
- USGS National Wildlife Health Center
- State wildlife agencies throughout the U.S.
- USDA APHIS Wildlife Services
- USGS Science Centers

### *Planned*

- Other divisions within the USFWS (Law enforcement, Environmental Services)
- DOI partners
- Other Federal government agencies
- Non-governmental organizations
- Tribes
- Universities
- International partners

## Regional Planning

### *Annual Meetings*

Annual meetings will be held in the winter of each year to set the program goals, priorities, budgets, and activity plans for the coming year. Hot topic presentations and reports on disease investigations will be given by the coordinators.

### *Regional Avian Health and Disease Implementation Plans*

Implementation plans will be drafted by the Regional Coordinators under guidance from the National Coordinator. Each region will need to develop plans for identifying personnel, conducting morbidity/mortality monitoring, developing morbidity/mortality response plans, providing technical assistance for mortality events, conducting disease impact investigations, providing technical assistance for avian management, developing infrastructure and obtaining provisions for the field, and developing a network of collaborations with state wildlife agencies, tribes, NGO's, universities, and laboratories.

A one-size fits all approach to avian disease across the landscape will not work. Regional Coordinators will therefore enjoy a fair degree of autonomy within the program structure and will be encouraged to develop Region-tailored approaches to accomplish the objectives and activities of the Avian Health and Disease Program.

## Training Courses in Avian Health and Disease

Training courses are planned for both USFWS and state wildlife agency biologists. Regional Coordinators will be encouraged to participate in teaching and attend the training to learn about avian disease issues, field and laboratory techniques for disease surveillance, and avian health assessment methods.

## Diagnostic Laboratories

The program already has strong ties with the National Wildlife Health Center (USGS) in Madison, Wisconsin, as well as the Southeastern Cooperative Wildlife Disease Study in Athens, Georgia. Both labs have conducted both avian influenza diagnostics as well as disease impact investigations for our program and have agreed to continue this work as the program grows. Interagency agreements will be drafted for each facility, and updated on a yearly basis.

Additional regional laboratories will be brought on board over time to assist in morbidity/mortality event and disease impact investigations.

## For further information on the Avian Health and Disease Program, please contact:

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