

---

# AVIAN INFLUENZA WORKSHOP SUMMARY REPORT

JANUARY 2006

**U.S. FISH & WILDLIFE SERVICE**

1011 E. TUDOR ROAD  
ANCHORAGE, ALASKA 99503  
PHONE: 907-786-3443

---

# TABLE OF CONTENTS

TABLE OF CONTENTS.....	2
INTRODUCTION .....	3
WORKSHOP AGENDA .....	4
SESSION SUMMARIES.....	7
JANUARY 18, 2006 .....	7
SESSION SUMMARIES.....	18
JANUARY 19, 2006 .....	18
SUMMARY AND NEXT STEPS .....	28
WORKSHOP ATTENDEES .....	29

---

# INTRODUCTION

“Millions of domestic poultry have either died or been culled in Asia because of outbreaks of highly pathogenic avian influenza (HPAI).”<sup>1</sup> Because of Alaska’s unique position as a primary migratory bird flyway for the United States, the Department of Homeland Security directed Alaska to begin work on an early detection plan for the United States. Three Alaskan agencies came together to develop a workshop to discuss Early Detection of Highly Pathogenic Avian Influenza in Alaska. These agencies included the United States Fish & Wildlife Service, United States Geological Survey and Alaska Department of Fish and Game. The workshop included experts from within Alaska and around the country on a variety of subjects to include avian influenza, various migratory bird populations, sampling processes and protocols, planning, communication, and data management.

Workshop Products: Draft Operations Plan for Surveillance of Avian Influenza in Alaska

- Prioritize Species
- Sampling Locations and Timing
- Organizational Capabilities
- Framework for Project Implementation

Beyond the Scope of this workshop:

- Dollar Allocation
- Roles and Responsibilities
- Finalized or detailed plan

*This is a meeting to obtain initial alignment and help us to build a framework for Project Implementation.*

## **INTRODUCTION OF WORKSHOP**

**Gary Edwards, U.S. Fish and Wildlife Service, Anchorage, Alaska**

**Richard Kearney, U.S. Geological Survey, Reston, Virginia**

Gary Edwards opened the conference by welcoming participants from in and around the State of Alaska and Lower 48. Emphasized the goal as the development of a field sampling plan that will provide some direction for the management of the sampling process. The workshop is a method by which guidance and direction can be shared amongst agencies and organizations involved with Avian Influenza.

Rick Kearney provided some background on the initial movement of the United States on the Avian Influenza issue. Together, the USDA and Department of Interior began to put together an approach for a plan. Identified this as an opportunity to get out in front of a wildlife disease before it actually appears and be able to detect and respond before it occurs.

---

<sup>1</sup> USGS, Science for a Changing World: “The Avian Influenza H5N1 Threat,” August 2005.

---

# WORKSHOP AGENDA

## EARLY DETECTION OF HIGHLY PATHOGENIC AVIAN INFLUENZA IN ALASKA

### WORKSHOP

**Gordon Watson Conference Room 157  
1011 East Tudor Road, Anchorage, Alaska**

**January 18-19, 2006**

**Lisa O'Brien, Facilitator**

#### **January 18**

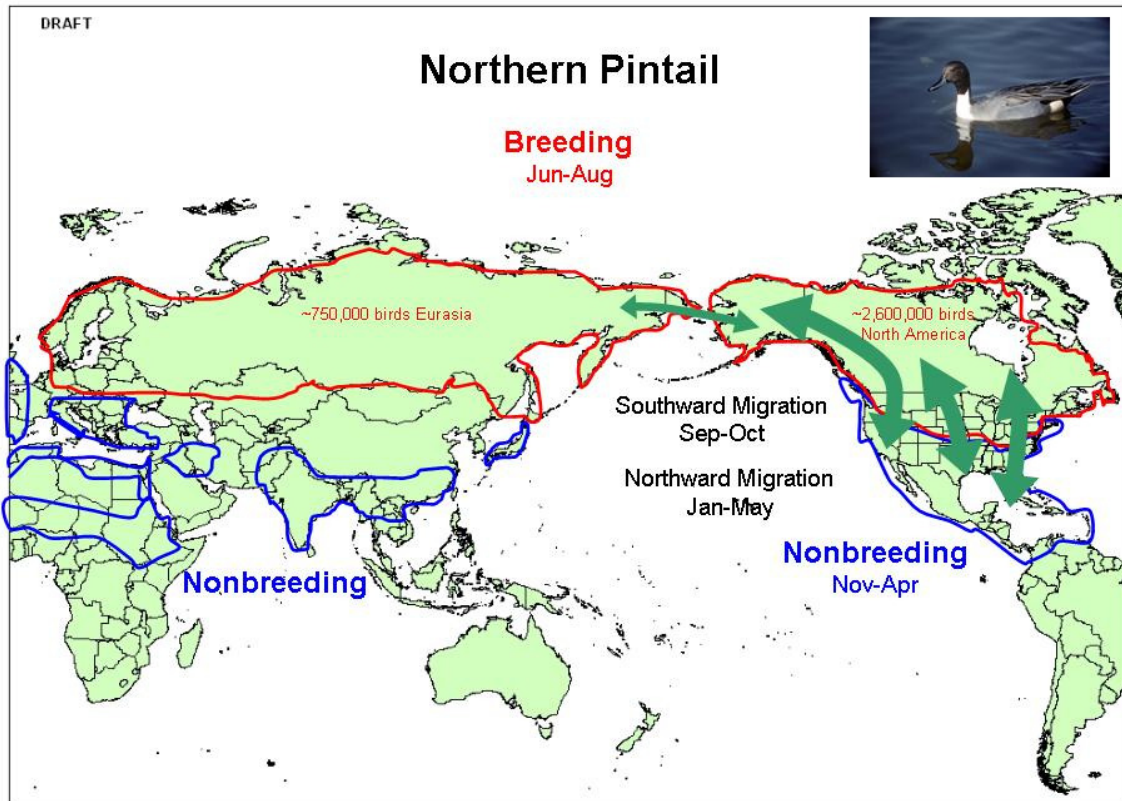
- 8:00—8:30 Introduction of workshop. **Gary Edwards**, U.S. Fish and Wildlife Service, Anchorage, Alaska. **Richard Kearney**, U.S. Geological Survey, Reston, Virginia.
- 8:30—9:30 Review characteristics of avian influenza viruses, and summarize laboratory findings of 2005 samples. Speaker: **Hon S. Ip**, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin
- 9:30—10:00 Review sample size requirements for detection of virus prevalence. Session Leader: **Christine M. Bunck**, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin
- 10:00—10:15 Break
- 10:15—10:45 Summarize the process used to identify priority species for sampling in Alaska. Session Leader: **Paul L. Flint**, U.S. Geological Survey, Alaska Science Center, Anchorage, Alaska
- 10:45—11:15 Review Loon, Waterfowl, and Crane migration data and identify priority species and geographic locations for sampling in Alaska. Session Leader: **Paul L. Flint**, U.S. Geological Survey, Alaska Science Center, Anchorage, Alaska
- 11:15—12:00 Review Shorebird migration data and identify priority species and geographic locations for sampling in Alaska. Session Leaders: **Robert E. Gill, Jr.**, U.S. Geological Survey, Alaska Science Center, Anchorage, Alaska; **Richard B. Lanctot**, U.S. Fish and Wildlife Service, Anchorage, Alaska
- 12:00—1:30 Lunch

- 1:30—2:00 Review Landbird and Marine Bird migration data and identify priority species and geographic locations for sampling in Alaska. Session Leader: **Steve M. Matsuoka**, U.S. Fish and Wildlife Service, Anchorage, Alaska
- 2:00—2:45 Summary of the University of Alaska—Fairbanks HPAI research program and plans for sampling in 2006. Session Leader: **George M. Happ**, University of Alaska—Fairbanks, Fairbanks, Alaska
- 2:45—3:00 Break
- 3:00—4:30 Identify agency/organization capabilities for sampling of live migratory bird species in Alaska. Session Leaders: **Robert R. Leedy**, U.S. Fish and Wildlife Service, Anchorage, Alaska; **Thomas C. Rothe**, Alaska Department of Fish and Game, Anchorage, Alaska

### **January 19**

- 8:30—9:00 Review field sampling protocols and sample submission to the National Wildlife Health Center. Session Leader: **J. Christian Franson**, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin
- 9:00—9:30 Communications and web-based information: communication strategies, fact sheets, wildlife health bulletins, safety guidelines, and other web-based resources. Session Leader: **Paul G. Slota**, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin
- 9:30—10:30 Evaluate likely geographic areas in Alaska for detection of migratory bird mortality events and establish procedures for surveys. Session Leader: **Russell M. Oates**, U.S. Fish and Wildlife Service, Anchorage, Alaska
- 10:30—10:45 Break
- 10:30—11:00 Procedures for morbidity/mortality investigations: onsite field investigation, collection and preservation of carcasses, and documentation of field data. Session Leader: **Scott D. Wright**, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin
- 11:00—12:00 Determine primary geographic areas in Alaska for sampling subsistence and sport harvested migratory birds. Session Leaders: **Thomas C. Rothe**, Alaska Department of Fish and Game, Anchorage, Alaska; **Russell M. Oates**, U.S. Fish and Wildlife Service, Anchorage, Alaska
- 12:00—1:30 Lunch
- 1:30—2:30 Discussion about the desirability of a standing committee or working group in Alaska to advance planning, coordinate efforts, and communicate progress. Session Leader: **Thomas C. Rothe**, Alaska Department of Fish and Game, Anchorage, Alaska
- 2:30—2:45 Break

- 2:45—3:45 Interagency avian influenza data management: proposed system within the National Biological Information Infrastructure (NBII) Wildlife Disease Information Node. Session Leader: **F. Joshua Dein**, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin
- 3:45—4:15 Workshop summary. Session Leader: **Robert R. Leedy**, U.S. Fish and Wildlife Service, Anchorage, Alaska



---

# SESSION SUMMARIES

January 18, 2006

**Review characteristics of avian influenza viruses, and summarize laboratory findings of 2005 samples. Speaker: Hon S. Ip, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin**

**Current AI Situation:** Discussed the current AI situation including the number of countries it is currently found in and where it has spread from and to in the last few months. Identified case counts between 12/03/03 and 01/18/06 (149 cases, 80 deaths; 53% mortality rate). Review of this information may provide some idea of where potential contact may come from.

**Pandemic Flu:** Discussed the definition of an epidemic, the influenza pandemics in the 20<sup>th</sup> century, and the impacts of those pandemics in terms of number of deaths, and length of duration. Spanish Flu, Asian Flu, Hong Kong Flu.

**Influenza Virus:** Discussed the proteins and antibodies of influenza viruses and the methods of replication, antiviral and inhibitor, hem-agglutinin-induced membrane fusion, genetic drifts (mutations over time as the virus replicates in humans and other hosts ... it mutates and gradually drifts). Discussed the influenza virus in poultry that there are both low and high pathogen types. Discussion on how the virus works in poultry. The human pandemic viruses of the 20<sup>th</sup> Century have avian genes. Discussed the evolution of H5N1.

**Avian Influenza:** Wild birds, waterfowl and shore-birds especially are a natural reservoir for avian influenza viruses. Virus undergoes very little changes within these birds. However, when it comes out of those hosts and goes into a new host it undergoes many changes. The virus considers poultry and humans atypical hosts and finds ways to survive within these hosts. The cycle can move through wild birds, to ducks and geese, then to chickens where it can evolve into a high path virus and spread back into wild birds and ducks and geese, potentially posing a risk to other species. Discussed the recent movements of the virus from Qinghai, China, Turkey and the potential routes of introduction to North America which includes infected individuals, commercial traffic, and wild birds.

**Detection:** Two types of detection (molecular detection and viral isolation) were discussed, along with pros and cons of each. The layout of testing and the testing panel for each and the instrumentation required was also discussed. There is a need for capacity to do high volume testing but defining high volume is difficult. The volume levels may change if something of interest is found and time must be spent to further investigate it. It is not cost effective to put in the infrastructure to do all samples in real time, but there will be a need to prioritize what is being tested on a daily and weekly basis with a dual approach to the testing so that correct information is generated and timely detection is achieved. NWHC VTM medium gives better percentages of positive readings as compared to the USDA AI medium. There is a slight edge in terms of one media than the other.

### **Questions/Comments:**

- What is the importance of the comparison between the media? The medium's purpose is to preserve the virus so the testing can be done when the sample gets to the lab. The data shows a clear difference in the media.
- How can we preserve samples when there are transportation issues? That is something we need to discuss here.
- What about front line testing for those areas that rely on fowl for subsistence? Can a lab be located in these areas? Depends on the level of testing to be performed and how much detail and the types of viruses to be detected.

### **Review sample size requirements for detection of virus prevalence. Session Leader: Christine M. Bunck, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin**

**Disease Surveillance:** Discussed the three reasons to conduct surveillance (detecting in new populations and areas, assessing prevalence, and the monitoring of change in prevalence or extent) and the questions you might ask yourself during each phase.

**Estimating Sample Size:** The purpose of wild bird sampling, at least initially, is to detect (defined as finding at least one infected animal in the sample). Definition of "infected animal" – an animal that is actually shedding virus. Discussion followed on translating objectives of surveillance into hypotheses testing framework for estimating required sample size. Indicated that the choice of power is arbitrary, define the threshold of concern (assumed prevalence, biological meaningful value, and action level) and adjust for finite populations.

**Risk Factors:** Discussed the definitions in the report from the CWD Workshop. There the two types of major risk factors include those related to exposure (the introduction into a new population or area) and those related to amplification (the spread of the disease through the population or region). Review and prioritization of the risk factors will influence how the sampling plan will be laid out.

**Target Populations:** Migratory bird populations are dynamic. The risk factors can be used to identify target populations for detection. Risk factors may be used differently for assessment and monitoring phases. One of the most important things to remember is to clearly define the target population at the outset, before beginning surveillance. This step is one of the most difficult in developing sampling plans because migratory bird populations are dynamic in time and space.

**Sampling Frame & Sampling Units:** Sampling wildlife populations presents many challenges: consider the differences between the target population and the "sampled" population. Define sampling biases. Incorporate ways to evaluate the impact. For detection, capitalize on attributes of infected animals.

**Potential Outcomes of Sampling Plans and Potential Responses:** Discussed the potential outcomes including:

- What if no infected birds were detected? Evaluate the power of the survey to detect prevalence rates. Evaluate what was learned about the disease. Improve the sampling design. Identify what still needs to be known.



- What if at least one infected bird is detected? Move to assessment or monitoring? Other management responses?
- How will sampling strategic change if it is first detected in poultry or domestic fowl?

**Questions/Comments:**

- Heard during the course of the presentation that 200 was a minimum sampling size per target population, but is the definition of population (breeding, etc.) flexible? Because of difficulties in capturing the target population, the 200 number should be used as a minimum. If we can identify some of the difficulties in capturing the target population, we can adjust the estimate of sample size upwards.
- We need to link the definition of target populations and sampling plan/size to conceivable management actions. It will be important for us to think through what actions will be taken if we do find an infected bird at a particular place and time. What would be the appropriate management action given that finding?
- Do we know what the sensitivity of the various tests are? Hon Ip noted 95% accuracy in detection rate and 99% for specificity.
- The definition of an infected bird ... is that the one we want to go with? Hon Ip stated the definition means it has to come off on the swab ... it doesn't differentiate live or dead. This brings up the broader question: do we want to detect and determine the capability of spreading? In which case we would want to know there was a live virus shed.
- Is a swab better than blood samples? Hon Ip replied fecal/oral swab is the best since that is how it is spread. Tracheal swabs are good but you may miss out on all the other viruses. As many as possible (feather, fecal, tracheal, organ, etc.) would be great – we would like to do more. Other participants: more is better; training of field personnel may impact the ability to do more.
- AI can move to other hosts (marine mammals) – what about rural residents? How are we going to sample or know other sources of the disease? Christine – there are other target populations. Rick Kearney - Moving the sampling to other kinds of wildlife may be appropriate, but the focus now is on how AI might be transmitted to North America. Other participant – there has been some talk about marine mammals ... don't know the extent of the plans at this point, but at least it is being thought about. The virus is not very stable: cooking food thoroughly will help.

**Summarize the process used to identify priority species for sampling in Alaska.  
Session Leader: Paul L. Flint, U.S. Geological Survey, Alaska Science Center,  
 Anchorage, Alaska**

**Introduction:** There are approximately 500 species of birds in Alaska. How do we reduce this to something more manageable? Who is out there that has the virus and will bring it here? There are opinions being applied to calculate relative odds that a given species will be the culprit. There is a time window between the bird being

---

exposed, actually shedding the virus and collecting the sample (10 days to 2 weeks according to Hon Ip).

**Of the 500 species**, we don't have to worry about the resident birds, only the migrants (the ones that come to breed and the ones that pass through). The frequency runs from abundant to accidental. There are seven categories labeled: abundant, common, fairly common, uncommon, rare, casual, accidental – we will be looking at all but the last three. The primary task is to find the species carrying it into Alaska. We are testing for carrier birds that may have no outward signs of the virus.

**Unknowns include:** proportions of populations that might be active carriers, seasonality of virus shedding, age effects on virus exposure.

**Contact:** direct contact from known areas of exposure during winter 2005-2006 and indirect contact (represents expansion of distribution in summer 2006).

**Need to know:** where the birds have been (coming from), who they have associated with, etc.

**Scoring Criteria:** discussed a scoring criteria that was developed through an interagency collaboration based on such things as proportion of population occurring in Asia, contact with a known hotspot, habitat used in context of likelihood of exposure, population size occurring in Alaska in 2006, and whether we can obtain a representative sample.

**Questions/Comments:**

- Total population size in Alaska is the total number present in Alaska not just those that have been to an infected area and coming back.
- More knowledge in how the virus works and how it changes and mutates is needed, however, even if the virus is a 7-11 day, it will take longer to move through a population, so sampling can be effective in that regard even if the bird has migrated in several weeks earlier.
- Understanding the dynamics of shedding and its susceptibility ... during breeding, molting, etc.
- The scoring criteria are really focused on finding the bird that is bringing the virus here. Once the virus is here, there will need to be a new scoring criteria as the "resident" birds that previously had no exposure are no exposed.

**Review Loon, Waterfowl, and Crane migration data and identify priority species and geographic locations for sampling in Alaska. Session Leader: Paul L. Flint, U.S. Geological Survey, Alaska Science Center, Anchorage, Alaska**

**Discussed migration data** on several species of loon, waterfowl and crane species that may carry the virus to where these birds are. Individual characteristics of species, where they breed and migrate was touched upon. Some individual notes include:

- Steller's Eider: if AI is not currently in Alaska today, for it to occur these birds will migrate out of state in the spring for breeding and they will bring it back with them to Alaska in the fall.

- Northern Pintail: large population. There is a clear zone of overlap where birds from the infected area are mingling with Alaskan birds.
- Wrangel Island Snow Geese: needs some other species that will carry it to them.
- Emperor Goose: molt migration from Alaska to Russia. They regularly cross the strait in breeding and non-breeding mode. They will need some other species to carry it to them.
- Long tailed Ducks: any single long tailed duck may come from an area of infection. Difficult to sample; wide distribution.
- Tundra Swan: difficult to capture/sample. Small fraction coming from exposed areas.
- Pacific Common Eider: minimal migrants.
- King Eider: broad changes in wintering populations, appear to move about at will. There are several staging sites within Alaska with large concentrations. We don't know where they are coming from or going to.
- Lesser Sandhill Crane.
- Red throated Loons.
- Yellow billed loons: travel to infected areas.

**Discussion of a sample species scenario (Brant).** Three groups of birds have links to Asia (breeders in the spring, molting birds in mid-summer and staging birds in the fall). There are two main, broad, geographic areas. Birds within colonies are likely not independent. Cluster sampling design may have colonies as the cluster; goslings may be a sensitive indicator of exposure within colonies. We would sample breeding, molting, goslings. Entire population concentrates in Izembek Lagoon, Alaska in the fall.

**Questions/Comments:**

- Virus shedding period ... serology can show a bird that has had exposure in the past but fought it off. This can open the window for the time period; however, you won't know if the bird specifically has H5N1. The priority is H5N1 detection, but keep in mind what other data collection and information we can get with all this effort. It will provide some information, but there will be many questions remaining. It may, however, open up some of the species that can't be sampled during the breeding time period.

**Review Shorebird migration data and identify priority species and geographic locations for sampling in Alaska. Session Leaders: Robert E. Gill, Jr., U.S. Geological Survey, Alaska Science Center, Anchorage, Alaska; Richard B. Lanctot, U.S. Fish and Wildlife Service, Anchorage, Alaska**

**Discussion of shorebirds as potential carriers of Asian H5N1 and points to ponder:**

Eight species most likely to be carriers to North America of Asian H5N1 subtype avian influenza are: Pacific Golden-Plover, Bar-tailed Godwit, Ruddy Turnstone, Long-billed Dowitcher, Red Knot, Pectoral Sandpiper, Sharp-tailed Sandpiper, and Dunlin.

Shorebirds, more so than any other group of waterbirds, have complex seasonal interactions between nesting areas in the Arctic and subarctic and nonbreeding areas throughout the Pacific the Western Hemisphere, Pacific basin, and East Asia-Australasia.

Things to ponder from a virologist's standpoint:

**HIGH RISK OF EXPOSURE/TRANSMISSION**

- Most shorebirds highly social and occur in dense aggregations outside of breeding season
- Mixed species assemblages (shorebirds and waterfowl) common
- Prolonged use of sites during passage
- Major staging areas used by birds going different flyways
- Migration routes elliptical or seasonal different

**FIDELITY TO SITES VARIES BY SPECIES AND SEASON**

- Mixed mating systems with varying degrees of site and mate fidelity
- Most birds faithful to sites throughout annual cycle
- Breeding sites linked to broad geographic wintering areas

**SUSCEPTIBILITY TO INFECTION UNCERTAIN**

- Most birds use marine habitats during nonbreeding season but brackish or freshwater habitats during breeding season
- Most arctic-nesting species have low immunocompetence
- Breeding and molt are stressful periods

**Discussed proposed sampling process** considering information on where birds breed, where they stage in spring and fall, where they form concentrations, etc. There are many difficulties in getting to those locations and the challenges of lodging and remote camping. The section leaders discussed the case study on the Dunlin, which could include capturing birds on the breeding grounds and staging areas. Breeding ground captures are labor intensive but based on past capture results very doable. Discussed breeding and post breeding camps where sampling work may already be in place for the coming year. Would allow some sampling but would need to add additional places to sample.

**Questions/Comments:**

- A person asked why we should be concerned about shorebirds since they frequent marine areas, and these areas are not known as an area where AI is known to be transmitted. Bob Gill responded that some species, such as the Dunlin, respond to weather conditions (interior rainfalls) and move inland to estuarine and freshwater lakes where they could come in contact with the virus.
- Another person asked what was the likelihood of the virus being transmitted from parents to offspring, and between broods during the breeding season. Rick

Lanctot indicated that co-mingling of broods does occur, but for most species this is typically by accident only, and that few species brood multiple families together. Most of these species are fairly monogamous.

- Keep in mind the age and class structure of populations, i.e. juveniles. AI virus prefers fresh water, non-saline, neutral pH habitats.

**Review Landbird and Marine Bird migration data and identify priority species and geographic locations for sampling in Alaska. Session Leader: Steve M. Matsuoka, U.S. Fish and Wildlife Service, Anchorage, Alaska**

**Terrestrial birds.** Discussion of the priority species of terrestrial birds, migration, breeding habits, and likely geographic sampling areas for Eastern Yellow Wagtail, Arctic Warbler, Bluethroat, Northern Wheatear, Gray-cheeked Thrush, Gyrfalcon. Bluethroats and Gyrfalcons should be considered for addition to the sampling. Several priority songbirds can be captured at the same geographic site. Gyrfalcons would require a separate effort.

**Marine/Seabirds.** Discussion of the marine birds, also known as seabirds, and their migration, breeding habits and potential geographic sampling areas. There are about 40 species and about 40 million breeding within the marine bird species. Most are colonial. Most are coastal, though there are some inland. Priority birds: Aleutian Tern, Black-legged Kittiwake, Glaucous Gull, Glaucous-winged Gull, Pelagic Cormorant. If species primarily in marine waters are considered at risk, additional species should be considered for sampling.

**Areas with High Diversity of Asiatic Birds,** i.e. Western Aleutians. Very difficult to sample the full sample size, but can a target population be a suite of species? There are a lot of different species that come directly from Asia where the virus is known that pass through during migration.

**Questions/Comments**

- If you are in an area working with birds and there is an opportunity to sample birds, it would make sense to capture that data too. We might identify primary target species and then incidental species and then prioritize the sampling based on the species. Would it be prudent to “bank” samples from other birds? Yes. If you have the resources and down time at the labs, you can get the secondary samples tested.
- Perhaps shift samples around the country to labs that are less busy.
- If samples are viable and frozen, they will be good for years (-20 at a minimum; colder is better).
- Are there any efforts being made to coordinate with potentially impacted area populations (i.e. YK Delta people), or is it a scientific community issue only? Is there any coordination going on with the people? There are other groups going forward such as Public Health and other forums outside of this particular workshop where those issues are being dealt with. Communication is an issue. Response: When the sampling plan is actually being developed, there is some coordination that does need to occur. Other response: Migratory Bird Co-Management Council meeting next week is to start coordination with the regional representatives. Other response: today is a very small piece to bring

together the fish and wildlife, agriculture and public health experts. All the work, including scientific, is to do with human health. Response: when talking in public venues, we need to be specific about the differences between avian influenza, H5N1, etc. bird disease versus human disease. Response: human health piece and that there is information to be offered from the subsistence people.

**Summary of the University of Alaska—Fairbanks Avian Influenza HPAI research program and plans for sampling in 2006. Session Leader: George M. Happ, University of Alaska—Fairbanks, Fairbanks, Alaska**

**Discussion on the Fairbanks Avian Influenza research program.** Discussed research that is in progress at the University of Alaska Fairbanks. The Denali Biomedical Workshop was held in 2004. Discussed the recommendations for AI research that came out of the final report. Several animal related questions emerged from the Denali workshop including such questions as: Are Eurasian AIVs brought to North America via Alaska? And do Eurasian and NA lineages mix in Alaska? Shared the goals of the group which include weekly teleconferences, expanded surveys, molecular and classical screening in collaboration, establish and validate molecular screening at UAF and more.

**Discussed sampling and preliminary results:** 4500 samples have been taken in 2005 from a series of different species and began environmental sampling. The goal is not just to detect H5N1 but to understand avian influenza as a system and a basis for various research projects. Screening has involved PCR at Armed Forces Institute of Pathology (Taubenberger) and UAF, egg inoculations and hemagglutinin assays at Ohio State (Slemons) and subtype analyses by serology at USDA NVSL in Ames (Senne). No H5N1 or H5's have been detected in the 550 samples analyzed thus far. Method development is continuing.

**2006 Aims:** continued development of PCR detection/subtyping, automated sequencing, continued survey, immunological health of wild birds, modeling of bird distribution/ movement, correlate bird survey with human seroprevalence, computer modeling of bird dispersion of viruses and of viral evolution.

**Goals for 2006:** 10,000 samples, proposed to emphasize target species, sample locations in Alaska and Eastern Asia, first year of Russian-US collaboration, compare genotypes in species, year, season, location, ecological setting; and molecular screening at UAF

**Potential 2007 Project:** Response to National Institute of Health BAA led by University of California Davis and University of California Los Angeles including surveillance in California, Alaska, Russia, surveillance in Southeast Asia, major screening and more.

**Douglas Causey spoke on his work "Zoonotic Disease Study in Alaska: Influenza A."** Three main areas of work: ecology of influenza, *in vivo* recombination, and indigenous knowledge of zoonotics. Provided data on the incidence of influenza along flyway. Discussed the distribution of H-types in some of the known hosts of influenza (bird, equine, porcine, etc.) and the prevalence in wild birds in a sample of 70,000 (these 70,000 samples are from the body of published information that could be found around the world). Some things that stood out in the sample: 1) lack of some subtypes in wild birds and 2) only six of the H5 types found in wild birds. Has found a

---

significant environmental component to influenza and has looked at the wild animal market dynamics that exist outside of normal migratory movements. Natural surveillance – including local involvement, local knowledge, local empowerment and community based monitoring efforts.

**Questions/Comments:**

- Sharing of samples ... do you take two samples and share them? Perhaps you screen them and find no H5 but it is matrix positive, if they were to be otherwise discarded, it would be of interest to the University. From a field perspective, how would it best be done ... take two samples or will the lab share samples? For the purpose of the project – early detection of H5, they will complete them in a speedy manner to begin with but it won't necessarily be the only thing they do. There are a lot of other viruses that may be there that they will find. The other thing to think about ... whenever you swab a sample twice, you are not getting the same sample twice. We, do, however, need to get as much valuable data as we can while the "bird is in the hand."

**Identify agency/organization capabilities for sampling of live migratory bird species in Alaska. Session Leaders: Robert R. Leedy, U.S. Fish and Wildlife Service, Anchorage, Alaska; Thomas C. Rothe, Alaska Department of Fish and Game, Anchorage, Alaska**

**What we want in way of samples:** cloacal and tracheal samples, fresh fecal samples, and environmental samples. Should we take environmental samples at every sampling location?

**Waterfowl species and sites currently having work performed:** starting with the 26 priority species that have previously been identified, looked at the areas where current banding or other efforts are occurring and the coverage that is known. Are there other active waterfowl banding/collecting sites, are there more and/or better sites?

- Other countries ... Russia, Canada
- Birds returning to and from North America to Alaska
- Ikpikuk River
- Izembek (Brant and Pintail and Eiders)
- Chevak
- Kokechik Bay
- Kuparuk and Colville Rivers (Eiders and Long-tailed Ducks)
- Near Islands

EARLY DETECTION is the priority right now ... there are other components.

---

**Question/Comments:**

- It may work better to actually go to the place of origin for these birds which may mean going to Russia or Canada ... is there any problem with that? Rick Kearney – no problem, probably, legally or philosophically, but does it make sense scientifically. USDA - Need collaboration and cooperation with other countries. Would need to look at a case-by-case basis.
- Approach to consider: not just birds that come from Asia to Alaska but birds that will be coming back to North America from Alaska? Strategy for discussion might be to sample less species but get more samples from those that are higher priority.
- One of our best ways is to be vigilant on observations of species. What we know about H5N1 now, is that there will likely be a high impact (die off). Use the five sampling techniques to get the best early detection we can.
- We've been assuming live take ... Should we be considering lethal take? Hunter bag checks ... what about non-game birds.

**Shorebirds species and sites currently having work performed:** Are there other active waterfowl banding/collecting sites, are there more and/or better?

- Hawaii (Mariana Islands)
- Prudhoe Bay
- Kaktovik
- Teshekpuk Lake
- Yukon-Kuskokwim Delta
- Sagavanirktok River
- Peard Bay
- Russia

**Landbird species and sites currently having work performed:** Are there other active waterfowl banding/collecting sites, are there more and/or better?

Current sites:

- Denali National Park and Preserve (Gray-cheeked Thrush)
- Denali Highway (Arctic Warbler)
- Fairbanks (Gray-cheeked Thrush)
- Tetlin National Wildlife Refuge (Gray-cheeked Thrush)
- Yukon Delta National Wildlife Refuse (Gyr Falcon)



---

Sites for consideration:

- Northern foothills of the central Brooks Range
- Kotzebue Sound
- Seward Peninsula
- Askinuk Mountains, Yukon Delta
- Northern Bristol Bay

**Seabirds species (include Glaucous-winged and Glaucous Gull and Aleutian Tern) and sites currently having work performed:** Are there other active waterfowl banding/collecting sites, are there more and/or better?

- Barrow
- Yukon-Kuskokwim Delta
- St. Lawrence / Diomede
- Western Aleutians
- Amchitka
- Yakutat

Discussion/reminder on permitting and banding considerations were discussed for the different types of work that might be performed.

**Questions/Comments:**

- Are there any specific flu benefits/surveillance objectives to banding? If we have these birds in hand and we band them, in a year or two or three we can match the information about flu or not, where they came and went, etc. Another advantage – positive lab result, at least you would know where the bird went. And, if a bird shows up in a die off and it was banded and tested, it would be good to know.
- We need to incorporate what is happening in terms of sampling in other countries with what we're doing now. They have data now that could help in the decision making process. Banding communications are being worked on to increase the communication on an international basis.
- Way to streamline the permitting process for all those involved ... who's permit will cover it, etc. ?

---

# SESSION SUMMARIES

January 19, 2006

**Review field sampling protocols and sample submission to the National Wildlife Health Center. Session Leader: J. Christian Franson, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin**

Discussed the sampling, handling, and shipping of samples to National Wildlife Health Center. Critical on how the media is stored before and after samples are collected. Vials containing virus transport media are good for several months in the freezer; once thawed they should not be refrozen, but can be kept refrigerated or on ice packs for 7 days. Resources needed: transport media, Dacron swabs (in two sizes; must be kept dry), and gloves. Discussed how the swab should be inserted and the sample collected. Need to identify the type of sample before sending to the lab (i.e., cloacal vs. fecal). Discussed placing the swab into the transport media. Storage of the sample should be done at ultra-low temps and any exceptions to this should be noted. In the field, liquid nitrogen vapor shippers can be used. Ship samples to the lab on dry ice (at least 5 kg). The liquid nitrogen vapor shippers are also useful for transport of vials and field storage. Be aware there are regulations on the use and shipment of liquid nitrogen vapor shippers. Samples are considered "Diagnostic Specimens" and shipping regulations apply, primarily triple packaging and identification of the contents as Diagnostic Specimens. Remember the bag and vials must be protected from the dry ice. (Don't use plastic coolers with dry ice because of the potential build up of pressure.) Discussed package labeling and packing list. Shipping communication was discussed including a web-based communication system. There are some field data the laboratory would like to receive (a web-based system will be discussed later today). Contact data was provided.

## **Questions/Comments:**

- Time between being in the field and placing samples into a cooler on ice and into a dry shipper? Should be by the end of the day.
- Case # ... contact NWHC ahead of time to discuss situation and they will assign a case number at that time.
- When will you need to know the number of nitrogen tanks needed by the field and how can that be arranged? Are they readily available in large numbers? There are a couple of suppliers and that information will be provided but the number they have on hand is unknown. NWHC will check on availability.
- There is a video on cloacal swab sampling available.
- Live capturing ... capture mortality ... do you still want cloacal swab or something else? Contact the NWHC to discuss the possibility of sending to the lab for necropsy, or perhaps additional samples taken in the field, but definitely a c-swab.
- Still need to discuss how we are going to get the sample media and the supplies to the various users.

- Cannot ship the liquid nitrogen vapor shippers with liquid in them, but can ship the unit with vapor phase... has found it easier to use than dry ice.
- Does the lab accept routine surveillance samples during the weekend? Make arrangements prior so they can assure there can be weekend acceptance.
- Weather can be a factor ... Preferred method is keep on ice until the dry shipper. Not always possible. If they do have to go into a standard freezer, this information needs to be known by NWHC.
- Loss samples and shipment ... there have been a few, but with the tracking numbers using courier services they have been able to be located (another reason to use a lot of dry ice).
- Turnaround time for the samples ... depends on what else the lab is testing and what the priorities are. The priorities will be assessed on an on-going basis. It is critical to keep them chilled from the field to the lab. Any exceptions are extremely important.
- Separate gloves for each sample? Not necessary.
- Safety precautions ... are field personnel expected to wear goggles? This will be addressed in a later talk. Gloves and protective eye wear recommended.
- Do not get the swabs wet? Prevent the swabs themselves in the package from getting wet ... keep in plastic bag and keep out of the rain.

**Communications and web-based information: communication strategies, fact sheets, wildlife health bulletins, safety guidelines, and other web-based resources. Session Leader: Paul G. Slota, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin**

**Information on AI** can be found on/in: [pandemicflu.gov](http://pandemicflu.gov) by the federal government (includes national emergency response plan, national pandemic influenza plan, links to CDC, USDA and Department of Interior-National Wildlife Health Center influenza documents and information).

**Communication strategies:** information products (such as Alaska's "What Hunters Should Know about Avian Influenza," and the USGS Avian Influenza Wildlife Health Bulletins, Fact Sheets, FAQs, FWS AI Tip sheet, etc.) are available at [www.nwch.usgs.gov](http://www.nwch.usgs.gov). Deciding on agency talking points, FAQs, and messages ahead of time develops a consistent message that can be very helpful when talking with the media, hunter groups or just responding to citizen inquiries. Some basic avian influenza points to remember when talking about the virus - Many people do not realize that the Highly Pathogenic designation refers to pathogenicity in poultry - not people; the virus is not yet in NA, the current H5N1 strain does not efficiently pass from person to person; if H5N1 mutates to be able to spread from person to person it will have become a human virus; for a pandemic to develop the virus needs to be easily transmitted from person to person. Influenza is a very dynamic virus that is continuously mutating into new strains with confusing names - branding can sometimes help you to distinguish the strain you are talking about. Rather than calling it the Asian strain of highly pathogenic

avian influenza H5N1... – the Asian H5N1 or Asian strain of H5N1 influenza would separate if from low path H5N1 strains that have been detected in NA. The USGS Bulletin on Bird Handling Guidelines is directed to biologists handling numbers of birds for banding or sampling (wash hands often, soap and water, as well as many common household detergents and disinfectants will kill the influenza virus, recommendations for handling healthy, sick/dead or known/suspected AI infected birds are available at [www.nwhc.usgs.gov](http://www.nwhc.usgs.gov) Wildlife Health Bulletin 05-03.

**Questions/Comments:**

- Health officials are encouraging those who might come in contact with the virus to get a flu shot. It won't keep you from getting H5N1 but it will prevent it from mixing with other viruses that could lead to spreading.
- Translation of materials for rural Alaskans is needed.
- USDA veterinary services ... aimed at mostly backyard poultry and larger poultry operations.
- Need a bit of quality control on web information ...
- USDA recommends we stay away from calling it the bird flu as 'flu' is synonymous with human flu. Seconded by others. However, we could come up with H5N1 that isn't the Asian strain, so referring it to Asian H5N1 would be good.

**Evaluate likely geographic areas in Alaska for detection of migratory bird mortality events and establish procedures for surveys. Session Leader: Russell M. Oates, U.S. Fish and Wildlife Service, Anchorage, Alaska**

**Prioritization of bird mortality events and recent events:** Although there are prioritizations occurring for the "apparently healthy bird" sampling and "subsistence and hunter harvested" sampling, bird mortality events should not be prioritized but rather should all be investigated. We need to define a mortality event. How many dead birds must be detected in one event before we activate a response? We need to understand the characteristics of previous die offs. Reviewed recent Highly Pathogenic AI mortality events (Japan/Korea 2004, Hong Kong 2004 & 2005, China May-July 2005, Russia/Kazakhstan July-August & Nov 2005, Mongolia August 2005, Romania October 2005, Croatia October 2005, Kuwait Nov 2005). Aerial survey may not be the best way to find bird die offs.

**Options: 1)** Use of "eyes and ears" already in place. Enlist the public and agency personnel already living, working or recreating in search areas. Inform these people of the issue and the need for assistance. It may be more effective to have a longer, on-the-ground presence and periodic spot checks of restricted access areas. We will need to rely on the eyes and ears of the people who live in the villages and towns across Alaska. We will need to have a response team ready to go on fairly short notice when we get word from a village that there has been a die off. If a bird die off happens in one's or two's it will be very difficult to detect. If we use the presence of people in the less accessible areas, we may have to stick to areas of concentration. **2)** We need to add "looking for die-offs" to existing agency field programs. Develop an inventory of existing field programs and utilize agency people who have a large presence in areas

around Alaska ... federal conservation units (Bureau of Land Management, U. S. Forest Service, U. S. Fish and Wildlife Service and National Park Service). **3)** Initiate a specific survey effort for die-offs. There will be cost and logistics considerations. We need to consider the effects of intensive field efforts on subsistence activities. Utilize intensive surveys of concentration areas during breeding, staging, migrating and wintering.

**Questions/Comments:**

- Those scattered around communities are best but we need to define what it is we want, i.e. every dead bird or a larger number? There is safety considerations that would need to come into play for all that would be engaged in the process. Strike force may not get there in time unless there is a large die off.
- Need to determine what constitutes a die off event that is recordable?
- Different areas in Alaska are developing local plans (local North Slope Borough) on how to deal with these issues.
- Park service is going through a parallel process. The daunting size of Alaska and remoteness is an issue. The key is to get people who are in the field reporting in. Trying to get a reporting system in place. Pre-positioning around the state sampling kits with what people would need to collect carcasses and training. Would be leery of asking folks to do this without the right equipment and training.
- Community based monitoring program.
- Likes the idea of utilizing the subsistence caught samples. Invites park service to the Migratory Bird management meeting next week.
- Colleen Handel has been working on the bird bill deformity problems in Alaska and on the West Nile Virus ... has received invaluable information from people around the state. You can gather much more information from people out watching birds than you can ever get from a mass of agency folks. Need an organization to pull the information in and getting the information out. (What types of birds, state of morbidity and procedures for dealing with those birds, etc.) Set up some telephone hotlines (many were regional) so people could call in suspicious die offs, people trained to ask questions about the die off to elicit more information to determine extent of follow up that might be required/desired. There were regional hubs/contacts available to go out and collect and ship samples. Involve village health professionals.
- Would not discount single bird observations ... doesn't mean folks have to pick up those animals or even sample/test, but the information could lead to seeing a larger situation that otherwise wouldn't have been seen on an individual basis.
- How well could the network do with aerial surveys and on the ground for detecting swans? It seems that several of the species were swans and there are already very few swans.
- West Nile Virus was very much focused on urban areas but we might see these die offs more in the rural areas. We have a lot more eyes and ears in the 81 villages. It is key to get the advisory councils educated on this ... these will be

the folks that will see what is going on ... particularly in the refuges since this is where most of the villages are located.

- Wildlife survey on West Coast run out of the University of Washington has a proposal to expand it to Alaska. Directed surveys would be a good idea and likely to provide information on a more regular basis.
- How long are these birds viable ... important to the strike force, the aerial surveys, etc. (to be addressed in the next presentation).
- Now is a good time to open a USFWS office on the North Slope. There is no local representation for concerns to be addressed to.
- Emphasize to the people in the villages the reasons for this. They will be concerned with more restrictions or assumptions being made that might further restrict their ability to harvest food.
- Changing the way we are looking at diseases (no longer separating between human, wildlife, livestock). Disease is changing and now, after SARS, West Nile, etc. we have the opportunity to change how we look at these, communicate and work together.
- Interagency response teams ... go to the field manual of wildlife diseases there is a contingency plan listed there that can help develop a plan rather than starting from scratch.
- Tawain conference on AI that was held in November the view of mortality events came up for discussion. There was a poultry die off associated with the Quinhai Lake, China die off. Every wild bird case of high pathogen die off has been associated with a poultry outbreak ... as an open question of outbreaks, the association should be part of the process.

**Procedures for morbidity/mortality investigations: onsite field investigation, collection and preservation of carcasses, and documentation of field data.**

**Session Leader: Scott D. Wright, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin**

**Investigation of Morbidity and Mortality Events in Wild Birds** will be a national event, not only in Alaska. It is not just an AI investigation but to determine why birds are dying. There is a certain rate of mortality in a given population at all times ... there will always be a certain number of dead birds. What we want to know is when we see an event that is above the norm. What are the criteria that we are best prepared to say 'something may be going on?'

**What is a Morbidity and Mortality Event** ... can be from infectious and non-infectious factors and usually involves many individuals of a species in the same geographic area over a short time period.

**Disease Investigation:** Identify significant population change, undocumented species or locations, species of special concern or unique disease presentations, high profile cases (legal, political, etc.). Provide information including description, photographs, list of affected species and numbers and identify circumstances that may have occurred in the area that could have contributed to the situation. Collection of carcasses helps.

---

Fresh is best, frozen is okay and a mix of carcasses is good. Need a good quality carcass in order to determine the bird actually died of N5H1, not just had it.

**Questions/Comments:**

- How can we get virus from soil and water samples but we have more difficulty getting it from the carcass? When the carcass decomposes it has a greater affect on the quality of the test.
- We need criteria for determining when it may be too late to send in a hunter-harvested sample. As long as the bird has been kept cold or chilled, it is still something they want to receive.
- If there is the ability to take the swab at the time of the initial finding of the die off, complete that in addition to sending the carcass.
- Timing for on site training, locations and whether there has been some consideration of techniques such as CDs to refuge stations around the state? There are a number of prepared presentations; they find face-to-face contact is better and would prefer to have workshops but recognize the limitations of time and travel.
- Sample size if run into a big die off? How many samples make sense? There isn't a magic number; it depends on the circumstances.
- Quasi-remote site ... would stuff be sent directly or through the regional office? Local/regional decision.

**Determine primary geographic areas in Alaska for sampling subsistence and sport harvested migratory birds. Session Leaders: Thomas C. Rothe, Alaska Department of Fish and Game, Anchorage, Alaska; Russell M. Oates, U.S. Fish and Wildlife Service, Anchorage, Alaska**

**Which species? Where? When?** Discussed the species, locations and timing of potential samples. There are some closed species that obviously need to be sampled in another way. There are some, such as Tundra Swans, are by permit hunt only. Provided and discussed a map of regional boundaries and then results from the most recent subsistence survey to show relative harvest by region.

Some considerations of fall and winter harvests: pintails are about 18% of the fall duck harvest. Total duck harvest is 76,000 approximately. Anchorage and vicinity is the primary documented duck harvest area.

Discussed briefly Downstream Surveillance in the Pacific and Central flyways and Atlantic and Mississippi flyways, and secondary species.

Some issues:

- Limited capacity to contact hunters ... hunters are scattered; there aren't always hunter check stations.
- There is the issue of the harvest being a mixture of fresh, dressed and aged.
- Value of collecting environmental samples where hunters are taking birds

### **Questions/Comments:**

- Wouldn't rule out the secondary species because of the opportunity it presents. If you are going to do a check station and mallards are coming through, go ahead and collect the samples and talk to the labs and prioritize the samples, but take the opportunity to get them while you have it.
- Numbers are based on surveys that take place after the fact. This may be a good opportunity in places where the harvest takes place to get actual numbers rather than using a survey that comes after the fact. One issue may be that the hunter may not be finished with his harvest at the time of the survey and there could be the potential for missing some information.
- If we are taking the time to utilize subsistence hunters, we might be able to benefit from taking additional samples for other purposes such as stable isotope samples and feather samples.
- Reporting questions ... hunters will want to know the results. When it comes to human health warnings, it will go through Public Health. How will the results be reported? Will need to think about the guidelines for this, especially reporting positives. Developing a similar web based system as CDW using a unique identifier. Registering a particular bird to a hunter --- thought that it might be a barrier to getting samples. Goes back to the trust issue between hunters and the government.
- Request for additional feedback on where hunters might be sampled – any ideas should be submitted to Russ Oates or Tom Rothe.

### **Discussion about the desirability of a standing committee or working group in Alaska to advance planning, coordinate efforts, and communicate progress.**

**Session Leader: Thomas C. Rothe, Alaska Department of Fish and Game, Anchorage, Alaska**

Discussed the concept of an Alaskan High Path Avian Influenza Information Working Group. The proposed purpose is to create an interagency communication network among wildlife agencies, public health agencies, research programs, land management agencies and other affected interests to share information about the broad spectrum of HPAI-related activities in Alaska and promote collaboration on the development of public information. It is a forum for information exchange, not a decision making or control group.

This group may be a good forum for developing the "dead bird reporting network." It may also be a good place to discuss proposed new projects to collaborate and share information necessary to make a good case for funding, planning media contacts and press releases and information requests from public offices.

With the West Nile virus the committee became unmanageable by growing to large. One suggestion is that the key contact approach be used and that participants be tasked to go back and share and communicate the information. There could be broader list serves for discussion purposes or information so that broadcasts can be sent.



### Questions/Comments:

- Not sure one contact, especially for larger agencies, would be sufficient. Primary contact for each responsible agency rather than limiting it strictly to one.
- The key point is that consistent messages are sent. People get frustrated easily when they hear different things from different agencies.
- Let's not forget we're working with a migratory bird population. Invite some East Asia flyway participation in this working group or establish a separate or sub workgroup. It could include exchange of banding information.
- Having NGOs (non-government organizations) can help with credibility.
- General consensus that the idea is worth developing. Information sharing group (initiated by Thomas Rothe and Louisa Castrodale ... one or two persons per agency to keep it manageable).
- Coordination should occur between West Nile and AI.
- Bob Leedy sees:
  - Communication Group: statewide and includes people not currently in the room, i.e. public health
  - Early Detection Operations Group:

There does need to be a link between the two.

### **Interagency avian influenza data management: proposed system within the National Biological Information Infrastructure (NBII) Wildlife Disease Information Node. Session Leader: F. Joshua Dein, U.S. Geological Survey, National Wildlife Health Center, Madison, Wisconsin**

An information node is a point source for information. Something we are trying to do for wildlife disease in general is to create a portal for "one-stop shopping" for information wildlife disease. NBII is "A broad collaborative program to provide increase access to data and information on the nation's biological resources."

Wildlife Disease Information Node components include integrated information resources (comprehensive web portal, current awareness, visual libraries) and monitoring and data management system (disease reporting and disease mapping).

The data system is a database for use by all agencies. For multi-agency efforts, good communication is key. It provides information for managers and the public, it is cost effective and efficient and there is a central location for a larger data set for analysis. The potential users may include federal, state, tribal, academic, non-governmental, international, public. NBII's goal is to try to direct people to the information rather than "holding" the information itself.

A common platform for sharing wildlife disease data began with CWD Data Clearinghouse. Many agencies don't have the resources to data management. Components under development in addition the Avian Influenza piece:

- APHIS/WS Plague and Tularemia surveillance
- NPS wildlife disease reporting (POBS)
- Wisconsin DNR Wildlife Health Monitoring
- Seabird Ecological Assessment Network (SeaNET)

Data security includes ID and login. There are additional security checkpoints that restrict access depending on what the data owners want released. There are access roles determined by agency. Different levels within an agency can have access, i.e. agency, collaborator, public level.

There do need to be data standards. A vocabulary, database fields and elements and data exchange. The system will be compliant with the NAHLN standards. There is a set of 20 core data fields and elements and the capability of holding additional data. A review of the on-line system and the components for log in, data entry, browsing, searching, reports, maps and sending feedback options.

Website: [wildlifedisease.nbii.gov/ai](http://wildlifedisease.nbii.gov/ai)

**Questions/Comments:**

- Whoever owns the data can give the permission to whomever they want to enter or retrieve data.
- DOI and USDA have committed to use the system
- Agency quality control systems should be put into place
- USDA (Tom DeLiberto) is hoping to hire data entry staff that will also verify
- There will be automatic edit checks within the system
- There is a log system and error message system within it
- It is live now ... in demo mode
- Positive results of H5N1 will not be made available on the website until the reporting protocol for informing the Secretary of the Interior is completed and the Communication Plan kicks in at that time.
- They envision having a Memorandum Of Understanding for each participating agency
- There will most likely be an automated upload function for the Excel spreadsheet.
- Are the core data fields items the general public should have access to?
- Functions or responsibilities have been identified for each of the partner agencies, would it be appropriate to have a team of people (data gurus) to give advice to the other groups (i.e. communication and operation). These folks would be the "data advisors" that represent all the partners that have been involved to date to help move this forward. Data managers will need to be identified for each agency or institution.

- 
- USDA (Tom DeLiberto) would rather see a more general type of information be displayed for the general public.
  - Run two systems in parallel, one as a demo mode and one "live" version with restricted access. Motion to keep current version until 02/01/06 at which time it is restricted access.
  - If you want customization "look like your agency's system" ... it is possible.
  - Minimum amount of data sharing to be a "user" of the system.

# SUMMARY AND NEXT STEPS

**Workshop Summary. Session Leader: Robert R. Leedy, U.S. Fish and Wildlife Service, Anchorage, Alaska**

Next Steps:

- **Alaska Steering Committee** (USGS, FWS, ADF&G, NPS, USDA/APHIS). Participants from here on the National committee? This group could pull 'consultants' from the National Wildlife Health Center and other places to assist in certain areas.
  - a. Regular meetings of the committee
  - b. Periodic meetings with sub groups
- **Sub-Groups** - for waterfowl, shorebird, land bird and seabird sampling **OR** by live bird capture, subsistence/hunter killed sampling **OR** species-specific plans; morbidity/mortality group; data management; Alaska Migratory Bird Co-Management Council hunter killed birds; communication group. (HIGHEST PROBABILITY OF DIRECT CONTACT was the suggestion by Hon Ip ... might be best to keep this in mind.)

TASK	RESPONSIBLE PARTY	DUE DATE
Provide contact name and contact information (phone, fax, email) to Thomas Rothe, ADF&G, tom_rothe@fishgame.state.ak.us	Agencies desiring to participate in the Communications Work Group	01/27/06
Continue current version of NBII Wildlife Disease Information Node through 02/01/06; then go live	Josh Dein, Joshua_dein@usgs.gov	02/01/06
1 <sup>st</sup> Alaska AI Steering Committee meeting. (National presence – someone from Madison would like to be on that committee – Chris Brand; Washington presence --- Gary Frazer, USFWS Washington requests just a line of communication, not necessarily to have direct involvement)	Dirk Derksen, Tom Rothe, Bob Leedy, Bob Winfree, Corey Rossi, Deborah Rocque	01/25/06

# WORKSHOP ATTENDEES

## HIGHLY PATHOGENIC AVIAN INFLUENZA WORKSHOP INVITED PARTICIPANTS

January 18-19, 2006

### Alaska Department of Environmental Conservation

Gerlach, Bob                      Office of State Veterinarian                      bob\_gerlach@dec.state.ak.us

### Alaska Department of Health and Social Services

Castrodale, Louisa              Epidemiologist                      louisa\_castrodale@health.state.ak.us

### Alaska Department of Fish and Game

Beckmen, Kimberlee              Veterinarian                      kimberlee\_beckmen@fishgame.state.ak.us  
Petrula, Mike                      Waterfowl Biologist                      mike\_petrula@fishgame.state.ak.us  
Robus, Matt                      Director, Division of Wildlife                      matt\_robust@fishgame.state.ak.us  
Rothe, Thomas C.                      Waterfowl Coordinator                      tom\_rothe@fishgame.state.ak.us

### Alaska Native Tribal Health Consortium

Berner, James                      Director, Community Health                      jberner@anmc.org  
Bradley, Michael                      Emergency Preparedness Coord.                      mjbradley@anmc.org

### Alaska SeaLife Center

Hollmén, Tuula                      Eider Program Manager                      tuula\_hollmen@alaskasealife.org

### Alaska Migratory Bird Co-Management Council

Hepa, Taqulik                      Regional Representative, AMBCC                      taqulik.hepa@north-slope.org

### Association of Village Council Presidents

Naneng, Myron                      President                      mnaneng@avcp.org

### International Association of Fish and Wildlife Agencies

Morrison, Bruce                      Nebraska Game and Parks Comm.                      Morrison@ngpc.state.ne.us

### U.S. Department of Agriculture

Clark, Larry                      APHIS WS NWRC                      larry.clark@aphis.usda.gov  
DeLiberto, Thomas                      National Wildlife Disease Coord.                      Thomas.J.DeLiberto@aphis.usda.gov  
DuVernoy, Tracy                      APHIS VS                      Tracy.S.Duvernoy@aphis.usda.gov

Farnsworth, Matt	APHIS WS	matt.farnsworth@aphis.usda.gov
Gomez, Thomas	Centers for Disease Control	tmgl@cdc.gov
Rossi, Corey	APHIS WS	corey.l.rossi@aphis.usda.gov
Sinnett, David	APHIS WS	david.r.sinnett@aphis.usda.gov
Swafford, Seth	APHIS WS	seth.swafford@aphis.usda.gov
Weaver, J. Todd	APHIS VS CEAH	todd.weaver@aphis.usda.gov
Woodruff, Roger	APHIS WS	roger.a.woodruff@aphis.usda.gov

### **U.S. Fish and Wildlife Service (Region 7)**

Alcorn, Doug	Assistant Regional Director	doug_alcorn@fws.gov
Armstrong, Fred	Executive Director, AMBCC	fred_armstrong@fws.gov
Byrd, Vernon	Refuge Biologist	vern_byrd@fws.gov
Boylan, Mike	Refuge Supervisor	mike_boylan@fws.gov
Corin, Lenny	Supervisor, Fisheries/ES	lenny_corin@fws.gov
Edwards, Gary	Deputy Director, Region 7	gary_edwards@fws.gov
Irons, David	Wildlife Biologist	david_irons@fws.gov
Jerry, Danielle	Division Chief, Natural Resources	danielle_jerry@fws.gov
Laing, Karen	Eider Coordinator	karen_laing@fws.gov
Lañctot, Rick	Wildlife Biologist	rick_lañctot@fws.gov
Leedy, Robert	Chief, Migratory Bird Management	robert_leedy@fws.gov
Liedberg, Paul	Manager, Togiak NWR	paul_liedberg@fws.gov
Matsuoka, Steve	Wildlife Biologist	steve_matsuoka@fws.gov
McCaffery, Brian	Wildlife Biologist	brian_mccaffery@fws.gov
Oates, Russell	Supervisor, Waterfowl Branch	russ_oates@fws.gov
Rearden, Mike	Manager, Yukon Delta NWR	mike_rearden@fws.gov
Rocque, Deborah	Coordinator, Avian Influenza	deborah_rocque@fws.gov
Siekaniec, Greg	Manager, Maritime NWR	greg_siekaniec@fws.gov
Siekaniec, Sandra	Manager, Izembek NWR	sandra_siekaniec@fws.gov
Staller, Doug	Manager Yukon Delta NWR	doug_staller@fws.gov
Stroebele, Jerry	Refuge Supervisor	jerry_stroebele@fws.gov
Wohl, Kent	Supervisor, Nongame Branch	kent_wohl@fws.gov
Woods, Bruce	Public Affairs Specialist	bruce_woods@fws.gov

### **U.S. Fish and Wildlife Service (Region 9)**

Frazer, Gary	USFWS Liaison to USGS	gary_frazer@fws.gov
Higgins, Mike	USFWS	mike_j_higgins@fws.gov
Padding, Paul	Chief, Harvest Surveys	paul_padding@fws.gov

### **U.S. Geological Survey (Alaska Science Center)**

DeGange, Tony	Office Chief	tony_degange@usgs.gov
Derksen, Dirk	Branch Chief, Migratory Birds	dirk_derksen@usgs.gov
Ely, Craig	Wildlife Research Biologist	craig_ely@usgs.gov
Flint, Paul	Wildlife Research Biologist	paul_flint@usgs.gov
Fondell, Tom	Wildlife Research Biologist	tom_fondell@usgs.gov
Gill, Robert E.	Wildlife Research Biologist	robert_gill@usgs.gov
Gust, Judy	Geneticist	judy_gust@usgs.gov
Handel, Colleen	Wildlife Research Biologist	colleen_handel@usgs.gov
Hupp, Jerry	Wildlife Research Biologist	jerry_hupp@usgs.gov
Pearce, John	Wildlife Research Biologist	john_pearce@usgs.gov
Petersen, Margaret	Wildlife Research Biologist	margaret_petersen@usgs.gov

Reed, John	Wildlife Research Biologist	john_reed@usgs.gov
Ruthrauff, Dan	Wildlife Research Biologist	dan_ruthrauff@usgs.gov
Schamber, Jason	Wildlife Research Biologist	jason_schamber@usgs.gov
Schmutz, Joel	Wildlife Research Biologist	joel_schmutz@usgs.gov
Talbot, Sandy	Geneticist	sandy_talbot@usgs.gov

**U.S. Geological Survey (National Wildlife Health Center)**

Bunck, Christine	Deputy Center Director	chris_bunck@usgs.gov
Dein, F. Joshua	Veterinary Medical Officer	joshua_dein@usgs.gov
Dusek, Robert J.	Wildlife Biologist	rdusek@usgs.gov
Franson, Christian	Research Wildlife Biologist	chris_franson@usgs.gov
Ip, Hon S.	Diagnostic Virologist	hip@usgs.gov
Slota, Paul G.	Branch Chief, Support Services	paul_slota@usgs.gov
Sohn, Rex	Wildlife Disease Specialist	rsohn@usgs.gov
Wright, Scott D.	Branch Chief, Disease Investigations	swright@usgs.gov

**U.S Geological Survey (Headquarters, Reston & Western Region)**

Kearney, Rick	Program Coordinator	rkearney@usgs.gov
Schwarzbach, Steve	Center Director, WERC	steven_schwarzbach@usgs.gov
Takekawa, John	Wildlife Research Biologist	john_takekawa@usgs.gov

**U.S. National Park Service**

Graham, Mark	Wildlife Biologist	mark_graham@nps.gov
Thompson, William	Biologist	bill_thompson@nps.gov
Wild, Margaret	Wildlife Veterinarian	margaret_wild@nps.gov
Winfree, Robert	Science Advisor	robert_winfree@nps.gov

**University of Alaska—Anchorage**

Causey, Doug	Vice Provost for Research	dcausey@uaa.alaska.edu
--------------	---------------------------	------------------------

**University of Alaska—Fairbanks**

Happ, George M.	Professor	ffgmh@uaf.edu
Huettmann, Falk	Professor	fffh@uaf.edu
Runstadler, Jon	Professor	j.runstadler@uaf.edu
Sharpton, Virgil (Buck)	Chancellor’s Director for Research	buck.sharpton@alaska.edu
Winker, Kevin	Professor	ffksw@uaf.edu

**Alaska Training & Consulting**

Lisa O’Brien	Facilitator	atc@ak.net
--------------	-------------	------------

**Professional Administrative Services, Inc.**

Anneliese Tschannen	Meeting Summary & Report Preparation	exec@pas-ak.com
---------------------	---	-----------------

---

REPORT PREPARED BY:

**PROFESSIONAL ADMINISTRATIVE SERVICES, INC.**

2161 LAKE GEORGE DRIVE  
ANCHORAGE, ALASKA 99504-3514  
907-727-3931  
WWW.PAS-AK.COM