



WILDLIFE RESOURCE POLICY COMMITTEE

Chair: Pete Hildreth (Iowa Department of Natural Resources)
Vice-Chair: vacant

Tuesday, March 21st, 2023*
10:00 AM- 12:00 PM (CDT)
Majestic A – Conference Center Upper Level

North American Wildlife and Natural Resources Conference

Committee Charge

To discuss and develop recommendations on Association positions related to federal laws, regulations and policies concerning habitat conservation, wildlife resources and related funding for such programs as well as wildlife management practices including those concerned with problem or nuisance wildlife, and emerging issues (e.g., commercial trade). The committee also stays abreast of threatened and endangered species wildlife issues, state legislation pertaining to wildlife management and wildlife diversity funding initiatives.

Minutes of the Meeting

Agenda

- | | |
|-----------------|---|
| 10:00 AM | Welcome and Introductions (Pete Hildreth, IA DNR) |
| 10:10 AM | Review Agenda & Approval of Minutes from the previous meeting (Pete Hildreth) |
| 10:15 AM | USDA-APHIS Wildlife Services Report- (Jessica Fantinato, APHIS-WS) |
| 10:45 AM | Human/Wildlife Conflicts Working Group Report (Brian Wakeling, MT FWP) |
| 11:00 AM | One-Health: Brief overview and Q&A session (Tom DeLiberto, APHIS-WS) |
| 11:15 AM | Recovering America's Wildlife Act (AFWA staff, TBD) |
| 11:30 AM | America the Beautiful Challenge update (Deb Rocque, USFWS) |
| 11:45 AM | Other Policy Issues of Concern (AFWA Staff, TBD) |
| 12:00 PM | Adjourn |

*This meeting will be in person only. No virtual option is available.

- **Welcome and Introductions (Pete Hildreth, IA DNR)**

- Chairman Hildreth opened the meeting and participants introduced themselves
- 21 individuals participated in the meeting from numerous state and federal agencies and NGO organizations

- **Review Agenda & Approval of Minutes from the previous meeting (Pete Hildreth)**

- The Minutes of the previous meeting were approved by a motion from the Chair

- **USDA-APHIS Wildlife Services Report- (Jessica Fantinato, APHIS-WS)**

- National Wildlife Services Advisory Committee (NWSAC)

- The Secretary of Agriculture recently approved (on 1/24/23) the reestablishment of the NWSAC. The NWSAC, first established in 1986, is a 20-member Federal Advisory Committee Act (FACA) Committee that advises the Secretary on policies and program issues necessary to manage damage caused by depredating wildlife to protect America's agricultural, industrial, and natural resources and to safeguard public health and safety regarding the WS program. The NWSAC remains in place for two years from the date of inception.
- Recently appointed NWSAC members represent various sectors, including but not limited to farming and ranching, wildlife management, animal welfare, academia and other research institutions, tribal entities, state/county/local governments, and natural resources associations/organizations.
- WS announced the appointed membership via a stakeholder announcement on March 22.
- WS is hoping to hold the first NWSAC meeting in the fall of 2023 in the DC/Riverdale area.

- National Feral Swine Program (NFSP) Updates:

- The NFSP works with all 50 states and three territories to control existing and emerging populations of feral swine that threaten agriculture, other property, native ecosystems, and human and animal health. Agriculture continues to comprise the majority (49%) of resources protected, followed by property (28%)
- The funding the NFSP receives supports local collaboration with states, tribes, other federal agencies, and other organizations. WS eliminated feral swine in seven states (CO, ID, MD, MN, ME, NJ, and NY) and is monitoring to confirm elimination in four additional states (IA, VT, WA, and WI).
 - In states where feral swine elimination has occurred, NFSP continues to provide support, as needed to maintain outreach, and eliminate new incursions.
- NFSP also conducts targeted surveillance for diseases of highest concern.

- Farm Bill Updates

- The 2018 Farm Bill provided funding for WS and the Natural Resources Conservation Service (NRCS) to create the Feral Swine Eradication and Control Pilot Program (FSCP), which augmented the NFSP.
 - The FSCP funding was \$75 million - equally split between WS and NRCS - over five years.
 - Using this funding, WS implements feral swine management activities in 34 pilot projects in 12 states (AL, AR, FL, GA, LA, MS, NC, SC, HI, MO, OK, and TX).
 - Under the Farm Bill funding, WS provides direct control of feral swine, training and outreach, media responses, disease monitoring, research to develop new management tools, and evaluates effectiveness of operational activities.

Livestock Protection

- General Livestock Protection Activities

- In FY22, WS provided livestock protection services to ranchers in 50 states and 3 territories to reduce impact of predators on their animals, protecting 9.5 million head of cattle, 5.1 million head of sheep, and 55 million head of other livestock in 340,000 direct control actions. In FY22, WS provided more than

20,800 technical assistance activities that enabled 6,180 livestock producers to implement improved husbandry and methods such as use of guard animals, exclusion, fencing, and predator dispersal.

- During FY2022, WS employees delivered 19 predator damage management workshops attended by more than 3,000 individuals from 14 states.
- In FY2022, WS provided technical and direct assistance to over 1,600 entities in 25 states to protect agriculture and other resources from black vulture damage.
- Through a 5-year agreement with FWS (negotiated in FY2021) WS continues to enhance the operational grizzly bear program in Montana to conserve bears and protect livestock.

Wolf Update

- USDA Wolf Leadership Group
 - USDA convened an internal leadership group in July 2022 to coordinate among the agencies that intersect with wolf conservation. Agencies include APHIS WS, NRCS, FSA, and Forest Service. Currently the group is holding quarterly meetings (already occurred in Oct 2022 and February 2023—planning the Q3 meeting in May 2023).
- WS Operational Work
 - WS conducts integrated wolf damage management in 10 states for wolves:
 - Gray wolves – CA*, CO*, ID, MI*, MN, MT, OR*, WI*, WY
 - Mexican gray wolves – AZ*, NM*

*denotes exclusively, or almost exclusively, nonlethal activities because these wolves (or most of the wolves in these states) are protected under the ESA

 - Each of these states has received WS Nonlethal Initiative funding for all four years of the initiative so far (FY20, FY21, FY22, FY23)
 - Many WS state programs work cooperatively with state agencies, tribes, or FWS, at the partner agency's request, to help capture and collar wolves for population monitoring.

Nonlethal Initiative

- Congress allocated \$4.5M in FY23 for nonlethal beaver damage management (beavers were added for the first time in FY22, currently in second year of funding) and nonlethal livestock protection from large carnivore depredation.
- In FY23, WS programs in 12 states and three units at NWRC are receiving funding.
 - Livestock protection activities include range riding, electric and permanent fencing, fladry installation and maintenance, harassing predators, and other methods which nonlethally reduce depredation from wolves, grizzly and black bears, mountain lions, and other predators.
 - Nonlethal beaver damage management activities are primarily focused on excluding beaver from valued resources, installing water-leveling devices, and relocating beaver to more desirable areas.

Risk Assessments

- USDA APHIS WS has been preparing risk assessments (RAs) on many of the methods it uses, which analyze the impacts of these WDM methods on people and the environment.
- AFWA selects peer reviewers to review. All assessments (including drafts) are available to the public on the APHIS-WS-NEPA webpage.
- WS has completed 19 RAs.
 - Five RAs are currently in the external peer review process.
 - Five more RAs are in progress and should be available for review by October 2023.
 - An additional six RAs have been identified, but not yet initiated.

Please see the attached report in the **Appendix** for more information on the following topics covered in the USDA-APHIS_WS report:

- HPAI
- American Rescue Plan

- CWD
- National Rabies Management Program Update

- **Human/Wildlife Conflicts Working Group Report (Brian Wakeling, MT FWP)**
 - Update on a national survey on how agencies manage and fund wildlife conflict – funded through a multi-state grant and work will soon commence with Southwick and Associates and Berryman Institute. Meetings ongoing with Lou Cornicelli, Terry Messmer, Bryant White, and myself.
 - *Request approval of manuscript for submission to Human Wildlife Interactions Monograph series. This is the third product from HWCWG to be considered. The prior 2 are available on Digital Commons and have been downloaded a combined total of 1,787 times around the world (bears and deer). Approval request from Wildlife Resource Policy Committee as well. These manuscripts are not prescriptive in nature and are intended to serve as a resource for managers to determine the strengths and challenges of approaches that may be tailored for use in their jurisdiction.
 - Updates from:
 - USDA_APHIS Wildlife Services
 - Berryman Institute
 - Wildlife Management Institute
 - USFS National Climate Adaptation Science Center
 - HWCWG involvement in invited presentations at the Pathways Conference to be held in Fort Collins, CO, during May 31–June 3, 2023.
 - HWCWG involvement in reviews of Human Health and Ecological Risk Assessments for wildlife damage management methods.
 - **Potential for development of a document that characterizes another species that generates conflict among humans – perhaps beaver.
 - Recent literature.
 - The HWCWG continues to enjoy good attendance and positive feedback. The WAFWA Human Wildlife Conflict Committee is engaged with HWCWG to ensure continuity of information with the regional association's committee. We have good representation across all regional associations in attendance at each meeting. We anticipate a good meeting this week.
 - ***Note: Approval was granted to submit the urban coyote conflict document for publication**
 - ****Note: during the meeting of the HWC WG; it was decided that the Group will begin developing a monograph on conflicts with Beaver.**

- **One-Health: Brief overview and Q&A session (Tom DeLiberto, APHIS-WS)**
 - This presentation was postponed until the next meeting
 - For the latest on [AFWA and the One Health Approach](#) see this link

- **Recovering America's Wildlife Act (AFWA staff, TBD)**
 - Sean Saville, AFWA Campaign Manager, Alliance for America's Fish & Wildlife, provided an update on RAWA

- We're still hearing optimistic reports from the Heinrich and Tillis teams that an introduction in the Senate is coming as soon as possible. In order to hit the target window of opportunity this month we'll need to ramp up our outreach to the previous R cosponsors' offices and get them to weigh in with support to Senator Tillis. The more the Tillis team hears from those offices, partners and high-level contacts that this is important, and they want an introduction asap, the better chance we have at getting this in soon, which could also mean charting an expedited path to the Senate floor for a vote.
- House leaders, including Chairman Westermann, have been briefed on the Senate introduction strategy and the discussion draft of the legislation is making its way around to offices on the House side as well for review. The House side negotiations are somewhat independent of the Senate process at this point, but there is some bicameral coordination happening.
- Please prioritize getting in some high-level touches to the [top original cosponsor target offices](#) and let Sean Saville (ssaville@fishwildlife.org) or Kurt Thiede (kthiede@fishwildlife.org) know if you're hearing anything back in terms of commitments or outstanding concerns, questions. The AFWA Government Affairs staff can help come up with good responses to questions and address concerns and talking points are available upon request.
- And again, if staff from any offices have further questions, or plan to offer their support for the bill, you can refer staff from those target Senate offices to Harrison Walker in Senator Tillis's office: harrison_walker@tillis.senate.gov; 202-224-6342, or Maya Hermann maya_hermann@heinrich.senate.gov; 202-224-5521 in Senator Heinrich's office.
- **America the Beautiful Challenge update (Deb Rocque, USFWS)**
 - A report was provided on the Landscape Conservation Task Force and Regional Efforts (see **Appendix** for the report)
 - Preproposals for grants through the Challenge must be submitted by April 20, 2023, with final proposals due by July 20.
 - Grants are capped at \$5 million per grantee.
 - Changes have been made to potential recipients because previously the regional Associations could not be awarded grants.
 - For deadlines, application processes and other details about grants through the [American Beautiful Challenge](#) click the link.
- **Other Policy Issues of Concern (AFWA Staff, TBD)**
 - See **Appendix** for the Government Affairs Report
- **Appendix**
 - **USDA-APHIS-WS Report**
 - **Landscape Conservation Task Force and Regional Efforts Report**
 - **AFWA Government Affairs Report**

USDA/APHIS Wildlife Services

Update for the 88th North American Wildlife and Natural Resources Conference
March 2023**SARS-CoV-2 SURVEILLANCE: American Rescue Plan (ARP) -APHIS**

APHIS is the lead USDA agency assigned to significantly increase and enhance the animal health community's capability to prevent, detect, investigate, and respond to emerging and zoonotic diseases, including SARS CoV-2, in susceptible animal species. The multi-year effort (\$300M) will focus on expanding SARS-CoV-2 surveillance to a wide range of animal species, increasing diagnostic testing capability and capacity, and investigating new animal detections and exposures and to build an early warning system that will help protect both people and animals from future disease threats. After public and stakeholder input, APHIS finalized APHIS' [American Rescue Plan Surveillance Program: Strategic Framework](#) in February 2022. APHIS launched a new [One Health website](#) to provide valuable data on testing, surveillance, and guidance, based on the outcomes of APHIS' ARP work.

WS SARS-CoV-2 in Cervids

WS works in a One Health capacity to integrate expertise from specialists in human health, agricultural animal health, wildlife, and environmental studies. In 2021, APHIS WS monitoring found that approximately 40% of white-tailed deer (WTD) serum samples collected in 4 states (MI, IL, PA, NY) contained SARS-CoV-2 antibodies. Building upon this and findings that WTD can be infected with SARS-CoV-2 and transmit the virus to other deer, APHIS WS and its partners are conducting a phased, multi-year approach to understand the impacts of SARS-CoV-2 in WTD to animal and human health. The goals of the project are to determine how widespread the virus is in U.S. WTD populations and if WTD can serve as a reservoir for the virus, potentially leading to new virus variants that may impact the health of WTD, other animals, and people; and to better understand the scale and scope of SARS-CoV-2 exposure and current dynamics in regional and local WTD populations. Later phases will focus on more targeted sampling based on information and findings from Year 1.

Year 1 WTD (Nov. 2021 through Sep. 2022; actual cost \$1.6M, some as cooperative agreements to States)

WS partnered with 28 states and the District of Columbia to opportunistically collect samples from hunter harvested WTD. WS supplemented opportunistic sampling with operational and state agency harvest activities. Samples collected included blood on Nobuto filter paper strips for antibody testing and nasal or oral swabs for PCR and genetic sequencing. Of 10,790 blood samples from 28 States and D.C., an apparent seroprevalence of 31.5% was found with positives in 27 States and D.C. PCR testing of 11,395 swabs collected from 27 States and the D.C. showed an apparent prevalence of 12.3% with positives in 25 States and D.C.

Year 2 WTD (Oct. 2022 through Sep. 2023, est. cost \$7.4M, some as cooperative agreements to States)

WS partnerships increased to 35 states and territories and 5 Tribal Wildlife Agencies. As of 3/14/2023, 15,785 swab samples and 15,636 blood samples have been collected from 32 States and territories and 5 Tribal Wildlife Agencies. Approximately 30% of swabs and 5% of blood samples have been tested so far, with positives in ten states and eight states, respectively.

Expansion of ARP SARS-CoV-2 Surveillance to Mule Deer and Other Cervids (MDO) (Oct. 2022 through Sep. 2023, est. cost \$4.9M, some as cooperative agreements to states)

WS has partnered with 20 states and territories for this project. Two of the five Tribal Wildlife Agencies participating in WTD surveillance are also participating in the MDO project. As of 3/14/23, 1,648 swab samples and 1,426 blood samples have been collected from 20 States and territories and 1 Tribal Wildlife Agency. Approximately 43% of swab samples have been tested to date, with positives from mule deer in two states. No positive detections have been found in blood samples, although less than 5% of samples collected have been tested to date.

ARP Cooperative Agreements

WS provides State Wildlife Agencies funds to collect WTD or MDO samples. There are currently cooperative agreements for WTD in ten states (CO, KS, MA, MN, MO, MS, TN, VT, WI, WV), with a pending agreement in WA. Four states (CO, KS, NV, UT) have MDO cooperative agreements, with agreements pending in AK and WA. Tribal participation includes 3 WTD and 2 WTD and MDO participants. WS, in partnership with VS and CDC, also has an agreement with the University of Missouri for evolutionary analyses—an in-depth genomic analyses of sequences in deer and humans to help understand the movement of virus between them.

States Participating in Surveillance of SARS-CoV-2 in Cervids during FY23

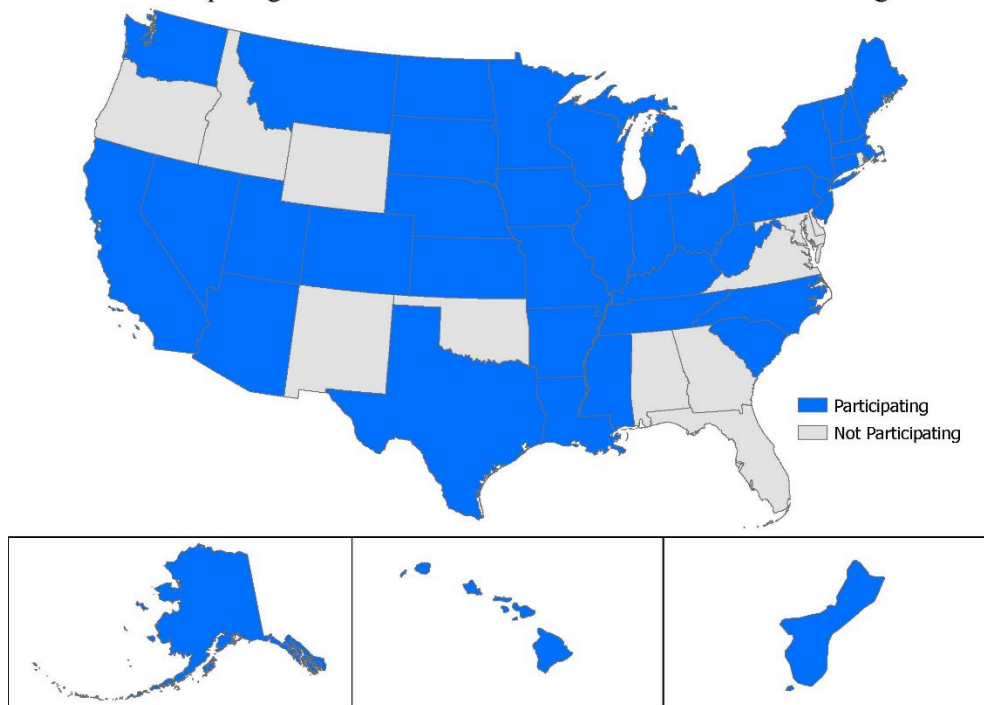


Figure 1. States and territories participating in surveillance of SARS-CoV-2 in cervids during FY23

Other ARP Projects and Activities

Receptor Affinity - This project aims to characterize host receptor and protease interactions with ligands and cofactors to identify susceptible species and which species should be prioritized for future monitoring and surveillance efforts.

Experimental Infections - The goals of this activity are to identify priority wildlife species that are susceptible to the virus, understand if wildlife species that do replicate the virus have the capacity to shed virus in quantities sufficient to infect other animals, to assess wildlife susceptibility to new variants, and to evaluate potential emergence of novel virus variants.

Wildlife Human Interactions – To better understand potential interactions between humans and deer, this project will leverage extant passive sampling data (camera traps), animal movement data, and human mobility data to quantify the rates of co-occurrence between deer and humans at specific locations across multiple US cities.

Wild Carnivores – Determine how widespread the virus is in carnivore populations in the United States and if they can serve as a reservoir for the virus, potentially leading to new virus variants that may impact the health of carnivores, other animals, and people.

ARS WTD Experimental Infections – WS in collaboration with VS and ARS will conduct experimental infections of SARS-CoV-2 in white-tailed deer to address priority information needs to characterize infection and immune dynamics.

Serosurvey - The goal of this 2-year activity is to determine the extent wildlife species within the US have been exposed to the virus. Initially, data on SARS-CoV-2 exposure rates will be based on archived sera samples to identify candidate species for a field monitoring serosurvey.

MinkSTAMP - The goals of this project are to encourage biosecurity, develop educational resources for workers and owners, facilitate on-site and lab testing of mink, humans, and wildlife, and to support affected producers and State animal health officials in the event of an outbreak.

Zoo - The goals of this project are to establish standard practices for physical biosecurity and personnel management for zoos and aquaria that prevent exposure of animals to SARS-CoV-2, and to help zoos and aquaria to prevent exposure of their collection to future disease challenges. Additionally, peridomestic animals on and around zoo facilities will be tested for evidence of SARS-CoV-2 infection, identifying possible routes of transmission.

Wastewater - In this project, we propose to examine whether WWTP are a source of SARS-CoV-2 that spills over into a variety of peridomestic wildlife species that have the potential to spillback to human populations.

SARS-CoV-2 coordination: Contact Thomas.j.deliberto@usda.gov

CHRONIC WASTING DISEASE (CWD):

CWD Surveillance and Operational Activities

Wildlife Services has been working with VS Veterinary Services (VS) and/or state programs to collect Chronic Wasting Disease (CWD) samples from captive cervids. To reduce the prevalence, prevent the spread, and define the scope of CWD in certain areas, WS cervid sampling incorporates a diverse array of techniques and works with multiple cooperators, including state wildlife agencies, state and national diagnostic laboratories, and other local governments. Upon request, WS assists numerous state game programs with CWD sampling at hunter harvest deer check stations and other locations. The NWDP deploys wildlife disease biologist to help states with target deer removals and necropsies for CWD surveillance in infected areas. WS also assists state programs with the development and implementation of CWD contingency plans in states that are currently free of the disease.

FY22 CWD Cooperative Agreements

APHIS hosted its third annual CWD stakeholder and Tribal Nations meeting in January 2023. Three guest speakers presented their research, and the DOI and USDA agencies gave an overview of CWD initiatives nationally. Following, 2022 cooperative agreement recipients presented updates on funded wild and farmed cervid management and research projects. Stakeholder and tribal nations gave feedback; and a presentation and discussion about the process for cooperative agreements in 2023 was given. At the end of the meeting, a poll was distributed which asked about the attendees' affiliation; important priorities to their organization related to wild and farmed cervids; and proposed changes to the priorities.

Approximately 300 participants attended with individuals invited from state wildlife and department of natural resources (DNR), state agriculture, state cervid industry, Tribal Nations, academic institutions, conservation and sportsmen, national cervid industry, Association of Fish and Wildlife Agencies, National Association of State Animal Health Officials and other federal participants. Other federal participants included representatives from Bureau of Land Management, Bureau of Indian Affairs, Centers for Disease and Prevention and Control, Department of Interior (DOI), and U.S. Department of Agriculture (USDA).

In October 2022, APHIS announced the funding of 49 awards, totaling nearly \$10 million for States and Tribal governments, to further develop and implement Chronic Wasting Disease (CWD) management, response, and research activities in both wild and farmed cervids (e.g., deer, elk). These funding opportunities allow State departments of agriculture, State animal health agencies, State departments of wildlife or natural resources, and Federally recognized Native American Tribal governments and Native American Tribal organizations to further develop and implement cervid CWD management, response, and research activities, including surveillance and testing. APHIS received a total of 64 proposals from applicants in 29 States and ten Federally recognized Tribal governments and organizations. Priority was given to States and Tribal governments that have detected CWD and have a CWD monitoring and surveillance program or that proposed to create a control program.

FY22 Award Funding Breakdown:

Wild Cervid CWD Management and Response 2022

- Twenty-nine awards totaling around \$4,074,788 million are funding 21 State departments of wildlife to combat CWD in wild cervids.

Tribal Nations Wild Cervid CWD Opportunity 2022

- Five awards totaling \$274,973 are funding five Federally recognized Native American Tribal governments to combat CWD in wild cervids.

Farmed Cervids CWD Management and Research Activities 2022

- Fifteen awards will go to 11 State Departments of Agriculture totaling \$2,325,492 and two awards will go to a State Department of Natural Resources and State Department of Wildlife for \$249,990 and \$97,608 respectively, to conduct management and research activities to combat CWD in farmed cervids. Three of these proposals were partially funded. Three State agricultural agencies were also awarded \$2,126,910 in funding to specifically support CWD disease response strategies, including the removal of CWD positive herds and CWD exposed animals.

FY23 CWD Cooperative Agreements:

APHIS will make available the following funding opportunities in 2023 (anticipated VS and WS joint announcement in April 2023):

- \$6.1 million to State departments of agriculture; State animal health agencies; State departments of wildlife or natural resources; Federally recognized Native American Tribal governments and Native American Tribal organizations or universities representing Federally recognized Native American Tribal governments; and research institutions and universities for projects to control or prevent CWD in farmed cervids, including the use of funds for the indemnification and removal of CWD-affected farmed cervid herds and CWD-exposed cervids as part of an overall CWD management plan; and,
- \$5.6 million to State departments of agriculture; State animal health agencies; State departments of wildlife or natural resources; Federally recognized Native American Tribal governments and Native American Tribal organizations or universities representing Federally recognized Native American Tribal governments; and research institutions and universities for projects to control or prevent CWD in wild cervids.

APHIS WS is also developing a separate funding opportunity for Tribal governments' activities to control or prevent CWD in wild cervid populations on Tribal lands:

- \$500,000 to federally recognized Native American Tribal governments for projects to control or prevent CWD in wild cervids.

AVIAN INFLUENZA SURVEILLANCE:

Wildlife Services (WS), along with State and Federal partners, continue to conduct annual surveillance for avian influenza viruses (AIVs) in wild waterfowl. Understanding what AIVs are circulating in wild waterfowl informs State, Federal, and industry partners of the presence of any AIVS that are of concern to wildlife and poultry, and to determine the origin of AIVs in the event of an outbreak.

The current AIV surveillance season (May 2022 – April 2023) targeted 112 priority watersheds across 49 states in all four flyways: Atlantic, Central, Mississippi, and Pacific. Sampling focused on dabbling duck species, and priority watersheds were selected based on areas that have high mixing of wild waterfowl populations and previous evidence of influenza infections in those populations. During the 2022

calendar year, WS collected 33,527 samples across all flyways. Of those, 33,361 samples were tested at the National Animal Health Laboratory Network diagnostic facilities. All non-negative AIV samples were shipped to the APHIS National Veterinary Services Laboratories for confirmation.

In January 2022, the highly pathogenic EA/AM H5N1 strain was detected in two hunter harvested wild ducks (American wigeon, blue-winged teal) in Colleton County, South Carolina. WS responded by expanding the 2021 -2022 (May 2021 – April 2022) surveillance to include opportunistic sampling in the Central and Mississippi flyways, resulting in over 1600 samples collected within four Central Flyway states (KS, ND, TX, WY) and eight Mississippi Flyway states (AL, AR, IN, KY, LA, MO, MS, TN).

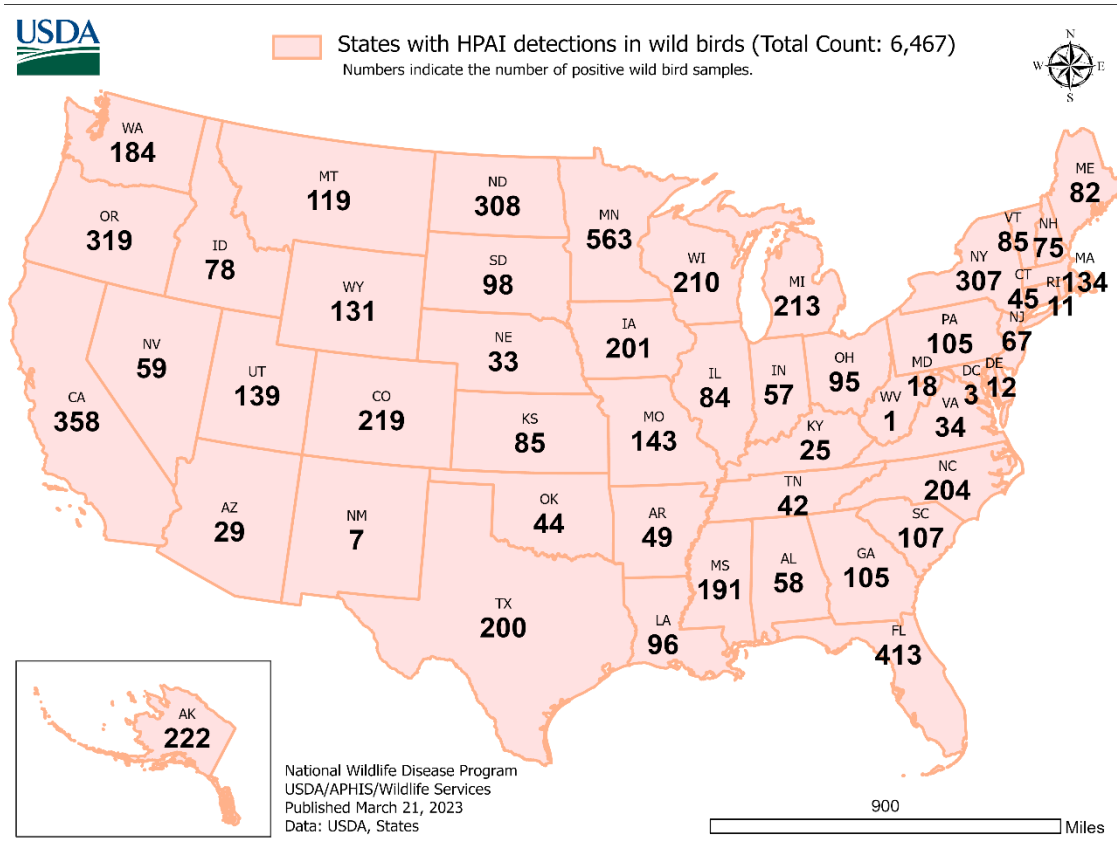
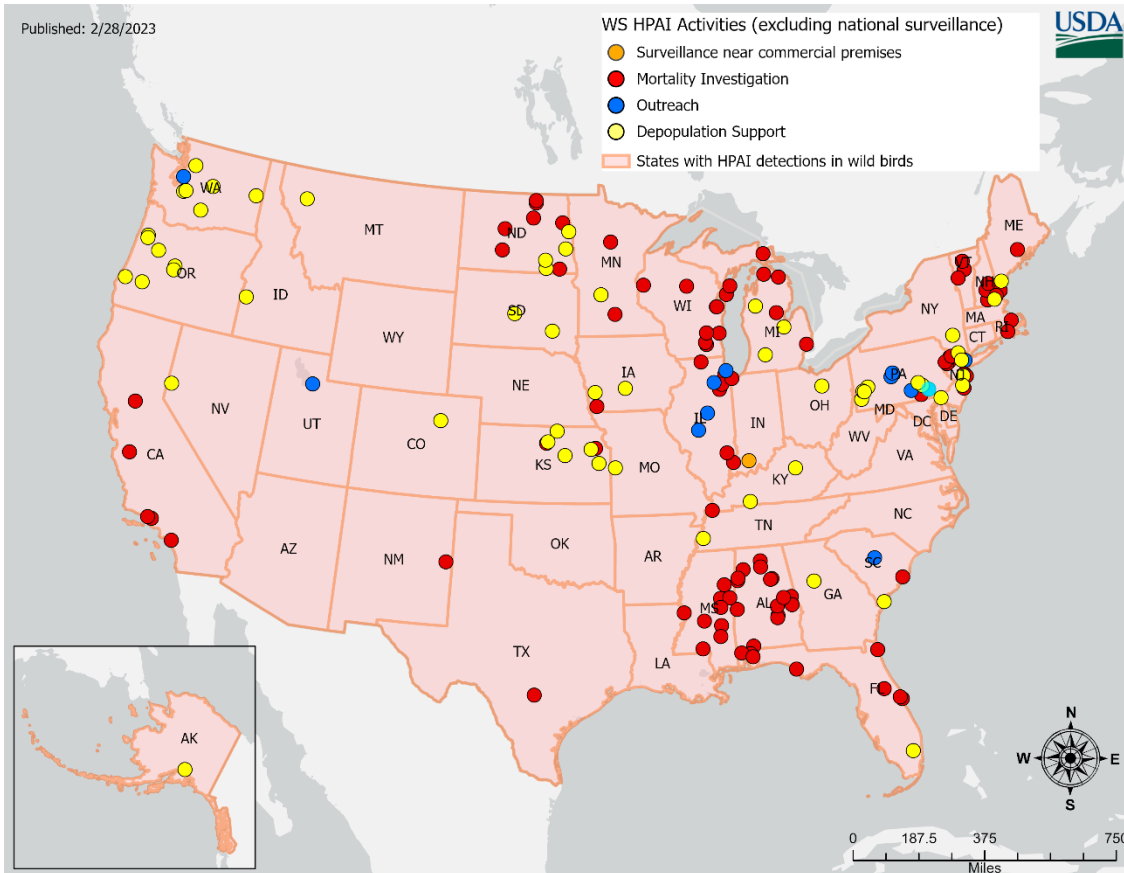
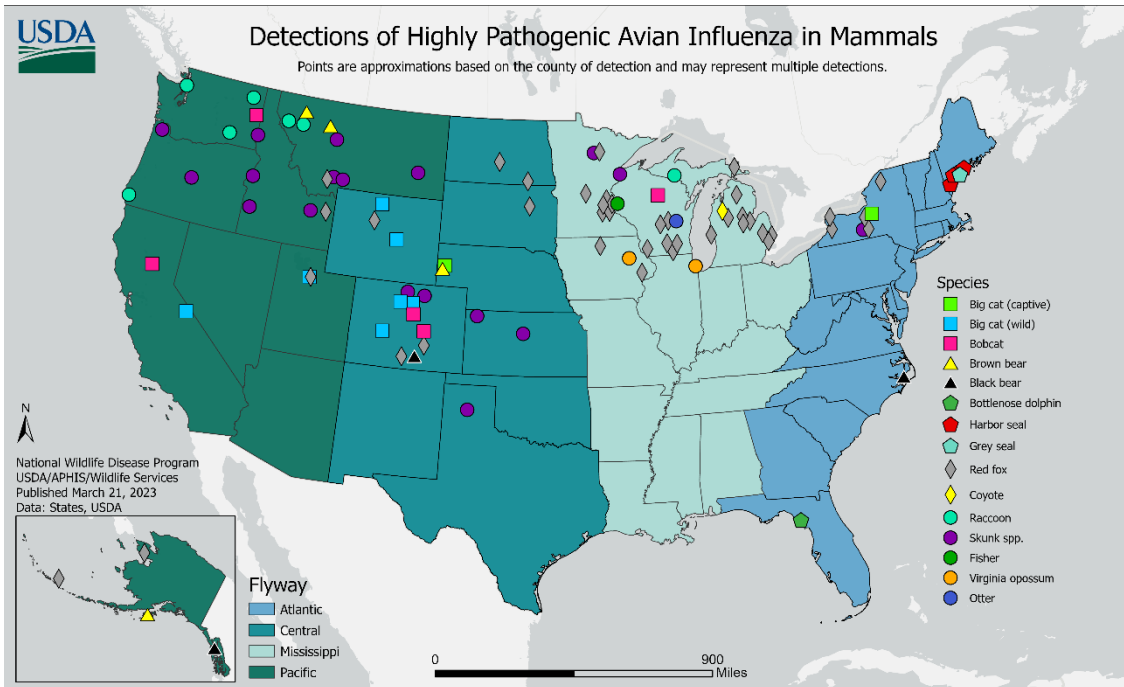


Figure 2. Number of highly pathogenic strain H5N1 detections in wild birds since January 2022. Count includes samples collected by Wildlife Services and other agencies and organizations.

Of the samples collected by WS since January 2022, over 2,800 have tested positive for H5N1. These detections primarily were made in mallard, American green-winged teal, blue-winged teal, and American wigeon species. WS also tracks morbidity and mortality investigations alongside other agencies and organizations. Nearly 3,600 HPAI detections have been reported by other agencies in a more diverse collection of wild bird species that include, but are not limited to, geese, raptors, owls, pelicans, vultures, songbirds, shorebirds, cranes, and ducks. At least 145 species of wild birds have been affected in this outbreak in 49 states and Washington D.C. (Figure 1).

The geographic distribution of migratory birds introduces the potential for spillover from H5N1 infected birds to mammals, where it can cause high mortality. Many mammalian infections have occurred in



Figures 3-4. (Top to bottom) Number of highly pathogenic strain H5N1 detections in mammals since May 2022; Wildlife Services highly pathogenic avian influenza activities throughout the United States. Does not include national surveillance activities.

carnivores, likely due to predatory habits of feeding on infected animals. The first mammalian detection in the U.S. occurred in May 2022, and to date, there have been 154 H5N1 detections in at least 17 species in 23 states (Figure 2). WS does not conduct national surveillance for mammal species, and most samples are taken from symptomatic animals opportunistically by partner agencies and rehabilitation facilities.

Shortly following the detection of EA/AM H5N1 in wild birds, the first detection occurred in a commercial poultry facility in Indiana. Since then, H5N1 has been detected in commercial poultry facilities in 47 states and has impacted the \$38 billion poultry industry through associated eradication costs. WS personnel have been critical in eradication efforts at positive premises around the country (Figure 3) often acting as Case Managers, Site Managers, and Incident Commanders. Since February 9, 2022, WS has deployed personnel to positive commercial premises for a total of 124 physical (2301 combined days) and 16 virtual (1196 combined days) deployments.

WS collects and verifies AIV and HPAI data from multiple sources and reports for the following resource pages:

1. Wild bird targeted surveillance: [Wild Bird Avian Influenza Surveillance](#)
 - a. Includes only WS avian influenza surveillance data.
2. HPAI in wild birds: [2022 HPAI detections in Wild Birds](#)
 - a. Reports all H5 or H5N1 detections following NVSL confirmation testing and mandatory reporting to the World Organisation for Animal Health (WOAH).
3. HPAI in mammals: [2022 HPAI Detections in Mammals](#)
 - a. Reports all H5 or H5N1 detections following NVSL confirmation testing and mandatory reporting to WOAH.

RABBIT HEMORRHAGIC DISEASE:

In March 2020, an outbreak of rabbit hemorrhagic disease virus type 2 (RHDV2), an extremely fatal viral disease, hit the southwestern U.S. and spread rapidly, causing mortalities in domestic and wild lagomorph species. The disease has been declared endemic in wildlife in AZ, CA, CO, ID, MT, NV, NM, OR, TX, UT, and WY. Since the onset of the outbreak, the NWDP has worked closely with VS and diagnostic laboratories to track all wild lagomorph samples submitted for testing in both endemic and non-endemic states. Throughout FY22 and FY23, the NWDP has remained in communication with the USGS National Wildlife Research Center, the Southeastern Cooperative Wildlife Disease Study, and State agencies to receive RHDV2 testing results. Sample submission and testing are ongoing, and the NWDP continues to track samples and deliver weekly reports back to the states and VS and provide crucial data utilized in WOAH reporting, disease mapping, and genetic sequencing.

During 2022, there were 54 RHDV2 detections in nine states (AZ, CA, CO, ID, NM, NV, OR, TX, UT) in at least six wild lagomorph species. Since the beginning of the outbreak, over 600 wild lagomorph samples from 41 states have been submitted for testing, and of those, 239 have tested positive for RHDV2. Throughout the outbreak RHDV2 has been detected in eight different species within the Leporidae family (Antelope jackrabbit, Black-tailed jackrabbit, California brush rabbit, Riparian brush rabbit, Desert cottontail, Eastern cottontail, Mountain cottontail, and Pygmy rabbit).

Investigations of wild and domestic lagomorph mortalities continue in states throughout the U.S. A source introduction still has not been definitively identified at this time. Little is known about how RHDV2 is maintained on the landscape, but research has shown the virus can survive in a carcass for as long as 90 days under certain conditions. Prevention of viral transmission in wild species remains unfeasible, and containment and proper disposal of dead animals is crucial upon discovery. General signs for many lagomorphs can include lethargy, paddling, and sudden death; however, oftentimes no symptoms are observed, and animals are simply found dead.

While the virus has been shown to be lethal to some native, wild lagomorph species, much regarding the epidemiology of this virus is unknown. Scientists at the National Wildlife Research Center (NWRC), in collaboration with Colorado State University, are continuing to assess the susceptibility of RHDV2 and mortality rates to select North American lagomorph species and investigating the efficacy of existing and new vaccines in protecting select lagomorphs against the virus.

PLAGUE AND TULAREMIA SURVEILLANCE:

Plague is caused by a bacterial pathogen (*Yersinia pestis*) that can infect a wide range of mammal species. While attention is often focused on human plague infections, it is primarily a wildlife pathogen and the extent of plague exposure in animals is often underappreciated. The WS National Wildlife Disease Program (NWDP) has been collecting data on plague exposure in multiple wildlife species across the western US for more than 15 years, with over 52,000 animals tested. These efforts have contributed to national-level maps that show plague activity in the US and have contributed to our understanding of risks to threatened and endangered species (including black-footed ferrets and others). These data have also been used to look at shifts in plague distribution over time due to changing climates. Pathogen monitoring systems in wildlife that are both large-scale and long-term are rare but offer a clearer picture of zoonotic pathogens and the risks they pose.

Since January 1, 2022, a total of 1,127 animals were sampled by WS for plague and tularemia monitoring across 16 states (AK, AZ, CA, FL, IL, KS, MA, MT, NC, NM, NY, OR, PA, RI, TX, WA). Tularemia diagnostics are currently under development and all samples collected for tularemia are archived by the NWDP. There are currently over 80,000 samples from a variety of mammalian species in the plague and tularemia archive at the NWRC. All samples appropriate for plague diagnostic testing that were received prior to 2022 have been submitted to the lab for testing, with 1,860 samples submitted so far this year. Since FY21, a total of 5,518 samples (includes samples stored in the NWDP archive) have been tested, of which 997 (18.1%) are positive for plague antibodies.

EMERGENCY RESPONSE:

Wildlife Services supports the AHPIS' response efforts for animal diseases, natural disasters, hazardous spills, and wildfires. In FY 2022, personnel supported response efforts involving foreign animal diseases, natural disasters, hazardous spills, and zoonotic diseases. The program collaborated and coordinated with APHIS Veterinary Services and State Animal Health Officials to address the response to HPAI by deploying personnel to assist with domestic and backyard poultry detections. WS assisted with

coordinating, organizing, and communicating natural disaster response and recovery with hurricanes Fiona and Ian. WS assisted with enhanced feral swine removal operations in the Caribbean in response to the African Swine Fever (ASF) detection on the island of Hispaniola. Additionally, WS responded to a request from the state of Michigan and the Environmental Protection Agency to provide wildlife assessments for a hazardous contaminants spill. In total, WS deployed 269 personnel (5569 combined days) either on site or virtually across three mobilized responses.

Wildlife Services National Wildlife Disease Program:

<https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/programs/nwdp>

Contact: Julianna.b.lenoch@usda.gov

National Rabies Management Program

US National Plan for Wildlife Rabies Management

USDA, APHIS, Wildlife Services' National Rabies Management Program (WS NRMP) goals and objectives are based on the WS Strategic Plan, the North American Rabies Management Plan (NARMP), the US National Plan (USNP) for Wildlife Rabies Management and Rabies Program Environmental Assessments. The NRMP initiated an update to the USNP in FY21. The NRMP hosted a virtual Rabies Management Team (Cooperators) Meeting during FY21 involving >125 representatives from >50 agencies that included a series of team breakout exercises designed to inform the update to the USNP. In FY22, the NRMP and a team of approximately 20 collaborators updated the USNP based on the findings and recommendations from the FY21 Cooperators Meeting through a series of six virtual meetings. The NRMP will finalize and distribute the final USNP in April 2023.

Oral Rabies Vaccination (ORV)

In FY22, the NRMP and cooperators distributed >9.1 million ORV baits in 15 states: >8 million in the eastern US to combat raccoon rabies in AL, GA, MA, MD, ME, NH, NY, NC, OH, PA, TN, VT, VA, and WV; and >1.1 million in Texas to prevent the reemergence of rabies in coyotes and gray foxes along the border with Mexico. A field evaluation investigating effectiveness of ONRAB in Texas coyotes was also initiated in FY22, resulting in approximately 70,000 ONRAB baits distributed across 3,000 km² (1,200 mi²) in the northern panhandle of the state. In the eastern US, 45% of the ORV baits distributed were ONRAB. The total area baited in FY22 was 169,000 km² (65,251 mi², an area almost the size of Missouri), and the total distance flown was >408,000 km (>253,000 mi; about 10.2 times around the Earth's equator) over 1,900 hours.

Progress Toward Raccoon Rabies Elimination

Progress toward raccoon rabies elimination is measured annually as a result of moving all or portions of current ORV zones into areas where raccoon variant remains enzootic (generally east or south). The NRMP continued to make progress toward raccoon rabies elimination by removing 13,000 km² (5,000 mi²) from the zones in MA, NC, NH, NY, OH, TN, VA, VT, and WV because raccoon rabies had been eliminated from those management areas. This included removing an additional 12 km (7 mi) of ORV zone in NY, VT and NH, where the ORV zone is now 44 km (27 mi) off of the Canada border (previously the ORV zone in these states was established along the international border). In contrast, 17,000 km² (6,600 mi²) were added to ORV zones in AL, GA, NC, and TN as new areas under management to prevent the spread of raccoon rabies to the west into Mississippi.

Enhanced Rabies Surveillance

In cooperation with the Centers for Disease Control and Prevention (CDC), Dr. Charles Rupprecht of LYSSA LLC, the New York State Department of Health Wadsworth Laboratory and state agriculture, health, and fish and wildlife agencies, the NRMP continued to use the Direct Rapid immunohistochemistry Test (DRIT) for rabies antigen testing. In FY22, WS collected and tested 6,391 animals from 18 states to enhance rabies surveillance. WS tested 4,887 (76%) samples from 17 states using the DRIT; 83 of these samples were confirmed rabid from 12 states. ERS samples collected were wildlife not involved in a human or domestic animal rabies exposure and may have otherwise not been tested through the public health surveillance system.

ORV Program Monitoring

In FY22, 4,325 blood and 175 tooth samples were collected in 14 states in the eastern US to estimate rabies antibody levels and bait uptake in target species within ORV zones or in ERS areas. Lab results are pending in all states, but historically annual sero-conversion rates average 31% in raccoons when using RABORAL V-RG® and 54% when using ONRAB. In Texas, serology results are pending for RABORAL V-RG® but typically average 57% for coyotes and 76% for gray fox after bait distribution. The post-ONRAB RVNA response in coyotes was 71% for January 2022.

Rabies Research in Raccoons (Eastern US)

In FY22, the NRMP continued its collaboration with the WS National Wildlife Research Center (NWRC) on 13 studies related to raccoon rabies virus variant (RRVV). Seven of the studies involved human developed habitats as we continue to try and optimize ways to eliminate RRVV from urban/suburban areas. These studies include: (1) Home range, movements, and habitat selection of striped skunks and raccoons in urban-suburban Burlington VT; (2) Comparison of hand baiting and bait stations as methods of distributing oral rabies vaccine baits in Greater Birmingham, Alabama (3) Home range, movements, and habitat selection of opossums relative to an ORV program in urban-suburban Burlington, VT; (4) Optimizing baiting designs for oral rabies vaccines in urban and suburban landscapes; (5) The role of urban environments in the landscape level circulation of rabies virus in raccoons; (5) Seroconversion of raccoons to ONRAB baiting by hand versus helicopter in Chattanooga and Cleveland, Tennessee; and (6) A comparison of oral rabies vaccination (ORV) strategies and vaccine bait uptake in urban-suburban Burlington, VT. In FY22, the NRMP and the NWRC Rabies Project authored or co-authored 9 published manuscripts/book chapters and had another 11 papers in press, in revision or in review.

Evaluating RABORAL V-RG® “Special High Titer”

In FY22, the NRMP and NWRC concluded evaluating RABORAL V-RG® “Special High Titer” (SHT) vaccine by distributing baits in North Carolina (36,900) and Maine (37,800) and completing trapping to collect raccoon blood samples for evaluation of RVNA. In NC, the 3-yr mean post-bait RVNA response in raccoons was 35% (Yr1: 56%, Yr2: 25%, Yr3: 25%). The puzzling decline in years 2 and 3 isn't easily explained. In ME, the 2-yr mean post-bait RVNA response in raccoons was 50% (Yr1: 52%, Yr2: 49%, Yr3: pending). We expect ME 2022 (year 3) results in FY23.

Rabies Research in Small Asian Mongoose (Puerto Rico)

In FY22, NWRC research continued to guide the development of oral rabies vaccination strategies targeting small Asian mongoose populations across key habitats in Puerto Rico. Modeling research has

demonstrated the importance of habitat level factors driving variation in mongoose population densities and movements. Active field studies included evaluations of target and non-target placebo oral rabies vaccine bait uptake in mixed forest habitats. Additional surveys of mongoose population density have been carried out in high elevation (“cloud”) forest habitats and agricultural areas to expand upon previous surveys from dry forest, grassland and rainforest habitats. Ongoing work has also included evaluations of domestic dog abundance in key habitats for cooperator-led collaborative studies to document and characterize domestic animal and mongoose contact rates and interactions. Finally, the Rabies Environmental Coordinator completed a draft EA for a Ceva Santé Animale oral rabies vaccine (Rabitec M) field trial in Puerto Rico to manage rabies in mongoose during FY21, which was translated to Spanish during FY22 and distributed to the Puerto Rico Department of Natural and Environmental Resources and the Puerto Rico Department of Health for review.

Vampire Bat Surveillance

Due to the continued potential movement of vampire bats northward from Mexico into the United States and to provide monitoring for early detection, AZ, FL, NM, and TX conducted 159 surveys of livestock sales barns, ranches, feedlots, and dairy barns during FY22. More than 76,000 cattle were examined during these surveys, with no evidence of bat bites recorded.

Wildlife Services National Rabies Management Program www.aphis.usda.gov/wildlife-damage/rabies

Contact: richard.b.chipman@usda.gov

Feral Swine Disease Surveillance

The National Feral Damage Management Program focused surveillance efforts on evaluating feral swine for the presence of antibodies to classical swine fever (CSF), pseudorabies (PRV), and swine brucellosis (SB). Between 2018 and 2022, nation-wide seroprevalence bounced between ~18.5 and 24% for PRV

Year	Disease	Total samples tested	Total samples positive	Percent positive
2022	CSF	7,633	0	0
	PRV	6,100	1,139	18.7
	SB	6,085	411	6.8
2021	CSF	6,555	0	0
	PRV	6,534	1,403	21.5
	SB	6,517	947	14.5
2020	CSF	4,013	0	0
	PRV	4,003	978	24.4
	SB	3,994	408	10.2
2019	CSF	3,537	0	0
	PRV	3,503	798	22.8
	SB	3,476	199	5.7
2018	CSF	2,868	0	0
	PRV	3,002	558	18.6
	SB	3,000	186	6.2

Figure 5. Table showing the number of samples tested, the number of samples positive, and the percent of samples positive for CSF, PRV, and SB by year since 2018.

and ~6.5 and 15% for SB, and zero for CSF.

A new surveillance approach was rolled out in FY21 which is designed as a risk-based detection system for foreign animal diseases, including CSF, ASF, and FMD. Also, sample size increased by 2x – the new sampling target is now approximately 6,000 animals. WS is on track to reach the sample target for FY23.

African Swine Fever (ASF)

The recent detection of African Swine Fever (ASF) in the Dominican Republic has initiated an APHIS-level response, due to the proximity to Puerto Rico and the Virgin Islands. Wildlife Services is assisting in the response by removing feral and free roaming swine and provide enhanced surveillance in Puerto Rico, the US Virgin Islands, and is currently developing operational and surveillance activities in high-risk US states. Specifically, WS is organizing the deployment of Wildlife Disease Biologists, Feral Swine/Wildlife

Specialists, and technicians to Puerto Rico to assist with operational removal and disease sampling of feral/free ranging swine. Deployment rotations began in August 2021 and in that time, over 4,000 animals have been dispatched and 2,600 have been sampled by antigen and antibody-based diagnostics for both ASF and CSF.

Additionally, four states within the continental U.S. (FL, GA, LA, TX) were determined to be at very high risk for ASF virus introduction based on the Caribbean risk pathway. In May 2022, Wildlife Services initiated active surveillance ASF in specific counties within those four states. To date, over 2,100 samples have been tested by PCR and ELISA for ASF from the conterminous U.S.

National Feral Swine Damage Management Program

Contact: dana.j.cole@usda.gov

Recent Wildlife Services Publications

Bevins, S.N., S.A. Shriner, J.C. Cumbee, K.E. Dillione, K.E. Douglass, J.W. Ellis, M.L. Killian, M.K. Torchetti, and J.B. Lenocho. 2022. Intercontinental movement of H5 2.3.4.4 highly pathogenic avian influenza A(H5N1) to the United States, 2021. *Emerging Infectious Diseases* 28(5):1006-1011. doi: 10.3201/eid2805.220318

Bosco-Lauth, A.M., S.M. Porter, K.A. Fox, M.E. Wood, D. Neubaum, and M. Quilici. 2022. Experimental infection of Brazilian free-tailed bats (*Tadarida brasiliensis*) with two strains of SARS-CoV-2. *Viruses* 14(8):1809. doi: 10.3390/v14081809

Brandell, E.E., M.K. Jackson, P.C. Cross, A.J. Piaggio, D.R. Taylor, D.W. Smith, B. Boufana, D.R. Stahler, and P.J. Hudson. 2022. Evaluating noninvasive methods for estimating cestode prevalence in a wild carnivore population. *PLoS ONE* 17(11): e0277420. doi: 10.1371/journal.pone.0277420

Byas, A.D., E.N. Gallichotte, A.E. Hartwig, S.M. Porter, P.W. Gordy, T.A. Felix, R.A. Bowen, G.D. Ebel, and A.M. Bosco-Lauth. 2022. American alligators are capable of West Nile virus amplification, mosquito infection and transmission. *Virology* 568:49-55. doi: 10.1016/j.virol.2022.01.009

Carlson, C.J., S.N. Bevins, and B.V. Schmid. 2022. Plague risk in the western United States over seven decades of environmental change. *Global Change Biology* 28(3):753-769. doi: 10.1111/gcb.15966

Elmore, S.A., C. Fehlner-Gardiner, É. Bouchard; G. Samelius; R.T. Alisauskas, K.P. Huyvaert; R.B. Chipman, E.J. Jenkins, and A.T. Gilbert. 2022. Evidence of arctic fox (*Vulpes lagopus*) survival following exposure to rabies virus. *Journal of Wildlife Diseases* 58(1):241-244. doi: 10.7589/JWD-D-21-00071

Franklin, A.B. 2022. SARS-CoV-2 in wildlife. pgs 337-346. In: P. Fronck and K.S. Rotabi-Casares, editors. *Social work in health emergencies: Global perspectives*. Routledge, London, Great Britain.

Gilbert, A.T., R.M. Wallace, and C.E. Rupprecht. 2022. Special issue "Innovative techniques and approaches in the control and prevention of rabies virus." *Viruses* 14(5):845. doi: 10.3390/v14050845

Guan, M., A.K. Olivier, X. Lu, W. Epperson, X. Zhang, L. Zhong, K. Waters, N. Mamaliger, L. Li, F. Wen, Y.J. Tao, T.J. DeLiberto, and X.-F. Wan. 2022. The Sialyl Lewis X Glycan Receptor Facilitates Infection of Subtype H7 Avian Influenza A Viruses. *Journal of Virology* 96(19): e01344-22 doi: 10.1128/jvi.01344-2

Hamond, C., A.S. Browne, L.H. de Wilde, R.L. Hornsby, K. LeCount, T. Anderson, T. Stuber, H.M. Cranford, S.K. Browne, G. Blanchard, D. Homer, M.L. Taylor, M. Evans, N.F. Angeli, J. Roth, K.M. Bisgard, J.S. Salzer, I.J. Schafer, B.R. Ellis, D.P. Alt, L. Schlater, J.E. Nally, and E.M. Ellis. 2022. Assessing rodents as carriers of pathogenic *Leptospira* species in the U.S. Virgin Islands and their risk to animal and public health. *Scientific Reports* 12:1132. doi: 10.1038/s41598-022-04846-3

Kading, R.C., E.M. Borland, E.C. Mossel, T. Nakayiki, B. Nalikka, J.P. Ledermann, M.B. Crabtree, N.A. Panella, L. Nyakarahuka, A.T. Gilbert, J.C. Kerbis-Peterhans, J.S. Towner, B.R. Amman, T.K. Sealy, B.R. Miller, J.J. Lutwama, R.M. Kityo, and A.M. Powers. 2022. Exposure of Egyptian rousette bats (*Rousettus aegyptiacus*) and a little free-tailed bat (*Chaerephon pumilus*) to alphaviruses in Uganda. *Diseases* 10(4):121. doi: 10.3390/diseases10040121

Kent, C.M., A.M. Ramey, J.T. Ackerman, J. Bahl, S.N. Bevins, A.S. Bowman, W.M. Boyce, C.J. Cardona, M.L. Casazza, T.D. Cline, S.E. De La Cruz, J.S. Hall, N.J. Hill, H.S. Ip, S. Krauss, J.M. Mullinax, J.M. Nolting, M. Plancarte, R.L. Poulson, J.A. Runstadler, R.D. Slemons, D.E. Stallknecht, J.D. Sullivan, J.Y. Takekawa, R.J. Webby, R.G. Webster, and D.J. Prosser. 2022. Spatiotemporal changes in influenza A virus prevalence among wild waterfowl inhabiting the continental United States throughout the annual cycle. *Scientific Reports* 12(1):13083. doi: 10.1038/s41598-022-17396-5

Lee, S., P. Fan, T. Liu, A. Yang, R.K. Boughton, K.M. Pepin, R.S. Miller, and K.C. Jeong. 2022. Transmission of antibiotic resistance at the wildlife-livestock interface. *Communications Biology* 5:585. doi: 10.1038/s42003-022-03520-8

Kimpston, C.N., A.L. Hatke, B. Castelli, N. Otto, H.S. Tiffin, E.T. Machtinger, J.D. Brown, K.R. Van Why, and R.T. Marconi. 2022. High prevalence of antibodies against canine parvovirus and canine distemper virus among coyotes and foxes from Pennsylvania: Implications for the intersection of companion animals and wildlife. *Microbiology Spectrum* 10(1): e02532-21. doi: 10.1128/spectrum.02532-21

McClure, K.M., G. Bastille-Rousseau, A.J. Davis, C.A. Stengel, K.M. Nelson, R.B. Chipman, G. Wittemyer, Z. Abdo, A.T. Gilbert, and K.M. Pepin. 2022. Accounting for animal movement improves vaccination strategies against wildlife disease in heterogeneous landscapes. *Ecological Applications* 32(4): e2568. doi: 10.1002/eap.2568

Miller, R.S., S.N. Bevins, G. Cook, R. Free, K.M. Pepin, T. Gidlewski, and V.R. Brown. 2022. Adaptive risk-based targeted surveillance for foreign animal diseases at the wildlife-livestock interface. *Transboundary and Emerging Diseases* 69(5): e2329-e2340. doi: 10.1111/tbed.14576

Mohamed, F., T. Gidlewski, M.L. Berninger, H.M. Petrowski, A.J. Bracht, C. Bravo de Rueda, R.W. Barrette, M. Grady, E.S. O'Hearn, C.E. Lewis, K.E. Moran, T.L. Sturgill, L. Capucci, and J.J. Root. 2022. Comparative susceptibility of eastern cottontails and New Zealand white rabbits to classical rabbit hemorrhagic disease virus (RHDV) and RHDV2. *Transboundary and Emerging Diseases* 69(4): e968-e978. doi: 10.1111/tbed.14381

Pepin, K.M., V.R. Brown, A. Yang, J.C. Beasley, R. Boughton, K.C. VerCauteren, R.S. Miller, and S.N. Bevins. 2022. Optimizing response to an introduction of African swine fever in wild pigs. *Transboundary and Emerging Diseases* 69(5): e3111-e3127. doi: 10.1111/tbed.14668

Podgórska, T., K.M. Pepin, A. Radko, A. Podbielska, M. Łyjak, G. Woźniakowski, and T. Borowik. 2022. How do genetic relatedness and spatial proximity shape African swine fever infections in wild boar? *Transboundary and Emerging Diseases* 69(5):2656-2666. doi: 10.1111/tbed.14418

Ramey, A.M., N.J. Hill, T.J. DeLiberto, S.E.J. Gibbs, M.C. Hopkins, A.S. Lang, R.L. Poulson, D.J. Prosser, J.M. Sleeman, D.E. Stallknecht, and X.-F. Wan. 2022. Highly pathogenic avian influenza is an emerging disease threat to wild birds in North America. *The Journal of Wildlife Management* 86(2): e22171. doi: 10.1002/jwmg.22171

Root, J.J., J.W. Ellis, and S.A. Shriner. 2022. Strength in numbers: Avian influenza A virus transmission to poultry from a flocking passerine. *Transboundary and Emerging Diseases* 69(4): e1153-e1159. doi: 10.1111/tbed.14397

Shriner, S.A., J.J. Root, J.W. Ellis, K.T. Bentler, K.K. VanDalen, T. Gidlewski, and S.N. Bevins. 2022. Influenza A virus surveillance, infection, and antibody persistence in snow geese (*Anser caerulescens*). *Transboundary and Emerging Diseases* 69(2):742-752. doi: 10.1111/tbed.14044

Smith, M.M., C. Van Hemert, T.C. Atwood, D.R. Sinnett, J.W. Hupp, B.W. Meixell, D.D. Gustine, L.G. Adams, and A.M. Ramey. 2022. A serologic survey of *Francisella tularensis* exposure in wildlife on the arctic coastal plain of Alaska. *Journal of Wildlife Diseases* 58(4):746-755. doi: 10.7589/JWD-D-21-00162

Stallknecht, J.D. Sullivan, J.Y. Takekawa, R.J. Webby, R.G. Webster, and D.J. Prosser. 2022. Spatiotemporal changes in influenza A virus prevalence among wild waterfowl inhabiting the continental United States throughout the annual cycle. *Scientific Reports* 12(1):13083. doi: 10.1038/s41598-022-17396-5

Tillis, S.B., J.M. Josimovich, M.A. Miller, L.L. Hoon-Hanks, A.M. Hartmann, N.M. Claunch, M.E. Iredale, T.D. Logan, A.A. Yackel Adams, I.A. Bartoszek, J.S. Humphrey, B.M. Kluever, M.D. Stenglein, R.N. Reed, C.M. Romagosa, J.F.X. Wellehan, and R.J. Ossiboff. 2022. Divergent serpentoviruses in free-ranging invasive pythons and native colubrids in Southern Florida, United States. *Viruses* 14(12):2726. doi: 10.3390/v14122726

Wilber, M.Q., A. Yang, R. Boughton, K.R. Manlove, R.S. Miller, K.M. Pepin, and G. Wittemyer. 2022. A model for leveraging animal movement to understand spatio-temporal disease dynamics. *Ecology Letters* 25(5):1290-1304. doi: 10.1111/ele.13986

REGIONAL LANDSCAPE CONSERVATION



Landscape Conservation Joint Task Force

& Regional Priorities



State Fish and Wildlife Agencies and the US Fish and Wildlife Service (Service) have been collaborating at large scales for decades through national and regional partnerships. In 2018, the Association of Fish and Wildlife Agencies passed a resolution that acknowledged the importance of collaborating at landscape scales, the need for durable partnerships, and the special relationship between the states and the Service due to their unique roles and authorities over fish and wildlife. The [resolution](#) set in motion policy work to support and strengthen fish and wildlife association regional collaboration. These are exciting times as we see unparalleled progress on landscape-scale conservation. For the first time, the states and Service have collaborated to develop shared landscape conservation priorities in each of the four regional fish and wildlife associations. This is a significant achievement that enables a conservation business system that can channel national conservation investments through regional landscape collaborative efforts to address the highest priority conservation needs at the scale necessary to meet the magnitude of the challenges.

LANDSCAPE CONSERVATION JOINT TASK FORCE

The Association and Service started the Landscape Conservation Joint Task Force in December 2021 to enhance coordination between leaders of the Service and state fish and wildlife agencies in support of regional, collaborative, landscape-scale conservation. The Task Force is co-chaired by the President of the Association and the Director of the Service and includes members of the Service's Directorate and Association's Executive Committee. The Service's Science Applications program provides essential funding, coordination, science, and capacity to support the Task Force and regional collaborative efforts that translate into on-the-ground action that achieves landscape-scale results.

REGIONAL LANDSCAPE CONSERVATION

REGIONAL LANDSCAPE CONSERVATION PRIORITIES

The Landscape Conservation Joint Task Force worked with the four regional associations to define their highest landscape conservation priorities to support the goals of the America the Beautiful Challenge. States and FWS in each region articulated these priorities within a short timeframe to meet the schedule of the America the Beautiful second request for proposals via multiple meetings of staff and leaders, underscoring the urgency that they feel to ensure the future of the full range of America's biodiversity. These regional priorities also reflect the strong commitment to their regional collaborative landscape conservation structures as vehicles for guiding and facilitating the science, investments, and conservation efforts to leverage resources across partners and target conservation work to meet shared needs.

Regional Fish and Wildlife Association Landscape Priorities

NORTHEAST LANDSCAPE WILDLIFE CONSERVATION COMMITTEE

- Atlantic Coast: Coastal Resiliency and Coastal Habitat Restoration
- Appalachian Corridor Highlands and Streams

SOUTHEAST CONSERVATION ADAPTATION STRATEGY (SECAS)

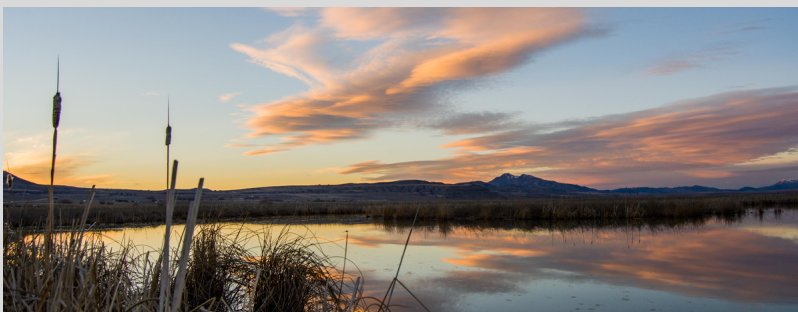
- Restoring Southeast Grasslands
- Restoring Southeast Aquatic Connectivity

MIDWEST LANDSCAPE INITIATIVE (MLI)

- Functional and Connected Grasslands
- Aquatic System Health
- Interconnected and Dynamic Woodlands

WESTERN ASSOCIATION OF FISH AND WILDLIFE AGENCIES

- Supporting Multijurisdictional Corridor and Landscape Connectivity Efforts
- The Sagebrush Biome



These priorities were informed by landscape design work and the best available science as part of the [Northeast Landscape Wildlife Conservation Committee](#), the [Southeast Conservation Adaptation Strategy](#), the [Midwest Landscape Initiative](#), and the [Western Association of Fish & Wildlife Agencies \(WAFWA\)](#) partnerships. These priorities also reflect the input from the Migratory Bird Joint Ventures, Fish Habitat Partnerships, and other collaborations.



PRODUCT OF THE AFWA LANDSCAPE CONSERVATION JOINT TASK FORCE





ASSOCIATION of
FISH & WILDLIFE
AGENCIES

LEGISLATIVE AND ADMINISTRATIVE SUMMARY
88th North American Wildlife and Natural Resources Conference
St. Louis, MO
March 20 – 24, 2023

LEGISLATIVE UPDATES

Priorities and Rule Changes for the 118th Congress

While Recovering America’s Wildlife Act is already getting a lot of discussion and attention, this will also be a big year for the Farm Bill. We will also be engaged in the One Health space, there are at least two wildlife disease surveillance and prevention acts in the works. If you recall, last Congress the Association put their support behind the *Wildlife Disease Surveillance for Pandemic Prevention Act* (WDSPPA, [HR 9597](#)). That bill would have established an apportioned, non-competitive fund for state and tribal agencies for wildlife disease surveillance and management in addition to a competitive grant program and emergency response fund, create several related Task Forces/Working Groups/ Committees, and enable voluntary, organic partnerships to form regional hubs and establish a national wildlife health database. What the language looks like this Congress will be of interest to the Association and our member states.

A new dynamic this Congress include the rules in the House. One significant change is switching from PAYGO to CUTGO, which reinstates the “cut-as-you-go” rule, often referred to as the CUTGO rule, while the Senate continues to operate under PAYGO. The CUTGO rule prohibits the consideration of any legislation that would have the net effect of increasing direct spending. This applies to any bill, joint resolution, amendment, or conference report that affects direct spending. This provision continues the current practice of counting multiple measures engrossed together after passage, allowing two separate measures to “offset” one another for purposes of compliance with the rule. The rule also provides a mechanism for addressing “emergency” designations by stating that provisions expressly designated as emergencies shall not be counted.

Further, specific to appropriations, a clause has been added that prohibits general appropriations bills, or any amendment, from including funds for an expenditure not previously authorized by law except to continue appropriations for public works and objects that are already in progress. Changes to House Rules Affecting the Congressional Budget Process includes a separate order that would establish an additional point of order that could be used to reduce the level of appropriation in an appropriations bill for an expenditure not authorized by law to a previously enacted level. As the Budget process proceeds and legislation is introduced and debated, how these rules are applied will be of great interest.

Recovering America's Wildlife Act

We're still hearing optimistic reports from the Heinrich and Tillis teams that an introduction in the Senate is coming as soon as possible. In order to hit the target window of opportunity this month we'll need to ramp up our outreach to the previous R cosponsors' offices and get them to weigh in with support to Senator Tillis. The more the Tillis team hears from those offices, partners and high-level contacts that this is important, and they want an introduction asap, the better chance we have at getting this in soon, which could also mean charting an expedited path to the Senate floor for a vote.

House leaders, including Chairman Westerman, have been briefed on the Senate introduction strategy and the discussion draft of the legislation is making its way around to offices on the House side as well for review. The House side negotiations are somewhat independent of the Senate process at this point, but there is some bicameral coordination happening.

Please prioritize getting in some high-level touches to the [top original cosponsor target offices](#) and let Sean Saville (ssaville@fishwildlife.org) or Kurt Thiede (kthiede@fishwildlife.org) know if you're hearing anything back in terms of commitments or outstanding concerns, questions. The AFWA Government Affairs staff can help come up with good responses to questions and address concerns and talking points are available upon request.

And again, if staff from any offices have further questions, or plan to offer their support for the bill, you can refer staff from those target Senate offices to Harrison Walker in Senator Tillis's office: harrison_walker@tillis.senate.gov; 202-224-6342, or Maya Hermann maya_hermann@heinrich.senate.gov; 202-224-5521 in Senator Heinrich's office.

E-Duck Stamp Legislation Progressing

On March 14, Sens. Boozman, King, Manchin, and Marshall introduced [S. 788](#) that would eliminate the 45-day E-Duck Stamp expiry date, and allow the e-duck stamp to be valid for the entire waterfowl season. This fix is a priority for the Association. We have worked closely with the four flyways, our partners at DU, Delta and CSF on this simple solution that should remove complexity and add simplification for hunters while also preserving the integrity of the Duck Stamp Artwork. We hope to see swift action in the Senate and introduction in house early this Spring.

FY24 Appropriations

We anticipate the Federal Agency Green Books to be available by the time of the start of the North American. These "Green Books" provide more detail and justification for what is included in the President's Executive Budget. This year, in partnership, the Theodore Roosevelt Conservation Partnership (TRCP) and AFWA will be hosting three virtual Federal Agency Budget Briefings as follows:

USFWS FY24 Budget Briefing - Wednesday, March 29, 2023; 11:00 AM-12:30 PM ET

BLM FY24 Budget Briefing – Wednesday, April 5, 2023; 2:00 PM-3:30 PM ET

USGS FY24 Budget Briefing - Thursday, April 6, 2023; 10:00 AM-11:00 AM ET

These briefings will provide the three Federal agencies that are participating with time to detail their FY24 budget highlights. It also provides participants with the opportunity to ask questions of agency leadership and emphasize their own priorities as the FY24 budget process officially gets underway following release of the President's Budget in early March.

Additionally, AFWA has been working with our states and partners to put together our House and Senate Appropriations testimony. The deadline for testimony to the House Appropriations Interior, Environment, and Related Agencies Subcommittee was March 17th. Some of the highlights and priority areas in AFWA's testimony include \$154.8M for the Bureau of Land Management's Wild Horse and Burro (WHB) Program and a specific line item for WHB in the U.S. Forest Service budget, \$100M for State and Tribal Wildlife Grants, a \$13.5M increase for Science Partnerships in the U.S. Fish and wildlife Service, \$87.3M for Climate Adaptation Science Centers, and no less than \$34M for the Cooperative Fish and Wildlife Research Unit Program. For a copy of the Association's House Interior Approps testimony, please contact David Lind (dlind@fishwildlife.org), AFWA's Legislative Liaison.

The State and Tribal Wildlife Grant (STWG) "Dear Colleague Letter" is being circulated in the House by Cong Mike Thompson and Glenn Thompson. As of Friday, the letter was nearing 120 signatures. We are working with Senator Whitehouse and Crapo's staff on a similar letter in the Senate, no timeline yet. We are planning a mini-STWG Fly-in on April 11th and 12th, if you are planning to be in DC, or are able to join us here in DC, please contact Mark Humpert (mhumpert@fishwildlife.org).

BIL/IRA Implementation

We continue to remain engaged on the implementation of the Bi-partisan Infrastructure Law and the Inflation Reduction Act (BIL/IRA), a multi-billion-dollar generational funding opportunity for fish and wildlife conservation. AFWA continues to work alongside TRCP to coordinate with our NGO partners in the conservation community on implementation of BIL/IRA funding. TRCP and AFWA host monthly calls with federal partners and grant-making organizations, tracks funding opportunities, and hears reports from grantees to understand the challenges and successes in implementing this funding. In the last year, this group has encouraged the federal agencies with BIL-funded fish passage and aquatic connectivity programs to develop a shared strategic vision and coordinate closely on program implementation and urged the Federal Highway Administration to shift the National Culvert Removal, Replacement, and Restoration Grant Program from one that is based on reimbursement to at least 50% grant making; and 2) ensure the Notice of Funding Opportunity (NOFO) for the new program provides clear indication that the pass through of funds from eligible entities is permitted. AFWA also monitors funding opportunities that are relevant to our state agencies, provides timely updates, and engages with funding agencies to convey priorities and concerns.

A number of funding opportunities are presently available or will be announced in the near future:

On February 13, Secretary of Agriculture Tom Vilsack announced plans for the implementation of the agricultural conservation provisions of the IRA. The agency directed \$410 million for greenhouse gas and drought reduction through farming and conservation spending in Western states using existing conservation tools. USDA will plan to build on those investments and leverage existing tools through the Western Water and Working Lands Framework for Conservation Action and will help target EQIP funds through the WaterSMART Initiative (WSI). For Fiscal Year 2023, NRCS has selected 3 new WSI priority areas and is continuing to offer funding in 37 prior approved areas, making \$25 million in EQIP funding available through the WSI across 12 western states.

On February 24, EPA announced \$2.4 billion from BIL for states, Tribes, and territories through this year's Clean Water State Revolving Fund (CWSRF) for upgrading essential water, wastewater, and stormwater infrastructure.

On March 1, NFWF announced the release of the 2023 Request for Proposals (RFP) for the America the Beautiful Challenge (see below). The program, which was launched in 2022, is dedicated to funding locally led landscape-scale conservation and restoration projects that implement existing conservation plans across the nation. NFWF expects to award up to \$116 million in grants this cycle. For more details, see below.

On March 7, the Department of the Interior announced a \$120 million investment from the IRA to rebuild and restore units of the National Wildlife Refuge System and partnering State Wildlife Management Areas that have been affected by adverse weather events. The investment prioritizes projects that promote coastal resilience and climate adaptation, address invasive species threats, and provide for additional data collection needed to support successful natural resource resilience. The U.S. Fish and Wildlife Service will work with state partners to complete geographically diverse, large-scale projects that are mutually beneficial for these conservation areas, including projects that benefit historically underserved communities and Tribal interests.

A NOFO is anticipated in the near future for USFS Collaborative Aquatic Landscape Restoration (CALR) program and funding for habitat restoration, coastal resilience, and weather forecasting infrastructure through NOAA.

Additionally, FY 23 funding is starting to roll out to the states related to the IRA Conservation Title. The EQIP and CSP funding will be dispersed like regular program funds, but Easement and RCPP dollars will follow new systems. ACEP (easements) will be accepted in priority grassland areas. The RCPP funding announcement will be coming later this spring. We have been included in conversations on how best to roll this out in a streamlined system for partners.

Finally, be on the lookout for news on FY23 FWS fish passage funding in April.

America the Beautiful Challenge grants

This will be the second year of the [America the Beautiful Challenge \(AtBC\) Grants](#) administered by the National Fish and Wildlife Foundation (NFWF). In year one, NFWF received broke all previous records for an RFP. In total, they received 527 high quality proposal totaling \$1.1b in projects. They funded 55 projects totaling \$91 million.

This year the program has the same program themes and broad priorities, and again seeks to fund projects that has already been identified as a high priority. NFWF expects to fund \$116m in proposals this year, but the total could increase. Due to the demand and scale, NFWF is implementing a pre-proposal requirement, a major change to the program. The 3-page pre-proposals are due on April 20. Then NFWF will then review proposals and invite successful applicants on June 16 to submit full proposals by July 20. Award announcements are expected in mid-November. Match requirements for states remain unchanged. Accompanying letters of linkage, prioritization, and support for related proposals were encouraged for multi-state priority landscape projects.

The RFP now includes an appendix that provides project evaluation criteria to assist applicants. An applicant webinar was recorded and is also available on the NFWF website.

Key AtBC Grant Changes for 2023:

- Overall ATBC funding availability up to \$116M
- Now includes pre-proposal process
 - Narrative question on linked projects
- Timeline shifted to accommodate preproposal
- Category 2 (Planning) cap raised to \$2M and period of performance increased to 3 years
- DOD and USFS funding in separate categories
- USFS funding can support wider variety of activities (only on USFS land)
- Enhanced information on proposal evaluation

Key AtBC Grant Dates:

- Pre-proposal Due Date: Thursday, April 20
- Full Proposal Invitation: Tuesday, June 16
- Full Proposal Due Date: Thursday, July 20
- Review Committee Meetings: July – August
- NFWF Board Review: November
- Award Announced: Mid-November

Chronic Wasting Disease

With enactment of the *Chronic Wasting Disease Research and Management Act* achieved through last year's omnibus, our focus is on securing the full \$70 million authorized in the bill, of which \$26.25 million would be set aside for state and tribal wildlife agencies. We also continue to advocate for funding for the CWD Transmissions and Pathways study directed by the *America's Conservation Enhancement Act*, which will pave the way for establishing the CWD Task Force. From January 10-13, 2023 APHIS hosted their annual CWD stakeholder meeting. Mike Tonkovich of Ohio DNR provided oral [comments on behalf of AFWA](#), recommending program improvements including longer application windows, collaboration with the states when setting priorities, and offsetting application deadlines. In addition, he shared some thoughts on the general management framework and need for a more focused approach.

Farm Bill Updates

Work is happening on the Hill to get marker bills in by March 30th in the Senate and early April in the House. These will serve as negotiation points on what will be included in this next farm bill. AFWA is staying involved in several pieces of draft legislation as part of conservation coalitions. We continue to see more hearings and listening sessions as Congress decides what this next farm bill will look like. According to the last few briefings, there is large support for conservation programs. The devil will be in the details, but the big farm bill fights do not lie in the conservation title.

In early February, AFWA and state agency staff and directors engaged with offices and members that serve on the House and Senate Agriculture Committees with our first 2023 Farm Bill fly-in. The event consisted of more than 30 meetings with Hill staffers and MOC. Special thanks to Kansas Director Brad Loveless, PA Directors Bryan Burhans and Tim Schaeffer, Todd Bogenschutz of IA, and Sal Palazzolo of ID who flew in for the event and worked the Hill with our GA Team. The [Associations Farm Bill Platform and Priorities](#) were highlighted during the visits.

Mississippi Interstate Cooperative Resource Association (MICRA) Legislation

The MICRA has finalized draft legislation to establish the Mississippi River Basin Fisheries Commission, which would oversee the six MS River sub-basin's management plans, implementation, and evaluation of the effectiveness of the management plans using the Joint Strategic Plan for Management of Mississippi River Fisheries. Participation is voluntary and the bill would authorize \$30M for FY24-28 and \$50M for FY28-FY33. AFWA is in the formal process of confirming support and expects to be able to endorse upon introduction.

ADMINISTRATIVE UPDATES

AFWA/ USFWS Hunt/Fish/Lead Rule Collaboration

Following the 2022 AFWA Annual Meeting, representatives for AFWA and the USFWS began to meet to discuss a path forward to ensure robust federal and state collaboration on future Station-Specific Hunting and Fishing Rules and lead restrictions. After two meetings with many informative presentations a proposal was submitted by state members of the committee and is currently under USFWS review.

Federal Agencies and AFS Hold Fisheries Summit

From January 25-27, 2023 our federal partners and the American Fisheries Society hosted a federal fisheries summit bringing together USFWS, USGS, BLM, USBR, NPS, USFS, BIA, NOAA, and NASA with the goal of improving coordination between the agencies. This was the result of a years-long planning process during which we were thoroughly consulted, and while state participation in the summit was requested, the leadership of the AFWA Fisheries and Water Resources Committee ultimately determined that proper state representation would require more states to be present – a tremendous workload and time commitment and would significantly expand the scope of the summit beyond its intended purpose. Therefore, David Lind and Ryan Roberts attended on behalf of AFWA to observe and provide an informational presentation on state perspectives.

Build America/Buy America Waivers Approved

On February 21, 2023 the Department of the Interior approved both the [De Minimis and Small Grants waivers for BABA domestic sourcing requirements on applicable projects](#). These waivers have now been posted to the DOI public facing webpage. As a reminder, these general applicability waivers: 1) provide approval to waive the Buy America Preference for DOI financial assistance agreements when the total award amount of an agreement does not exceed the Simplified Acquisition Threshold, currently \$250,000.00; and 2) provide approval to waive the Buy America Preference for otherwise covered infrastructure project purchases totaling up to 5% of the total applicable project costs, up to a maximum of \$1,000,000. The WSFR Training Team will provide an overview of the Fish & Wildlife Service's implementation of the BABA requirements and explain each of these new waivers on March 22, 2023.

AFWA Submits Comment on Proposed Hunting and Trapping in AK National Preserves

On February 24, AFWA submitted official comments on the National Park Service's proposed rule regulating hunting and trapping in AK national preserves, which were also transmitted to NPS Director Sams and DOI Secretary Haaland. In addition to requesting an extension of the comment period to allow for adequate consultation between the Service and ADF&G, our comments highlighted the need for equal application of government-to-government consultation standards across the Service and the DOI. Subsequently the deadline was extended to March 27, 2023.

Liquid Rotenone Production Halted

While the re-registration of rotenone is underway and close to completion, Central Life Sciences has reported the loss of their contract manufacturer for Prenfish Fish Toxicant and CFT Legumine, as the contract manufacturer was shut down by the EPA due to various violations. CLS has not been able to identify an interest toll manufacturer for the liquid formats, so they will not be available for the 2023 treatment season. They are continuing to identify potential partners, but are advising that planned use of liquid rotenone will need postponed. The powder format will continue to be available.

AFWA Comments on Draft National Seafood Strategy

NOAA is accepting comments until March 31st on the [draft National Seafood Strategy](#), which describes its approach to enhancing the resilience of the seafood sector in the face of climate change and other stressors. The strategy will be implemented by focusing on four goals: Sustain or increase sustainable U.S. wild capture production; Increase sustainable U.S. aquaculture production; Foster access to domestic and global markets for the U.S. seafood industry and strengthen the entire U.S. seafood sector. AFWA submitted comments through the Ocean Resources Policy Committee highlighting the need to consult with and provide support to state agencies for monitoring and enforcement, requesting support for young commercial fishermen and elevation of under-represented communities, recommending increased funding and scientific expertise for adequate stock assessments, and encouraging support for local seafood supply chains and increased infrastructure for direct sales and small businesses.