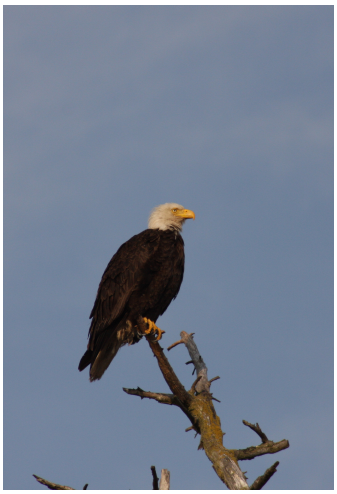
SOUTHEASTERN COOPERATIVE WILDLIFE DISEASE STUDY

SCWDS BRIEFS

A Quarterly Newsletter
Southeastern Cooperative Wildlife Disease Study
College of Veterinary Medicine
The University of Georgia
Athens, Georgia 30602

Winter 2023 — Volume 39 — Number 4

In this issue



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Photos A. Thompson, M. Ruder, & B. Kurimo-Beechuk

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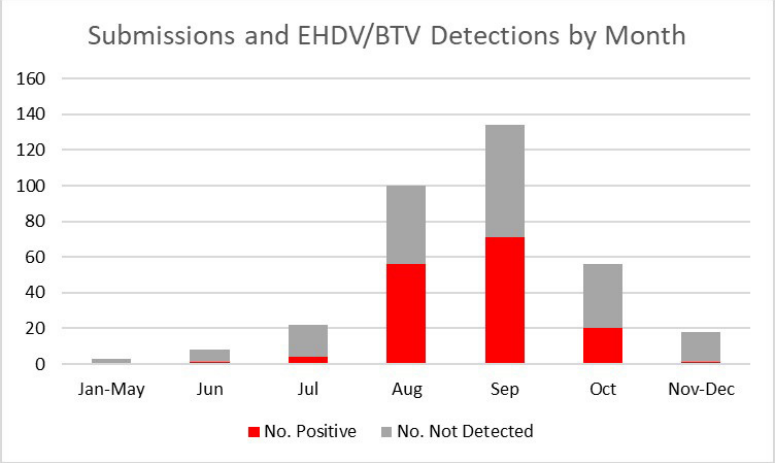
Cervid Health Updates

2022 Hemorrhagic Disease Update

Hemorrhagic disease (HD) is one of the most important diseases of white-tailed deer throughout much of North America. This year, as in every year since the early 1990s, SCWDS conducted passive surveillance for EHDV (epizootic hemorrhagic disease virus) and BTV (bluetongue virus) in support of wild ruminant mortality investigations by state wildlife agencies. Annually, we receive submissions from throughout much of the United States, and testing involves a combination of classical and molecular virologic methods. For all submissions in 2022, samples were screened for EHDV and BTV using real-time reverse transcription polymerase chain reaction (rRT-PCR) assays, and virus isolation was attempted on positive samples. Virus isolates were further identified to serotype and we worked closely with partners at USDA's National Veterinary Services Laboratories (NVSL) to identify all BTV isolates that could not be identified through standard serologic tests. The viruses isolated from this surveillance and the supportive data are shared with USDA and others, as needed.

Here, we present results of HD diagnostics performed at SCWDS during 2022. This passive surveillance approach is dependent upon submissions by state wildlife agencies and results of testing performed by other laboratories are not represented here. As there is no national surveillance program for EHDV or BTV in the United States, the results of this long-term passive surveillance effort provide important information regarding annual EHDV and BTV activity in much of the United States. During 2022, SCWDS received samples from 341 wild ruminant mortality investigations from 26 states. This included 310 white-tailed deer, 16 elk, eight pronghorn, and seven mule deer. The species composition and overall number of submissions were consistent with most recent years in which submissions ranged from 200 – 400 samples annually (image below).

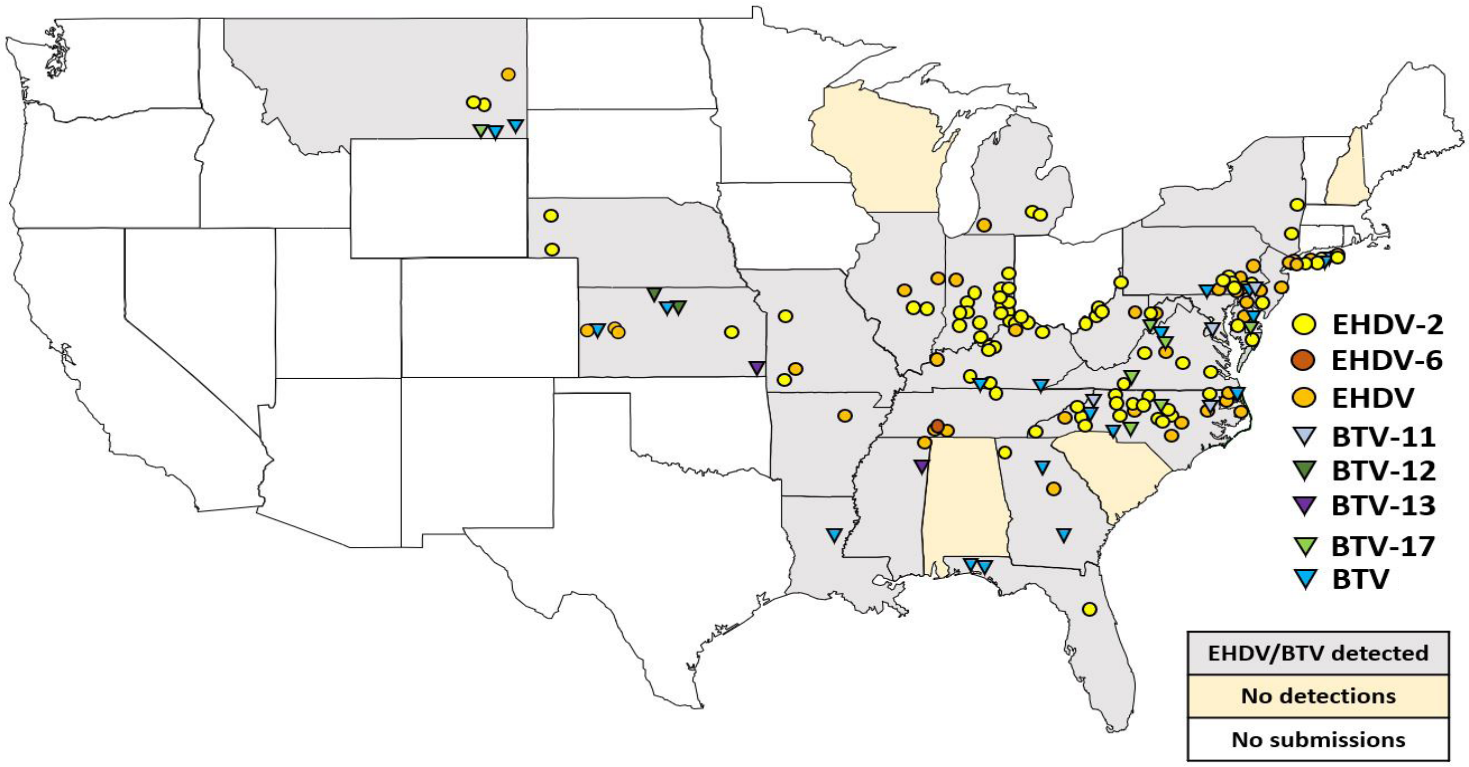
Also consistent with most previous years was the



detection of the first cases during July, but interestingly our first detection was not EHDV-2 (as is the case most years). The first case, confirmed by both rRT-PCR and virus isolation, was BTV-17 isolated from a white-tailed deer from North Carolina found dead on July 12, 2022. The very next day, another white-tailed deer was found dead in a nearby county, but EHDV-2 was isolated from that deer. The number of submissions and proportion of positive rRT-PCR detections continued to increase through September (image above). This profile is

typical of most years, with the majority of submissions during August and September, as well as the highest percentage of positive samples. The geographic distribution of submissions and virus detections are shown in the image below.

During 2022, most positive EHDV and BTV cases were detected from samples submitted from eastern and northern states and this is consistent with the reported northern expansion of HD. Although EHDV-2 was the predominate virus detected, multiple BTV serotypes



Overall, there were 152 detections of EHDV and BTV by rRT-PCR, from which 95 EHDV or BTV isolates were obtained. EHDV-2 was isolated from 79 samples submitted from 18 states including white-tailed deer from Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Maryland, Michigan, Missouri, Montana, Nebraska, New Jersey, New York, North Carolina, Pennsylvania, Tennessee, Virginia, and West Virginia, and an elk in Nebraska. The only detection of EHDV-6 was an isolate from a white-tailed deer in Tennessee. Four different BTV serotypes were isolated from 15 samples from nine states, including BTV-11 (Maryland, North Carolina, Pennsylvania), BTV-12 (Kansas), BTV-13 (Kansas, Mississippi), and BTV-17 (Delaware, Montana, North Carolina, Virginia, West Virginia). All BTV isolations were from white-tailed deer, except for one isolate of BTV-17 from a pronghorn in Montana. Of the rRT-PCR positive samples for which no virus could be isolated, 41 were EHDV and 22 were BTV.

were also involved in outbreaks throughout the United States. For example, BTV-11 and BTV-17 were isolated from numerous mid-Atlantic and northeastern states, in addition to EHDV-2. There were also numerous positive BTV cases from these regions confirmed by rRT-PCR for which a virus could not be isolated, nor the serotype determined. All four BTV serotypes isolated during 2022 are considered to be established in the United States. However, the detection of BTV in multiple northeastern states is notable, as this region historically has had very little reported bluetongue activity. As always, we thank the many wildlife professionals and veterinary diagnostic laboratory personnel who submitted tissue samples for diagnostic testing this past season. We also thank NVSL for their continued assistance with confirming BTV isolates.

Prepared by Mark Ruder, Dave Stallknecht, and Rebecca Poulson

CWD Alliance Maps

In the **October 2022** issue of the SCWDS BRIEFS, we reported on a project that summarized characteristics of some CWD surveillance and management programs that have achieved a level of success. Here, we will focus on a series of helpful maps, which are housed on the CWD Alliance website (**cwd-info.org**).

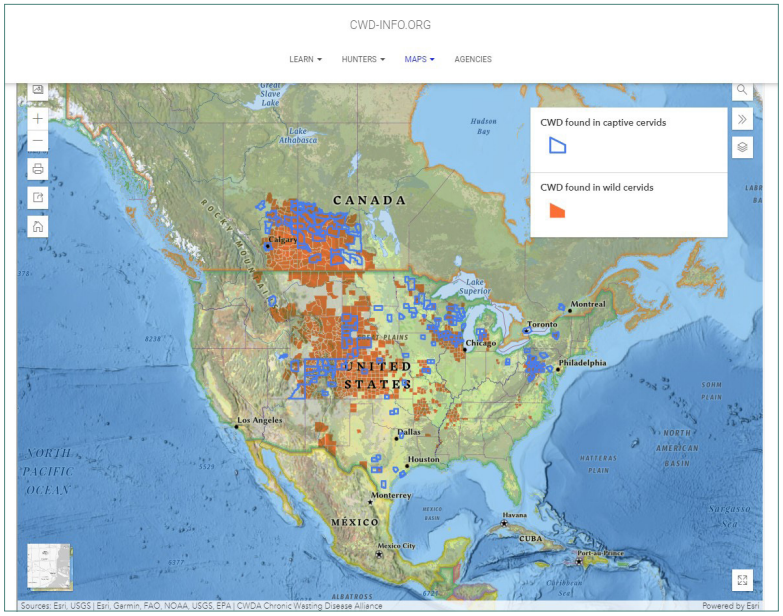
With funding from a series of Multistate Conservation Grants, the CWD Alliance, Wildlife Management Institute (WMI), Association of Fish and Wildlife Agencies (AFWA), and DJ Case & Associates partnered with the Departments of Natural Resources of Indiana, Michigan, and West Virginia to determine the greatest non-fiscal needs of wildlife management agencies regarding CWD. Needs were identified through national surveys, personal interviews, and a workshop with wildlife professionals. The greatest needs were CWD-related informational items on a state and provincial basis. Consequently, four online, interactive mapping tools were developed to help document, track, and manage CWD. All maps are driven by a central data source that is reviewed and managed by state and provincial wildlife professionals.

The four maps include: **CWD in North America**, **CWD-Related Hunting Regulations**, **Carcass Transport Regulations**, and Wildlife Agency Dashboard. The first three are publicly accessible and are highlighted below. The **Wildlife Agency Dashboard** is available only to agency personnel.

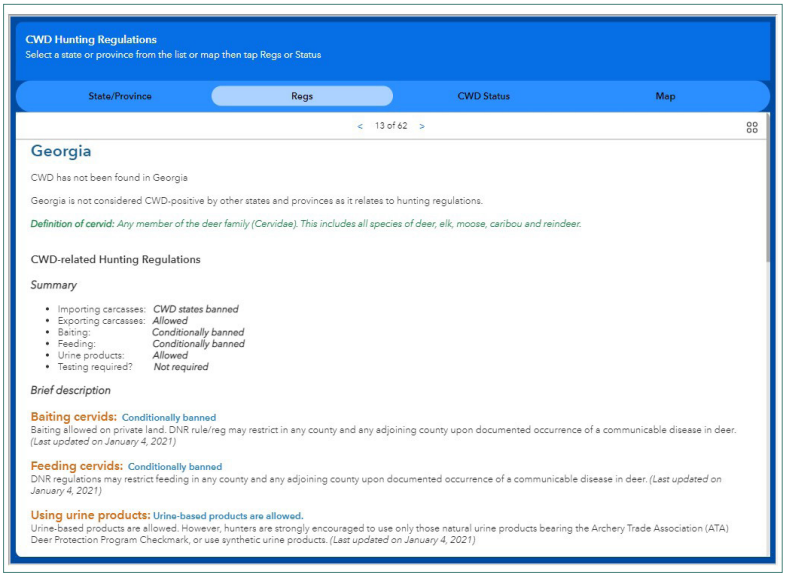
The **CWD in North America** Map (image, top right) shows both counties and wildlife management units (WMU) in which CWD has been found in wild (orange shading) and/or captive cervids (blue outline). For example, enlargement of a portion of Colorado depicts counties and Game Management Units (GMUs) where CWD has been detected.

The **CWD-Related Hunting Regulations** Maps (image, right) and Dashboard show CWD-related regulations, CWD regulatory status, and maps of CWD-positive areas by state and province. Accessible through the **Regs** and **CWD Status** tabs on the dashboard, users will find links to general hunting regulations, CWD response plans, and CWD websites for each jurisdiction.

Regulations for the state of Georgia are shown as an example.



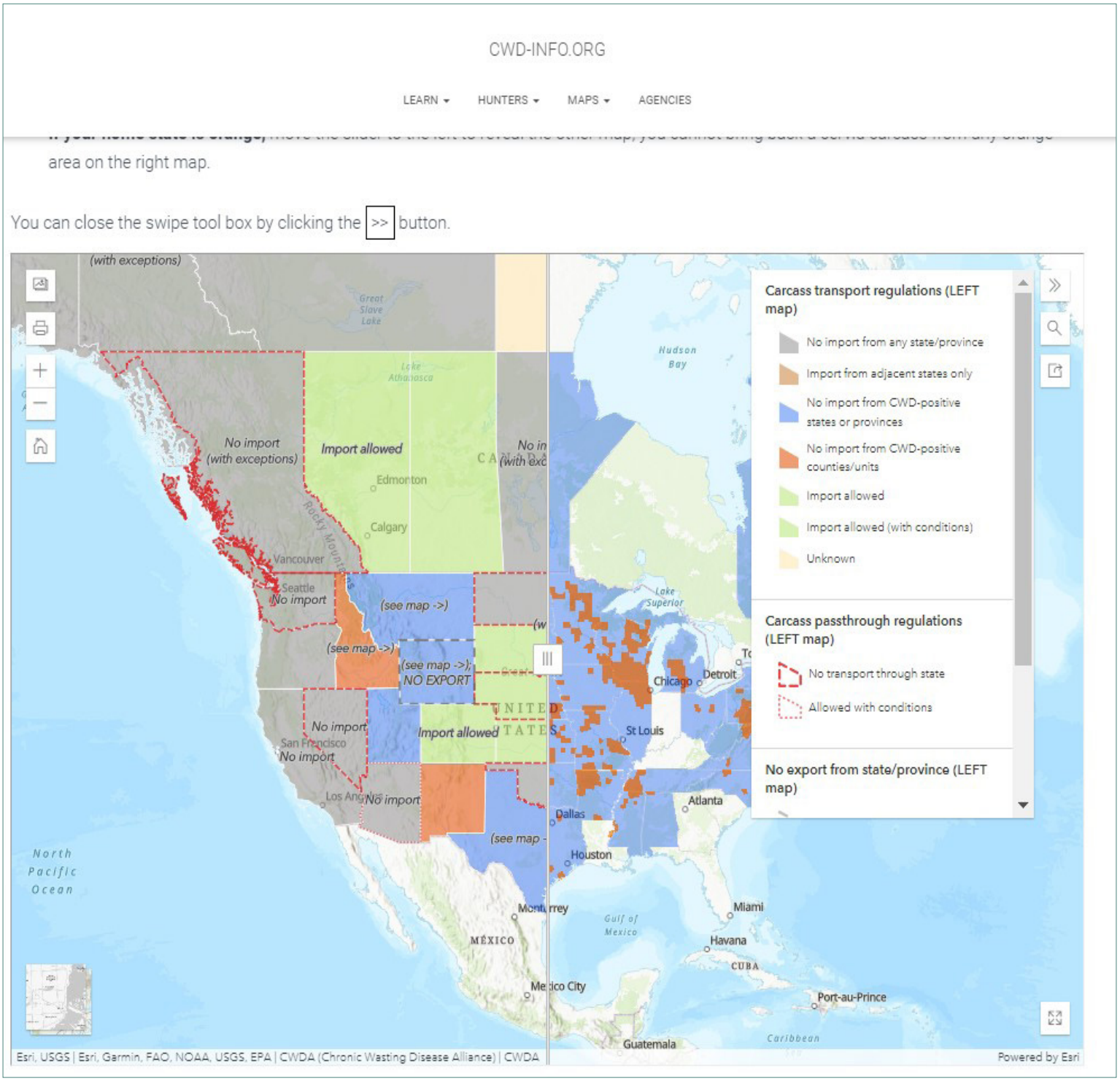
The **Carcass Transport Regulations** Maps (image, next page) will help users learn the regulations impacting the transport of cervid carcasses from one state/province to another. This is a "two-in-one" map with a slider controlling which map is viewed. Included are import, export, and pass-through regulations for cervid carcasses for every state and province.



Cervid Health Updates

Lastly, the **Wildlife Agency Dashboard** allows wildlife health and management professionals to research and compare CWD-related regulations or combinations of regulations across states and provinces and is available only to them. Interested parties can contact Matt Dunfee (**mdunfee@wildlifemgt.org**) for access to editing and viewing-only levels. The maps are just one portion of the large volume of information available at the CWD Alliance website. Numerous other topics can be found under the general headings of **Learn** and **Hunters**.

Prepared by John Fischer and Matt Harlow, DJ Case and Associates



RHDV2 and Hunter Awareness

In previous issues of the SCWDS BRIEFS (**October 2021; January 2021**), we have provided updates on the ongoing rabbit hemorrhagic disease virus 2 (RHDV2) outbreak in the United States. Here, we report results of a collaborative research project funded by the AFWA Multistate Conservation Grant Program. RHDV2 is a highly contagious virus that infects rabbits and hares (lagomorphs) and continues to pose a serious threat to wild lagomorph populations in the United States. Up to 80% of infected lagomorphs may die from the virus. Unfortunately, it is difficult to detect RHDV2 in wild lagomorphs because infected animals often show no obvious signs of disease before death, they die in their burrows or in dense cover, and they are rapidly eaten by scavengers and predators.

Preventing the spread of RHDV2 is challenging because the virus can be transmitted in multiple ways. Lagomorphs may be exposed to the virus through contact with: infected animals that are still alive, the urine, feces, or blood of infected animals, dead lagomorphs, insects that have been in contact with infected animals, and environments or materials (e.g., clothing, equipment) that have been contaminated by infected animals. In addition, the virus is extremely hardy and can persist for up to 15 weeks in dry conditions and for over 90 days in decaying animal tissue outdoors.

In the United States, the ongoing RHDV2 outbreak was first detected in New Mexico in March 2020, and has since been detected in wild and/or domestic lagomorphs in 28 states. RHDV2 has been confirmed in eight wild lagomorph species in the United States, including the endangered riparian brush rabbit. The ongoing outbreak poses a risk to all native lagomorph species in the United States, some of which are already under stress from habitat loss, increasing predator populations, climate change, and invasive species. RHDV2 also poses a threat to hunting in the United States, where approximately 1.3 million individuals hunt lagomorphs every year.

State wildlife agencies rely on hunters to report suspicious lagomorph deaths and to engage in appropriate biosecurity actions to help prevent the spread of RHDV2. From April 2021 to April 2022, a team of researchers at the Warnell School of Forestry and Natural Resources and SCWDS surveyed 22,511 hunters across the United States to find out whether they would be willing to help prevent the spread of RHDV2.

Surveyed hunters were most willing to report suspicious lagomorph deaths to wildlife agencies. This is important because state wildlife agencies do not have the funding or staff to actively monitor all wild lagomorph populations for disease. Hunters can assist state wildlife agencies in RHDV2 surveillance and management because they travel into areas that are seldom visited by the public. Hunters are likely to notice changes in lagomorph populations even if they hunt other species, and they can mark and report locations where they have found potential RHDV2 mortalities.

Hunters were also willing to help prevent the spread of RHDV2 by sanitizing their hunting equipment, cleaning lagomorph carcasses at home, and properly disposing of lagomorph parts. Unfortunately, prior to taking our survey, both rabbit and non-rabbit hunters had low levels of knowledge about RHDV2 and its transmission. Improved outreach and education about RHDV2 would help hunters to assist agencies in their efforts to prevent the spread of RHDV2. For more information about our research please contact Dr. Elizabeth Pienaar at **Elizabeth.Pienaar@uga.edu**. The results of this research are published in ***Conservation Science and Practice***.

Prepared by Elizabeth Pienaar and Hannah Shapiro, Warnell School of Forestry and Natural Resources, UGA

HPAI and Bald Eagle Mortality

Over the past year, highly pathogenic (HP) H5 influenza A virus (IAV) has unfortunately become another regular challenge for wildlife managers in North America. However, such challenges also extend to those working in wildlife rehabilitation, zoological institutions, commercial and backyard poultry production, and public health – highlighting HP H5

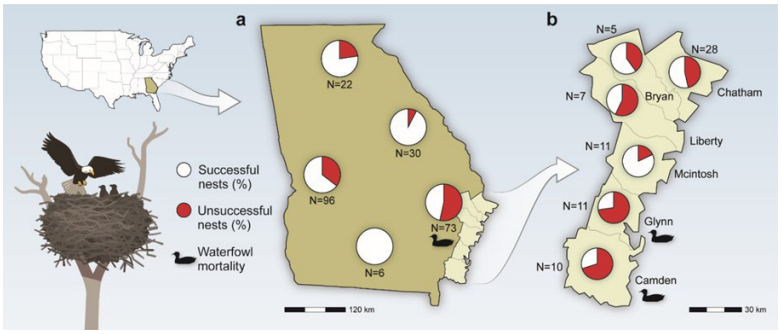
IAV as a classic One Health challenge. The public's attention surrounding HP H5 IAV often is more focused on the economic impact this outbreak has on the poultry industry; however, the threat to some wild bird populations is concerning and demands more attention.

For example, the bald eagle is an iconic, culturally and ecologically important species valued by many people. Such charismatic species can have an important role in both public perception and One Health conversations as we try to draw attention to the threats that endanger the health and vitality of wildlife populations and their habitats. Here, we highlight a recent collaborative project between SCWDS, Georgia Department of Natural Resources, Florida Fish and Wildlife Conservation Commission (FWC), U.S. Fish and Wildlife Service, and Audubon's EagleWatch that documented bald eagle mortality and nest failure caused by HP H5 IAV. The research was recently published in ***Scientific Reports*** by Nemeth et al. 2023.

Soon after the introduction of A/goose/Guangdong/1/1996 lineage HP clade 2.3.4.4b H5N1 IAV in North America in December 2021, SCWDS began receiving increased numbers of dead bald eagles for postmortem examination from multiple southeastern states, including Florida, Georgia, South Carolina, and North Carolina. We documented fatal, systemic HP H5 IAV infection in numerous bald eagles very early during the outbreak and it quickly became clear that HP H5N1 IAV was causing high rates of mortality among breeding adult and nestling bald eagles in the Southeast. The top right image is of a Florida Fish and Wildlife Conservation Commission law enforcement officer collecting the carcass of an adult female bald eagle found dead under her nest one week after one of her nestlings was also found dead below the nest. Both birds were confirmed to have died from HP H5 IAV, and the other nestling died in the nest and the adult male was presumed dead (Photo by Bob Glover).

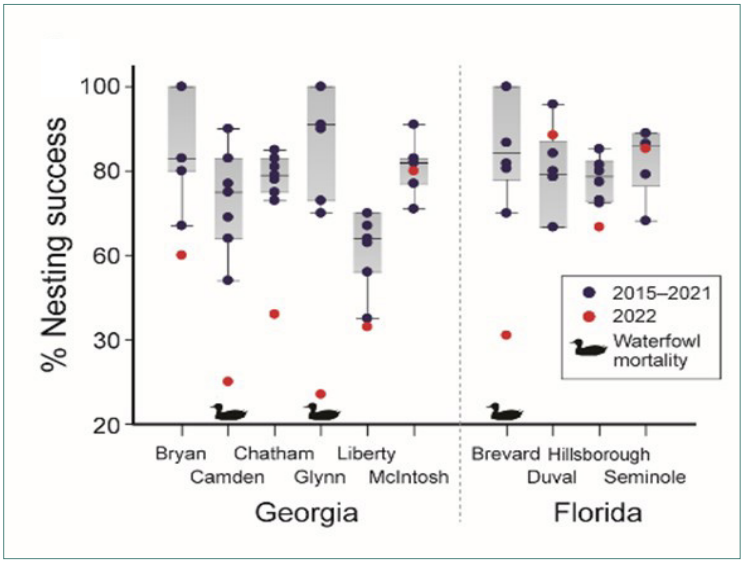
Concurrently, annual bald eagle nest surveys by Georgia Department of Natural Resources revealed a precipitous drop in nest success in coastal counties to 47%, which was 30% below the average for the coastal region.

In the image below, reproductive indices for nesting bald eagles in Georgia, 2022 are shown. (**a**) denotes regional bald eagle percent nest success in Georgia during 2022. (**b**) denotes bald eagle nest success in Atlantic coastal counties of Georgia during 2022. Aerial nest surveys are performed annually during March by the Georgia Department of Natural Resources. N=number of occupied nest territories surveyed. This image was published in ***Scientific Reports (13) 191, 2023***.



Similar findings were documented in Florida by Audubon's EagleWatch and FWC (top image, next page). This image displays bald eagle percent nesting success from 2015-2022 in selected counties of Georgia and Florida. Red dots represent detections from 2022. Duck icons represent counties with documented mortality of overwintering lesser scaup. This image is was published in ***Scientific Reports (13) 191, 2023***.

Such data clearly indicated negative impacts on population recruitment. As an apex predator and



efficient scavenger, it is likely that bald eagles become infected through consumption of infected waterfowl. For the areas of Florida and Georgia where nest success was severely impacted, large scale HP H5 IAV mortality also was detected in overwintering lesser scaup concurrent with the eagle mortality.

Unfortunately, this HP H5 IAV outbreak also coincided with bald eagle breeding season. The patterns observed locally in Florida and Georgia during 2022 are concerning and as we now enter the second year of HP H5 IAV in North America, it is critical to continue to monitor bald eagle populations throughout their range.

Similar reports of raptor mortality associated with HP H5 IAV in Europe, Asia, and Africa, indicate a clear threat to raptor health. The threat likely is higher for raptor species that tend to spend more time around water bodies and predate or scavenge upon sick and dead waterfowl (e.g., bald eagles); however, there may be exceptions to this pattern, and we have much to learn about HP H5 IAV in raptors and other wild birds.

The potential for long-term persistence of HP H5 IAV in North America highlights the importance of surveillance and research efforts that aim to define potential impacts on wild bird species. Based on the timing and frequency of HP H5 IAV detections in wild birds early in the present outbreak, bald eagles appear to be a sensitive ecological indicator species for HP H5 IAV circulation in North America.

As was highlighted here, the timing of HP H5 IAV outbreaks relative to breeding seasons and the potential impact on recruitment are important considerations.

Prepared by Mark Ruder and Nicole Nemeth

HPAI in Wildlife: A Year in Review

It has been over one year since highly pathogenic (HP) clade 2.3.4.4b A/goose/Guangdong/1/1996 (Gs/GD) H5N1 influenza A virus (IAV) was reported in Canada; since then GsGd HP H5N1 infections and mortality in wildlife continue to be reported throughout North America. In addition to spreading rapidly across the continent, this virus has demonstrated an extremely broad host range that includes mammals and bird species not normally associated with IAV.

Within one year, it has also spread into South America and appears to have become endemic in North America. Although we have documented the spread and mortality associated with this virus, we do not have adequate estimates of mortality, infection rates, or potential population impacts associated with GsGD HP H5N1 in North American wildlife. We also have limited scientific basis to predict what the future may hold.

There are several broad taxa that may be impacted by this virus; however, it is apparent from what we have seen to date that any potential species-specific impacts are and will be highly variable. This virus remains a threat to domestic poultry and possibly to public health, but it is also a "new" wildlife disease with an unknown trajectory for potential population impacts. We need to understand these risks to conservation and management objectives, and currently, SCWDS is working to fill in some of these information gaps.

Waterfowl: Ducks and geese represent the most significant natural reservoir for IAV worldwide. These birds are the primary target for ongoing IAV surveillance efforts, and it is not surprising that GsGD HP H5N1 has been consistently detected in numerous waterfowl species throughout the year. Mortality also has been documented in many waterfowl species but there have been limited reports of large-scale seasonal mortality: lesser scaup in Florida during winter, snow

geese in the midwestern United States and Canada during spring migration and winter, and cackling geese in the Pacific Northwest during fall migration. This pattern is very similar, if not identical, to what has been reported in Europe during recent years and it is not unexpected. Although catastrophic effects on waterfowl populations do not at present appear likely, long-term population effects for some species cannot be ruled out. To better understand this system and the potential for longer-term impacts, we need to identify species-specific risk factors. In short, we need to re-evaluate and understand susceptibility, survival, and recruitment in a GsGD HP H5N1 landscape. With low pathogenic IAV, seasonal and temporal infection rates are driven by population immunity and it is likely that many of these relationships also will apply to GsGD HP H5N1. In cooperation with waterfowl biologists and scientists across North America, we are currently investigating this relationship through combined serologic/virologic testing of several species of ducks and geese as well as providing diagnostics on individual birds associated with ongoing telemetry studies. It is hoped that these studies will provide a basis to better understand potential species-specific risks as well as seasonal and temporal patterns that will better inform wildlife managers as well as domestic animal and public health professionals.

Birds of prey: Mortalities have been reported in large numbers of eagles, hawks, and owls, but several species (bald eagles, red-tailed hawks, great-horned owls) are overrepresented in such reports. Although not fully understood, this may relate to specific behaviors including possible predation or scavenging of infected waterfowl. Unlike waterfowl, birds of prey are not normally infected with low pathogenic strains of IAV and may represent immunologically naïve populations.

In collaboration with our state agencies, we documented nest failure in bald eagles that was associated with a waterfowl mortality event (see eagle article in this issue). However, reported eagle, hawk, and owl mortalities are widespread throughout North America and most often are not associated with known waterfowl mortality events. To define and better understand the potential population risks to these species, better estimates of mortality, especially related to nesting adults, are needed, as are continued documentation of nesting success and survival.

Black vultures: Black vultures have been part of an ongoing outbreak of GsGD HP H5N1 in the southeastern United States since February 2022, when a positive bird was first detected in Florida. It is possible that the virus is being maintained in this species and, since early 2022, GsGD HP H5N1 has been detected in black vulture populations throughout most of the southeastern United States, with high rates of mortalities observed on infected roosts. Like birds of prey, this species is not normally associated with low pathogenic IAV and may be immunologically naïve; this may partially explain these patterns.

To test this possibility, we are collaborating with state and federal partners to serologically test black vultures from infected populations and from a northern site where GsGD HP H5N1 has not been detected to date. Preliminary results not only confirm that these birds were naïve to any IAV, but also document the presence of antibodies specific to GsGD

HP H5N1 in the exposed population, indicating that some birds do survive infection.

Shorebirds and other marine birds: Some species of shorebirds such as ruddy turnstones and red knots are commonly infected with North American low pathogenic IAV. Although infections with HP H5N1 and associated mortality have been reported in red knots in Europe and sanderlings in North America, this virus has not been routinely detected in shorebirds. During 2022, we tested thousands of shorebird samples from Delaware Bay and southeastern states and did not detect GsGD HP H5N1.

Although this is good news, the stressed status of these populations warrants continued vigilance and SCWDS, in collaboration with St. Jude Children's Research Hospital (SJCRH), will continue to monitor these populations during 2023. Unfortunately, the situation with seabirds is very different and large-scale die offs in terns, gulls, pelicans, and many other species have been detected worldwide. Through our diagnostic service, we have documented GsGD HP H5N1 infections in brown pelicans, common and royal terns, and great black-backed, herring, laughing, and ring-billed gulls. In North America, potential impacts on these birds deserve additional attention.

Wild mammals: There have been numerous reports of GsGd HP H5N1 mortality in wild mammals in North America and Europe. Although these reports highlight the susceptibility of marine mammals and carnivores, we currently do not know the extent of infection in these populations or if this virus can be maintained in these wild mammal populations. With an increasing number of genotypes due to the reassortment of GsGD HP H5N1 virus with North American low pathogenic IAV, it also is apparent that this virus is rapidly changing, and such changes may affect pathogenicity in mammals.

To date, SCWDS has only detected GsGD HP H5N1 in a black bear (North Carolina) and striped skunk (Kansas) submitted to our diagnostic service but if these mortalities continue, we are expecting additional cases.

The domestic ferret animal model is used to evaluate the potential pathogenicity and transmissibility of influenza in mammals. Several GsGD HP H5N1 viruses detected by SCWDS from avian species have been used in this model by collaborating SJCRH researchers. This connection offers an existing and widely accepted experimental method to initially assess the potential of these changing viruses to affect and transmit in mammals. Additional work, however, is needed to fully understand if these infections are widespread in wild mammals or if they occur infrequently and are self-limiting.

Prepared by Dave Stallknecht and Becky Poulson

Photos B. Kurimo-Beechuk, S. Lattner

SOUTHEASTERN COOPERATIVE WILDLIFE DISEASE STUDY

Diagnostic Case Highlight

Anticoagulant Rodenticide Toxicosis and Ursicoptic Mange in a Black Bear

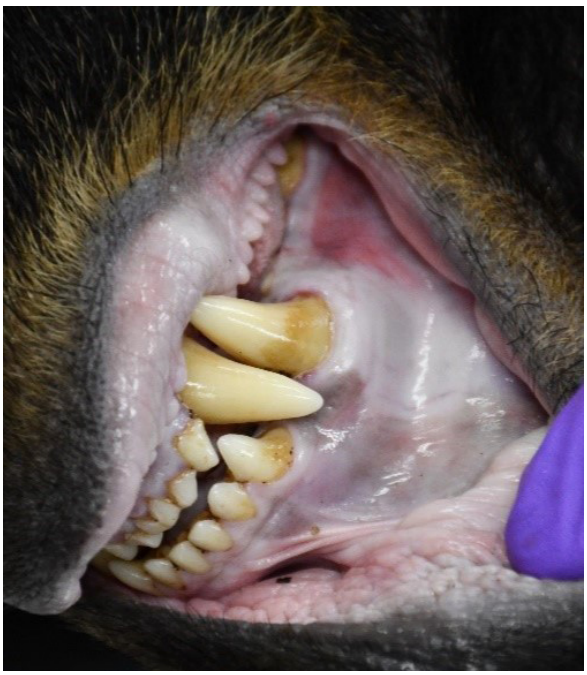
The term 'Mange' refers specifically to the disease presentation of parasitic mites in or on the skin of a host. The lesions are a result of an exaggerated host immune system reaction to the mites and generally consist of inflammatory cell infiltration and thickening and crusting of the skin. It often is unclear why a parasitic mite infestation results in mange lesions in some animals but not others.

In August of 2022, the Georgia Department of Natural Resources (GADNR) submitted the carcass of a black bear for postmortem evaluation; there was concern for anticoagulant rodenticide toxicosis based on a previous diagnosis in a black bear from the same subdivision in Pickens County, Georgia. The previous case involved a sow that had three cubs; in March of 2019, the sow emerged from the den and immediately died from anticoagulant rodenticide intoxication (see previous BRIEFS issue of **July 2020**). The current black bear was an approximately 1.5-year-old, approximately 125-pound male. It was reportedly lethargic and recumbent for several days prior to a private citizen reporting the sick bear to GADNR, who subsequently dispatched the animal. Necropsy revealed poor nutritional condition, dehydration, crusty skin at the tips of both ears (inset image), and pale gums (interpreted as anemia; i.e., decreased numbers of red blood cells; left image next page). Microscopic examination of tissues revealed hemorrhages primarily in the thigh muscles, spleen and thymus, and a small number of mites within the crusty ear lesions. Anticoagulant rodenticide testing of a liver sample at the California Animal Health and Food Safety Laboratory System (University of California-Davis) revealed high quantities of bromadiolone and brodifacoum, which are anticoagulants commonly found in commercially available rodenticides. The above findings confirmed the diagnosis of anticoagulant rodenticide toxicosis.

Mites in the crusty ear skin were morphologically consistent with *Ursicoptes americanus*, the causative agent of audycoptic mange (or ursicoptic mange). Overall, the bear's clinical signs were caused by anticoagulant rodenticide toxicosis, which led to failure of blood-clotting mechanisms, subsequent blood loss, and anemia. In addition, the animal's poor nutritional condition and young age suggest it may have had underdeveloped foraging skills and was starving, resulting in less discriminatory foraging behavior. Such behav-

ior may increase risk of ingesting rodenticide-laden material. In addition, *U. americanus*, a lesser-known parasitic mite of black bears, was detected in mange lesions from this case (image, middle right). While *U. americanus* has occasionally been associated with debilitating, whole-body infestations, the mange lesions in this case were limited to the ears, considered mild, and deemed unlikely to have contributed to the bear's clinical signs.

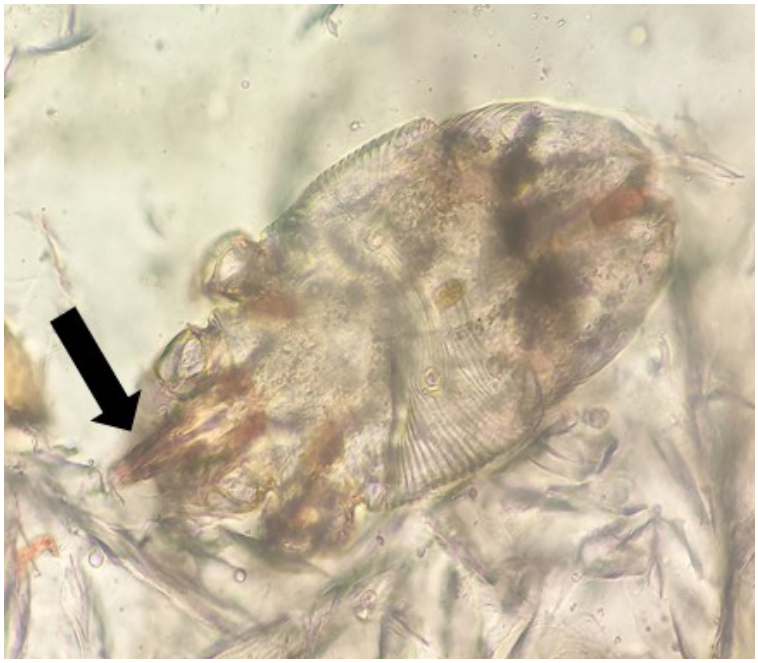
Apart from *U. americanus*, three mite species are known to cause mange in black bears. The most commonly observed form, and one often associated with widespread or whole-body mange lesions, is sarcoptic mange caused by *Sarcoptes scabiei*. Sarcoptic mange is widespread in the mid-Atlantic region and is now being increasingly detected in other regions including



Arkansas, Oklahoma, Missouri, and Georgia. *Demodex ursi*, the causative agent of demodectic mange, has been reported in black bears throughout their range; however, the more severe cases of demodectic mange have been reported in the black bear population in central Florida. Finally, an isolated case of chorioptic mange, caused by a mite of the genus Chorioptes, was recently detected in a black bear from Massachusetts (published in **Journal of Widlife Diseases**).

Most reports of ursicoptic mange in black bears come from the western United States, although sporadic cases have been reported in eastern regions. SCWDS has detected cases in both Virginia and West Virginia, while other wildlife diagnostic services have detected cases in Michigan.

Georgia, however, has not had a confirmed case of ursicoptic mange until now. Regardless, this detection does not necessarily implicate *U. americanus* as a novel, emerging, population-level health threat, as wildlife disease surveillance is often, by necessity, characterized by a sampling bias for the worst affected (moribund or dead) animals. Ongoing collection of samples from animals with skin lesions and evaluation of surveillance data by SCWDS aims to establish the prevalence and disease-causing potential of mange

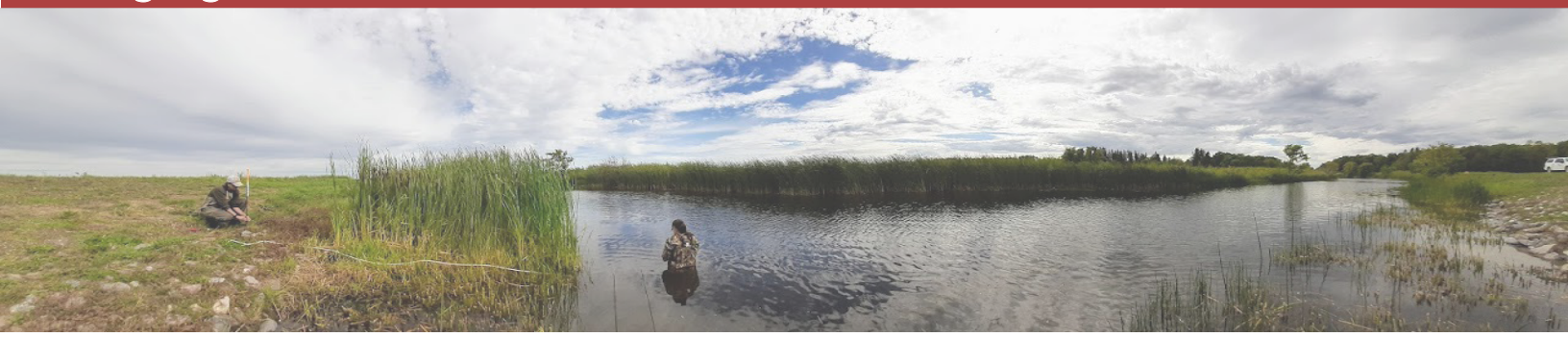


mites, including *U. americanus*, in free-ranging wildlife in the Southeastern United States.

Prepared by Xuan Hui Teo, Raquel Francisco, Nicole Nemeth, and Michael Yabsley

Photos SCWDS

Changing Faces at SCWDS



The SCWDS family tree, with branches all over the world, continues to change and grow. Over the last year, we have had several new students and staff join SCWDS.

Tori Andreasen joined SCWDS as our Necropsy Technician in July 2022. She received her BS in Wildlife Sciences from Warnell in 2017, before receiving her MS in Biological Sciences from Auburn University in 2020. Tori is an Associate Wildlife Biologist. Before joining SCWDS, she was employed by UGA's Poultry Diagnostic and Research Center. Tori is instrumental to the functioning of the SCWDS Research and Diagnostic Service and we look forward to our agency members getting to know her.

Betsy Kurimo-Beechuk joined SCWDS in April 2022, as our Project Coordinator. Betsy received her Associate of Applied Science degree in veterinary technology and worked as a Registered Veterinary Technician at UGA's Veterinary Health Center for eight years. She then received her BSFR in Wildlife Sciences and MS in Wildlife Ecology and Management from UGA's Warnell School of Forestry and Natural Resources and is a Certified Wildlife Biologist. Prior to joining SCWDS, she was a research coordinator in the Hepinstall-Cymerman spatial ecology laboratory in Warnell. Betsy brings a wealth of experience to her position at SCWDS, where she helps coordinate SCWDS activities with member agencies.

Lyndon Sullivan-Brügger joined SCWDS as a Research Technician in July 2022. A native Athenian, Lyndon received his BS in Ecology and BS in Biology from the University of Georgia in May 2021. Before joining SCWDS, Lyndon worked as a field technician for the USGS in New Mexico, as well as the Savannah River Ecology Laboratory. At SCWDS, Lyndon is conducting laboratory testing for EHDV, BTV, influenza, and RHDV2 in support of diagnostic investigations and research projects.

Casey Dukes joined SCWDS as a part-time Laboratory Technician in March 2022, before becoming a full-time Research Technician in December 2022. Casey received her BS in Natural Resources from Louisiana State University and her MS in Wildlife Ecology and Management from Warnell. Casey worked as a wildlife biologist for the North Carolina Wildlife Resources Commission for six years before joining SCWDS. Casey's work at SCWDS involves research investigating parasites in wildlife and the development of molecular assays for field detection of various infections.

Dr. Raquel Francisco graduated with her MS in Wildlife Science from Warnell in 2021. Luckily, Raquel has decided to remain at SCWDS and began her PhD at Warnell. Her dissertation research will explore multiple aspects of the epidemiology and management of sarcoptic mange in black bears. Prior to joining SCWDS, Raquel received her DVM from the University of Tennessee in 2018 and her BS in Animal Science from the University of Florida in 2014. We are excited that Raquel is continuing her education at SCWDS and we look forward to her working with SCWDS member agencies on her research project.

Skyler Kerr joined SCWDS as a part-time Research Technician in August 2022. Skyler received his BS in Environmental Sciences at UGA and his MS in Entomology at the University of South Alabama. Before joining SCWDS, Skyler worked as a laboratory technician at SUNY Upstate Medical University. At SCWDS, Skyler performs laboratory testing on mosquito and avian samples testing for West Nile virus and other arboviruses.

Changing Faces at SCWDS

Seth Lattner joined SCWDS to pursue his MS in Comparative Biomedical Sciences through the College of Veterinary Medicine. Seth received his BS in Wildlife Science from Warnell in May 2022. His Master's research is focused on increasing the understanding of CDV infections among wild canids and meso-carnivores in North Carolina, identifying CDV variants circulating among wildlife, and identifying potential hot-spots of CDV transmission along rural-urban gradients.

Typically, when we have new arrivals at SCWDS that also means we have some departures as people move on to pursue their careers.

Seth Wycoff graduated with an MS in Wildlife Science from Warnell in August 2021, and was hired as a technician at the Boehringer Ingelheim Animal Health Global Innovation center in Athens.

Emma Kring graduated with an MS in Wildlife Science from Warnell in December 2022. Emma took on a new role with Iowa Department of Natural Resources as a CWD Outreach Specialist and is based in Knoxville, IA.

Dr. Rebecca Radisic completed her residency in wildlife anatomic pathology in June 2022, and passed the American College of Veterinary Pathologists board- certification exam. She is currently pursuing her PhD in wildlife ecology at the University of California-Davis.

Dr. Caitlin Burrell accepted a faculty position in the UGA Department of Pathology in June 2022. She previously joined SCWDS in October 2020, as our Staff Pathologist on the Research and Diagnostic Service.

Ryan Grunert graduated with an MS in Comparative Biomedical Sciences from the CVM in August 2022, and was hired as a research technician at the Boehringer Ingelheim Animal Health Global Innovation center in Connecticut.

Brianna Williams graduated with a PhD in Wildlife Science from Warnell in August 2022.

Avery Korns graduated with an MS in Wildlife Science from Warnell in December 2022, and took a position as a field technician working on a white-tailed deer research project in West Virginia.

We miss Emma, Avery, Ryan, Brianna, Rebecca, Seth and Caitlin and wish them nothing but the best in their new adventures.

Because SCWDS is a research unit at a land grant university, training the next generation of wildlife health professionals is an important part of the SCWDS mission and our faculty and staff are passionate in helping fuel this effort. We are proud of our former employees and students who are now contributing to the broader wildlife conservation, agricultural, domestic animal, and public health communities. We look forward to watching their continued growth and expect great things.

We also are very excited to welcome our new arrivals and look forward to highlighting their future successes at SCWDS.

Prepared by Betsy Kurimo-Beechuk and Mark Ruder

SCWDS BRIEFS

A Quarterly Newsletter
Southeastern Cooperative Wildlife Disease Study
College of Veterinary Medicine
The University of Georgia
Athens, Georgia 30602

Registration is now open!

71st Annual
International Conference
WILDLIFE DISEASE ASSOCIATION
July 29-August 4, 2023
Athens, GA

Parting views from the Southeast

Tricolored heron St. Marks, Florida B. Kurimo-Beechuk