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SCWDS BRIEFS

A Quarterly Newsletter from the
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Avian Influenza Update

Highly pathogenic avian influenza (HPAI) H5N1 virus continues to dominate global health news. Since 2003, the World Health Organization (WHO) has reported 161 human cases with 86 fatalities. In 2006, 12 human cases with four deaths have occurred in Turkey, where H5N1 outbreaks have been confirmed in at least 12 of the country's 81 provinces, and a single fatal human case was reported in Iraq. These are the first human cases reported outside eastern Asia. Additional fatal human cases in 2006 have been reported from China (2) and Indonesia (3).

In the United States, preparations continue for the detection and response to HPAI H5N1 if it should enter the country. In December 2005, the appropriations bill for FY06 for the Department of Defense (DOD) included $3.8 billion for avian influenza virus (AIV) preparedness. Of this amount, $3.3 billion was provided for the Public Health and Social Services Emergency Fund to improve preparedness for an influenza pandemic, including $350 million for upgrading state and local response capacity and $50 million to increase laboratory capacity and research at the Centers for Disease Control and Prevention (CDC).

Concerns continue to be raised regarding the potential introduction of Asian H5N1 via migratory bird movements to North America, and funds for wild bird work were included in the DOD appropriations. Approximately $11.6 million was provided to the U.S. Fish and Wildlife Service, National Park Service, and U.S. Geological Survey (USGS) for the detection of HPAI in wild birds. Additionally, a portion of the $91 million provided to the U.S. Department of Agriculture (USDA) will be directed toward wild bird aspects of HPAI preparedness. Both the USDA and the U.S. Department of the Interior (USDI) appropriations include funds that will be made available to individual states for wild bird surveillance; however, the amounts and the mechanism for obtaining the funds have not yet been announced.

A group comprising individuals from USDA, USDI, Health and Human Services, and state agencies and associations of wildlife management, domestic animal health, and human health recently completed the U.S. Interagency Strategic Plan for the early detection of HPAI H5N1 in wild migratory birds. The strategic plan is a guideline for governmental and nongovernmental organizations planning and implementing AIV surveillance in wild birds and includes sections devoted to sampling strategies and collection, laboratory diagnostics, and data management. The plan targets wild species in North America with risk of exposure to Asian H5N1 because of their migration directly between Asia and North America, their contact with species from affected areas in Asia, or their known history as a reservoir species of AIV. Consequently, surveillance focuses on Alaska and the Pacific and Central flyways, and it employs strategies including morbidity and mortality event investigation, live and hunter-killed bird surveillance, environmental sampling, and sentinel bird species.

Additional information on avian influenza viruses, including updates on the occurrence of H5N1, can be found at the websites of the WHO (www.who.int), CDC (www.cdc.gov), USDA (www.aphis.usda.gov), USGS

(www.nwhc.usgs.gov), and SCWDS (www.scwds.org). (Prepared by John Fischer)

SCWDS Arthropod Surveillance

SCWDS has been involved in studies of domestic and exotic animal disease vectors in the United States and the Caribbean region since the 1960s, and currently is engaged in a surveillance program for exotic ticks and livestock arthropods in the southeastern United States and Puerto Rico. This program is being conducted in cooperation with USDA-APHIS-Veterinary Services, with assistance from several other state and federal agencies. All of the specimens collected are submitted to USDA's National Veterinary Services Laboratories for identification.

Field surveys are ongoing in Florida and Puerto Rico, with additional work just beginning in Alabama, Georgia, and Mississippi. Surveys primarily involve examination of live-captured wildlife, and sites targeted for surveillance are natural areas in regions where exotic arthropods, such as the tropical bont tick (*Amblyomma variegatum*), may survive if introduced. During the course of these surveys, over 85 species of arthropods have been collected and identified, including several species not previously reported in the Southeast and in some cases, not previously reported in North America.

Three cases serve as good examples of the diversity of arthropods being detected. *Hirstiella stamii*, the green iguana scale mite, was found on live-captured green iguanas in Florida. Green iguanas are native to Central and South America, and this mite is known only from a single previous record from an iguana examined at an Amsterdam (The Netherlands) zoo in 1961. Because no other reports of this mite exist, its natural host range and geographic distribution are unknown.

A chewing louse, *Coloceras piageti*, was collected from a Eurasian collared-dove examined at a wildlife rehabilitation facility in Florida. The Eurasian collared-dove is an Old World species first seen in Florida in the 1980s. It was introduced into the Bahamas during the 1970s and subsequently spread to Florida. This is the first verifiable report of a *Coloceras* louse in the Western Hemisphere. This louse presumably was brought to the Bahamas on imported doves and entered the United States when the doves dispersed into Florida.

Lastly, *Amblyomma parvum*, a three-host tick, was found on a field technician during a wildlife survey in south Florida. The known range for this species includes southern Mexico and Central and South America, and this was the first collection of a free-ranging specimen of *A. parvum* in the United States. *Amblyomma parvum* typically infests medium-sized mammals as well as cattle and horses, but occasionally it is collected from humans. Therefore, the introduction of this tick may have been via infested humans, imported domestic animals, or on wildlife. Additional surveys are being conducted to establish the extent of this infestation.

Exotic arthropods can enter the United States via numerous pathways, including migratory birds; legally and illegally imported plants, animals, and plant and animal products; and on persons returning to the United States from international travel. In some cases, these introduced organisms may become established and some may cause significant economic, environmental, or human health problems. Early detection of exotic arthropods and other organisms is critical to eradication efforts when such introductions could result in significant economic, environmental, or health impacts. The ongoing parasitic arthropod surveys are an attempt to detect such organisms as soon as possible after their introduction into wildlife populations and natural areas. (Prepared by Joe Corn)

Bovine TB in a Minnesota Deer

On January 16, 2006, the Minnesota Department of Natural Resources (DNR) reported a case of bovine tuberculosis (TB) in

a 5.5-year-old male hunter-killed white-tailed deer from Roseau County, Minnesota. The deer was killed in the fall of 2005 and reportedly was in good nutritional condition but had mineralized retropharyngeal lymph nodes, a condition sometimes associated with bovine TB.

This deer was 1 of 474 white-tailed deer that the DNR tested this past fall from a 4-county area (Lake of the Woods, Marshall, Pennington, and Roseau), where 5 positive cattle herds were found in 2005. The University of Minnesota Diagnostic Laboratory performed the initial screening and microscopic examination of the deer samples, and USDA's National Veterinary Services Laboratories in Ames, Iowa, performed the bacterial cultures.

The current bovine TB outbreak in Minnesota initially was detected in a beef herd from Roseau County in February 2005 and was the first documented case of bovine TB in Minnesota since 1971. The Minnesota Board of Animal Health (BAH) conducted an epidemiological investigation, and 65 herds from 16 Minnesota counties were quarantined. Of these, 39 herds have been released from quarantine, and 26 herds remain under quarantine. Five of these 26 herds were found to be infected and have been depopulated, and testing is being completed on the other 21 herds. The BAH has initiated surveillance testing, with plans to test all cattle herds within a 15-mile radius of the infected herds to ensure that all infected populations have been identified. Molecular testing of the strain present in Minnesota is pending. These data will be used to determine the origin of the strain and may provide information on how the disease was introduced into the state.

The USDA announced in January 2006 that Minnesota has lost its TB-free accreditation status and has been reclassified as Modified Accredited Advanced. This status requires that all breeding cattle 18 months of age and older be tested for TB within 60 days of shipment across the state line. Prior to the detection of bovine TB in Minnesota cattle, there were only three states, Michigan, New Mexico, and Texas, that were not considered TB-free.

Bovine TB is caused by *Mycobacterium bovis* and is characterized as chronic and progressive, with animals often infected for months to years prior to onset of clinical signs. Historically, *M. bovis* has been detected primarily in cattle, but other species, including deer and other wild animals and humans, are susceptible (see *SCWDS BRIEFS* Vol. 20, No. 4). Hunters are advised to wear gloves when dressing deer in areas where bovine TB occurs and to contact the state wildlife agency if a carcass appears diseased in any way.

Several instances of bovine TB spillover from cattle to deer have occurred in the United States but only in Michigan has the disease become established in deer, likely due to heavy supplemental feeding and baiting and high deer densities (see *SCWDS BRIEFS* Vol. 19, No. 1). Plans are underway to test additional deer for bovine TB in the area of the positive Minnesota deer, as well as areas near positive cattle herds. Further information regarding bovine TB can be found at the websites of the Minnesota DNR (www.dnr.state.mn.us) and the Minnesota BAH (www.bah.state.mn.us). (Prepared by Erika Butler and Rick Gerhold)

Raccoons and Rehabilitation

In October 2005, the West Virginia Division of Natural Resources confiscated 60 raccoons that an individual was rehabilitating, despite a statewide ban on wildlife rehabilitation. All raccoons on the premises were humanely euthanized, and 19 were submitted to SCWDS for postmortem examination. Gross lesions were minor and consisted primarily of small excoriations and ulcers on the feet of all individuals. These superficial ulcers were likely a result of confinement. One of the animals tested positive for parvovirus, but

there was no evidence of distemper or rabies in any of the raccoons.

Although rabies was not found, another potentially serious problem was encountered. Nine of the raccoons examined at SCWDS were infested with *Baylisascaris procyonis*, a zoonotic roundworm that can cause human deaths. The parasite is transmitted when people, usually small children, ingest material contaminated with viable eggs. Clinical disease results from the aberrant migration of nematode larvae, generally in the central nervous system. Decontamination of the facilities where these raccoons were housed was advised, especially if children could frequent the area. Small children are at increased risk because they are more likely to put soil or foreign objects in their mouths. *Baylisascaris* eggs can survive in the environment for years and resist many forms of chemical and physical treatments.

Zoonotic diseases are a major consideration in wildlife rehabilitation, and rabies is of particular concern in areas where it is endemic in wild carnivores. The raccoon rabies epizootic, which now involves 20 eastern states, has greatly increased opportunities for human exposure to the virus via wild animal contact. Many states prohibit rehabilitation, as well as private ownership of rabies vector species, primarily raccoons, skunks, foxes, and bats.

Results of a survey of licensed wildlife rehabilitators in North Carolina recently were published by Schopler and others in the *Journal of the American Veterinary Medical Association* (November 15, 2005). The survey was conducted to evaluate the risks associated with wildlife rehabilitation and the reemergence of rabies in the state through assessment of the status of knowledge and attitudes of 672 licensed rehabilitators about rabies and rabies-vector species. Only 31% responded to the survey, and there were inconsistencies in their knowledge base regarding rabies. Most respondents were amenable to all proposed licensing requirements (record keeping, additional training, and veterinary support) for handling rabies-vector species. The 210 respondents reported more than 580 calls annually about rehabilitation of rabies vector species, and 80% believed at least some of their peers were illegally rehabilitating them. These survey results and the West Virginia case are strong indicators that rehabilitation of wildlife, particularly rabies-vector species, continues despite state regulations and offers ample opportunities for human exposure to rabies and other zoonotic pathogens. (Prepared by Kevin Keel)

Rabies in Wildlife

Summaries of United States rabies reports for 2004 were published by Krebs and others in the December 15, 2005, issue of the *Journal of the American Veterinary Medical Association* (Vol. 227, No. 12, pp. 1912-1925). Overall, there was a decrease of nearly 5% in reported cases compared to 2003; 92% of the cases were in wild animals and 8% were in domestic animals. Raccoons continued to be the most frequently reported rabid species (38%), followed by skunks (27%), bats (20%), foxes (6%), and other wild animals, including rodents. Among domestic animals, rabies was reported most frequently in cats (4%), followed by cattle (2%), and dogs (1%). Although a total of 6,828 nonhuman cases were documented in 2004, the reports should be regarded only as an index of rabies cases because many rabid animals never are observed or tested.

Reports of rabid raccoons declined in 12 of the 20 eastern states in which the raccoon rabies strain of the virus is enzootic, and nationwide there was a 3% decline in reports compared to 2003. The 2004 number is the lowest since 1993, when 5,912 cases were reported. Although overall numbers of reported cases decreased, raccoon rabies was found beyond barriers that had been created through oral rabies vaccination (ORV) programs conducted to stop its geographic spread. Raccoon rabies was detected beyond the Cape Cod ORV

barrier in Massachusetts and beyond the ORV barriers in Ohio and Tennessee along the western edge of the raccoon rabies epizootic. Multiple states, the Centers for Disease Control and Prevention, and USDA-APHIS-Wildlife Services have collaborated in a large undertaking to maintain and expand an immune barrier from Lake Erie to the Gulf of Mexico. Changes in ORV baiting strategies, including additional baiting in and around newly infected areas, have been made to treat and strengthen areas in which the barrier breaches occurred.

In South Texas, ORV programs have virtually eliminated a variant of the rabies virus that reemerged in the late 1970s and was maintained by coyotes, with transmission to unvaccinated dogs. In 2004, there was only one case reported involving this variant. A similar reduction has occurred in reports of another canine rabies virus variant that was maintained in gray foxes in western and central Texas. Rabies due to the red fox virus variant in Canada and New England also has been controlled, and cases occurring in foxes in the eastern states generally are assumed to be due to infection with the raccoon variant.

In skunks, reports of rabies decreased by 12% from 2003 numbers. Three different rabies virus variants are responsible for disease in skunks in California, north central states, and south central states. The states in which the raccoon rabies virus variant is enzootic reported 42% of the rabid skunks, and it is assumed that the cases represented spillover transmission from raccoons. Currently there is not an effective licensed oral rabies vaccine available for skunks.

Rabid bats accounted for 20% of the 2004 reports, which represented a 12% increase over 2003. Rabies in bats is epidemiologically distinct from rabies maintained by carnivores, and its circulation in bats is not understood as well as rabies in carnivores (see *SCWDS BRIEFS* Vol. 20, No. 3, pp. 5-6). It should be noted that successful control of rabies in wild carnivores through ORV programs will have no effect on enzootic rabies in bats and the associated risk of human infections. This is significant because bat strains of the rabies virus cause the majority of human rabies cases in the United States. Since 2000, 14 of the 15 human cases acquired in the United States were due to bat rabies variants. Four of these persons were infected via organ transplants. Of the remaining 10 human cases, only 3 involved a definite history of a bat bite. Despite the lack of history of a bite, the most likely route of infection is considered to be transmission by a bite that was either unnoticed or ignored during an interaction with a bat. As a result, protocols for post-exposure prophylaxis were broadened to include treatment of persons who had encounters with bats during which a bite could not be ruled out. Although human rabies cases due to bat strains of the virus occur rarely, prevention of these infections is an important public health concern. Additional rabies information is available at www.cdc.gov.

CWD Update

Colorado: The Colorado Division of Wildlife reported the discovery of chronic wasting disease (CWD) in December 2005 in two deer in two new game management units in the eastern part of the state. One deer was a target-profile animal north of Burlington near the eastern border with Kansas, and the other deer was killed by a vehicle just west of Pueblo. Colorado wildlife health specialists previously had identified testing of road-killed cervids as an effective CWD surveillance tool.

Kansas: Kansas has been added to the list of states that have confirmed CWD in free-ranging cervids. The positive animal was an adult female white-tailed deer killed in December 2005 by a hunter in Cheyenne County near the borders with Colorado and Nebraska. The Kansas Department of Wildlife and Parks has conducted CWD surveillance since 1996 and will initiate the assessment phase of their CWD response plan to estimate

the extent and prevalence of CWD in the vicinity of the index case.

New Mexico: CWD was diagnosed in mule deer in 2002 and 2003. This past hunting season it was confirmed for the first time in wild elk. Two positive elk were killed by hunters in the Sacramento Mountains of southeast New Mexico. One was an apparently healthy adult male. The other was a yearling female that was in poor condition and ataxic. In addition to these 2 elk, a total of 12 deer have tested positive for CWD in New Mexico since 2002. All have come from the southern part of the state, either in the Organ Mountains, near Las Cruces, or in the southern portion of the Sacramento Mountains.

West Virginia: CWD was first confirmed in a road-killed deer in Hampshire County in September 2005. Subsequent surveillance within a 5-mile radius of the positive road-killed deer turned up 4 additional cases among 208 animals tested. The West Virginia Division of Natural Resources collected and tested samples from an additional 1,015 hunter-killed deer in Hampshire County during the 2005 archery and firearms seasons without finding any additional positive animals.

Wisconsin: On January 13, 2006, Wisconsin's Departments of Natural Resources (DNR) and Agriculture, Trade, and Consumer Protection (DATCP) reported that a perimeter fence had been intentionally cut to form an opening at a shooting enclosure in which 20 deer have tested positive for CWD since 2002. State officials are concerned because of possible exposure of wild deer to CWD. The owner of the enclosure reported the breach to the DNR on January 12, but it is unknown when the fence was cut. It also is unknown whether any captive deer escaped into the wild or if wild deer entered and left the enclosure.

In 2002, the first CWD-positive captive white-tailed deer in the United States was found in this enclosure, and another 19 positive deer have been identified from this herd since then. In July 2003, the Wisconsin state veterinarian ordered all deer on the site to be killed for testing. The order has been in litigation since then, but the herd owner recently signed an agreement with the USDA and DATCP under which the remaining deer will be destroyed and the owner will be compensated.

The DNR announced that it would immediately begin collecting and testing deer outside the facility; results are pending. Surveillance for CWD since 2002 has not detected the disease in more than 1,800 wild deer tested in the central Wisconsin county in which the enclosure is located, as well as an adjacent county.

Alberta: Alberta first confirmed CWD in a wild mule deer near Oyen in September 2005. Assessment efforts in the vicinity of that case resulted in the collection of 133 deer and identification of 2 additional positive animals. In December 2005 a fourth case was identified in a hunter-killed mule deer near Empress, along the border with Saskatchewan.

Correction: In the last issue of the *SCWDS BRIEFS* (Vol. 21, No. 3) in an article entitled "CWD Update-Autumn 2005," we reported that the first case of CWD in a wild cervid in Canada was documented in September 2005. That was incorrect; CWD has been found since 2000 in wild deer in Saskatchewan. The statement should have read "the first case of CWD in a wild deer in Alberta."

News releases and other information can be found at state and provincial CWD websites that can be accessed through the CWD Alliance (www.cwd-info.org). (Prepared by Kevin Keel)

CWD Research News

The January 26, 2006, online issue of the journal *Science* (DOI:10.1126/science.1122864) contained a research report that indicated that skeletal muscle as well as central nervous system (CNS) tissues of affected deer contain infectious prions of chronic wasting disease (CWD). The study by Angers and others at the University of

Kentucky, Colorado State University, and the Colorado Division of Wildlife used transgenic mice that were engineered to express cervid prion protein. Extracts of skeletal muscle (semimembranosus/semitendonosus) from the rear legs of mule deer with clinical CWD were prepared and inoculated directly into the brains of the "cervidized" mice. These animals developed progressive neurological dysfunction with average incubation times of 360-490 days, whereas the mice inoculated with CNS material from deer with CWD had incubation times of 230-280 days. The diagnosis of prion disease was confirmed by the presence of abnormal prion proteins in the brains of the mice receiving muscle or CNS extracts. The researchers concluded that prion titers were lower in muscle than in CNS tissue because the time of disease onset is inversely proportional to the dose; however, additional studies are in progress to accurately assess the titers.

Although results of the current study indicate that humans handling and consuming skeletal muscle from deer with end-stage disease are at risk of exposure to the CWD agent, the risk of transmission of CWD to humans continues to appear low. This assessment is based on epidemiological studies of Creutzfeldt-Jakob Disease (CJD) in humans, relatively inefficient prion transmission via the oral route, and other experimental animal research.

Researchers from Case Western Reserve University published results of a CWD human transmissibility model using two lines of transgenic mice engineered to express human prion protein (Kong et al, *Journal of Neuroscience*, Aug. 31, 2005, Vol. 25, No. 35, pp 7944-7949). The two lines of "humanized" mice failed to develop the hallmarks of prion disease after more than 657 and 756 days following intracerebral inoculation with brain extract from elk with CWD. However, both lines of "humanized" mice developed disease 213-315 days after inoculation with brain material from a human patient with CJD, thus demonstrating susceptibility to prion disease, and "cervidized" mice inoculated intracerebrally with CWD material developed prion disease within 118-142 days. The researchers concluded that the results indicate there is a substantial species barrier for transmission of elk CWD to humans. They further stated, "Because the CWD prions from deer and elk appear to be indistinguishable ... and there have been no reports of different CWD prion strains, it is likely that CWD prions from mule deer and white-tail deer are, as reported here for CWD prion from elk, of low or no transmissibility in humans."

Recommendations to hunters and those consuming venison remain the same: Avoid consumption of known positive or sick animals while the risk, if any, of CWD transmissibility to humans continues to be assessed; avoid handling tissues such as brain, spinal cord, spleen, and lymph nodes; and properly dispose of any unwanted scraps or tissues removed from the kill site. For additional information regarding human health concerns, please contact local, state, or federal public health agencies. (Prepared by John Fischer and Rick Gerhold).

Idaho Loses Brucellosis-Free Status

On January 12, 2006, USDA-APHIS announced that Idaho's brucellosis classification had been reduced from Class Free to Class A, in order to prevent the interstate spread of brucellosis. The change in status is due to the detection of brucellosis in cattle in the state and will result in increased Federal testing requirements for certain cattle moving out of Idaho. Additionally, there will be required testing for cattle herds in eastern Idaho that have contact with wild elk in the winter and are regarded as "high risk" by the Idaho State Department of Agriculture (SDA).

In October 2005, SDA quarantined a ranch in Bonneville County's Swan Valley after diagnosing a possible case of brucellosis in a cow. Testing the entire herd detected additional cows that reacted positively to the serological test, and the presence of *Brucella*

abortus subsequently was confirmed. Epidemiological investigations later confirmed brucellosis in a heifer that had been shipped from the affected herd to another Idaho ranch. The discovery of a second affected herd resulted in Idaho's loss of Class Free status, according to APHIS standards. Idaho can apply to regain Class Free status if no new cases emerge after 1 year. Prior to the current situation, Idaho had enjoyed Class Free status since 1991. The last case of brucellosis in Idaho cattle was found in 2002, but it was limited to one herd and did not affect the state's Class Free status.

The source of the infection of the Swan Valley herd currently is under investigation. The ranch is located in an area through which numerous wild elk migrate in spring and autumn. Also, during the winter, there are elk that reside in this area, which is near an elk feedground that was established in the 1970s to prevent elk from depredating on haystacks and cattle feedlines. The SDA and Idaho Department of Fish and Game (DFG) traps and tests elk on this feedground and removes animals that are seropositive for brucellosis. *Brucella abortus* has been isolated from elk on or from this feedground in the past, and seropositivity rates have ranged from a high of 45% in 1999 to a low of 6% in 2005. (Prepared by John Fischer with information from the Idaho SDA website [www.agri.state.id.us] and Phil Mamer, Idaho DFG).

SCWDS Loses Two Good Friends

Many of our younger readers may not recognize the names of these two individuals, but they were giants in the wildlife profession in their day. Vagn Flyger and Jim Jenkins were good friends and staunch supporters of SCWDS since its inception in 1957, and both were personal friends of our founding director, Dr. Frank A. Hayes, and many early SCWDS employees.

Vagn Flyger – Dr. Vagn Folkman Flyger died of congestive heart failure at his home in Silver Spring, Maryland, January 9, 2006 at age 83. Vagn was a native of Denmark. He came to the United States in 1923 at age 1 and grew up in Jamestown, New York. He became a U.S. citizen in 1942. When WWII broke out, Vagn enlisted in the Army and became a member of a Combat Engineer Battalion and served in Europe from 1942 to 1946.

After the war, Vagn continued his education and received a bachelor's degree in zoology from Cornell University in 1948, a master's degree in wildlife management from Pennsylvania State University in 1952, and a doctorate in vertebrate ecology from Johns Hopkins University in 1956, where he wrote his thesis on behavior patterns of the gray squirrel. After stints with Chesapeake Biological Laboratory at Solomons, Maryland, and the Maryland Department of Natural Resources, he joined the faculty of the University of Maryland in 1964, where he continued his research on gray squirrels. Vagn was considered an authority on gray squirrel ecology, and he gained considerable acclaim when he documented the "Great Squirrel Migration of 1968."

Although gray squirrels were his primary interest, Vagn also did work on flying squirrels, fox squirrels, woodchucks, and other wildlife species. During a 3-year period in the late 1950s, using the newly developed CapChur Gun, he tranquilized about 1,500 white-tailed deer on the U.S. Army's Aberdeen Proving Ground in Maryland and released them into parts of Maryland where few or no deer existed at that time.

In the early 1960s, he worked with the Inuit on a remote Arctic Island, demonstrating how whales could be killed humanely with the CapChur Gun, using a drug overdose. In the mid-1960s, Vagn traveled to the Arctic regions to study polar bears by tranquilizing them and then tagging them with radio transmitters. Later, he returned to the Antarctic to tag Adelie penguins and study Weddell seals.

As a recognized authority on gray squirrels and flying squirrels, Vagn was engaged by the BBC to aid in filming several documentary television programs, which have been shown in the United States, Great Britain, and Europe. Vagn was known for his sense of humor, generosity, and his vast knowledge of ecology of many types of wildlife. (Contributed by Katherine Prestwood)

Jim Jenkins – Dr. James Hobart Jenkins, Professor Emeritus of Wildlife Management at the University of Georgia's D.B. Warnell School of Forest Resources, died January 16, 2006, in Athens, Georgia, at age 86. Jim was a native of Ohio, and he earned a BS degree from Ohio State University. He came to Georgia to work as a biologist with the Georgia Game and Fish Commission and later completed his MS and PhD degrees at The University of Georgia. He was the first PhD student of the "Father of Ecology," Dr. Eugene Odum. After completing his graduate studies, Jim accepted a faculty position at the UGA forestry school and became the founding force of the wildlife and fisheries program. Here he served as a mentor and friend to generations of natural resource students at UGA for 34 years.

In the 1950s, Jim worked closely with Jack Crockford, Frank Hayes, and others in the development of the CapChur gun, which revolutionized early efforts in white-tailed deer restoration programs throughout the country. He and Frank Hayes also developed Halt, a pepper spray dog repellant used by meter readers and U.S. Postal employees, and Jim invented a snake repellant used by the U. S. Army in Vietnam. Jim made a number of trips to Africa capturing big game animals with the CapChur Gun and he spent some time teaching at the University of Pretoria. The tranquilizer gun is credited with saving the white rhinoceros from extinction. He had many exciting adventures working in Africa, and the stories he later told to friends, family, and students earned him the affectionate nickname "Jungle Jim." He was proud of his 27 years of service in the U.S. Air Force Reserves and retired as a full Colonel.

His career was very productive and highly varied, although he probably is best known for his research centered on radionucleotid and pesticide contaminants in the environment. Jim was a person with a "how to" rather than a "can't do" attitude and always provided positive guidance to students and co-workers. Everyone at SCWDS who knew Dr. Jenkins has fond memories of interactions with him, especially his great humor and spontaneous laughter. He was a good man. (Contributed by Randy Davidson)

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