



AMERICAN ASSOCIATION OF WILDLIFE VETERINARIANS



Fall-Winter 2003

2002 CUTTING EDGE SPEAKER—DR. JOE BIELITZKI

By Kirsten Gilardi

Joe Bielitzki, MS, DVM, program manager at the Defense Sciences Office, of the Defense Advanced Research Projects Agency in Arlington, Virginia, delivered this year's AAWV Cutting Edge Lecture entitled "Can Technology Advance Wildlife Disease Monitoring?" at the annual meeting of the Wildlife Disease Association meeting in Arcata, California. Bielitzki delivered an overview of some of the technological advancements occurring in the areas of therapeutics, informatics, surveillance and genomics, all of which are being driven by the need to maintain and improve the nation's security. He gave the audience a heads-up on some of the emerging technologies that will enable faster identification of pathogens, and hence more rapid diagnosis

and efficient response during disease outbreaks, such as "tissues on a chip," high-throughput screening, various non-invasive monitoring technique. Global positioning system units and non-contact electrodes are being developed which can determine the location and physiological state and responses of an animal remotely. Miniaturized electronics are being developed which will detect motion, bioelectrical potentials, and location. Studies investigating inducible hibernation or suspended animation may someday allow easier transportation, treatment and handling of animals. Prion diseases are of considerable concern among the defense agencies as potential bioterrorism threats, leading many to ask, "Is this a bigger problem than just prions?" Bielitzki was careful to note

that while technology will allow science to progress through improved accuracy, reliability, repeatability, sensitivity, and selectivity, it will always be limited by the quality of the scientific question, the breadth of the application of the results, the relevance of the inquiry, and last but not least, funding. As well, it will be limited by the number of critical thinkers in our profession. Bielitzki challenged the wildlife veterinary community to participate in the paradigm shift occurring within the field of veterinary science towards advanced technology and its myriad of applications, and warned us that if we look at the same problem for a long enough period of time and still don't have an answer, we may not be asking the right questions.

BUSINESS MEETING MINUTES

By Kirsten Gilardi

The AAWV business meeting was held on July 30, 2002, in Arcata, California, in conjunction with the Wildlife Disease Association annual meeting. There were approximately 35 people in attendance. The meeting was called to order at 5:00 pm by Terry Kreeger, president.

Walt Cook, gave the treasurer's report, reporting the AAWV to be in solid financial standing. Kirsten Gilardi, secretary, reported that as of July 2002, ap-

proximately 220 members had paid their dues for 2002, out of a total of 332 paid through 2001. There was good response among membership to both a broad-scale email reminder sent to all members for whom the AAWV has a current email address, as well as to the reminder printed in the Spring 2002 newsletter. Starting this year, the AAWV will send a single postcard-type mailer out to all members in November, reminding members to renew for the following year.

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PRESIDENT'S MESSAGE

By Terry Kreeger

The AAWV held its business meeting in conjunction with the annual meeting of the Wildlife Disease Association in Arcata, California. The minutes of that meeting are printed elsewhere in this newsletter. The meeting was well attended and I thank all those who made the effort to sit for another couple of hours instead of going to the bar at the end of a long day of scientific presentations.

I particularly want to thank all of you who volunteered for the various committees that were formed or took on other assignments. I've said this before, but it is you the members, who make this Association work and thrive. In the past few years, the Association has really benefited from several "young lions" who have stepped up and took on the responsibilities of the newsletter, the web site, membership drives, and public relations.

I would like to take a minute to clarify one of the committees that was recently formed. If you recall the last President's Comments, I discussed the rejection of the proposed National Association of Zoo and Wildlife Veterinarians by the American Veterinary Medical Association (AVMA). As promised, we did form a committee to look into where do we go from here. This committee will investigate several options for the AAWV including, but not limited to: (1) continuing as we are, an independent association; (2) striving to increase the number of active AVMA members in both organizations in order to reapply as the NAZWV and perhaps gain AVMA House of Delegate status; (3) continuing to develop the NAZWV umbrella organization, regardless of future AVMA status; or (4) formally join the AAWV and AAZV into one official organization.

This committee will look at all the pros and cons of the various options and report back to the AAWV at the next business meeting (Saskatoon, 2003) with their overall recommendation. If their recommendation drastically changes the Association, it will be voted on by the entire membership. We have talked about the various options for some time, but there has never been a formal investigation for review. I think the work of this committee will probably determine the course of action of the AAWV for the next several years.

Now that I have properly thanked everyone for their efforts, let me now take the opportunity to whack most of you up side the head. The AAWV is an association of veterinarians who are concerned with the health of free-ranging wild animal populations. Our work centers on disease, but we are also involved in animal capture, relocations, research, and much more. Many of us are employed by state or federal wildlife agencies.

I recently reviewed The Wildlife Society's membership directory. Granted, I don't know many of you, but I do know a lot of names in the AAWV and I was disappointed to discover that probably less than 10% of the AAWV membership are also members of The Wildlife Society. The Wildlife Society is, after all, THE professional organization for wildlife biologists. Wildlife veterinarians are not a profession unto themselves. We essentially serve the wildlife biologists in their charge of maintaining healthy and viable wild populations.

The Wildlife Society publishes both the Journal of Wildlife Management and the Wildlife Society Bulletin. Although many of the scientific articles may not be of interest in you, I have almost always found one or more articles in each pub-

lication useful or informative. Besides scientific articles, there is a host of information on many aspects of the wildlife profession.

I have a hard time believing that those of you who profess to be "wildlife veterinarians," yet don't belong to The Wildlife Society, are really serious about your profession.

Be the best you can be—join The Wildlife Society!

EDITOR'S NOTE

Due to unanticipated production problems, this issue of newsletter has been significantly delayed. The editorial staff apologizes for the tardiness.

In an attempt to avoid delays in the future, an additional AAWV member has offered/been begged into assisting in the production of future issues. **Dr. Joe Gaydos** has joined the production team, and will be spearheading efforts to acquire content to include in the newsletter. Our hope is that, with his assistance, production problems will be lessened and our organization can continue to produce a professional newsletter for the membership.

However, as a warning, Joe may be contacting many of you in an attempt to increase member contribution to the effort (and he is much more persistent than I). Please remember that this is YOUR newsletter – the quality and the content of which relies on everyone!

To submit articles, e-mail Joe at jkgaydos@ucdavis.edu.

SUGGESTED CHANGES TO AAWV ELECTION PROCEDURES

By Dave Jessup

BACKGROUND

Leadership and selection of officers who have the time and energy to do the associations work has been a major challenge for AAWV since its inception. This is true for many other small professional organizations too. Several times in its 23 year history AAWV has lost significant momentum when people simply could not devote enough time to get AAWV's business done.

In the past AAWV has only occasionally held contested elections. Officers have largely succeeded each other through the ranks. When an officer has been needed to fill in a leadership opening a candidate has often been selected by President or Advisory Council and run unopposed. There are advantages and disadvantages to succession and to elections with multiple candidates which will not be discussed here. But, clearly AAWV is challenged with the need to "grow its leadership" while leaving openings for dynamic newcomers and for departure of leaders who are overburdened.

SUGGESTED CHANGES

AAWV will hold elections every two years as per constitution and bylaws. Each position (President, Vice President, Secretary and Treasurer) should be up for vote by the membership. Selection of Advisory Council and Newsletter Editor to be at the discretion of the President.

A standing Elections Committee will be established by the President shortly following entry to office consisting of no less than 3 members none of whom should be seeking election two years hence. One person (not an elected officer) will chair that committee. The Elections Committee will be responsible for recruiting at least one candidate other than a succeeding officer for each office. Officers will be encouraged to run for the next higher office (Vice President for

President, etc.). Nominations will also remain open to the membership.

The Elections Committee will also collect standardized candidate resumes and statements for publication in the AAWV Newsletter, coordinate with the AAWV Newsletter Editor to make publication deadlines for candidate announcements and ballots and assure proper ballots (as described below) are printed and made available to all AAWV members. This committee will do the majority of their work (recruiting candidates, getting background information and candidate statements, counting and verifying ballots) every other year. Thus, in the Fall or Winter AAWV newsletters prior to an election there will be a call for nominations from the membership, and an announcement of the two candidates (one the succeeding officer the other a member selected by the Elections Committee) who will run. Unless there is significant dissatisfaction with the choice of candidates most elections should be between two individuals.

Ballots: Will be printed in the AAWV Newsletter such that they can be removed without destruction of any significant portion of the newsletter or detached and mailed back as per instructions to the Chair of the Elections Committee. No photocopies of ballots will be accepted and postmarks observed to assure they arrive within specified time lines. Elections Committee Chair will tally and report the results to the President within 7 days of the closing date of the election and assure that the results are verified by at least one other committee member within another 7 days.

In closing, I think these additions and modifications to AAWV's elections procedures will help 1) assure greater membership participation in AAWV affairs, 2) encourage greater openness and accountability to the membership, 3) allow incorporation of "new blood" while encouraging stability of succession if officers are active, 4) relieve the President and Newsletter Editor of some responsibilities every other year.

AAWV FINANCIAL SUMMARY REPORT

Account Balance transferred:	\$18,097.27
INCOME	
Membership Dues	4,660.00
Conference Payments	2,405.00
Conference Auction	292.50
TOTAL INCOME	\$7,357.50
EXPENSES	
Supplies	29.76
Services (website)	727.20
USAHA membership	600.00
Student Chapter donation	200.00
Newsletter	2,500.00
TOTAL EXPENSES	\$4,056.96
TOTAL INCOME minus EXPENSES	\$3,300.54
Transfer to CD & Money Market Account	13,000.00
Checking Account Balance	8,397.81
Money Market Account	3,000.00
Interest Earned (0.5% APR)	10.64
Current Value	3,010.64
Certificate of Deposit (2.9% APR)	10,000.00
TOTAL ASSETS	\$21,408.45

NEW GUIDELINES FOR STUDENT CHAPTERS

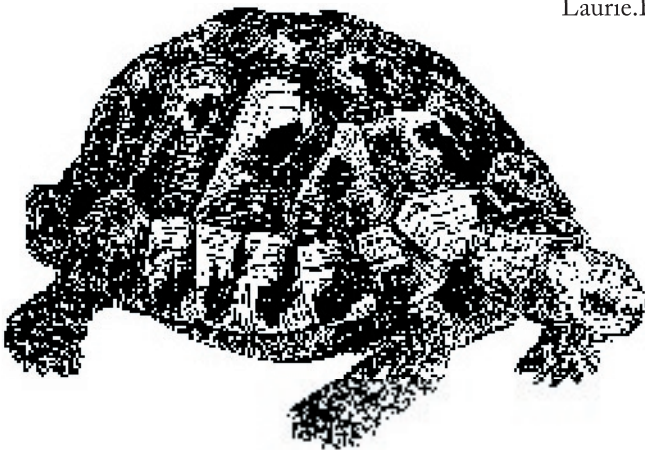
by Kirsten Gilardi and Laurie Baeten

While the AAWV defines Student Chapters in its Constitution (Article VII: Student Organizations: A student organization in a college or school of veterinary medicine may be granted affiliation with this association by the Board of Governors. The name of such affiliated organization shall be the "(name of college or school) Student Chapter of the AAWV), the organization has not established a procedure for receiving applications for Student Chapter status, or for maintaining record of those chapters in its membership database. At the annual business meeting, members agreed to institute the following steps for acceptance, recognition and involvement of student chapters of the AAWV:

1) The student designated as the AAWV Student Chapter president must write a letter to the AAWV Student Liaison requesting recognition on a calendar-year (not academic year) basis. The letter must include the names of at least 10 students who are members of the AAWV (the letter may include applications from said students) and must identify a faculty sponsor for the chapter. It is preferred that the faculty sponsor be an AAWV member, but is not required.

- 2) The Student Liaison will forward a copy of the letter to the AAWV Secretary, who will enter the Student Chapter into the membership database (status designated as "SC", versus "AC" for active member, "ST" for student member, "SU" for subscribing member, etc). In this manner, the AAWV will record the chapter's existence and its current standing.
- 3) Student Chapter status must be renewed every year, and should include the names of the current student chapter president, the faculty sponsor, and a membership list.
- 4) Student Chapters will not be required to pay dues for the chapter (because individual members of the student chapter will be required to be student members of the AAWV). Chapters will receive a newsletter (sent to the Chapter President) and the username/password for the members-only section of the website.
- 5) Chapters will be required to submit a report to the AAWV Student Liaison by July 1st of each year summarizing the previous academic year's activities.

The Student Liaison for 2002-2003 is: Dr. Laurie Baeten, Laboratory Animal Resources, Painter Center, Colorado State University, Fort Collins, CO 80523, 970-491-7364
Laurie.Baeten@research.ColoState.edu



In Memorium

ANNELISA M. KILBOURN

On November 2, 35-year-old Annelisa died in a small plane crash in the central African nation of Gabon. Annelisa is survived by her parents and a sister.



Born in Zurich, Switzerland, Annelisa worked for the Wildlife Conservation Society's Field Veterinary Program and SOSRhino. International and wildlife conservation were consistent themes through Annelisa's life. Her work took her to Africa, Southeast Asia and beyond.



Friends and colleagues gathered for a Celebration of the Life of Annelisa M. Kilbourn on Friday, November 15, at the Flaherty Learning Center, Congo Gorilla Forest, Bronx Zoo, New York.



At the request of Annelisa's family, the Wildlife Conservation Society has established the Annelisa M. Kilbourn Wildlife Health Fund, which will go directly to supporting professional development and capacity-building activities in developing countries.

Send contributions to:

Wildlife Conservation Society
Attn: Ms. Rebecca Bean
2300 Southern Blvd.
Bronx, NY 10460



(BUSINESS, *cont. from pg. 1*)

Mike Ziccardi, gave the newsletter editor's report. There was discussion among meeting attendees on whether or not the AAWV should consider distributing the newsletter via email rather than as a hardcopy sent via regular mail. There was general consensus that most of membership prefers to receive the newsletter as a hard copy. Ziccardi has identified a new printer for the newsletter, so overall production costs have gone down significantly: it now costs approximately \$650/issue to produce the newsletter, and mailing is happening through UCD. **All members are reminded to contribute articles, letters, announcements, etc. for publication in the newsletter:** the newsletter is our primary means of communication as an organization, and its quality and content depends upon the members. The new website password will be published in the Spring 2003 newsletter.

Gilardi proposed a protocol to formalize the granting of student chapter status to veterinary student organizations. There was general acceptance of this protocol. (See "New Guidelines for Student Chapters, pg. 4"). Kreeger reminded members that the AAWV at one time appointed a member as Student Liaison, who was responsible for maintaining communication with veterinary student chapters and promoting student involvement in AAWV activities. Laurie Baeten volunteered to be the new Student Liaison for the AAWV. Thank you Laurie!

Pursuant to the AVMA's rejection of the National Association of Zoo and Wildlife Veterinarians' bid to gain House of Delegate status, and to the AVMA's suggestion that the AAWV and AAZV organizations consider joining, Kreeger proposed that the AAWV form an ad hoc committee to investigate and evaluate the pros and cons of the following potential options: move forward with the NAZVWV concept (which maintains the AAWV and AAZV as distinct organizations), and/or to merge with the AAZV to form a single organization, or not move forward with either option.

The committee will work over the coming year in conjunction with a similar committee from the AAZV, present its report to the President, and make a recommendation to the membership at the next business meeting in 2003 if necessary. The following AAWV members volunteered to serve on the ad-hoc committee: Kirsten Gilardi, Ben Gonzales, Dave Jessup, Patrice Klein, and Sharon Taylor. There will be a session hosted by the NAZVWV at the 2003 AVMA meeting in Denver. Jonna Mazet will be serving as session chair.

Sharon Taylor volunteered to coordinate a mass-mailing membership drive for the AAWV. Thank you Sharon!

Dave Jessup proposed a revised set of guidelines for the AAWV election process (See "Suggested Changes to AAWV Election Procedures, pg. 3").

Terry Kreeger requested that the organization formalize the process of selecting and scheduling a Cutting Edge Speaker for our annual meeting (held in conjunction with the WDA or the AAZV). Mark Drew motioned that we form a 3-member selection committee

whose responsibility it will be to solicit suggestions and select a speaker each year. The motion was seconded by Dave Jessup and was unanimously approved. Alonso Aguirre, Thierry Work and Mark Drew volunteered to be on the Cutting Edge Speaker ad hoc committee.

Terry Kreeger proposed that the AAWV consider selling advertising in its newsletter, as a potentially good way to increase revenue for the organization. It was agreed among attendees that any advertising needed to be relevant to the mission of the AAWV. Kreeger said he would work with officers to come up with a fee structure. Patrice Klein moved that the AAWV accept paid advertisements in the newsletter; Sharon Taylor seconded the motion. The motion was approved unanimously.

Dean Goeldner gave an update on the progress of the Minor Use Minor Species (MUMS) legislation: they attempted to get MUMS on the bioterrorism bill, which didn't work. Goeldner and his colleagues are now trying to get it on the AMDUFA bill.

UPCOMING MEETINGS

Mar. 11–15, 2003	National Wildlife Rehabilitators Association Symposium (Newport, Rhode Island). Contact NMRA at nwra@nwrwildlife.org or visit www.nwrwildlife.org .
Apr. 12–13, 2003	WEZAM Exotics Conference (Madison, Wisconsin). Contact Juan Carlos Robles Emanuelli at jrobles@students.wisc.edu .
Jun. 5–7, 2003	International Conference on Exotics (Palm Beach, Florida). Contact ICE2003, PO Box 541749, Lake Worth, FL 33454-1749; info@exoticdvm.com , or visit www.exoticdvm.com .
Aug. 10–14, 2003	Wildlife Disease Association Conference (Saskatoon, Saskatchewan, Canada). Contact the Canadian Cooperative Wildlife Health Centre, c/o Vet Pathology, WCVN, 52 Campus Dr., University of Saskatchewan, Saskatoon, SK S7N 5B4. CCWHC@usask.ca or visit wildlife1.usask.ca/wda2003 .
Aug. 25–29, 2003	Association of Avian Veterinarians Conference (Pittsburgh, Pennsylvania). Contact AVA Conference Office, 90 Madison St., Ste. 502, Denver, CO 80206; aav@conferenceoffice.com , or visit www.conferenceoffice.com/aav .
Sep. 6–10, 2003	The Wildlife Society Conference (Burlington, Vermont). Visit www.wildlife.org/conference .
Oct. 4–10, 2003	Joint Conference of the American Association of Zoo Veterinarians and the Association of Reptilian and Amphibian Veterinarians (Minneapolis, Minnesota). Contact Wilbur B. Amand, 6 North Pennell Rd, Media, PA 19063; aazv@aol.com , or visit www.aazv.org .

CWD in Illinois

Date: Mon 16 Dec 2002

Source: Illinois Department of Natural Resources Official Release [edited]

Chronic wasting disease has been detected in 3 more deer in northern Illinois, the Department of Natural Resources (DNR) announced today, bringing to 4 the number of confirmed cases of the disease in Illinois. Of the 3 new cases, 2 were found in the vicinity of the first CWD case reported in early November 2002. The samples were taken as part of IDNR's CWD surveillance of deer harvested during the firearm deer season. Testing was conducted at the Illinois Department of Agriculture Disease Laboratories. A follow-up test on the McHenry County case was conducted at the National Veterinary Services Laboratory in Ames, Iowa, confirming the diagnosis. Follow-up tests were deemed unnecessary, given their location and the contagious nature of the disease. Illinois expanded its surveillance efforts regarding CWD earlier this year and created a joint task force with the Departments of Natural Resources and Agriculture following the CWD outbreak in southern Wisconsin. About 4000 samples of hunter-harvested deer were taken in 36 counties around Illinois during the firearm deer season. Tests have been completed on about 1450 samples, with only the 3 positive results.

CWD in Minnesota

Date: 30 Aug 2002

Source: AP Online [edited]

Animal-health officials confirmed Minnesota's first case of chronic wasting disease on Fri 30 Aug 2002, marking the spread of the incurable illness into a 10th state. The state Board of Animal Health said a farm-raised elk tested positive after dying mysteriously. The rest of the Aitkin County herd has been quarantined. Officials said they didn't know the source of the infection. They didn't say how many animals were in the herd. Health officials in Minnesota and Wisconsin have been working with the national Centers for Disease Control and Prevention (CDC) to investigate the deaths of 3 men, 2 from Creutzfeldt-Jakob disease (CJD) and

the other from Pick's disease, another neurological disorder. The men, 2 from Wisconsin and 1 from Minnesota, knew each other and ate at wild-game feasts hosted by one of them.

Mandatory CWD testing in Canada

Date: 09 August 2002

Source: Reuters

Farmed elk and deer in Alberta must now be tested for chronic wasting disease as "mad cow" fears spread in North America following the death of a man in nearby Saskatchewan. Until now, testing of herds in the western Canadian province has been voluntary, but the recent discovery of an elk in Alberta with the degenerative brain disease led the government and industry to more comprehensive testing. Under the new mandatory system, which is effective immediately, owners must send the heads of animals that are more than one year old for tests if they die on farms or are slaughtered. There are more than 65,000 elk and deer on 600 licensed game farms in Alberta. In Saskatchewan, nearly 7,800 animals have been destroyed in recent years under orders from the Canadian Food Inspection Agency after chronic wasting disease was discovered.

Tularemia Outbreak in Prairie Dogs in Texas

Date: 6 Aug 2002

Source: CDC website [Edited]

Officials from the Centers for Disease Control and Prevention (CDC) and the Texas Department of Health (TDH) are investigating an outbreak of tularemia in wild prairie dogs at a commercial facility in Texas distributing the animals in the United States and to other countries.

Texas health officials were recently notified a number of prairie dogs at the facility had died unexpectedly. Testing on the dead animals at CDC laboratories indicated the animals died from tularemia. Officials went to the facility to investigate and learned over the past 2 months hundreds of prairie dogs potentially infected with the bacteria were shipped to a number of outlets in vari-

ous states including Ohio, West Virginia, Florida, Washington, Mississippi, Nevada, Texas, Illinois, Virginia. In addition, prairie dogs were also shipped to Japan, Czech Republic, Netherlands, Belgium, Spain, Italy and Thailand. CDC and Texas health authorities have been notifying respective state and international health authorities. In addition, the World Health Organization (WHO) and the European Union Disease Surveillance Network are assisting with the investigation.

Ecological Impact of WNV

Date: 3 Jan 2003

Source: Washington Post [edited]

Scientists are beginning to taking stock of West Nile virus's North American invasion, and they are taken aback by the scale and sweep of its ecological impact.

West Nile virus infection is not fatal in all animals, and over time some species are expected to adapt. But even partial [declines] in key populations could have serious consequences. Rodent populations could blossom in areas where raptors are dying, and pest birds such as house sparrows may be increasing where crows are absent. The worst is still ahead, scientists say. Come spring, West Nile virus is expected to complete its push to the West Coast, to leap to the subtropics, where rare birds and other vulnerable creatures already face formidable threats to their survival.

West Nile made its North American debut in the fall of 1999, discovered in a dead New York crow. Scientists don't know how the virus reached U.S. shores—perhaps it hid inside a single infected bird imported from the Middle East. But one thing is certain, said Stephen Ostroff of the Centers for Disease Control and Prevention (CDC) in Atlanta: "There's no way that West Nile virus is going to go away." The virus does not appear to be any more virulent in Americans than in other people around the world, and scientists suspect that the US population will gradually gain immunity through low-level exposures. That is the situation today in countries where the virus has been active for many years. Most people in those countries have antibodies to the virus from early childhood, and serious complications or death from West Nile virus infection are rare.

But in North American wildlife, the virus has proven to be unusually aggressive and capable of infecting a surprisingly diverse array of animals. It is still unclear how many of the 200 or so species struck by West Nile virus infection have suffered significant population declines. But a consensus is emerging that among birds, in particular, far more species are being hurt than scientists had predicted.

The experience of the University of Minnesota's Raptor Center, which rehabilitates sick and injured raptors, was typical. [In October] the center took in 70 ailing birds of prey, including great horned owls, eagles, and red-tailed hawks. Officials there presume that if that many were found and brought to the center, countless others died in the wild, with potentially far-ranging repercussions. "From a biological standpoint, raptors take longer to mature and have fewer offspring" than smaller birds, said Patti Bright of the American Bird Conservancy. It will take a while longer, Bright and others said, before it is known whether rodent populations are taking advantage of West Nile virus's impact on birds of prey.

The evidence for declines in songbirds and other small avian species is less direct, in part because they are so much less visible. "We're simply not going to know for a while [about] the smaller birds, because we're not going to find the bodies," said David S. Wilcove, a professor of ecology at Princeton University who has been studying West Nile virus disease. Still, researchers this year found more than 140 bird species sickened or dead [as a result of West Nile virus infection], including chickadees, doves, grackles, gulls, herons, kingfishers, pelicans, sparrows, swans, turkeys, warblers, woodpeckers, and wrens. And while most of those species will probably pull through as resistant individuals mate and pass their antiviral vigor to their offspring, ornithologists expect that others will not be so lucky.

Several unexpected aspects of the epidemic have fed Wilcove's and others' pessimism. One surprise is that the virus can be transmitted directly from bird to bird, not only via mosquitoes. Raptors can acquire the virus by eating infected prey, and some birds can apparently spread the virus in their droppings. There's also evidence that some

birds can pass the virus directly to their chicks while they're still inside the egg.

Another surprise is that West Nile virus can be transmitted directly from adult mosquitoes to their eggs, so that newly hatched aquatic larvae are born infected. That could make insecticides, which typically kill only adults, less effective.

Scientists have also been surprised to learn that the virus can persevere through the winter, even in many Northern states. Researchers are not sure which animals are serving as the virus's winter host, but the phenomenon is allowing the disease to spread year round and is giving the summer viral eruption an earlier start each year.

Yet another surprise is the number of mosquito species—36 at last count—that carry the virus. "This is a virus that's never seen a mosquito it doesn't like," said Ostroff of the CDC. "That's not typical for most pathogenic viruses."

If that weren't enough, some researchers suspect that West Nile virus might be capable of mixing its genetic material with that of a closely related virus, such as the one that causes St. Louis encephalitis, if both viruses were to infect a single animal. Other viruses have periodically produced such hybrids, creating in the process an entirely new and dangerous virus.

"This virus is going to spread to the West Coast big time by next year, no question," USDA's Robert McLean said. "Each habitat is different, but California seems to be an area that has all the factors you need for a major spread. I think they're going to be facing major problems in humans, horses, birds, and other animals. I just don't see any barriers."

Such predictions have a particularly ominous ring for researchers on the California Condor Recovery Team, who have been struggling to bring the ungainly bird back from the brink of extinction. They knew that this summer's experimental inoculations of zoo birds with the horse vaccine had been disappointing. So in November 2002, veterinarians at the Los Angeles and San Diego zoos injected into the thighs of their condors an experimental vaccine to try to confer immunity before the spring egg-laying season. "We had absolutely zero negative effects," said Cynthia Stringfield, veterinarian of the Los

Angeles Zoo, and preliminary blood tests suggested that the birds "had a fantastic immune response." If further tests show that the vaccine works, the team will try to vaccinate all 128 captive California condors and the approximately 70 birds now living in the wild.

Zoos may take the lead in the fight against West Nile virus in more ways than that. More than 100 U.S. zoos and wildlife parks have joined a newly created information-sharing network, which has its headquarters at Chicago's Lincoln Park Zoo, to track West Nile virus infection and other emerging infections in exotic animals. Some scientists suspect the network may even prove useful in the cause of homeland security, by providing a sensitive nationwide "sentinel system" for detecting the first hints of a bioterrorism attack.

Still, some scientists fear that the nation may soon become less able to prevent outbreaks such as that of West Nile virus—whether accidental or intentional. They said the U.S. system for screening incoming animal, plant and microbial life—a patchwork of more than 20 agencies—has long been undervalued and underfunded. Now the largest component, the Agriculture Department's Animal and Plant Health Inspection Service, is to become part of the new Homeland Security Department. That's leading many ecologists to fear that it will narrow its focus to classical bioterrorism pathogens such as anthrax, leaving the nation more vulnerable to [agents] such as West Nile virus. "I have a feeling that beetles in imported wood packaging are not going to be at the top of the list," said Faith T. Campbell, director of the invasive species program at the American Lands Alliance in Washington. Yet the recent U.S. invasion by Asian longhorned beetles, which arrived in wood packaging from China, is expected to cost the nation as much as \$669 billion in insect-destroyed trees in urban areas alone in coming decades, Campbell said.

Whether West Nile virus ends up decimating many animal populations or settling in as a mere high-grade ecological disturbance, the epidemic should be a wake-up call to beef up the nation's surveillance and quarantine network, said Princeton's Wilcove.

2003 AAWV MEMBERSHIP/RENEWAL FORM

Please fill out completely, and return to the address below.

Name _____

Organization _____

Address _____

City, State, Zip, Country _____

Telephone(s): Work () _____

Fax () _____

E-mail Address _____

Make check payable (in US funds) to AAWV.

- \$25.00 Veterinarian (Active)
- \$15.00 Veterinary Student
- \$25.00 Subscribing (Non-veterinarians & institutions)

Mail form to: Dr. Kirsten Gilardi
Wildlife Health Center
One Shields Avenue
University of California
Davis, CA 95616

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Fall-Winter 2003

