



# SOVE Newsletter

## President's Message



Doug Norris

### Colleagues

It appears that the weather here in Maryland may actually start to match my calendar which says that it should be spring! Although not a record snowy winter here in the mid-Atlantic, it has been an uncharacteristically cold winter with many days below freezing. This, in combination with reviewing student papers on climate change and vector-borne disease, reminds me of how inextricably linked vector-borne diseases are to climate and landscape. We can leave the debate of climate change/global warming to others, but as vector biologists/ecologists we are very familiar with the relationship of our vectors to

climate. Even many outside our vector community seem to “get this”. However, despite providing many, many excellent examples, I am still surprised by the number of health professionals outside of our vector community that do not seem to grasp the impact of landscape change on vector-borne diseases. May be it is because landscape change can sometimes be counter-intuitive, and can even counter (especially when human induced) the effects of climate change. The lack of surface water due to a hot dry summer should help reduce mosquito populations, yet subterranean water/sewer control may help maintain populations. Deforestation may open up habitat for malaria vectors, yet reforestation, especially with fragmentation, can increase suitable habitat for ticks that vector Lyme disease. Our community of experts make sense of these complex systems and I look forward to continually learning from you. Perhaps what we need to do better is to educate those outside our field; lay people, conservationists, politicians, developers. Explaining complex systems in simplified terms is often not an easy task and sometimes what we have to say is not popular. But we have important and scientifically interesting messages to provide, and many populations that could benefit. I will be looking forward to seeing and hearing these messages in the journal articles and meetings ahead of us, and most importantly the impacts they will have on populations around us.

In terms of society news, we have been working with Dr. Eva Veronesi, President of the European SOVE, to facilitate a bit more independence for their chapter. Eva and her advisory board are planning a fantastic meeting in Greece with an associated vector workshop in October. Closer to home, Dr. Dan Kline is planning our SOVE meeting in San Antonio, Texas in September. I think he still may be looking for a symposia organizer or two, so please contact him if you are interested. It will be an exciting meeting!

Doug Norris

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## Regional Reports



### SOUTHWESTERN USA

Fred S. Mulligan, regional director

As the earth renews itself with the flourish of spring, we in the Southwest prepare for another vector season with the feeling that the last did not truly end. Except for a very brief few days of freeze, winter was unseasonably warm and the drought continued. With these conditions, concerns about overwintering of *Aedes aegypti* in its infestation areas of California were elevated. And, in fact, there are indications that this exotic mosquito has survived. Madera County Mosquito and Vector Control District received reports of *Ae. aegypti* from residents of the City of Madera through the winter, and adults have been identified in March. In the City of Clovis infestation area, within the Consolidated Mosquito Abatement District, five adults (four female, one male) were collected in a total of four autocidal gravid ovitraps (AGO) during March. Seventeen AGOs were maintained throughout the winter, but no *Ae. aegypti* had been collected since early December. Despite the low numbers, the fact that these mosquitoes are once again being collected and that *Ae. albopictus* remains in Southern California bodes ill for public health in California. Such concerns are heightened with the reports of chikungunya virus spreading rampantly through the Caribbean and apparently into Mexico and South America, and with dengue continuing to push malaria as the leading mosquito-borne disease. Likewise, San Mateo County MVCD has continued to find evidence of *Ae. aegypti* throughout the winter and collected a mosquito in an AGO in Menlo Park in March. San Mateo MVCD has also been dealing with ticks and Lyme disease around the area of Water Dog Lake in Belmont. That district has

tested (in-house polymerase chain reaction) a total of about 4,000 ticks in pools of five for Lyme and has an infection rate of about 10%. A human case of Lyme disease has also been reported from the area, which seen increased populations of deer.

On a lighter note, SOVE was well represented at the International Conference on Entomology at Punjabi University in Patiala, India. Past SOVE Presidents Gregory Lanzaro and Norbert Becker, Secretary-Treasurer Major Dhillon, and SOVE Board members (ESOVE President) Eva Veronesi and this author were invited to participate as presenters during the plenary session and as session chairpersons and were presented with Awards of Honor. During a special presentation at the inaugural function, Major Dhillon was honored with a Lifetime Achievement Award from his alma mater. Major received his Master's degree from Punjabi University and was President of the Student Union. To walk through the campus with my compadre pointing out remembered landmarks, new buildings and mature trees, where newly planted ones once stood, is a treasured memory I will never forget, even beyond the spectacular Taj Mahal and Amber Fort. Conference Organizing Secretary Professor Jagbir Singh and the entire Department of Zoology and Environmental Sciences were gracious hosts and produced an outstanding program. International guests were also treated to a trip to visit the Golden Temple in Amritsar, the holiest place for the Sikh religion. See some pictures of the conference and award ceremonies on pages 7 and 8.

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## Regional Reports



### NORTHWESTERN USA

David G. Sullivan, regional director

The Northwest weather pattern this winter was cool and dry during the end of 2013, but turned cold and wet during the first two and a half months of 2014. Washington and Oregon were hit by major storms from the Pacific Ocean, which brought major snow to the mountains and rain to the valleys. During the last few weeks, major flooding has occurred in parts of Oregon, Washington and Montana. Moisture level in Montana was well below average until late February; now, however, most of Montana is seeing moisture levels at or above normal.

There were 447 human cases of West Nile virus and 17 cases of imported dengue in the northwest region (WNV: Colorado 318; Idaho 40; Montana 38; Oregon 2; Utah 7; Washington 1; Wyoming 41 and Dengue: Idaho 1; Montana 5; Washington 10; Wyoming 1).

The Northwest Mosquito & Vector Control Association (NWMVCA) is holding its Spring Training Workshop in West Richland, Washington on April 3 and 4. Information is available on the NWMVCA website under events.

Other state training workshops include: Idaho, May 13<sup>th</sup> in Pocatello and May 14<sup>th</sup> in Nampa ID; Montana, May 29<sup>th</sup> in Great Falls; Oregon: April 17<sup>th</sup> in Hood River

### Colorado

This past season (2013) was the fifth season that Colorado State University has tested for West Nile virus (WNV) along the Northern Colorado Front Range, and was the second most intense WNV year since 2003. The increased *Culex* vector populations can be attributed to the early warming and sufficient precipitation in 2013. The cities of Fort Collins and Loveland implemented control programs aimed at reducing infected vector numbers, in addition to its on going programs in source reduction, public education and larval control efforts.

The surveillance season was from early June (week 23) to late August. A total of 26,752 *Culex spp.* females were tested from Ft. Collins and 10,752 *Culex spp.* females were tested from Loveland. Larimer County had 89 WNV cases, or 28.1% of Colorado's state cases. There were 17 neuroinvasive cases, including 1 fatality.

### Idaho

Leslie Tengelsen, PhD, DVM, of the Idaho Department of Health and Welfare provided information on a case of Jamestown Canyon virus (JCV) in Idaho that was reported by the CDC. The case had to be acquired locally as the patient had no travel history. JCV was discovered by surveillance by the CDC. It is Dr. Tengelsen's belief that CDC only recently started testing clinical samples sent their way for a panel of arboviral pathogens (including JCV). If CDC's budget is reduced they will not be able to identify these diseases.

### Montana

Winter is still present in Montana with rain/snow storms hitting western and southwestern parts of the state. Snow levels in western Montana range from 110% to 140% of average. Many of the major (and minor) rivers have, or are predicted to, overflow their banks, flooding roads, homes and businesses throughout the state.

### Oregon

On February 13, 2014 the Oregon Department of Fish and Wildlife (ODFW) published their "Vector Control Guidance for Sensitive Areas". The ODFW regulates the activities of Vector Control Districts, and this document should provide uniform regulation throughout Oregon. ....cont'd. on p. 4

Cont'd. from p. 3.

The Coos County Board of Commissioners has issued an RFP and will award a contract for the control of mosquito larva and pupa on the USFWS Brandon Marsh NWR. Vector control costs for Brandon Marsh will be paid for by the USFWS. The USFWS is currently evaluating mosquito larval and pupal control products to be used in the marsh.

### Utah

Sammie Dickson, Manager Salt Lake MAD reports:

Robert Brand, the Manager at Tooele Valley MAD since 1976, is retiring in June 2014. His successor is Scott Bradshaw who had been the educational coordinator at Box Elder MAD. Dr. Mario Boisvert, Manager of the Southwest Mosquito Abatement and Control District since 2008, left to take the Assistant Manager position with Sac-Yolo MVCD. He has been replaced with Interim Manager Sean Armodt, who has worked at the district for the past several years. Dr. Banugopan Kesavaraju, Assistant Manager of the Salt Lake City MAD since 2009, left to join Valent BioSciences as a research scientist. Ary Farajollahi, who is currently the director of the Mercer Mosquito Control Commission in New Jersey, will replace him. Bruce Bennett, Manager of the Weber Mosquito Abatement District since 1993 and a 51-year employee of the district, has retired. He was replaced with Ryan Arkoudas, former Manager of Great Falls MAD in Montana.

In October - November, an estimated 20,000 eared grebes (*Podiceps nigricollis*) that had migrated to the Great Salt Lake died. Each year about 1 million eared grebes migrate to this area. Upon arrival their flight muscles atrophy and the gut expands. They gorge on brine shrimp until the end of December then the physiological process reverses and they continue their migration to the Salton Sea/Mono Lake and points south. It is not unusual to see a lot of birds die due to botulism or bird cholera. But then, during the first week of December, duck hunters started reporting dead bald eagles out on the marshes. Before dying the eagles would lose the use of their left leg, couldn't hold their heads up, had a yellow plaque in the mouth and had unequal dilation of the pupils. After a lot of testing, ruling out lead poisoning, pesticides etc., it was determined that the eagles were dying of WNV. Here is where the story really gets interesting. During the first week of December, at the same time the eagles started dying, the weather turned extremely cold. All of the water in marshes froze over and the 1,000 or so Eagles that migrate here each winter couldn't get to their usual carp eating areas because they were frozen over.

Apparently, the eagles started eating eared grebes that had died and were washing up on the shore of the Great Salt Lake. At this point the eared grebes were tested and guess what? They had died of West Nile as well. It is believed that when the eared grebes migrated here some already had WNV. The grebes were shedding virus through their feces and infecting the mass of birds. As the birds died, they became "grebe sickles" for the scavenging eagles. The die-off ended around January 1, but many birds have been found since. There have been 72 bald eagle carcasses found so far. All, that have been tested, are positive for WNV. Before this event there had never been an eared grebe found positive for WNV. There had been only a handful of bald eagles ever test positive for WNV. Another odd thing is that most of the birds were found dead in Davis and Salt Lake counties. Last year these two mosquito abatement districts tested more than 1/4 million mosquitoes between them without a single positive pool in 2013.

### Washington

Angela Beehler, Manager, Benton County MAD, is seeking information from individuals who currently conduct (or formerly conducted) pesticide applications to U.S. waters for control of mosquitoes and other flying insects, weed and algae, animal pest, or forest canopy. Until October 2011 (when, these pesticide applications were exempt from the Clean Water Act NPDES (National Pollutant Discharge Elimination System) permit requirements. Since October 2011, mosquito control professionals and other pesticide end-users have spent millions of dollars in man-hours, equipment and regulatory fees to comply with the NPDES permits. The American Mosquito Control Association needs your help in educating U.S. lawmakers on the consequences of drawing limited resources away from its primary mission of protecting public health. Angela is particularly interested in the number of aerial applicators that are no longer treating for mosquitoes due to the cost, burden or increased liability of NPDES permits. Please take the following survey to describe any impacts or costs you have observed associated with NPDES permits:

<http://www.surveymonkey.com/s/PYKX5K>.

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*In Memoriam*  
**Ernst-Jan Scholte**

February 9, 1974 - March 16, 2014



“I’m not afraid of death because I don’t believe in it.  
 It’s just getting out of one car, and into another”

*John Lennon*

We are enormously saddened to announce the loss of our respected colleague and dear friend Ernst-Jan Scholte on 16 of March 2014. He is deceased due to the effects of cancer. Despite the knowledge that he *had been dealt a losing hand*, he fought very hard to gain months, which he did. Fortunately, until a few weeks ago, his disease and treatments did not affect his core functionality, except that he was very tired and therefore could not work. This enabled him to spend valuable time with the ones he loved the most, his family and close friends. He did enjoy his life and has given much to others.

Already during his early life, he developed a great love for nature. Unsurprisingly, he went to college studying Biology. He started his professional life as an entomologist in 1997, when he joined the Laboratory of Entomology at the Wageningen University for his first master project on malaria mosquitoes, and, subsequently, spent 6 months in Kenya at Centre of Insect Physiology and Ecology (ICIPE). He was sure, this was what he wanted to do. Despite his dedication, his path was far from paved. Between obtaining his Masters in 1999 and returning to Kenya in 2001 for his PhD project, he worked at the Institute of Zoology of the University of Zurich, Switzerland, and at the Entomology Division of Centro Agricoltura Ambiente in Bologna, Italy. It was in the latter, where he found his real love, Patrizia. They managed to continue their relationship, while being apart most of time during his PhD period. Finally, after obtaining his PhD degree in 2004, they were able to live together, first in Italy and later in the Netherlands. Here, after some short-term jobs, he obtained a position at the Phytosanitary Service in 2005 and cofounded the Centre Monitoring of Vectors in 2009 in Wageningen. His achievements in science are numerous.

Ernst Jan dedicated his life to what he loved, which were a lot of different things, including science. He was a master in keeping his priorities straight, enabling him to enjoy his life to the fullest, all of the different aspects of it. He was an amazing person, such a talented, creative, intelligent, inspirational, funny and above all, good hearted person. His braveness and generosity were so astonishing even in the end, when he volunteered for clinical trials on new brain tumor therapy, which one day will contribute to saving other people lives.

It is impossible to accept that he is actually gone, especially considering the fact he was only 40 years old. We will all miss him immensely. He passed away at home in the presence of his wife, who was his tower of strength. Our thoughts go out to his wife Patrizia and their kids Sofia and Stefano.

*Marieta Braks and Eva Veronesi.*

On behalf of the European Society for Vector Ecology and the European Mosquitoes Control Association.

## For Your Calendar

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Annual Meeting  
Society for Vector Ecology  
September 28 – October 2, 2014  
San Antonio, TX  
Contact [valerie@sove.org](mailto:valerie@sove.org)

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European SOVE Conference  
October 11—17, 2014  
Thessaloniki, Greece  
Contact: [eva.veronesi@pirbright.ac.uk](mailto:eva.veronesi@pirbright.ac.uk)

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81<sup>st</sup> Annual Meeting  
American Mosquito Control Association  
March 29—April 2, 2015,  
New Orleans, LA,  
Contact: [www.mosquito.otg](http://www.mosquito.otg).

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4<sup>th</sup> International Forum for Surveillance and  
Control of Mosquitoes and Mosquito-borne Diseases  
Organizers: Entomological Society of China, Asian Society of Vector Ecology and Mosquito Control, Beijing Institute of Microbiology and epidemiology  
May 25 – 28, 2015,  
Guangzhou, China  
Contact: [xueamcd@gmail.com](mailto:xueamcd@gmail.com)

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XXV International Congress of Entomology  
September 25-30, 2016  
Orlando, Florida, USA  
<http://ice2016orlando.org/submit-to-ice-2016/>

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## Resources

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### FREE Resources for Investigators

are available! Please visit

<http://www.niaid.nih.gov/labsandresources/resources/dmid/Pages/default.aspx> to see the full range of available services that provide access to research tools and technologies and preclinical and clinical services to facilitate product development.

### Vector Biology Resources

The National Institute of Allergy and Infectious Diseases (NIAID) Division of Microbiology and Infectious Diseases (DMID) provides product development services, and research tools and biological materials for researchers developing diagnostics, vaccines, and therapeutics, and for studying vectors of human pathogens.

Visit [Vector Biology Resources for Studying Vectors](#) for a listing of available resources. Key among the resources for studying vectors is provision of LIVE vectors and reagents and genomic materials offered through the [BEI Resources Repository](#). (See Vector Resources in the [BEI online catalog](#).) These resources are available free of charge to REGISTERED users in domestic and foreign institutions and NIH grant funding is not required. For information on all resources for researchers provided by DMID, visit the [DMID Resources for Researchers website](#).

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## Awards



Major Dhillon (3rd from left) accepting the **Lifetime Achievement Award** from his alma mater.



*Norbert Becker* receiving **Award of Honor** from Jagbir Singh



*Fred S. Mulligan*—speaking at the plenary session

**Pictures from International  
Conference on Entomology  
Patiala, India**



*Greg Lanzaro* - seeking new friends/future students



*Eva Veronesi*—making some new alliances



Four *Lost Amigos* in a display of head scarves on the sidelines of a visit to the holy place!



## Society for Vector Ecology

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**We are on the Web!**  
[www.sove.org](http://www.sove.org)

### About SOVE . . . . .

The Society for Vector Ecology is a professional organization formed in 1968 by a group of individuals involved in vector biology and control programs in California. The membership has since grown to represent an amalgamation of diverse research and operational and extension personnel from all over the world. The Society is committed to solving many complex problems encountered in the field of vector biology and control. Among these are the suppression of nuisance organisms and disease vectors through integration of control elements, such as environmental management, biological control, public education, and appropriate chemical control technology.

The Society publishes the biannual Journal of Vector Ecology that contains research and operational papers covering many phases of vector biology, ecology, and control. The Society also distributes a periodic newsletter and holds an annual conference in the months of September/October.

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