Merrill, Hannah

From: zSMP
Subject: PANDORA'S BOX of Wetlands, Mosquitoes, and West Nile Virus

From: pearl hewett [redacted]
Sent: Wednesday, August 01, 2012 12:24 PM
To: zSMP; Karl Spees
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This is my SMP comment on Wetlands
Pearl Rains Hewett Trustee
George C. Rains Sr. Estate
Member SMP Advisory Committee

How will this MANDATE of "NO NET LOSS" of WETLANDS through preservation, creation, and restoration, affect Clallam County?
How many identified (and the yet to be DOE designated?) acres of wetlands exist in Clallam County?
More Wetlands, more mosquitoes, more cases of West Nile Virus.
Will the ever increasing size of protected wetlands threaten the health of people, domestic animals and birds in Clallam County?
What will be the cost of medical care for people and domestic animals that get West Nile Virus?
What will be the cost of Mosquito control for Clallam County be within the hierarchy?
How will Clallam County address and pay for the **proposed MANAGEMENT CONSIDERATIONS of mosquitoes and wetlands?**
(read on if you are interested)

PANDORA'S BOX OF WETLANDS - MOSQUITOES - WEST NILE VIRUS

Open the box and here are just two examples of what the **EXPERTS** have to say**.**

The Society of Wetland Scientists

the intent of the paper is to consider the wide range of options available to wetland scientists in addressing mosquito control.

In the United States, responsibility for mosquito control lies within a hierarchy of local, state and federal agencies charged with addressing concerns ranging from threats to human health to pestilence (an epidemic of a highly contagious or infectious disease such as bubonic plague)
issues that affect tourism, animal husbandry or the general comfort of the local human population.
wetland management for mosquito control may be at odds with management for other important goals such as maintaining biodiversity.

For society to meet the **MANDATE** of **"NO NET LOSS"** of **WETLANDS** through preservation,

creation, and restoration, wetland professionals must address the public's perception of **mosquito production and vector-borne disease** with an integrated approach that includes providing public education and outreach, soliciting public input from a wide range of stakeholders, and encouraging research on management techniques that **achieve mosquito reduction goals** while simultaneously maximizing the ecosystem services provided by wetlands.

Wetlands, Mosquitoes, and West Nile Virus

NATURAL RESOURCES AND CONSERVATION SERVICE (NRCS)

DISCLAIMER

The **West Nile virus** is relatively new to North America and **many unknowns still exist**. Every attempt has been made to see that the material presented in this document was the latest information available at the time of its publication. However, be aware that scientific research and information is constantly changing. Please contact the agencies and resources listed in the REFERENCES Section for **the most current information regarding the interaction of West Nile virus, mosquitoes and wetlands.**

WEST NILE VIRUS

Concerns over the spread of WNV have brought considerable attention to mosquitoes and their habitats. (WETLANDS)

The West Nile virus is a mosquito-borne virus that was first isolated in the West Nile District of Uganda in 1937. **In the U.S. since 1999, WNV human, bird, veterinary or mosquito activity have been reported from all states** except Hawaii and Alaska.

About 200 mosquito species are found in the United States. The mosquito that has been most closely associated with transmitting West Nile virus in the northeast United States, and in Indiana, is the northern house mosquito (*Culex pipiens*). These mosquitoes **"prefer" to bite birds, but if breeding sites are available near people's homes and domestic animal enclosures**, ***Culex pipiens* will bite people and domestic animals**. **The Centers for Disease Control and Prevention (CDC) indicates that although other species may contribute to human WNV transmission,** control of *Culex* mosquitoes continues to be the most important strategy **to reduce risk for WNV transmission to humans**

WNV is spread to people by the bite of an infected mosquito. Mosquitoes acquire WNV when feeding on infected birds that have high levels of WNV in their blood. The virus replicates and is then **stored in the mosquito's salivary glands before being transmitted to humans or other animals during the mosquito bite.**

Humans and domestic mammals are considered "dead-end" hosts, because they do not contribute to the transmission cycle even though they become ill. In a very small number of cases, **WNV also has been spread through blood transfusions, organ transplants, breastfeeding and during pregnancy from mother to baby (one case).** WNV is not spread through casual contact such as touching or kissing a person with the virus.

Those at highest risk for serious illness are the elderly and those with lowered immune systems. However, people of all ages can develop serious illness, so it is important for everyone to protect themselves from mosquito bites to minimize the risk of infection. While people may feel that they have no control over the risk of exposure, this is not true. Self-protection is still the best way to reduce your risk of contracting WNV. There are many ways you can prevent mosquito bites and reduce mosquito-breeding areas around your home. See PREVENTION/ACTIONS for additional information.

Horses. Mosquitoes may also spread the WNV to horses. It is important to take preventive actions early, prior to the time of the year when mosquitoes are likely to bite and infect horses. Horses may become infected without showing any clinical signs. See APHIS Animal Disease Alert, *West Nile Virus: Protecting Your Horses*, for further information. The Alert also has information on WNV vaccines available for horses, reducing mosquito-breeding sites, use of insect repellants, and reducing outdoor exposure.

Reporting Dead Birds. While most survive, birds infected with West Nile virus can become ill or die. Dead birds in an area may mean that WNV is circulating between the birds and the mosquitoes in that area. At least 220 bird species that reside in North America have become infected with West Nile virus. However, blue jays, crows, falcons, and hawks are highly sensitive to the virus, and therefore, are the best indicators of West Nile virus activity in a community.

Warning:
Dead wild birds should not be handled with bare hands.

If you find a dead blue jay, crow, falcon, or hawk, please **call your local health department and ask them if they would like to pick it up and send it to the State Laboratory.** Local agencies have different policies for collecting and testing birds. Many health departments will not start collecting sick or dead birds until the peak of the mosquito-breeding season. Once West Nile virus is detected in a county, further testing of dead birds is usually not necessary.

MANAGEMENT CONSIDERATIONS

In **situations where wetlands pose an unacceptable risk of exposure to mosquitoes,** attempting to reduce the mosquito population in the wetland may be a consideration. The following recommendations are intended to increase mosquito predators, and **to reduce mosquito-breeding areas in wetlands:**

- Design meandering channel connections between shallow and deeper waters to allow the flow of predators into and out of habitats where mosquitoes may breed.
- Design or manage wetlands to have at least some permanent or semi-permanent open water. More mosquito predators are found in open water areas. Mosquito larvae also tend to use emergent vegetation as protection from predators. Note, however, that the emergent fringe provides much of the wet-land's wildlife value.
- Reduce nutrient-loading and sedimentation problems by **installing perimeter fences to keep cattle or other livestock from entering the wetland.**
- Reduce the number of isolated, stagnant, shallow (2-3 inches deep) areas. Mosquitoes tend to congregate in these types of pools.
- Construct a buffer between the adjacent land and the wetland to filter nutrients and sediments.
- Construct artificial homes for mosquito predators such as purple martins, swallows and bats, which feed on adult mosquitoes.

Water level management. Some studies seem to indicate that maintaining high water levels in early spring, followed by a drawdown in late spring, will reduce mosquito populations. This process will tend to dehydrate mosquito larvae. After drawdown, the water is allowed to return to pre-drawdown levels. This type of management, however, can adversely affect aquatic vegetation and wetland-associated wildlife.

Larvicides. When surveillance indicates the presence of infected mosquitoes that pose a risk to health, chemical controls may be required if elimination or modification of breeding sites is not possible or is ineffective. EPA-approved larvicides, that target mosquitoes during their aquatic stage, are viewed as the least damaging to non-target wildlife. These and other chemicals used by mosquito control agencies must be applied by qualified

applicators and comply with state and federal requirements. An effective lar-viciding program must be part of an Integrated Pest Management program.