

# Public health expert warns of disease danger from wetlands

by Marcia Merry

Dr. William E. Hazeltine, an entomologist and head of the Butte County Mosquito Abatement District in California, charged in testimony to Congress on Oct. 31 that the current policy of the Bush administration on "preserving the wetlands" carries the risk of triggering epidemics of viral encephalitis, malaria, and other diseases among men and animals. "We respectfully submit," said Dr. Hazeltine, "that production of mosquitoes and the attendant risks of disease transmission have been largely overlooked in the present effort to save or remake wetlands."

Dr. Hazeltine presented a paper on "Wetlands and Disease." He has long been a critic of the "save the wetlands" craze, warning that the approach of the Environmental Protection Agency (EPA) to wetlands management hamstring local authorities and landowners' ability to eradicate disease-carrying mosquitoes.

A national debate is now under way involving reconsideration of the 20-year-long radical environmentalist campaign to define, preserve, and revere "wetlands" in the United States. Just as the swelling ranks of jobless, homeless, and impoverished give the lie to President George Bush's assertion that "recovery is just over the horizon," so, too, the instances of disease outbreaks and distress to farming and residential areas give the lie to Bush's environmentalist policies.

A Nov. 13 hearing is planned for a House Science Committee subcommittee on the issue of how to define a wetland, which was occasioned because of the near-universal criticism of the administration's policies.

With more wetlands, combined with the federal bans or restrictions on pesticide applications, the conditions are guaranteed for numerous outbreaks of deadly diseases. In past reports, Hazeltine has reviewed the most recent epidemics: In 1975, an epidemic of Western and St. Louis viral encephalitis spread up the Mississippi River Basin into the upper Midwest, and eventually caused more than 4,000 confirmed cases, and 95 confirmed deaths. Ohio experts alone reported 419 cases, and estimated another 1,100 unreported cases. In one Ohio city, it was found that one mosquito out of every 120 carried the infection. The worst recorded

epidemic of encephalitis in the United States occurred in California in 1952, where there were 415 human cases and 10 deaths, predominantly of Western Encephalitis.

In an interview last year, Hazeltine said, "The consequences of wetland preservation are seldom considered in the political stampede to preserve nature. The truth is that humans are animals that are subject to the same harsh consequences of natural laws, unless natural conditions are altered to benefit humans over the other animals. Protection from disease is one of the ways society has tried to help people survive longer and avoid these harsh consequences."

The opposite, unscientific approach to wetlands holds that since about 54% of the bogs and marshland present in the 1600s in what is today the United States have been "lost" to development for human use, then these "wetlands" must today be re-created, and the remaining ones preserved. There were an estimated 200 million acres of such lands in the 1600s, and today there are about 100 million. As President-elect, George Bush had pledged "no net loss of wetlands."

In 1989, federal regulations were adopted whose implementation would greatly expand the acreage characterized as wetlands. Criteria were set for designating and controlling the use of wetlands, defined as being any land under water for at least seven consecutive days each year during the growing season. The regulations were a joint effort by the Departments of the Interior and Agriculture, the Army Corps of Engineers, and the Environmental Protection Agency to formulate a uniform manual for defining and regulating wetlands. Very little time for public comment was entertained, and the new regulations went into effect on a trial basis. Bush's appointee to head EPA, William K. Reilly, is a fanatic, the former head of the Conservation Foundation, a sister organization of Prince Phillip's World Wildlife Fund, now the World Wide Fund for Nature.

The immediate effect of the new regulations was a flurry of court suits, imprisonment for federal "wetlands offenders," and financial ruin of farmers and landowners. For close to 300 years, the approach to marshland and bogs has been to improve the landscape and physical resources base through draining and channeling the water; today the approach is the

opposite. It is estimated that since the 1600s, some 87% of the improvements causing wetlands loss has been for agriculture and human habitation. However, the Bush administration ordered this to cease.

When the incompetence of Bush's policy was attacked, he tried to back off. In August, the administration announced a new set of proposed regulations that would ease wetlands qualifications, and hence decrease the regulations. Whereas the previous regulations specified that a wetland is an area of mucky or peat-based soils that remains saturated with water at or within 18 inches of the surface for at least seven days in the growing season, these criteria were altered. The proposed new definition says that such an area must have saturated surface soil for 15 consecutive days of standing water annually, or for 21 consecutive days in the growing season.

The radical environmentalists responded predictably. The National Wildlife Federation countered that seven consecutive days of water saturation is all it takes for soil to lose enough oxygen for water plant life to flourish. The 21-day requirement is too long, they say, because it would exclude prairie potholes and vernal pools. The latter are shallow depressions in Oregon and California that fill during the rainy months and dry out the rest of the year, and host an interesting array of plant and animal life. In October, the National Wildlife Federation, National Audubon Society, and others held a press briefing in Washington, D.C. calling for Congress, or a federal agency, to enlist the National Academy of Sciences to review the weakened regulations before they were effected.

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## Documentation

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# Mosquito control is urgent in wetlands

*The following is excerpted from the statement of William Hazeltine, Ph.D., R.P.E., representing the American Mosquito Control Association, at the Hearings on Wetland Protection, before the Water Resources Subcommittee of the House Public Works and Transportation Committee. He testified on Oct. 31, 1991.*

In summary, my testimony points out the competing interests of wetlands preservation and public health, as demonstrated by the recent outbreaks of encephalitis. This tension between

preservation and public health is unfortunately exacerbated by EPA's pesticide relabeling program which prohibits the application of many safe and effective mosquito control products to wetlands and adjacent property. While finding 6 of H.R. 1330 reminds us that wetlands present health risks, we suggest that this bill be amended to 1) require the regulator to consider public health when acting on wetland permit requests, and 2) exempt wetland activities whose principal purpose is to reduce the public health threat from mosquitoes. We believe that these changes would improve H.R. 1330 and are consistent with the letter and spirit of the National Environmental Policy Act (NEPA). That act, which was the genesis of most current environmental regulatory programs, specifically requires that federal agencies consider the human health and welfare consequences of their acts. . . .

We generally view wetlands as a high risk environment for mosquito production. However, we are *not* opposed to wetlands as long as they are managed so they do not create an unacceptable threat to public health. At times, reducing the size or character of a particular wetland may be the most reasonable management practice.

We respectfully submit that production of mosquitoes and the attendant risks of disease transmission have been largely overlooked in the present effort to save or remake wetlands.

Good mosquito control looks at the possibility of reducing the breeding area by water management or water elimination. This is where dredging, filling, and draining are important health protection tools. . . .

Finding 6 of H.R. 1330 underscores the fact that wetlands can present a health risk. As demonstrated with the recent outbreaks of encephalitis, these risks are not theoretical, but real. While we are pleased that finding 6 is included in H.R. 1330, we believe that the bill should be amended to give this finding some practical regulatory effect by requiring the secretary to consider the net public health impact of wetland activities and to exempt mosquito control activities.

I am submitting for the record, a paper titled "Wetlands and Disease." This paper provides detailed technical background for our testimony and our concerns. Mosquitoes, birds (particularly migratory birds) and humans are the major components for serious risks of an encephalitis disease cycle. Other kinds of mosquitoes and humans can create a malaria disease cycle. . . .

**Specific examples of problems with enforcement of Section 404 of the Clean Water Act.** The two examples below illustrate the need for revisions to Section 404 of the Clean Water Act.

1) In our district, there is an area from which fill dirt was obtained about 30 years ago to build a freeway. This area was an almond orchard before the surface dirt was removed. This area is now about 8 acres and covered with shallow water during most of the year. The cottonwood, willow, blackberry, and other vegetation has grown up to create a

dense, swamp-like area, and beavers continually block the culvert which is supposed to drain this area. A new mall and housing development is now within about 800 feet of this wetland.

This area is an ideal breeding source for the vectors of malaria and encephalitis, diseases which we, by law, are responsible for controlling. Until EPA substantially reduced our arsenal of insecticides used in mosquito control programs, we were able to use predatory fish and pesticides in an integrated control program to control the mosquitoes produced in this swamp. We also used oil and cleared vegetation as part of our program.

About two years ago, fill dirt was available from a nearby development, and under our state law, we directed the property owner to abate this public nuisance, by filling this wetland. The landowner, however, was stopped by the Corps of Engineers after about a quarter-acre was filled. The Corps now says it will forgo penalties if the landowner will remove the fill and return the swamp to its "original" unnatural wetland condition. Unfortunately, a new Corps opinion also lists cuttings or prunings as fill, so we cannot even cut the vegetation in this area unless we remove it. Burning is out of the question.

2) Another example of conflict between wetland preservation and public health is found in a proposed "negotiated" consent decree by EPA and the owners of a turf farm in Hartford County, Connecticut. . . . One of the conditions "agreed to" prohibited the use of pesticides on this 14.8 acre "wetland." The "wetland" which was the subject of this action was predominantly "oak and red maple," before it was cleared. Our concern is that the agreement could potentially be cited to frustrate mosquito control, particularly when a portion of the cleared forested area was to be returned to a "wetland." . . .

The EPA's efforts to restrict and eliminate pesticide use on any wetland is another issue which is indirectly related to the "Wetland Dilemma." . . .

Mosquito larvicides must be applied directly to water. Mosquito adulticides must frequently be applied to areas adjacent to wetlands. It should be noted that mosquito control pesticides have historically been applied without serious incident to aquatic invertebrates and fish. Unfortunately, EPA's required label warning is generally triggered by the agency's calculation of theoretical risks to aquatic organisms that are often not supported by real life fish kills. For most mosquito control products which are applied at very low rates (frequently much lower than agricultural uses), this warning is not warranted. We even find this restrictive language on labels which give directions for direct water application for control of mosquito larvae. While we are trying to work with EPA's Office of Pesticide Programs to obtain some measure of common sense in the above language, this example shows the extent of the agency's disregard for the need to control disease-vectoring mosquitoes on wetlands. . . .

Good mosquito control relies on 1) physical control to reduce or eliminate the water which is the breeding source, 2) biological control such as fish predators and parasites, and 3) pesticides when necessary. Use of all three components in a balanced program is called integrated pest management (IPM). It is also common to preferentially practice larval control in many areas of the country, instead of depending only on control of the adults after they have emerged from the water and are seeking a blood meal. In some areas of the country, larval control is not practical, but in others it is.

As a consequence of EPA's apparent prejudice against pesticide use near people and in wetlands, and restrictions on physical control of breeding places, we are fearful that we will be faced with the prospect of more mosquitoes and increased risks of human disease transmission.

Besides restricting the practice of integrated mosquito control programs by health agencies, the prejudice and prohibitions on pesticide use will also eliminate a very important mitigation tool for federal and state wetland managers. An adopted mitigation to control mosquitoes as part of an Environmental Impact Statement usually is not specific as to methods to be used by a refuge or wetland manager. The choice of control is usually left to the individual manager, with the test of compliance being the absence of any significant numbers of mosquitoes flying away from the federal or state land. As pesticide use restrictions increase and as cost-effective products are eliminated, the costs for refuge or wetland managers to provide mitigation will go up significantly. . . .

Another obvious beneficial change is to amend the definition of wetlands to include only traditional natural wetlands, to consider artificial wetlands as artificial, and to adopt different criteria for allowed mosquito control activities on each kind of wetland. . . .

Under many state laws, water which is a breeding place for mosquitoes is a public nuisance, and yet most wetland impact assessments do not consider state mosquito control laws, but instead cavalierly disregard this requirement. The Corps appears to operate on the premise that the preservation of wetlands, at all costs, is the environmental "high ground," with mitigations considered only to offset wetland loss. We suggest that public health be included in the wetland preservation equation. Any environmental review should specifically consider the impact of wetland preservation on human health.

Enforcement of NEPA policy is considered by the [Council on Environmental Quality] to be the responsibility of the "the President, the federal agencies, and the courts." We suggest that the Congress has some responsibility to assist the federal agencies in complying with the established policies on the Environment and the Comprehensive Wetlands Conservation and Management Act is an excellent place to *require* consideration of the human health and welfare consequences of wetland regulations. . . .