

Benton County Mosquito Control District

March 17, 2010

SUBJECT: Comments on Draft Mosquito Control NPDES Permit

Dear Mr. Jennings,

Thank you for the opportunity to comment on the Draft Mosquito Control Permit. Throughout the comment period the Benton County MCD has received tremendous support from the community. This District was voted in by the public in 1969, and has since grown to become an exemplary mosquito control program. Residents in this area have come to know and trust us to keep their families and their animals safe from mosquitoes.

West Nile virus hit hard in Yakima and Benton Counties last season, and even without additional restrictions on adult spraying we exhausted our resources trying to keep the virus under control. With nearly 40 employees, over 250 evening spray routes, and 4 aerial applications we still have residents that are paralyzed for life from mosquito bites.

This permit is written as a 5 year permit. This season we expect to find virus activity early, which *may* allow us to spray as we have in the past. This will not be the case in future years. When a virus is endemic funding is cut for surveillance. The state funding from the CDC for vector disease testing is already slim. When West Nile virus is no longer an everyday threat to our residents, we will go back to being a nuisance mosquito control program. If we are not permitted to spray nuisance mosquitoes near water we will not be able to maintain the control program that people have come to rely on. The public will no longer support a program that does not spray mosquitoes when populations are high. Mosquito Control Programs will dwindle and the next time there is an epidemic in the State of Washington we will not be prepared to react.

The rest of the nation is in the process of adopting NPDES permits for mosquito control. Other state agencies will be looking to Washington State to provide guidance throughout this process. Please carefully consider the suggestions provided by Mosquito Control Districts and other interested parties. If you have any questions do not hesitate to contact my office at (509) 967-2414.

Sincerely,

Angela Balint

Angela Balint
District Manager

Benton County MCD Comments on the draft Aquatic Mosquito Control NPDES Permit

S1.B Activities That *May Not* Need Coverage Under This Permit

Problem & Comments: The statement of **May Not** is confusing. The exemptions given in this section refer to bodies of water that by definition *are* waters of the state. If they do not discharge to other waters of the state they will become ground water. Are discharges to water that will later become groundwater exempt? If a water body is not connected to the river by but the water could seep into the river, is this exempt?

Requested language: Activities That Do Not Need Coverage Under This Permit.

S4. LARVICIDE USE

B. Larvicides Authorized for Use Under This Permit

1. The Permittee may apply larvicides with the following *active ingredients* without additional permit restrictions outside of Appendix B areas:

Comments: The list of approved larvicides does not include Spinosad. It is my understanding that Clarke Mosquito Control will be providing comments on Spinosad. This is an organic larvicide that Benton County Mosquito Control would like to use. The small granule will be advantageous in areas with thick vegetation because the granules will fall through vegetation rather than being hung-up.

D. 3. c. The application site is in or adjacent to a county in which mosquito, bird, animal, or human mosquito-borne disease cases are confirmed within the current treatment season.

Comments: Methoprene is the only product available that can be used as a pretreatment in an area that will later be flooded. Larvae would not yet be present in the site, but if it is an area known to breed vector mosquitoes in previous seasons it may be useful to pre-treat.

Requested language: Add the active ingredient Spinosad to the list of approved products. Consider allowing treatment to a site if that site has a history of breeding mosquitoes in previous seasons rather than only during the current treatment season. **This language should also be applied to adult control.** Adulthood should be allowed throughout the county if disease activity is found within that county or in an adjacent county to account for the flight of mosquitoes and birds.

S5. ADULTICIDE USE FOR NUISANCE AND VECTOR CONTROL

Problem: **A. Nuisance Mosquito Control** *Adulticides* and their *residues* used for *nuisance mosquito control* must not be discharged to waters of the state.

Comments: Nuisance mosquito control is an integral part of a successful IMP program. Adult nuisance mosquitoes have a detrimental effect on the quality of life of the people and animals in an area. They also cause economic impact if left untreated.

The equipment used to spray mosquitoes is designed to create an aerosol cloud. Truck-mounted sprayers and some aircraft use a 300 ft swath width. Other aircraft use a 1000 ft spray swath because they are flying higher at night to avoid obstructions such as communication towers. If applicators are required to place a buffer around all *waters of the state* as defined in the permit it would be impossible to achieve control of adult mosquitoes. The equipment would have to be shut off so often to avoid all possible access to water that an aerosol cloud could not be achieved and the product would not come in contact with flying mosquitoes.

After analyzing areas in Benton County that breed nuisance mosquitoes we have decided that we will not provide nuisance mosquito control to the residents if this permit is approved as written. The risk of violating the permit would be too high due to the abundance of surface waters, and drainage to surface waters, in the areas we spray for nuisance mosquitoes. The majority of the requests we receive for nuisance spraying come from residents and businesses near rivers, canals, and ponds. Storm drains are drainages to *waters of the state*, so that eliminates the ability to spray many residential neighborhoods. We are often requested to spray pastures. These pastures are irrigated weekly. The permit states that the water in a pasture can not run-off to waters of the state within two weeks. This eliminates spraying flooded pastures as they are connected to rivers through drainages.

We have WDFW land in our District that breeds mainly nuisance mosquitoes. We are limited to only adulticiding this area after virus is found in the mosquitoes. In 2009, the nuisance mosquitoes were so numerous that people could not use this recreational area. It is a popular area to exercise horses, but it was unbearable the entire month of June. People that live and work near this area were miserable, and our hands were tied because of adulticiding restrictions. If this nuisance adult control remains restricted in the permit, our entire District will be a miserable place to live and work.

Only two species of mosquito are tested in Washington State for West Nile virus. We have 22 species of mosquitoes in Benton County and 7 of them are possible vectors for the disease. Three of these species are what you would consider nuisance according to the permit definition. While we are spraying these “nuisance” mosquitoes we are treating possible vectors. In Benton County we budget \$16,000 a year for disease surveillance. That includes only trap and testing materials, not employee labor. Even with that budget we can not afford to test all species of mosquitoes that are capable of carrying West Nile virus.

As you know, mosquitoes live and breed near water. If we are not allowed to spray near water and get incidental amounts of material into waters of the state then the mosquitoes will quickly spread from rural to residential areas. Nuisance mosquitoes can not be controlled with larviciding alone. Areas with limited access and areas outside the District boundaries are breeding and the mosquitoes are flying in. Mosquitoes can fly 20 miles from where they hatch. Larviciding is not perfect. Do not take away this important tool in mosquito control.

Requested language: Eliminate the restriction on nuisance mosquito control.

Problem: B. Vector Mosquito Control

1. The Permittee is authorized to discharge *incidental* amounts of adulticides and their residues to surface waters of the state during *vector mosquito control*. The Permittee must

limit incidental deposition to the extent possible by not applying adulticides *directly* to a surface water of the state. Adulticides may not be used in Appendix B areas unless WDFW and Ecology approve the use.

Requested language: The Permittee is authorized to discharge *incidental* amounts of adulticides and their residues to surface waters of the state during *mosquito control*. The Permittee must limit incidental deposition to the extent possible by not applying adulticides *directly* to a surface water of the state. Adulticides may not be used in Appendix B areas unless WDFW and Ecology approve the use.

Problem: 3. Mosquito Control Districts

Comments: Mosquito Control Districts should be allowed to follow their own internal BMP or IPM plan. The DOH response plan should be used in areas that do not have an organized mosquito control district and the Department of Health is responsible for organizing spraying during a public health threat. The Response Plan should be used as a guide to Mosquito Control Districts but should not be the only acceptable plan.

Requested language: A Permittee that is an organized mosquito control district (chapter 17.28 RCW) may use adulticides to control vector mosquitoes provided it: conducts mosquito surveillance, mosquito disease testing, monitors other disease indicators (such as dead birds, equine disease cases, or human health cases) **OR** follows available DOH vector control guidance (e.g. the West Nile Outbreak Response Plan where the trigger for adulticiding is Alert Level 3).

Problem: 4. Areas without a Mosquito Control District

Comments: There are resorts and communities throughout the State that contract for mosquito control but are not a Mosquito Control District under the RCW's. These areas should not be required to obtain permission from the DOH to determine when to spray. As a Permittee these entities take on the responsibility of an applicator and they should be allowed to make decisions in the best interests of their community.

Requested language: A Permittee that is not part of an organized mosquito control district (chapter 17.28 RCW) may use adulticides to control mosquitoes provided the Permittee follows Ecology's Best Management Practices for Mosquito Control, the DOH West Nile Response Plan, or a BMP Plan approved by the Department of Ecology.

Problem: C. Adulticides authorized for use under this permit

Comments: Mosquito control programs are limited in the products that we can use. There are very few that are labeled for pastures, and the crop labels on each product varies. Below I have listed the pros and cons of each product on the list. All districts have individual needs and restrictions. Further limiting our product choices by not including all available products registered for use promotes resistance. Organophosphates (OP's) have a different mode of action and therefore are useful to prevent resistance. There are three active ingredients that do not require the addition of PBO, and none of them are listed for use under the permit. If

the purpose of the permit is to protect the water, then why restrict the use of the three products that break down most quickly in water?

Products on the list	Pros	Cons
Permethrin	Inexpensive and is a common name that residents recognize.	Only one Permethrin is labeled for pastures
Resmethrin	Inexpensive	Restricted Use due to toxicity to fish, low crop tolerance
Sumithrin	Wide crop and pasture label	More expensive, more product has to be used to get the same effect as other products. ONLY one product available; no competition for pricing.
Natural Pyrethrins	Wide crop and pasture label	Very expensive and is in short supply due to loss of chrysanthemums in drought
PBO	Synergist	Is included in all products but OP's and Etofenprox, so you have additional active ingred.
Malathion	More effective than Pyrethroids, less expensive and less product needed to achieve results.	Not labeled for pastures, OP's could have a cholinesterase inhibiting effect on humans IF there was exposure to poisoning amounts.
Naled	More effective than Pyrethroids, labeled for crops, pastures, and wetlands. Inexpensive.	OP's could have a cholinesterase inhibiting effect on humans IF there was exposure to poisoning amounts.

The fact sheet mentions the reason for the Malathion restriction is because the of the NMFS study. Perhaps a setback from fish bearing waters would be more appropriate than requiring resistance to pyrethroids. Pyrethroids in the field provide about a 60% kill. When Naled was used in 2009 we had over 90% kill of mosquitoes and dropped our MIR dramatically. By not allowing the most effective products to be used, you are encouraging additional pesticide applications. By the time an applicator realizes the first application is not effective and schedules additional spraying, the mosquitoes will have spread and exposed more people. This means we not only have to do a second application of pesticides, but we must expand the spray block to account for mosquito movement.

This permit lists that Malathion and Naled are to be used in cases of pyrethroid resistance. I believe that this should be changed so that districts can use these products under certain

conditions such as a public health threat.

The Aquatic Plant and Algae General Permit states that: “Eradication shall be conducted in a manner that minimizes impacts to non-target species to the greatest extent possible. Impact on non-target plants is acceptable to the extent needed to control the target plants.” RCW 17.28 allows Mosquito Control Districts to “take all necessary and proper steps for the extermination of mosquitoes.” Why isn’t the effect on non-targets acceptable to control our target as well?

Again, from the Aquatic General Permit, “This permit allows application of the following listed pesticides that are labeled for use on aquatic sites and any other registered pesticides after they are approved through Ecology’s approval process (see Section S11) if the application is made in compliance with all the terms and conditions of this permit.” Why does the mosquito control permit not allow for the use of other products that go through the registration system?

I read labels of the products on the Aquatic permit. I found two that were labeled for use in water that are toxic to fish and aquatic organisms. When used appropriately, products that are toxic to fish in this case were approved for a permit.

**Diquat: Dibromide salt of 6,7-dihydrodipyrdo (1,2-a:2’,1’-c) pyrazinediium
Environmental Hazards**

This pesticide is toxic to aquatic invertebrates. For Terrestrial Uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinseate. For Aquatic Uses do not apply directly to water except as specified on this label.

Hydrothol 191

Water Use Restrictions:

Fish may be killed by dosages in excess of 0.3ppm. Do not use fish from treated areas for food or feed within three days after treatment.

Requested Action: Add Prallethrin and Etofenprox to the approved product list, and open it up to include other products that go through the State registration requirements. Change the wording so that OP’s can be used during a period of Public Health Threat rather than after resistance, possibly with added restrictions such as a 100 ft set back from fish bearing waters.

APPENDIX A: GLOSSARY:

Problem: Definition of Waters of The State: All surface and ground waters in Washington State as defined by chapter 90.48.020 RCW 173-201A-020 WAC and 173-226-030 WAC including any future amendments of state law. Also includes drainages to waters of the state.

Comments: This definition is far too broad. If it were adjusted to reflect only surface water and not ground water the permit would be more clear to the Permittee. Changing the definition to only include surface waters does not, however, make it operationally feasible for the Permittee. Due to the fact that this definition includes all surface waters and drainages to those waters, it would be impossible to conduct adult nuisance mosquito spraying without

violating the permit. If incidental deposition for nuisance spraying is allowed the definition would be workable.

Requested language: Waters of The State: All surface waters in Washington State including lakes, ponds, rivers, streams and drainages to these waters.

Fact Sheet Comments

Problem: Page 2, Para. 4, “now also covers the use of adulticides to control vector mosquitoes when human health is at risk.”

Comments: Should this not include animal health as well? I would prefer the fact sheet eliminate the distinction between vectors and nuisance all together since all mosquitoes threaten public health.

Requested language: ...now also covers the use of adulticides to control mosquitoes.

Problem: Page 2, Para. 4, and two organophosphate pesticides for emergency use only (Malathion and Naled).

Comments: Scientific research does not indicate that Malathion and Naled should only be used in case of an emergency. Robert Peterson provided comment that includes many studies pertaining to environmental risk of these products. When used according to the FIFRA guidelines these products do not pose a threat to the waters of Washington State.

Requested language: Allow use of Malathion and Naled but place additional restrictions on use such as a 100ft buffer for fish-bearing waters.

Problem: Page 2, Para. 5, The natural pyrethrins and pyrethroids have a low toxicity to humans and other mammals, but pose a high risk to aquatic organisms and non-target insects.

Comments: Research shows that the risk is low to aquatic organisms and non-target insects due to the extremely low exposure. Most of the product that we use will not deposit on the ground or on the water.

Requested Language: The natural pyrethrins and pyrethroids have a low toxicity to humans and other mammals, but are toxic to aquatic organisms and non-target insects.

Problem: Page 8, Para. 1. The Federal Clean Water Act (FCWA, 1972), and later modifications (1977, 1981, and 1987), established water quality goals for the navigable (surface) waters of the United States.

Comments: For the purposes of this permit the Washington State definition of *waters of the state* is used. The Washington State definition is much more inclusive and because of this the permit is excessively restrictive to Permittees.

Requested Action: Expressed in permit comments for definition of *waters of the state*.

Problem: Page 11, Para. 3, After a later motion, the Sixth Circuit granted EPA a stay on the effective date of this ruling for 24 months to allow EPA to develop NPDES permits for pesticide discharges. EPA is developing several general permits for the discharge of pesticides including aquatic plant, larval and aerial mosquito control and intends to issue the permits in 2011.

Comments: The Washington State Department of Ecology is adding adult control products to the General Permit one year before the rest of the nation. I strongly believe that the EPA will allow permits for nuisance mosquito spraying. The EPA and the CDC have listed adulticiding as a necessary part of an IPM strategy. A quote from “Pesticides and Public Health: Integrated Methods of Mosquito Management,” by Robert I. Rose, U.S. Environmental Protection Agency:

“Effective sustainable integrated mosquito management programs strive to prevent large flights or swarms of mosquitoes through all the measures described above (larviciding, biological controls, etc.), but heavy precipitation, flooding, high tides, environmental constraints, inaccessible larval habitats, missed breeding sites, human disease outbreaks, as well as budget shortfalls, absent employees, or equipment failures, may necessitate use of adulticides. Some local mosquito control programs would use an integrated program if they had adequate resources, but may be so limited in funding and personnel that adulticiding trucks are the only means of mosquito intervention.”

Requested Action: I urge the Department of Ecology to take their time creating the permit and fact sheet. It is less important to get the new permit in place by the beginning of the 2010 mosquito control season than it is to create a permit workable for mosquito control that protects public health and water quality. Additional public hearings and meetings between mosquito control districts and the Department of Ecology may be needed before the permit is finalized.

Problem: Page 11, Para. 6 though eggs of species that deposit on moist substrates may sometimes last for months before they hatch due to flooding of the moist area

Comments: This statement is incorrect, eggs can lay dormant for years.

Requested language: though eggs of species that deposit on moist substrates may sometimes last for years before they hatch due to flooding of the moist area

Problem: Page 13, para. 6 MCDs may also apply adulticides, but ordinarily only when adult populations become so large that they cause extreme annoyance to many people or when the threat of disease transmission to humans or economically important (horses or cattle) livestock is high.

Comments: The Department of Ecology BMP for Mosquito Control page 18 states “adulticiding is often an integral component of an integrated pest management approach to mosquito control. In some instances, adulticiding can reduce or eliminate the need to heavily apply larvicides, can be used effectively with less environmental impact to non-targets, and can be cost-effective.”

Adulticiding is a small part of a programs total control activities, but this permit statement does not properly reflect the adulticiding thresholds of a mosquito control district. Benton County adulticides if numbers are high in a rural area to keep them from flying into residential areas. This is a preventative measure *before* they cause extreme annoyance. Spraying close to where the mosquitoes are produced reduces the need for adulticides applications in areas of high human population. This strategy reduces pesticide exposure to people keeping it well below the established safe thresholds on a product label.

Requested language: MCDs may also apply adulticides when adult populations are large, cause annoyance to people, or when there is a threat of disease transmission to humans or animals.

Problem: Page 14, para. 4, IPM is an ecologically based strategy that relies heavily on natural mortality factors and seeks control tactics that are compatible with or disrupt the natural factors as little as possible.

Comments: Natural mortality factors are not adequate to provide control of mosquitoes, thus the need for mosquito control districts throughout the world. People are continuously developing land and creating new mosquito breeding sites by moving water to locations where it does not naturally occur. This disrupts the natural balance of predator/prey by producing many habitats for mosquitoes but few for predators. The use of several methods of control is necessary. Adulticiding is not a last resort in all cases.

Requested language: Remove the word **heavily** from this statement.

Problem: Page 19, para. 5, Malathion use as a larvicide is restricted under Ecology"s aquatic mosquito control permit. It is not permitted for use as an adulticide.

Comments: Conflicts with the permit. It is allowed for adulticiding under certain circumstances.

Requested language: Malathion use as a larvicide and adulticides is restricted under Ecology's aquatic mosquito control permit.

Problem: Page 20, Para. 4 & Page 22 para. 2 Ecology must approve the use of temephos or Naled after consultation between Ecology, DOH, WDFW and WSDA in response to a public health emergency or pesticide resistance.

Comments: A consultation between several state agencies will cripple the reaction time of mosquito control when public health is at risk. The requirement of a public health *emergency* is included here and not in many other areas of the permit that require a public health threat. Our treatments are time sensitive; we usually have less than two days to respond before the populations explode. With public notification requirements there is often less time to make a decision. Does Ecology have a plan for addressing these concerns? Who within these agencies will be making these decisions, and why is it not mosquito control?

Requested language: I would prefer that MCD's determine when these products are necessary, but if that is not an option than the requested wording would be: Ecology must

approve the use of temephos or Naled in response to a public health threat or pesticide resistance.

Problem: Page 22, Para.2, This limits the amount and times that **temephos** may be discharged to surface waters to only times when human health becomes a priority.

Comments and suggested language: The active ingredient is Naled and should be corrected.

Problem: Page 26, Para. 4, Ecology made a reasonable potential determination on the application of adulticides based upon knowledge of mosquito control practices and published research. It based this decision on calculations using available information. Ecology has determined that the application of adulticides will not violate water quality standards or degrade existing uses if applied as described during discussions with MCDs and during deposition studies (see bibliography) and if applicators follow permit BMPS and FIFRA label requirements.

Comments: In going through this fact sheet it seems to that the Department of Ecology does not have scientific evidence that the products used for mosquito control will cause harm to water quality of non-target organisms. I believe that the Department is relying on the “Best Professional Judgment” of individuals rather than sound science when placing restrictions on adult control products. If the water quality standards are not violated during vector control than the same must apply for nuisance control.

Problem: Page 27, Para. 2 & 4, Ecology has determined that the Permittee’s discharge does not contain chemicals of concern based on existing data or knowledge. Chemicals of concern may be part of the “other ingredients” listed on FIFRA labels. Ecology does not have access to the “other ingredients” because they are proprietary.

Ecology has determined through a review of the discharger characteristics and effluent characteristics that this discharge has no reasonable potential to violate the Sediment Management Standards.

Comments: Our products have been used for several decades and have not caused harm to the waters of the state. It is stated over and over that the products do not violate the standards of the Clean Water Act. Is Ecology’s “concern” about the inert ingredients based on any substantial evidence? If we knew what your concerns were we could conduct the proper tests.

Problem: Page 31, para. 6, Ecology has determined that adulticides, used in compliance with FIFRA, AKART, and that only generate incidental discharges during vector mosquito control do not have a reasonable potential to violate water quality standards.

Comments: Again, if the products for vector mosquito control do not violate the standards than those same products will not violate standards during nuisance mosquito control.

Requested language: Ecology has determined that adulticides, used in compliance with FIFRA, AKART, and that only generate incidental discharges during mosquito control do not have a reasonable potential to violate water quality standards.

Problem: Page 33, Para. 2, 3 Ecology is concerned that inert/other ingredients contained in pesticide formulations could have unknown effects in the environment.

Chemical interactions may have additive, synergistic or negative interactions with each other.

Comments: There is no evidence that the actives or inerts will violate the water quality standards. I do not think it is wise to place restrictions on products serving a beneficial purpose because the inerts may be released in the future. Product companies are not going to divulge trade secrets easily. We could be waiting quite a long time for that information. Are you willing to risk the well-being of the people for years because our inert ingredients may or may not be on a list of products of concern? There are inert ingredients in plant control products that are permitted for use in and near waterways; why are mosquito control products held to a different standard?

Problem: Page 33, Para. 5, In addition, of Ecology includes adulticide use for nuisance mosquitoes that allows a discharge it would need to set effluent limits and include monitoring of the effluent at least once a year.

Comments: Why would Ecology need to monitor for nuisance control? It is the same product used at the same rate. There is a limit for the amount of active ingredient that can be applied per acre on the label; this would be an appropriate limit for permitting purposes.

Problem: Page 35, Para. 2, Depending on the level of organized mosquito surveillance in an area, the draft permit includes different requirements for meeting the threshold for using adulticides to control vector mosquitoes. Ecology made this decision to reduce the time and steps necessary to move forward with vector mosquito control when public health is threatened.

Comments: The permit very clearly states that Mosquito Control Districts and areas without MCD's are required to follow the DOH West Nile Virus Response Plan. The trigger for adulticiding is sustained mosquito positives, bird, horse, or human positives. This does not give areas different requirements for meeting thresholds based on their surveillance. Only areas that are requesting State Health assistance for mosquito spraying during a health threat should be required to follow this plan. I believe that is why it was written, to make sure an area meets Health guidelines for assistance.

Problem: Page 36, para. 7, The draft permit includes dip sampling and requires applicators to maintain records so that they do not treat water bodies unless mosquito larvae are actually present.

Comments: Methoprene products that are labeled for use as pre-treatments should be allowed without larvae present. In the spring and fall there are less crew members available to treat the large district. Placing methoprene pellets or briquettes in areas that will flood in the future is an efficient way to keep mosquito numbers under control.

Requested language: Consider allowing pretreatments for larvae with methoprene in areas that are known to breed mosquitoes.