From:	kevin@mosquitocontrol.org
To:	Jennings, Jonathan (ECY)
Subject:	Public Comments for State NPDES Permit & Fact Sheet
Date:	Wednesday, March 17, 2010 2:48:01 PM
Attachments:	NPDES_FactSheet_2010_Comments_KevinShoemaker_3-16-2010.docx NPDES_DraftPermit_2010_Comments_KevinShoemaker_3-16-2010.docx

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Mr. Jennings and Washington State Department of Ecology,

Thank you for the opportunity to submit comments with regards to the February 3rd, 2010 draft ***Aquatic Mosquito Control National Pollutant Discharge Elimination System State Waste Discharge General Permit*** and the accompanying ***Fact Sheet For The Aquatic Mosquito Control NPDES General Permit.***

I do not envy the task to try and balance so many interests and factors but I believe that you do have the ability, authority and wisdom to construct a Permit that allows for both mosquito control activities and reasonable protection of the environment.

Attached are my comments for both papers and if you have any questions or if I can assist in any way please feel free to contact me. And if possible I would appreciate an email confirmation that you did receive this email with the 2 attachments.

Respectfully submitted,

Kevin Shoemaker

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Comments for: **FACT SHEET FOR THE AQUATIC MOSQUITO CONTROL NPDES GENERAL PERMIT**

Draft February 3, 2010

#1	Section/Title	EXECUTIVE SUMMARY	Page #	2
Text (for reference):				
To meet this challenge, Ecology worked with an advisory group of individuals who work as professionals in mosquito control, human health, and state regulatory fields while drafting the 2010 Permit.				
Comment(s):				
Can you provide a list of who was on this "advisory group" and please specify if "professionals in mosquito control" were invited to and participated in **specific meetings** (where stakeholders were gathered) for the purpose of permit revision and writing? I am only aware of one meeting between DOE and Benton County MCD; which occurred in November of 2009. This session was strictly between DOE and a single MCD. While fact gathering sessions are beneficial and necessary, this was not a situation where an advisory group was gathered for the purpose of discussion of potential policy and permit wording/structure.				

#2	Section/Title	EXECUTIVE SUMMARY	Page #	2
Text (for reference):				
Updating the PERMIT was a necessary step that Ecology had to take in order to address discharges of adulticides to waters of the state that occur during control of vector mosquitoes.				
Comment(s):				
Presumptive statement that adulticides are warranted for use only in instances of vector mosquitoes being present. This is in conflict with RCW 17.28 and is not supported by any federal or state guidance. Section should read mosquitoes (i.e., omit "vector").				

#3	Section/Title	EXECUTIVE SUMMARY	Page #	2
Text (for reference):				
The 2010 Permit continues to cover larvicide use (the larvicides remain the same from 2007), but now also covers the use of adulticides to control vector mosquitoes when human health is at risk. The draft 2010 Permit includes the following adulticides: natural pyrethrins, several pyrethroids (permethrin, resmethrin, sumithrin (d-phenothrin), a synergist (Piperonyl Butoxide), and two organophosphate pesticides for emergency use only (Malathion and Naled).				
Comment(s):				

A) If suggested larvicides and adulticides are accepted by DOE (e.g., Natular, Prallethrin, etc) then this section will need to be modified.

B) Presumptive statement that adulticides are warranted for use only in instances of vector mosquitoes being present. This is in conflict with RCW 17.28 and is not supported by any federal or state guidance. Section should read mosquitoes (i.e., omit "vector").

#4	Section/Title	INTRODUCTION & APPENDIX A: PUBLIC INVOLVEMENT INFORMATION	Page #	7 & 51

Text (for reference):

Ecology will **not** revise the original fact sheet after it publishes the public notice. Appendix C (Response to Comments) will summarize comments and any resultant changes to the Permit.

Ecology will publish a Public Notice of Draft (PNOD) on February 3, 2010 in the Washington State Register. The PNOD informs the public that the draft permit and fact sheet are available for review and comment.

Comment(s):

A) If changes to the Permit are justified, then the Fact Sheet could be at odds with the Permit. Since both documents discuss similar or identical subjects, a change to one may require a change to the other. For example, if the requirements for use of Naled are modified in the Permit then they would need to be modified in the Fact Sheet (pages 2 & 22 for example).

B) By stating the Fact Sheet will **NOT** be revised after the public notice is published and Ecology will publish a Public Notice of Draft on February 3rd, 2010 and comments are being accepted until March 17th, 2010, then this seems that DOE has determined preemptively that regardless of comments received up to March 17th, the agency will not be making changes. This begs the question, "Why accept comments at all if you have already determined that you will **not** be making revisions?"

#5	Section/Title	AQUATIC PESTICIDE LEGAL HISTORY; Northwest Aquatic Eco-Systems v. Ecology (June 2007)	Page #	10

Text (for reference):

The Board ruled that: "Northwest Aquatic also renewed its summary judgment argument that the Board should rule NPDES permit coverage is not needed for the application of aquatic pesticides, when they are applied in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Northwest Aquatic bases this argument on the recent federal court decision in *Fairhurst v. Hagener*, 422 F.3d 1146 (9th Cir. 2005). The Board ruled on summary judgment that the *Fairhurst* decision does not provide a blanket exemption for the application of aquatic pesticides. Identified conditions must be met before a pesticide can be considered outside the category of a pollutant under the Clean Water Act. The pesticide must:
(1) Be applied for a beneficial purpose,

(2) Be applied in compliance with FIFRA,
(3) Produce no pesticide residue, and
(4) Produce no unintended effects (*Fairhurst*, 422 F.3d at 1150).

Comment(s):

I realize that DOE doesn't necessarily control the outcome of court decisions, but can you tell me what "pollutant/pesticide" added to water would meet requirement #3? Do you have any examples?

It seems to me that the only type of pollutant/pesticide that would meet this requirement is one that has no possibility of breaking down into other materials, thereby meaning it had infinite persistence in the environment. Many of our larvicides have been determined to be "pollutants" simply because they do break-down in the environment and in that process there may be different components present than what was there originally, regardless if these "new" components have been shown to pose an environmental risk or not.

#6	Section/Title	MOSQUITO BACKGROUND; Mosquito Lifecycle	Page #	11

Text (for reference):

The highly variable mosquito life cycle ranges from one to three weeks, depending on factors such as water temperature and food availability.

Comment(s):

I'm trying to find written documentation (no luck as of yet) but Aedes vexans has completed an egg to adult lifecycle in less than a week here in Benton County. Additionally I have spoken with other Districts that have confirmed that under optimum field conditions that lifecycle can be as little as 4 or 5 days.

Coquillettidia perturbans, "After hatching, the small larvae attach themselves with the modified siphon to the roots or submerged stems of plants where they remain throughout development. The pupa also attaches itself to plants by means of the modified respiratory trumpets and remains there until the adult is read to emerge. The winter is passed as immature or mature larvae, and the adults emerge in the spring and summer." (Carpenter & LaCasse, Mosquito of North America (North of Mexico), University of California Press, Berkley & Los Angeles, 1974, pg 111)

Considering that eggs are laid in summer or early fall and emergence does not occur until "spring or summer," the life cycle statement of "three weeks," while more of the norm, is not accurate for all species.

Possibly adjust the "lifecycle range" to read "from less than one week to multiple months (Genus dependent)".

#7	Section/Title	MOSQUITO BACKGROUND; Mosquito	Page #	11

		Lifecycle		
Text (for reference):				
Mosquitoes either lay eggs in masses or rafts on the water surface, or deposit their eggs on moist substrates that will later be flooded with water.				
Comment(s):				
Anopheles lay their eggs singly on the water with floats. "The eggs of Anophelini are usually boat-shaped and are equipped with dorso-lateral or lateral floats." (Carpenter & LaCasse, Mosquito of North America (North of Mexico), University of California Press, Berkley & Los Angeles, 1974, pg 28)				

#8	**Section/Title**	**MOSQUITO BACKGROUND; Mosquito Lifecycle**	**Page #**	**11**
Text (for reference):				
Mosquito eggs take 24 to 48 hours to develop and hatch, though eggs of species that deposit on moist substrates may sometimes last for months before they hatch due to flooding of the moist area.				
Comment(s):				
"In fact, *Ae. vexans* eggs have been found to survive in numbers for three years when kept moist (James and Harwood, 1969)." From http://www.rci.rutgers.edu/~insects/sp13.htm, the New Jersey Mosquito Control Association website. Change from "months" to "years".				

#9	**Section/Title**	**MOSQUITO BACKGROUND; Mosquito Lifecycle**	**Page #**	**12**
Text (for reference):				
Adult mosquitoes are most active from dusk until dawn when they search for a meal and a mate.				
Comment(s):				
Should read "The majority of adult mosquitoes are most active around the periods of dusk and dawn…" Some species are considered "day biters," for example, Aedes japonicus which has been found in Washington. "Adult species of *Aedes japonicus* rest in wooded areas and prefer to bite during the daytime." [From Centers for Disease Control website, http://www.cdc.gov/ncidod/dvbid/arbor/japonicus.htm] "Adults live in forested areas and are day biters…" (Kamimura, K. 1976. On the Japanese species of the family Culicidae, pp. 150-188)				

#10	**Section/Title**	**MOSQUITO BACKGROUND; Public Health**	**Page #**	**12**

		Impacts From Mosquitoes		
Text (for reference):				
These diseases can cause serious, sometimes fatal neurological ailments in people (the WEE virus also causes disease in horses).				
Comment(s):				
WNV also causes disease in horses with a morality rate given at 30%-40%. Should read, "the WEE and WNV viruses also cause disease in horses".				

#11	**Section/Title**	**MOSQUITO BACKGROUND; Public Health Impacts From Mosquitoes**	**Page #**	**13**
Text (for reference):				
For comparison, Centers for Disease Control and Prevention (CDC) lists seasonal influenza cases at 5-10% of the US population with 200,000 hospitalized and 36,000 mortalities from flu related issues annually.				
Comment(s):				
What is the justification for this "comparison?" Influenza is not a vector-borne disease. You are comparing apples to oranges. This is like comparing the number of people who die annually from snake bites with those that die from heart disease; completely unrelated. You should either remove this statement (which only seems to serve the purpose to try and minimize the impact of West Nile Virus) or add an additional statement indicating that number of people who die annually in the United States from another vector-borne disease (e.g., rabies). That at least would be a comparison.				

#12	**Section/Title**	**MOSQUITO CONTROL; Control/Management Options**	**Page #**	**13**
Text (for reference):				
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.				
Comment(s):				
Most experts in mosquito control will tell you that if you wait until the threat of disease transmission is high or imminent, then you have waited too long. For example, controlling vectors that have tested positive for West Nile Virus in a rural setting before they travel, migrate or spread the disease to traveling carriers (e.g., birds) is a prudent step. Adopting the attitude that actions are not taken until the "threat of disease transmission to humans…is high," which would mean allowing the vector and virus to multiply in rural settings and only acting once it starts approaching populated areas is a dangerous ideology at best. Stopping a runaway car is best accomplished near the top of the hill, not the bottom.				

This wording provides an inaccurate and incorrect control strategy for protecting human and animal health.

#13	Section/Title	MOSQUITO CONTROL; Control/Management Options	Page #	14
Text (for reference):				
Applicators use Ultra Low Volume (ULV) application equipment to apply adulticides from air (aerial ULV) and ground (ground ULV) based vehicles.				
Comment(s):				
Not all applicators use ULV equipment and not all mosquito control products require ULV equipment. This should read "Applicators typically use…" to avoid giving the impression that this is an absolute.				

#14	Section/Title	MOSQUITO CONTROL; Integrated Pest Management (IPM)	Page #	14
Text (for reference):				
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.				
Comment(s):				
This wording was present in the first round of the NPDES Draft Permit and has since been removed, at least in part due to requests from stake holders taking exception to the wording being used. The Fact Sheet and Permit should be consistent; please use the wording in the Permit or remove this portion all together. From Permit (draft Feb 3rd, 2010): "**Integrated Pest Management Plan (IPMP):** An ecologically based strategy for pest control that incorporates monitoring, biological, physical, and chemical controls in order to manage pests with the least possible hazard to people, then environment and property. IPMP considers all available control actions, including no action. Pesticide use is only one control action."* *This is the same Glossary definition used in the Fact Sheet as well, so the text body should not be in conflict with its own glossary and the Permit.				

#15	Section/Title	MOSQUITO CONTROL; Integrated Pest Management (IPM)	Page #	14
Text (for reference):				
A good integrated pest management (IPM) program -- featuring monitoring/surveillance for high				

mosquito populations and disease, resident education and action to maximize natural controls and minimize mosquito breeding sites, larviciding when necessary and adulticiding as a last resort -- can control mosquitoes effectively while reducing pesticide exposure to humans and the environment.

Comment(s):

Change wording to "…and adulticiding when appropriate…" The current language diminishes the appropriate and judicious use of adulticides as an appropriate tool in an IPM program and pushes it back into a category, where it will only be considered when disease is widespread and will not only be harder to reign back in, but may require more adulticide being used due to playing "catch up."

Additionally; where is DOE getting guidance that adulticiding is a last resort IPM tool? I am confident that this mindset has not been expressed by the Centers for Disease Control, the American Mosquito Control Association or the Benton-Franklin Health Department (local health jurisdiction).

#16	Section/Title	MOSQUITO CONTROL; Integrated Pest Management (IPM)	Page #	14

Text (for reference):

Surveillance methods include studying habitats by air, aerial photographs, and topographic maps, and evaluating larval populations. Mosquito control officials also monitor mosquito traps, and complaint reports from the public. Seasonal records are kept in concurrence with weather data to predict mosquito larval occurrence and adult flights. Many mosquito control programs and local health jurisdictions monitor mosquito-borne diseases by having wild birds, *mosquito pools*, and/or *sentinel chickens* tested for disease.

Comment(s):

Not all Districts perform this action, nor is it applicable for all areas. Please reword to read, "Seasonal records may be kept in concurrence with weather data to predict mosquito larval occurrence and adult flights."

Currently there are a number of local health jurisdictions (LHJ) that perform "Dead Bird Surveillance," but there are still gaps in the system. Dead Bird Surveillance while valuable is a passive system that is dependent upon mortality for possible confirmation. But for mosquito monitoring and testing, which is an active surveillance technique, the list of LHJ participation is far fewer.
LHJs that performed mosquito monitoring/testing in 2009: 3 total (Grays Harbor, Kittitas and Klickitat).
No LHJs performed sentinel surveillance in 2009.

This indicates that active surveillance is mainly falling upon Mosquito Control Districts. The process is time consuming and can be expensive. I believe that additional information should be included to clarify what roles are actively being pursued by LHJs and which roles are actively pursued by MCDs. Current wording seems to indicate that in the realm of mosquito monitoring LHJs and MCDs are on equal footing, which is not an accurate representation with regards to

active surveillance techniques.

#17	Section/Title	MOSQUITO CONTROL; Mosquito Control Programs	Page #	15

Text (for reference):

Mosquito control activities can be important to the public health, and responsibility for carrying out these programs rests with state and local governments, health departments, and vector or mosquito control districts. Modern mosquito control programs in the U.S. are multifaceted and include surveillance, source reduction, and a variety of larval and adult mosquito control methods following IPM strategies. In Washington, mosquito control is provided by mosquito control districts, cities, counties, municipalities (Public Utility Districts) and commercial applicators depending on the region and resources available.

Comment(s):

In the highlighted section you omitted the authority and responsibility of both local and state health departments concerning vector-borne illness (i.e., mosquito-borne disease). Please include wording that clearly indicates that State Health has the ability and Local Health has the responsibility for providing mosquito control efforts for vectors (both State & Local Health) and nuisance (Local Health) mosquitoes.

RCW 70.05.060

Each local board of health shall have supervision over all matters pertaining to the preservation of the life and health of the people within its jurisdiction and shall:

(4) Provide for the control and prevention of any dangerous, contagious or infectious disease within the jurisdiction of the local health department;

(5) Provide for the prevention, control and abatement of nuisances detrimental to the public health;

My comments: RCW 70.05.060 would clearly apply to West Nile Virus and the vector involved in transmission. Additionally, point (5) requires control measures to be performed on "nuisances" if it is "detrimental" to public health. The use of detrimental and nuisance in the Code separate it from wording of vector and disease; this is about nuisance control!

RCW 70.05.070

The local health officer, acting under the direction of the local board of health or under direction of the administrative officer appointed under RCW 70.05.040 or 70.05.035, if any, shall:

(3) Control and prevent the spread of any dangerous, contagious or infectious diseases that may occur within his or her jurisdiction;

(5) Prevent, control or abate nuisances which are detrimental to the public health;

RCW 70.22.020

The secretary of health is hereby authorized and empowered to make or cause to be made such inspections, investigations, studies and determinations as he or she may from time to time deem advisable in order to ascertain the effect of mosquitoes as a health hazard, and, to the extent to which funds are available, to provide for the control or elimination thereof in any or all parts of

the state.

My comments: RCW 70.22.020 provides for the authority "to provide for the control or elimination thereof (mosquitoes) in any or all parts of the state."

#18	Section/Title	PESTICIDE INFORMAITON; Larvicides	Page #	15

Text (for reference):

The PERMIT authorizes the discharge of several larvicidal active ingredients when an entity is working to control mosquitoes. The active ingredients included for use the permit are Bacillus sphaericus (H-5a5b), Bacillus Thuringiensis israelensis, Methoprene, Monomolecular surface films, Malathion, and Temephos.

Comment(s):

The table following this list has "Petroleum and mineral based oil" but it is not listed in the text noted above. It should be added for consistency.

#19	Section/Title	PESTICIDE INFORMAITON; Malathion	Page #	19

Text (for reference):

Malathion use as a larvicide is restricted under Ecology‟s aquatic mosquito control permit. It is not permitted for use as an adulticide. Malathion may only be used for control of mosquito larvae with Ecology approval after consultation between Ecology and DOH in response to a public health emergency. This limits the amount and times that malathion may be discharged to surface waters to only times when human health becomes a priority.

Comment(s):

A) The 02/03/2010 draft permit allows for the use of Malathion as an adulticide when certain conditions are met, "The Permittee may only use Malathion and Naled in case of documented *pyrethroid* resistance development in a specific vector mosquito population."
Please change the wording in the Fact Sheet to insure consistency.

B) The 02/03/2010 draft permit uses the wording "human health threat" **not** "public health emergency." Local and State Health Departments have been unable to agree upon the proper use and implication of using the term "public health emergency."
Please change the wording in the Fact Sheet to insure consistency.

#20	Section/Title	PESTICIDE INFORMAITON; Naled	Page #	22

Text (for reference):

Naled use as an adulticide is restricted under Ecology‟s Permit. It is not permitted for use as a larvicide. Naled may only be used for control of adult in response to pyrethroid resistance development within a specific population of mosquitoes. An example of a specific population would be the population of mosquitoes that breed in a single waterbody.

Comment(s):
Vector mosquito species can range from weak to strong fliers translating in movements of mosquitoes from a hatch point to mosquito trap location that could be a few hundred yards away to miles away. It is an unrealistic expectation to require that the pyrethroid resistance be determined for and only applicable to a "single waterbody." Many areas could have singular waterbodies within a relatively short distance, thereby requiring (according to this Fact Sheet) confirmation of pyrethroid for every singe waterbody. If one had to abide in DOE's proposed system, he/she would have to collect larval samples, rear these samples to the adult stage and perform resistance testing. Larval rearing is not a foregone conclusion. Many wild species do not respond well to artificial settings for their development. This requirement should be removed or DOE should adopt the responsibility of rearing all mosquitoes to an adult stage for testing purposes. Additionally, DOE has provided zero guidance in how confirmation of pyrethroid resistance will translate into allowance of alternate products. For example, if one confirms resistance in a single waterbody, does that mean that an alternate product can now be used but only for 100 yards (or some other predetermined distance) around that site? If pyrethroid resistance were detected at a single waterbody, then product rotation should be encouraged on a larger scale to head off large scale resistance issues, which are far more difficult to recover from than being proactive with potential resistance.

#21	**Section/Title**	**REGULATORY INFORMATION; Antidegradation**	**Page #**	**25**
Text (for reference):				
Ecology considered Tier I and Tier II in this permit and determined that the permit does not cover discharges to Tier III waters.				
Comment(s):				
A) Does this mean (1) Tier III waters are exempt from the permit or does this mean (2) one cannot receive a permit to make applications to Tier III waters? B) Where can one find out the location of Tier III waters?				

#22	**Section/Title**	**REGULATORY INFORMATION; Antidegradation**	**Page #**	**25**
Text (for reference):				
Tier I applies water quality-based limits to point source discharges and is discussed below.				
Comment(s):				
Where is this discussed? What are the limits?				

Please indicate exact location with page number reference.

#23	Section/Title	REGULATORY INFORMATION; Evaluation of Surface Water Quality-based Effluent Limits for Numeric Criteria	Page #	26
Text (for reference):				
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.				
Comment(s):				
1. We follow FIFRA 2. We adhere to internal BMPs (it seems Ecology is alluding to "permit BMPs" as being the DOH Response Plan guidelines) 3. Discussions with MCDs?????? What was determined from these "discussions?" 4. Deposition studies are used in the determination/writing of labels and application guidelines. If DOE has based its "decision on calculations using available information," then these calculations should be available. I request the DOE provide the **actual calculations** used for their determinations.				

#24	Section/Title	REGULATORY INFORMATION; Endangered Species	Page #	28
Text (for reference):				
Ecology has further limited the application of pesticides for mosquito control in areas identified by WDFW as being critical habitat for state and federal endangered, candidate, threatened and sensitive species. In most cases, applicators may use *Bacillus spp.* based larvicides but must obtain Ecology and WDFW approval before using all other larvicides in critical habitats. Applicators must not use adulticides in critical habitat areas unless Ecology approves the use due to a human health issue.				
Comment(s):				
In the past, adulticide use in these sensitive areas was determined by WDFW (Washington State Department of Fish and Wildlife). Am I correct in assuming that WDFW approval for adulticides is no longer needed, but rather only DOE's approval is required? If WDFW desires adulticiding to be conducted (e.g., to knock down virus activity) but DOE will not grant adulticiding, which agency has the final say? What is the process for gaining approval from DOE to conduct adulticiding on WDFW lands? Who are the contacts? What are the decision thresholds and the timeline for finalizing a				

decision? Such issues need to be addressed prior to the administration of a permit not after the fact.

#25	Section/Title	PROPSED PERMIT CONDITIONS	Page #	28
Text (for reference):				
PROPSED				
Comment(s):				
I believe you accidentally omitted an "O" in the Section name.				

#26	Section/Title	PROPOSED PERMIT CONDITIONS; Geographic Area Covered	Page #	29
Text (for reference):				
The draft Permit applies to the application of pesticides for mosquito control to surface waters anywhere in the State of Washington where Ecology has authority. Ecology defines surface waters of the state as "lakes, rivers, ponds, streams, inland waters, salt waters, wetlands, and all other surface waters and water courses within the jurisdiction of the state of Washington (90.48.020 RCW, 173-201A-020 and 173-226-030 WAC)."				
Comment(s):				
Could you provide guidance or a list on what is **NOT** considered a "water of the state"? This seems like it might be a shorter list and easier to identify.				

#27	Section/Title	PROPOSED PERMIT CONDITIONS; Washington State Department of Health Blanket Permit Coverage	Page #	29
Text (for reference):				
Ecology has determined that DOH does not meet the definition of Permittee. It is not directly in control of the pesticide discharges (the limited agents are), but because it holds permit coverage is liable for any violations of permit conditions.				
Comment(s):				
Does this mean that DOH is responsible and liable for past permit violations up to the issuance of this 2010 permit?				

#28	Section/Title	S4. Larvicide Use	Page #	32
Text (for reference):				

The larvicide use conditions included in the 2010 Permit are largely unchanged from the permit issued in 2007. Ecology made one substantive change. Ecology removed the permit condition that authorized the use of new active ingredients not included in the issued permit for three reasons:

A. Adding new active ingredients to an issued permit is a major modification of the permit conditions. Ecology must notify the public when it issues major modifications using a public involvement process (173-226-230 WAC).

B. Since Ecology issued the first Permit in 2002, it has not added any active ingredients to the permit at the request of Permittees outside the permit development process. If Permittees request additional active ingredients after issuance of the 2010 Permit, they must request that Ecology re-open and modify the existing permit to include those active ingredients. Inclusion of new active ingredients will depend on Ecology review of the literature available about the specific active ingredient.

C. Ecology does not currently have the resources to review risk assessments outside of the permit development process.

D. Ecology has retained the methoprene use restrictions in Permit Appendix B areas at the request of Washington State Department of Fish and Wildlife.

Comment(s):

A) Isn't this NPDES Draft Permit & Fact Sheet going to go through a public comment period? So, wouldn't the "public involvement process" be covered by this action? Or, at least the process could be modified to be both a public comment period and fulfillment of WAC 173-226-230? Even Appendix A of the Fact Sheet is titled, "Public Involvement Information".

DOE is currently making "major modifications" to the permit conditions (e.g., addition of wording concerning adulticides). Why is it that this "major modification" doesn't require adherence to WAC 173-226-230, but adding active ingredients does? It appears as if the application of this WAC is being used in a highly subjective manner.

B) Ecology has been requested to evaluate "additional active ingredients" prior to the release of this draft Permit. When the initial (working) draft was presented in November, 2009, the request was made by way of DOE solicited comments that certain active ingredients be included in the upcoming altered/updated permit. Even though the request was made in November, 2009, it is not present in the February, 2010 Permit. Can you explain the justification for not including the request for additional active ingredients to be considered?

C) Ecology has allowed for the registration and use of suggested "new" active ingredients prior to 2010. How is it that a "new" active ingredient can be allowed for use in Washington but cannot be allowed on the permit due to a lack of resources on DOE's part? Has DOE allowed, in the past, active ingredients to be approved for use without proper assessment?

D) Can you provide the justification from WDFW on the methoprene use restrictions? I'm assuming that WDFW must also use a scientific system to determine their limitations on the use of certain materials and that a request in and of itself without a scientific, defensible basis is not acceptable. Simply requesting that something not be allowed does not seem a valid reason for denying its use. Please provide the scientific basis from WDFW for continuing methoprene use restrictions.

#29	**Section/Title**	**S5. Adulticide Use for Nuisance and Vector Control; Nuisance Mosquito Control**	**Page #**	**33**

Text (for reference):

Therefore, they may have environmental effects, even if not a direct effect. Because these other ingredients are unknown due to their proprietary nature, Ecology cannot determine their affects in the environment for permitting purposes. EPA plans to propose a rule that would require disclosure of all inert/other ingredients in a pesticide formulation to the public.

The draft permit requires discharges to comply with water quality standards. Because of the unknowns in adulticide formulations, Ecology cannot determine with reasonable certainty that regular applications of adulticides to control nuisance mosquitoes will not cause violations of water quality standards (chapter 173-201A WAC).

Comment(s):

The adulticides approved for vector control are exactly the same as adulticides not-approved for nuisance control; same active ingredients, same inert/other ingredients. It seems unlikely that an adulticide applied to *Ochlerotatus togoi* (a "nuisance species) will have a different effect upon the environment than the exact same adulticide applied to *Culex pipiens* (a vector species).

What type of scientific "system" is DOE using to determine that "proven sustained disease carrying vector"-use is acceptable but nuisance-use is not?

Do you have quantitative amounts to back up your assumptions?

Additionally, DOE writes that "Because these other ingredients are unknown due to their proprietary nature, Ecology cannot determine their affects in the environment for permitting purposes." Has DOE issued any aquatic permits for products whose proprietary inert/other ingredients have not been released to DOE for evaluation? If yes, what are these permits? If yes, what is the justification in these allowances?

In Section S4 of the Fact Sheet, page 32 it reads:
"C. Ecology does not currently have the resources to review risk assessments outside of the permit development process."
If Ecology does not have the resources to review risk assessments outside of the permit development process, what benefit would there be to a manufacturer providing proprietary information? By its own admission, even if the information were provided Ecology could not perform a risk assessment due to lack of resources. Therefore, the argument of "unknown dangers from unknown ingredients" is not valid since there is absolutely no way to satisfy this concern under the system that Ecology has constructed. Please explain how Ecology believes that this expectation is reasonable given it cannot be satisfied by the manufacturer.

#30	**Section/Title**	**S5. Adulticide Use for Nuisance and Vector**	**Page #**	**34**

		Control; Vector Mosquito Control		

Text (for reference):

Currently, DOH data shows that only West Nile virus (WNV), St Louis (SLE), and Western Equine Encephalitis (WEE) are endemic in Washington Permit. DOH also commented that diseases could migrate to new locations. Based on these comments, Ecology addressed generic mosquito born disease, not specific diseases, in the draft 2010 Permit. When DOH determines and acknowledges that a disease is mosquito born (specific to a species or several species of mosquitoes), and endemic or epidemic, then Ecology will consider those mosquitoes as vectors for purposes of this permit.

Comment(s):

A) In the DOH publication, "Guidance for Surveillance, Prevention and Control of Mosquito-Borne Disease (2008 Edition)" there 19 listed species as being bridge or amplifying species for West Nile Virus. Will Districts be allowed to use published information to show that certain species fall into the category of vector?

B) According to DOH, what are the criteria for determining and acknowledging certain species are vectors for mosquito borne illness within our State or nearby borders?

C) I believe "Permit" needs to be omitted in the referenced section.

D) If DOH is mandated with the responsibility of determining and acknowledging that a disease is mosquito born, then DOH should also bear the responsibility for monitoring and testing including all applicable costs.

#31	Section/Title	S5. Adulticide Use for Nuisance and Vector Control; Areas with a Mosquito Control Districts	Page #	35

Text (for reference):

MCDs have the knowledge and experience with mosquito control in their district that allows it to best factor in all the variables to determine when adult vector mosquito control is necessary. The Permit requirements take this knowledge and experience into account, and allow relative autonomy for the MCD to make application decisions based on mosquito surveillance, monitoring of disease indicators in the environment (such as through the vector-borne disease notifications lists through DOH) and within the requirements of the permit.

Prior to the development of the draft permit, Ecology discussed with DOH how to determine when it should allow application of adulticides. DOH suggested Ecology use Alert Level 3 from the West Nile Virus Outbreak Response Plan as the point at which Ecology should allow adulticiding for WNV vector mosquitoes.

Comment(s):

This section is contradictory and I believe belies the truth of this process. In the first paragraph you indicate that MCDs have the "knowledge and experience…to best factor in all variables to determine when adult vector mosquito control is necessary" but then you follow that up with "Prior to the development of the draft permit, Ecology discussed with DOH how to determine when it should allow application of adulticides." If MCDs have the knowledge and experience, why

were they not the primary consultant on making the determination of when adulticide applications should be allowed?

Liz Dykstra with State Dept of Health wrote to me in an email (February 17th, 2010), "Yes – we are primarily active in providing education and technical assistance on how to reduce mosquito populations (esp on what people can do themselves) and how to reduce one's risk of mosquito bites / WNV. EG – if there was a WNV outbreak in a county or area with no mosquito control district, we would provide information on ways that area could conduct mosquito control and who they might go to for additional assistance (e.g. Clarke, Adapco, etc.). The actual reducing, minimizing and elimination work is the local entities' responsibility."

Given that DOH is not performing the actual control measures and is primarily an educational resource it seems inappropriate that MCDs were not the entity that DOE worked primarily with for this determination. And in fact, MCDs have requested on numerous occasions to either be included in state agency discussions or have requested an opportunity to get the stakeholders at one location for discussion and have been repeatedly denied.

Prove me wrong: How many meetings has DOE had exclusively with MCDs for the 2007 NPDES Permit construction or this 2010 revision? I am aware of one (November, 2010 when DOE traveled to various Districts to find out more about Districts and mosquito control). DOE has attended workshops put on by other agencies or associations, but to the best of my knowledge DOE has not utilized the knowledge and experience in the construction of an NPDES Permit. Washington Department of Health has had more exclusive meetings with Mosquito Control Districts concerning the NPDES Permit than the Department of Ecology.

#32	Section/Title	S6. Public Notification of Pesticide Use	Page #	36

Text (for reference):

The draft permit requires applicators to post notices at all reasonable points of ingress and egress to the treatment areas when applying larvicides with water use restrictions to water bodies that are used for water supply, fish and shellfish harvesting, or water contact activities. Ecology suggests that applicators also post notices at sites that are not directly accessible to the public (e.g. catch basins, storm drains, utility and transportation vaults, etc). Applicators must also make adulticide application area maps available to the public.

Comment(s):

Please remove this suggestion. With regards to storm drain applications it is highly unrealistic to expect workers to place signage on 300-500 sites daily. Placing signs up also requires taking them down. The use of a "suggestion" often turns into an expectation and since it would require a large commitment (probably the hiring of multiple personnel to make up for lost man-hours due to sign placement and removal) it would be best if this unlikely situation not be addressed at all.

#33	Section/Title	S8. Reporting Requirements; Reporting Permit	Page #	37

		Violations		
Text (for reference):				
WAC 173-226-070 allows Ecology to place impose permit conditions to prevent or control pollutant discharges from plant site runoff, spillage or leaks, sludge or waste disposal, or materials handling or storage and allows Ecology to require the use of Best management practices (BMPs).				
Comment(s):				
I think you might have an extra word in here; either "place" or "impose" but probably not both are wanted.				

#34	**Section/Title**	**GLOSSARY**	**Page #**	**39**
Text (for reference):				
Adulticide: A pesticide product designed to target adult mosquitoes and applied using ultra-low volume techniques.				
Comment(s):				
Not all "adulticides" require the use of ULV equipment.				

#35	**Section/Title**	**GLOSSARY**	**Page #**	**40**
Text (for reference):				
Individual Permit: means a discharge permit specific to s single point source or facility.				
Comment(s):				
A) I think the "s" is supposed to be an "a". B) Is an MCD considered a "facility?" If not, you may want to change the wording for "Individual Permit".				

#	**Section/Title**		**Page #**	
Text (for reference):				
Comment(s):				

Comments for: **AQUATIC MOSQUITO CONTROL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM STATE WASTE DISCHARGE GENERAL PERMIT**

Draft February 3, 2010

#1	Section/Title	S2.F. APPLICATION FOR COVERAGE & APPENDIX D: PUBLIC NOTICE TEMPLATE FOR NEW COVERAGES	Page #	6 & 30
Text (for reference):				
F. Use the Public Notice Template provided as Appendix D of this permit. Applicants may add information to the template but must include the required information as stated on the template. **The chemicals planned for use are** (list all active ingredients anticipated for use)				
Comment(s):				
The template reads, "The chemicals planned for use…" This is a misrepresentation of products that are used by Mosquito Control Districts (MCDs). MCDs utilize biological controls along with chemical agents. The template should use the term "products" or "materials" instead of "chemicals".				

#2	Section/Title	S1. PERMIT COVERAGE, B. Activities That…	Page #	5
Text (for reference):				
B. Activities That May Not Need Coverage Under This Permit				
Comment(s):				
"May Not Need" is a vague classification. You have listed the requirements to not require a permit, so the title should reflect this. "May Not Need" should be replaced with "Are Excluded From".				

#3	Section/Title	S4. LARVICIDE USE, B. Larvicides Authorized for Use Under This Permit	Page #	8
Text (for reference):				
Comment(s):				
Spinosad (the active ingredient in Natular; by Clarke) is not listed as a larvicide that may be used. It should be added to the list.				

#4	Section/Title	S4. LARVICIDE USE, B. Larvicides Authorized for Use Under This Permit	Page #	8

Text (for reference):

2. The Permittee must follow the additional permit restrictions below when applying larvicides with the following active ingredients:

a. Malathion and Paraffinic white mineral oil
Permittees may only use malathion and paraffinic white mineral oil in the case of a human health threat and must obtain Ecology approval prior to use. The Permittee may not use paraffinic white mineral oil in waters of the state unless other pesticides are ineffective at a specific treatment site and the water body is non-fish-bearing. Consult WDFW to determine if the water body is fish bearing. Contact information for WDFW Regional Wildlife Biologists may be accessed at http://wdfw.wa.gov/about/contact/.

Comment(s):

A) Paraffinic white mineral oil is the only viable choice for control (in the vast majority of our sites) when the mosquito has reached a late 4th larval instar or the pupal stage. This wording should include clarity that the user may choose to use paraffinic white mineral oil in cases of late larval and pupal stages being present.

Additionally the process for obtain approval from Ecology are not discussed. And the process should be clearly addressed in the permit as opposed to leaving permittees without a clear course to follow.

B) The required consultation with WDFW to determine if a water body is fish bearing needs to have the process outlined. No instructions or guidance are given except that one must contact WDFW. The lack of guidance could prove to be a hindrance to control activities and raises the following questions:
1) Is WDFW required to provide information on all sites concerning whether or not they are fish bearing?
2) What is the required response time for WDFW?
3) How will this information be provided by WDFW?
4) Is WDFW aware that they will be expected to provide information concerning all "waters of the state" with regards to the presence of fish?

#5	Section/Title	S4. LARVICIDE USE, D. Additional Restrictions on the Use of Larvicides	Page #	9

Text (for reference):

2. Prior to use of methoprene, monomolecular surface films, malathion, or paraffinic white mineral oil in Appendix B areas, WDFW and Ecology must approve the use.

Comment(s):

What is the process for this? What are the forms, steps, requirements involved? How long does each department have to respond? Details/references on this issue are lacking in this draft permit and is an unrealistic expectation that permittees will have to follow a process that is not

explained.

#6	Section/Title	S4. LARVICIDE USE, D. Additional Restrictions on the Use of Larvicides	Page #	10
Text (for reference):				
e. State or local authorities declare a public health emergency related to mosquito-borne disease.				
Comment(s):				
The use of the term "emergency" is inconsistent with other sections of this draft. Additionally, there is currently a dispute between local and state Departments of Health on whether or not a Local Health Jurisdiction Officer (LHJ Officer) has the authority and/or responsibility to make this declaration. It is unfair and unrealistic to expect permittees to achieve this status when state and local agencies cannot even agree on which agency has the responsibility to make this declaration. Change the wording from "emergency" to "threat" or "alert".				

#7	Section/Title	S5. ADULTICIDE USE FOR NUISANCE AND VECTOR CONTROL, A. Nuisance Mosquito Control	Page #	10
Text (for reference):				
Adulticides and their *residues* used for *nuisance mosquito control* must not be discharged to waters of the state.				
Comment(s):				
A) DOE is in direct conflict with RCW 17.28 with this section. (Italics are mine.) **RCW 17.28.160; Powers of district.** "A mosquito control district organized under this chapter may: (1) *Take all necessary or proper steps for the extermination of mosquitoes.* (2) Subject to the paramount control of the county or city in which they exist, *abate as nuisances all stagnant pools of water and other breeding places for mosquitoes."* Please explain how DOE can disregard a legislative approved RCW.				

#8	Section/Title	S5. ADULTICIDE USE FOR NUISANCE AND VECTOR CONTROL, B. Vector Mosquito Control	Page #	10
Text (for reference):				
3. Mosquito Control Districts 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)				

and follows available DOH vector control guidance (e.g. the West Nile Outbreak Response Plan where the trigger for adulticiding is Alert Level 3).

Comment(s):

In both 2008 and 2009 we exceeded "Alert Level 3" and DOH (both state and local) would not support BCMC with appropriate "public health emergency" wording. Level 3 requires sustained virus in a population of mosquitoes. We cannot wait to determine if the virus is sustained. When virus is detected in the population after source reduction and larviciding have been attempted, the next step in our IPMP is to use another method of control; adulticiding. Additionally, DOH's guidance while not requiring additional conditions does "suggest" at least 8 other factors.

- Documentation of the presence of mosquito-borne viruses in the area.
- The abundance and species of the mosquito populations.
- Mosquito minimum infection rate (MIR).
- The density and proximity of human populations.
- The time of year and weather conditions.
- Accessibility to the area where the mosquito vector is located.
- Rapidity of the response required as determined by the seriousness of the public health threat.
- The potential impact on people and the environment.

The permit needs to clearly state that an MCD (formed in respect to RCW 17.28) may develop, implement and utilize its own "vector control guidance." MCDs are the experts when it comes to mosquito control, not DOH (Don't believe me? Ask them yourself.). And consequently they should be allowed to develop appropriate guidelines concerning vectors (Districts already have Best Management Practices and/or Integrated Pest Management guidelines in place for control activities.)

#9	Section/Title	S5. ADULTICIDE USE FOR NUISANCE AND VECTOR CONTROL, B. Vector Mosquito Control	Page #	10

Text (for reference):

4. Areas without a Mosquito Control District
A Permittee that is not part of an organized mosquito control district (chapter 17.28 RCW) may use adulticides to control vector mosquitoes provided DOH makes the determination that adulticiding for vector mosquito control is necessary to protect public health due to an overriding public health concern.

Comment(s):

Is DOH equipped and prepared to make this kind of determination? Once again, we (Benton County MCD) exceeded even Alert Level 4 of the DOH Guidelines and DOH would not make a declaration of a Public Health Emergency.

Additionally, I have not heard of any formal guidance/determination from DOH on these matters. How will they make this determination? Will it be state or local entities (health)

making this decision? For this part of the permit to work, these questions and the process need to be addressed by DOH **before** the permit goes into effect.

The issue of a public health emergency (and possibly other levels) declaration has been discussed in the past but currently lacks any resolution. Requiring public health approval without clear guidance on what the declaration shall be, what agency will make the declaration and what the process shall be puts mosquito control activities at a severe hindrance. This issue should be resolved prior to Permit finalization, not afterwards.

#10	Section/Title	S5. ADULTICIDE USE FOR NUISANCE AND VECTOR CONTROL, C. Adulticides authorized for use under this permit	Page #	11

Text (for reference):

2. The following active ingredients are allowed for use:
a. Permethrin
b. Resmethrin
c. Sumithrin (δ-phenothrin)
d. Natural Pyrethrins
e. Piperonyl Butoxide (PBO) as a *synergist*
f. Malathion
g. Naled
The Permittee may only use Malathion and Naled in case of documented *pyrethroid* resistance development in a specific vector mosquito population.

Comment(s):

1) The active ingredient Prallethrin (found in the product DUET; registered for use in Washington State) in not on this list.
2) The additional restriction being placed upon Naled is unreasonable. Pyrethroids not only cost more, but has also been shown (within Benton County MCD) to not be as effective as Naled in aerial applications. If a product achieves lower mosquito mortality this will require additional pesticide to be used to achieve desired control levels. This draft permit could (unintentionally) lead to an increased amount of pesticide being used.

#11	Section/Title	S6. PUBLIC NOTICIFICATION OF PESTICIDE USE, A. Public Notice	Page #	11

Text (for reference):

1. The Permittee must publish a public notice at least ten days prior to the first pesticide application of the season.

Comment(s):

Will this requirement be waived for this year since the permit is expected to be issued in July of 2010 and the season will be well under way?

#12	**Section/Title**	**S6. PUBLIC NOTICIFICATION OF PESTICIDE USE, A. Public Notice**	**Page #**	**12**
Text (for reference):				
3. For expected applications of pesticides that have a *water-use restriction* (currently only applies to malathion, temephos and paraffinic white mineral oil), the Permittee must publish a public notice in a local newspaper of general circulation (or nearest regional paper if a local newspaper does not exist).				
Comment(s):				
Given that there are restrictions on where to use paraffinic white mineral oil, why is a reoccurring public notice being required? The product is not being used on fish-bearing waters nor is it being used on areas where water-contact activities (swimming, boating, etc) are being conducted.				

#13	**Section/Title**	**S6. PUBLIC NOTICIFICATION OF PESTICIDE USE, B. Posting Requirements**	**Page #**	**12**
Text (for reference):				
1. The Permittee must post notices at all reasonable points of ingress and egress to the treatment areas when applying larvicides with water use restrictions to water bodies that are used for water supply, fish and shellfish harvesting, or water contact activities.				
Comment(s):				
"Water contact activities" needs to be clarified or at least have examples given (swimming, boating, etc).				

#14	**Section/Title**	**S7. MONITORING REQUIREMENTS, B**. Dip Sampling, #1	**Page #**	**12**
Text (for reference):				
When Permittees conduct larva treatments requiring dip samples (sections S4.D), the Permittee must record the:				
Comment(s):				
The proposed monitoring system does not allow for the use of methoprene as a pre-emergent product in sites that have historically shown to be producers. One design feature of methoprene (pellet and sand formulations) is that it may be applied to dry sites in anticipation of a flood event (example; pastures that are flood irrigated). The "dry" formulations allow for UV/environmental exposure and still retain efficacy when covered by water. Please add wording that allows for the use of methoprene, without dipping confirmation, in areas that have historically been shown to be mosquito producers and are considered "flood/irrigated				

water sites."

#15	Section/Title	APPENDIX A: GLOSSARY	Page #	23
Text (for reference):				
Incidental: The minimum amount of adulticide deposition possible to surface waters of the state during properly conducted pesticide applications (in accordance with this permit and the FIFRA label) for controlling vector mosquitoes.				
Comment(s):				
Are you planning to determine what the "minimum" amount will be?				

#	Section/Title		Page #	
Text (for reference):				
Comment(s):				

Additional Comments:

From the Public Meeting in Moses Lake on March 9th, 2010 it was stated that for mosquito control products there does not currently exist any threshold amounts with regards to acceptable amounts under the Clean Water Act. Given that quantitative numbers do not exist for the CWA/NPDES with regard to mosquito control products, can Ecology explain and cite what pesticides and thresholds it is using in making the determination that adulticide applications for nuisance abatement and pre-confirmed sustained disease vector abatement are not warranted for a State NPDES Permit?