AQUATIC MOSQUITO CONTROL GENERAL PERMIT

FACT SHEET
APPENDIX C: RESPONSE TO COMMENTS

SUMMARY OF MAJOR PERMIT CHANGE

This is a summary of the major change made to the Aquatic Mosquito Control General Permit (permit) in response to the public comments received between February 3, 2010 and March 17, 2010. In finalizing this permit, Ecology:

- Considered all of the public comments received.
- Met with mosquito control districts in April to discuss how to make the permit requirements workable.
- Based the re-written permit requirements on an American Mosquito Control Association guidance document provided to Ecology by the mosquito control districts.
- Allowed mosquito control districts a chance to preview the re-written portion of the permit, something that does not normally occur after a draft permit has completed the public comment period.

The majority of commenters felt that Ecology needed to change the permit to allow incidental discharge of pesticides for the spraying of all mosquitoes (nuisance and vector), not just those mosquitoes currently known as disease vectors. Ecology has eliminated the distinction between nuisance and vector (disease carrying) mosquitoes. The permit also no longer contains the requirement to meet a disease threshold before spraying for adult mosquitoes.

Spraying for adult mosquitoes will be dependent on Permittees developing an integrated mosquito management (IMM) plan as detailed in section S5 of the final permit and following the other permit and FIFRA label requirements. IMM plan requirements are based on recommendations from mosquito control districts (MCD) to Ecology, and in consideration of their comments to the draft IMM section. The MCDs recommended that Ecology follow the "Best Management Practices for Integrated Mosquito Management" from the American Mosquito Control Association. Ecology has substantially followed this guidance and created the final permit requirements from it.

Once an IMM is developed for a Permittee's permit coverage area, the Permittee will be able to determine when, where, and how to spray for adult mosquitoes. This determination will be based on mosquito surveillance and action thresholds. Mosquito surveillance can be conducted in a number of ways that do not require trapping mosquitoes such as complaints, landing counts, service requests, etc. Action thresholds will be developed by the Permittee for their permit coverage area and will determine when, where and what mosquito controls will be implemented. Developing an IMM also allows the Permittee to determine how they want to use malathion and naled to manage against pesticide resistance in mosquito populations.

The final permit also includes other IMM plan requirements that affect how pesticides are applied, such as staff training. These are important considerations because they can help determine how much pesticide is

discharged into water. For example, proper staff training in the use of application equipment can be related to staff using the proper amount of pesticide.

COMMENTS AND RESPONSES

Ecology published a draft Aquatic Mosquito Control General Permit on February 3, 2010 for public comment. The public comment period originally ended March 10, 2010 but due to public request, Ecology extended the comment period by one week to March 17, 2010 at 5 PM. During the comment period, Ecology conducted a public hearing and workshop in Moses Lake. Due to the unexpected turnout, Ecology held three workshops. The first two workshops ran simultaneously, and the third workshop was held later in the day. The public hearing was started after the first two workshops and continued later after the third workshop. Ecology also took public comment via letter and email.

Ecology considered all comments in preparing the final permit. This Response to Comments documents Ecology's response to each commenter and any changes that resulted from the comments. Ecology received over 500 comments during the public comment period. Each comment is numbered in the order in which the comment was received. This number allows the commenter to find responses to their comments. Many of comments addressed similar concerns about the draft permit. Comments about similar permit issues are grouped together and summarized into one response.

The response to comments is broken into three sections:
1. General Comments
2. Comments on each permit section (sections that received no comments are omitted)
3. Fact Sheet Comments
4. List of Commenters and Commenter Numbers

General Comments

1. Commenters # 1-4, 27, 112, 186

Commenter's expressed concerns that too much pesticide is already being used, and are not in favor of using more for the control of mosquitoes. Concerns include effects on environment and non-target organisms, using adulticides before larvicides are considered, the use of taxpayer money for mosquito control, and providing education to the public about control sources of mosquitoes.

Response: State and federal law do not prohibit the use of pesticides, but control how they are used. The Ecology mosquito permit only addresses the discharges of pesticides to waters of the state used during mosquito control and is intended to be protective of the environment. The larvicides permitted in Washington since 2002 have all undergone extensive review. The larvicides used most are bacterial or juvenile growth hormone inhibitor products that are mosquito specific and have minimal non-target effects. The adult mosquito spray products are used at extremely low amounts (e.g. approximately 1 oz. per acre) and are not expected to cause water quality exceedances when applied properly. These products have also undergone extensive review by EPA.

2. Commenter #5

After you explain the permit to us at the March 9th meeting we have only one day to gather our thoughts, think about what you have told us and make additional comments.

In 2006 we were given one week to comment on the original NPDES permit after the public meeting. Even that one week was not enough. You must extend the public comment period for a reasonable time after the meeting.

If DOE feels that the permit needs to be explained (and I surely do feel we need to have some of the permit explained to us) DOE should give us adequate time after that explanation to make additional public comments. To tell you the truth I always think of things I should have asked after a meeting. We need time to inform our board of directors and our taxpayers of the implications of this permit. The meeting on March 9th will be the first time most of us have had the opportunity to question and hear DOE's explanation of the permit. At least a one month extension of the public comment period is needed.

I am submitting this as a written comment on the draft permit. Please address it with a written response.
Response: Ecology offered to meet with the commenter prior to the formal public hearing on March 9, 2010. See also response # 3.

3. Commenters # 5, 11, 57, 109, 136, 137, 145, 150, 250
Commenters expressed concern over the length of the public comment period, the fact that only one public hearing was held in Moses Lake. Asked Ecology to extend public comment period by one month, and hold public hearings in other cities such as Tri-Cities, Yakima, Longview, Kelso, and Kennewick.
Response: Ecology committed to issuing the 2010 mosquito permit in time for the main West Nile Virus season (June – September) to provide a legal pathway for the use of adult mosquito sprays when they are discharged incidentally to waters of the state. To extend the comment period would have pushed the permit issuance date back into the West Nile Virus season. Until the 2010 permit is issued, it remains illegal to discharge any adulticides to waters of the state. The required public comment period is 30 days (WAC 173-226-130). Originally, the comment period was 35 days, but Ecology did extend the public comment period by an additional week to allow for comments after the March 9 workshop and public hearing in Moses Lake.

4. Commenter #37
I understand that the Department of Ecology has published a draft NPDES permit that is open for public comment until March 10, 2010. As I understand it, the draft permit addresses the issue of nuisance mosquito control and bands the application of sprays within 300 feet of surface waters. I've visited the Department of Ecology website for the purpose of downloading the draft but have not been able to locate this document. I would greatly appreciate information that would help me obtain a copy of the draft document so that I can understand its impact on the Benton County Mosquito Control District.
Response: Ecology Water Quality Program public disclosure officer provided the requested documents within 2 days of the request.

5. Commenters # 45, 48, 73, 79, 82, 85, 123, 127, 144, 146, 159, 160, 161, 164, 166, 167, 171, 176, 177, 178, 179, 182, 183, 185, 187, 201, 202, 203, 205, 219, 222, 223, 227, 229, 230, 232, 235, 237, 239, 241, 261, 377, 378, 413, 415, 419-421, 468, 476

a. *Do not make a distinction between nuisance and vector mosquitoes.*

Response: See response #37.

b. *Eliminate the use of the term "waters of the state" and what are "waters of the state."*
Response: The definition of waters of the state (covered in RCW 90.48.020 and WACs) is very broad and includes most waterbodies and watercourses in the State of Washington where Ecology has jurisdiction. To bring some clarity to the definition Ecology has, for the purposes of this permit, added a subcategory, "waters of concern." "Waters of concern" are defined as "All natural waterbodies, including but not limited, to lakes, rivers, streams, ponds and wetlands, and the natural tributaries to those waterbodies."

c. *Change the current language to allow organized mosquito control districts under chapter 17.28 RCW to adulticide to control vector and nuisance mosquitoes as listed in the districts Integrated Pest Management Plan.*
Response: See response #37.

d. *Eliminate Malathion and Naled restrictions from the permit.*
Response: See response #'s 37 and 55.

6. Commenter #70 (comment excerpt)
Mosquito control programs must be allowed to conduct routine practices to control juvenile and adult mosquitoes. The permit states that "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 testing, 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)." Alert level 3 requires "Confirmation of mosquito-borne virus in birds, horses, or humans, or sustained mosquito borne virus activity in birds and/or mosquitoes." Mosquito control districts will be left waiting for test results rather than taking immediate action to control adult mosquitoes. This delay in response time will lead to unnecessary disease and pointless loss of life.

Please change the permit wording to read, "A Permittee that is an organized mosquito control district (chapter 17.28 RCW) may use adulticides to control mosquitoes provided it is part of an Integrated Pest Management program including population monitoring, larval control, biological control methods, and breeding source reduction."
Response: See response #37.

7. Commenter #82
Commenter requested (public disclosure request) copies of the federal laws and court cases requiring Ecology to prohibit the use of pesticides.
Response: Ecology responded with the requested documents the same day as the request.

8. Commenter #121
Summary of the commenter's main points:

- All mosquitoes are potential vectors of disease to humans and animals, not just the species currently identified as carriers of WNV.
- Proactive mosquito control instead of reactive mosquito control prevents disease instead of responding to disease when it is already present.

- Limiting the ability of mosquito control districts will lead to homeowners doing their own mosquito control which could lead to unintended environmental effects and pesticide resistance.
- Resource limitations for DOH and MCDs

Response: The final permit addresses mosquito control in general, not just vector mosquito species. Proactive control of mosquitoes using adulticides in addition to larvicides is dependent on the Permittee developing an IMM plan for their permit coverage area that addresses mosquito surveillance, developing action thresholds, and using physical, biological, and chemical mosquito control methods. See also response #37.

9. Commenter #147

I manage the Camano Island Mosquito Control District and attended both workshops and hearing on March 9th, 2010. My comment has to do with the workshop and hearing attendance. I drove four hours and many miles only to be turned away at the door because the room was "too full". I identified myself as a mosquito district representative which didn't seem to matter. Eventually I was told to return at 5:00 PM for a second session and then that was changed to a concurrent workshop held on the lawn of the fire station. The workshop held on the lawn was out of control with a few loudmouthed, uninformed people disrupting the workshop. I wouldn't consider this a workshop! I was very disappointed with the situation. It seems to me that the mosquito "experts" should have been an integral part of the workshop and hearing rather than public spectators. If DOE is truly trying to make an informed and equitable permit Mosquito Control Districts should be included at all phases of the draft writing process.

Response: Ecology agrees with the commenter that the workshop and hearing in Moses Lake did not promote an open forum for participation. Based on the previous 2002 and 2007 mosquito permit issuances, which did not allow any discharge of adulticides, Ecology did not believe that the turnout to the March 9 public hearing would be large since the draft permit was allowing a discharge that it did not allow before. Previous public hearings attracted less than 10 attendees. Ecology also committed to meeting with mosquito control districts on April 8th to discuss the draft permit. See also response #37.

10. Commenter #165 (comment excerpt)

1. I would like to know if you have become familiar with the water quality test results done in Moses Lake recently. The Columbia Basin Herald quoted you as saying you were not familiar with those results.

2. I realize that as an employee of the Department of Ecology it is your job to make sure every living organism is protected. However, I get the impression that at times humans are the last species considered. It is my opinion that it would better for someone with a license to spray insecticide to continue to spray both adult mosquitoes and larvae vigorously so we can avoid disease, discomfort, and even loss of income. If not, I wonder if every home and business owner near any kind of "state water" will be out spraying anything and everything they can get their hands on in an effort to avoid being eaten alive.

3. How much would one of these permits cost? Could this be just one more way to "tax" the citizens of Washington State?

Response: The study referred to at the public hearing was an Ecology-funded study (pub no. 06-03-001) on the effects of methoprene (a larvicide) on endangered amphibians. Methoprene is a juvenile growth hormone inhibitor that prevents larval mosquitoes from developing into adults. There were concerns by WDFW that methoprene would adversely affect endangered northern leopard frogs

during their development from tadpoles into adults. This study was conducted in conjunction with Grant County MCD #1. The results indicate that no adverse effects to the endangered species are expected. A California study on red-legged frogs reached the same conclusion. As a result, Ecology removed the application restrictions on methoprene that were included in the 2007 permit.

The other study had been completed shortly before the public hearing, was a study of pesticides in salmonid- bearing streams (pub no. 10-03-008). This was a 6-year study that monitored for pesticides during the typical pesticide-use period. From the study result, page 14: "For 2006-2008, the majority of pesticide detections met (did not exceed) an assessment criteria or water quality standard. Over these three years, 64 current-use and 10 legacy compounds were detected: 34 herbicides, 23 insecticides, 11 degradate compounds, five fungicides, and one wood preservative."

State statute requires that Ecology fund its permitting program through permit fees. The cost of a mosquito control permit is currently about $400 per fiscal year (July 1 to June 30 the following year).

11. Commenter #174

Comments: Thank you for the opportunity to comment on the Washington State Department of Ecology Aquatic Mosquito Control NPDES General Permit.

First, I would like to address the apparent misconception in the permitting process, that Washington MCD's adulticides for the purpose of "nuisance control of mosquitoes". The term "nuisance" is one that should be clearly defined (which in most cases has already been addressed by the professionals of each MCD). I sincerely do not believe that MCD's proceed to adulticide without verification of mosquito species and the number of mosquitoes present in a specific area (generally verified by CO2 trapping or the use of various types of light traps). Mosquitoes in areas of human and domestic animal populations that are in numbers above 10 per minute, under the assumptions of this permit would be considered just nuisance. Horses running in the fields, children with multiple bites, use of mosquito repellant on children and finally home owners who use products like Yard Spray should be given serious consideration by the DOE. Obviously, it is not the purpose of the DOE to enter into the daily life of the residents of our state with regulations that would control the taxpayer's private use of mosquito repellant and pressurized adulticides. It is far more advantageous to work with the MCD professionals to develop a set of reasonable guidelines (statewide) for adulticiding instead of waiting until the presence of WNV or Encephalitis. The health of each Washington Resident should be considered equally. For example, if the current language of the permit becomes the word of law for MCD's, do you think someone in your agency would be willing to purchase some property in an area such as the confluence of the Columbia, Snake, Yakima and Walla Walla Rivers (where as high as 20 to 25 lights of adults mosquitoes per minute (during the early morning and evening hours) would not be uncommon. I do believe your agency should work closely in a role that is supportive of public health, and the well being of our state's residents, with the states MCD's to revamp sections of this permits language to allow adulticiding within specific prescribed guidelines. It is also imperative the DOE has guidelines that are reasonable for the protection of the environment.

Secondly, I do believe that the use of Malathion has finally run its course for mosquito control adulticiding. The nature of mosquito tolerance to a chemical as Malathion is highly possible. The use of Organophosphates should be addressed by all MCD's and the professionals in those districts should agree to limit the use to emergency conditions (WNV-Encephalitis).

Finally, I realize the objective of the DOE is to protect the environmental concerns of the State of Washington. I grieve when I read the WSDFW yearly fisherman guidelines and notice the various species of fish they list that are not fit for human consumption or consumption on a limited basis and not to be given to children. The cleaning of our water ways of the disregard for many years is a

daunting task for your agency. Your permitting process for Mosquito Control larvicide and adulticide techniques is a great foundation in the process of monitoring our state's water and air quality. However, public health and quality of life should also be a goal of your agency. I would urge your agents to visit the professionals of MCD's and do actual observations of adult mosquito trapping and ride in the cab of an adulticiding truck, observe the driver and the professional technique used, and ride in the cockpit of an aircraft and observe the professionalism and record keeping each pilot must use to meet the guidelines of your agency. I would encourage your agency to monitor, monitor, observe, observe, I believe you will be surprised at the results of your observations (be sure to set some expectations for your observations that will allow your agents to do a proper evaluation). You might state, "This process described would take too long and the permits need to be activated in the very near future". I have not known a state agency that has not had a contingency plan and temporary permitting process until all the information is present.
Response: Comments noted. See also response #37.

12. Commenter #195
The Yakima Herald ran a front page story about the debate over spraying for mosquito control. I would like to suggest an alternative that might be acceptable to both the residents and the environment. I formerly lived in the Adirondack Mountains of New York and, for black fly control, many communities use the bacterium, Bacillus thuringiensis (variety israelensis) also known as BTI. It is toxic to the larvae of black flies, mosquitoes and certain midges. It apparently has no other effect on the environment. I was an extension Agent, involved in training BTI applicators for black fly control.
I believe some of the communities in Westchester County have used BTI on salt marsh mosquitoes. To keep the bacteria on the surface where the larvae feed, they soak ground corn cobs with the bacteria.
You might contact the New York State Department of Environmental Conservation or the mosquito person in Westchester County.
Response: The larvicides Bti and *Bacillus sphaericus* are permitted for use in Washington by Ecology, and have been since 2001. These pesticides are widely used in Washington for mosquito control.

13. Commenter #196 (comment excerpt)
Is there actual science and hard evidence that this spraying and fogging is a threat to clean water or that the threat to clean water is greater than the threat to humans and animals. From comments at the meetings here in Moses Lake it was stated that the products being used to spray adult mosquitoes is labeled as approved for Aquatic use and that the levels being applied are below safe levels to protect fish and other aquatic life. Additionally, it is EPA registered and FIFRA labeled for wide area mosquito control.

It would be especially helpful, with or without adult spraying, if the area of the seep lakes and ponds below O'Sullivan Dam on Federal Land could at least be sprayed with Larvicide as that is the source of a large portion of the mosquitoes coming into this area. Would it be possible for our Mosquito Control District to be contracted to spray that area or could it be sprayed at local expense if the Federal Government won't take the responsibility to spray the area?
Response: The peer reviewed journal articles that Ecology references in the bibliography section of the Fact Sheet and EPA Reregistration Eligibility Decisions (REDs) contain information about toxicology testing on adulticides included in the mosquito permit. Adulticides do affect aquatic animals at very low concentrations. The use of any pesticide always carries a risk, however, because

the amounts of adulticide applied are very low (approximately 1 fluid ounce per acre) and water is not directly targeted as an application area. Ecology feels that there is minimal environmental risk from the adulticides when properly applied because the amount of adulticide that actually gets in the water incidentally is less than that at which effects are seen in the studies.

Ecology does not have jurisdiction over federal or Indian lands; Ecology's permit for mosquito control does not cover activities on those lands. If the MCDs or other entities decide that they need to do mosquito control on federal or Indian lands, they will need a permit from EPA for those activities. See also response #37.

14. Commenter #199

In regards to your Departments efforts to impose new restrictions upon mosquito districts in this state...I wish to register my comments with your office:

Effective organized integrated mosquito control programs are something that I know something about! I have been instrumental in the early formation of two mosquito control districts within eastern Washington state. Those two entities are the Columbia Mosquito Control District in western Walla Walla county, of which I spent 5 years as a Field Supervisor and over 45 years as a board member, and the Benton County Mosquito Control District where I spent 5 years as a Field Supervisor and manager pro tem, working with federal, state, and local entities and personnel.

Mosquito control districts were formed in this state in the early 1950's due to the rising waters caused by impoundments behind area dams owned and operated by the US Army Corps of Engineers. These impoundments produced intolerable numbers of nuisance and disease carrying mosquitoes within residential and rural areas. The Corps refused to do anything about this menace...until the residents demanded it! Then, the Corps contracted control efforts to local mosquito districts. It used to be a matter of fact, that after sundown, all outside activities ceased, and people remained indoors. It wasn't until cases of, and deaths from, equine and human encephalitis cases started rising in this area that health officials and municipal leaders took notice. I and my father were there at the start of organized mosquito control efforts.

I, and persons within this endeavor, have learned through experience two VERY important aspects to control.

(1) Effective control takes place only over several years, to a "tolerance level", and must be maintained YEARLY!

(2) Integrated mosquito control is the only effective method, utilizing modern technology methods and machines, biological, and chemical means of control. The differing mosquito species with their differing biological make ups make this a necessity! One method of control does not fit all species and conditions.

There are over 28 species of mosquitoes in our state, some are nuisance and some are disease vectors transmitting West Nile virus and human and equine encephalitis! These cases HAVE INCREASED OVER THE LAST TWO YEARS!

Therefore, hindering further efforts of mosquito control districts to affect public health should NOT be implemented! Mosquito control personnel are licensed by the state, are highly trained, and are environmentally conscious. Fogging for adult mosquitoes is ABSOLUTELY necessary to keep them at an "acceptable tolerance and disease level". The use of the medium toxic Malathion and Nalid [sic] is also absolutely necessary at times for effective mosquito control, that's what "integrated " control is all about. The " purpose" of mosquito control districts, is to maintain the public health. Any other agency that hinders or jeopardizes the public health...will be held responsible when cases arise...and

will eventually have to answer to that public. I, since retired, thank you for this opportunity to respond.
Response: Comments noted. See also response #37 and 55.

15. Commenter #200
Another concern I have with this no spraying for mosquito's, what about our pets. For dogs, cats, horses, cattle, etc, that is the only means of protection for all animals, and with west nile virus already being transferred between birds, and horses, it will surely become a huge problem when our only defense is taken way. What happens when a common household cat or dog gets west nile and continues to pass the virus, before it is killed itself.
Response: According to the CDC, it is very unlikely that a dog or cat would develop a high enough viremia (level of virus) to pass on West Nile Virus. Dogs and cats are also unlikely to show any symptoms of West Nile infection and full recovery is very likely. See information at: http://www.cdc.gov/ncidod/dvbid/westnile/qa/wnv_dogs_cats.htm

16. Commenter #224
Perhaps the residents of Washington might consider a more local control of mosquito`s such as DDT or candles that burn natural chemicals around their immediate environment than a free-for-all way of killing all insects in their natural habitat with potential harmful chemicals.
Since Lyme disease is spread by ticks that use deer as vectors, and then on to humans potentially, by the Department of Ecology logic we should kill deer. Or perhaps outdoor pet dogs and cats that harbor ticks are vectors for ticks. After all I might get Lyme disease from ticks that feed on a pet or a deer and I do not wish that, so remove the vector, such as deer or pets, with toxic chemicals to the environment.
It is obvious to any lay observer the population of amphibians is in decline along with many bird species that feed (and face life or death decisions each day in raising their young or in migration to bring insects to their nests) or to migrate outside the USA. I am only mentioning two of the many non human species that can be effected by a broad based use of harmful chemicals.
It is stated that these harmful chemicals do not affect the environment--who says, studies paid for by the chemical industry?
Response: Use of larvicides such as Bti, methoprene or Bacillus sphaericus are the preferred methods of controlling mosquitoes in a confined area before they become biting adults. Because larvicides are not 100% effective, it is sometimes necessary to control adult mosquitoes for public health, comfort and economic reasons. Current risk assessments and information submitted to EPA indicate that the amount of pesticide used to control adult mosquitoes is unlikely to cause long-term effects in the aquatic environment, or in birds, but as with any pesticide, there is always a risk associated with its use. Some information is available that indicate chronic (low doses for an extended period) exposure may have some affects to terrestrial invertebrates.

17. Commenter #267 (comment excerpt)
Have cost-benefit analyses been done that take into account not only fish but also humans?
I am concerned about potential increases in West Nile virus deaths and illnesses in humans (and also horses and birds) and also quality of life issues if the mosquito populations are allowed to increase.
I live within a Mosquito Control District in Terrace Heights next to Yakima, WA. I have noticed some increase in the mosquito population in recent years. They used to "fog" down our street at dusk during the summer periodically, but I don't know if they do that anymore. I suppose there may be health hazards to humans also from the fogging.
Have studies been done that analyze the effects of spraying insecticides near fish?

Please allow local mosquito control districts to make the determination regarding spraying of insecticides. And look at all of the potential costs to humans before putting the fish in a position of greater importance than humans.
Response: See responses #10, 13 and 37.

18. Commenters # 270, 271, 272, 277, 279, 308, 313, 315, 317, 321, 325, 345, 345, 368, 387, 388, 426, 434, 456, 459, 461, 499
Summary of commenters' main points:

- Allow discharges of adulticides and their residues for nuisance mosquitoes.
- Eliminate the restrictions on malathion and naled
- Allow control of nuisance and vector mosquitoes by the mosquito control districts if the control is part of an integrated pest management plan.

Response: The final permit addresses mosquito control in general, not just vector mosquito species, Ecology has eliminated the distinction. The permit allows for proactive control of mosquitoes using adulticides in addition to larvicides. This is dependent on the Permittee developing an IMM plan for their permit coverage area that addresses mosquito surveillance, developing action thresholds, and using physical, biological and chemical mosquito control methods. The restriction for using malathion or naled only when pesticide resistance is documented has been removed. As part of the IMM plan that the permittee develops, documenting how malathion and naled are used to manage against resistance is required. See also responses #37 and 55.

19. Commenter #533
I wanted to say that it's unfortunate that a lot of people are leaving and did not testify because of the group that we did have here.
First of all, I would like to say I was reading through the permit. It was interesting that you now give – are granting us permission to spray in areas of wildlife – the wildlife areas not acknowledged that we could spray in the past. We were not allowed to. But – I found that interesting. Also, that the wildlife is able to reinstate once again, the limitation on pyr – one chemical, I can't remember the name of it, which, has been proven many times that it does not affect the frog. But, because of one biologist in the Fish & Game, they are allowed to stop using it as a larvacide. I'd like to reference the clean water act. I do have my notes finally – it's 122.42.5, A, B, and C, which establishes the criteria for pesticides in the water. I find it appalling that those mathematical equations of the amount that we are applying have not been calculated to see if we actually fit under the clean water act. Most people spraying pesticide on themselves known as OFF and then getting in the water have more pesticide in their body going into the water than the pesticide we're spraying per acre. Also, that the negative effects have not been taken into consideration on the permit as established by the clean water act. The exposure data to humans has not been . . .and the fact that has been brought up earlier…the small amounts we're using are not detrimental to fish. That science has not been researched before writing this permit.

And, I also wanted to address the best management practices. I've been working with the pesticide industry. The best management practices, when you're controlling by larvicide, as we are here, adults you still do not control 100%, nor _____out of the area it's possible around, so adults are going to be exposed. And, by allowing those to continue and by not controlling those you are establishing an opportunity for resistance to build in the species, which is not a best management practice. And also, that by limiting the pesticides that can be used to do this, since there is no

biological activity, you are creating sites that are only affected on certain parts of the nervous system which creates a resistance factor also.
The other statement I had was that in making recommendations here, it did not appear that you had a professional from USDA or somebody that is licensed to look at those recommendations, which is a state law, and so you would be in violation of a state law. ????

And, this plain statement that where I live, the nuisance mosquitoes, when it affects your livelihood, being able to work outside that needs to be taken into effect. Not only just for when you're having a party or something outside, but when you're not able to do your job outside, that living on the outside of the district, the adult mosquitoes which are not treated in a non-district area are able to blow in, very easily overnight. And, if we are not able to control those with adulticides, we will have mosquitoes continually and will not be protected. As one person stated, we should collect 100 of them, which would be very easy, and take them to the Department of Ecology's office and turn them loose and let you guys deal with it.
Response: See response #37.

Ecology is required to submit a permit draft to EPA for review. Ecology did so, but EPA did not provide any comments. WSDA reviews pesticides for use, approval, and labeling in Washington and was part of the permit advisory group. Ecology is not required to have WSDA review which pesticides are included in the permit.

According to the July 2009 CFRs 122.42 (referenced above as 122.42.5, A, B, and C) is "Additional conditions applicable to specific categories of NPDES permits (applicable to State NPDES programs see 123.25)." This applies to Existing manufacturing, commercial, mining, and silviculture discharges, municipal separate storm sewer systems, stormwater discharges, and CAFOS. This CFR is not related to mosquito control.

PERMIT SECTION COMMENTS

SUMMARY OF PERMIT SUBMITTALS (Tables)

20. Commenter #151
Table entry for G18 incorrectly reads: "Enter date within 180 days of permit effective date." Please correct the table; G18 actually reads: "The Permittee shall reapply for coverage under this permit, at least, one hundred and eighty (180) days prior to specified expiration date of the permit."
Response: This was a placeholder for the actual date re-application must occur by. The date 180 days before the permit will expire (December 20, 2014) replaced the place holder.

Table entry for S3.B includes "Develop or Updated Integrated Pest Management Plan" please correct the sable; S3.B does not contain an IPMP requirement.
Response: This has been removed.

S1. PERMIT COVERAGE

B. Activities That May Not Need Coverage Under This Permit

21. Commenter #221, 258

S1.B - 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" or "Activities That Do Not Need Coverage Under This Permit".

Response: Due to the definitions of waters of the state in RCWs and WACs (chapter 90.48 RCW, and chapters 713-226 and 173-201A WAC), this is asking Ecology to exempt discharges of pollutants from requiring a permit. Ecology cannot do this. The areas included in this section are those areas that Ecology feels would receive minimal environmental benefit from permitting activities. However, this does not mean that these waterbodies areas are exempt from permitting requirements. Coverage under this permit includes coverage for these types of waters of the state.

S2. APPLICATION FOR COVERAGE

22. Commenter #140

Waive permit application requirements during declared health emergencies (60 day period, SEPA, and publishing 2 times).

Response: Ecology cannot waive the permitting requirements as they are provisions of federal law. In a situation that is a declared health emergency, Ecology would use our enforcement discretion to not enforce against the discharge of pesticides for mosquito control during a disease outbreak.

23. Commenter #258

S2.F and Public Notice Template - 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."

Response: Ecology agrees that biological agents such as *Bacillus* are not chemicals; however, they are substances with insecticidal properties. Ecology has changed this to "insecticides" from "chemicals."

S3. DISCHARGE LIMITS

B. Temporary Exceedance of Water Quality Standards for Larvicides

24. Commenter #85

<u>Problem</u>: S3.B.2. Adulticides whose environmental risks are established and do not rise to an EPA level of concern are not afforded the same consideration as larvicides.

<u>Comment</u>: AMCA applauds the allowance of larvicide applications despite the permit's acknowledgement of transitory water quality impact. It is unclear why this same level of deference is not given to adulticides whose environmental fates are also transitory as noted in the following references: (references omitted)

Response: Ecology is not affording adulticides the same level of deference because larvicides are intended to be applied directly into surface water and adulticides are not.

25. Commenter #151

Please reinsert language in S3.B that explicitly acknowledges the permit's authorization for a short-term water quality modification of hours or days for larvicide use, fulfilling Ecology's intent discussed in Fact Sheet at pages 26-27 and 31 and as was contained in 2007 General Permit at S3, pages 7-8. This short-term water quality modification of hours or days, as discussed in the Fact Sheet, is in addition to, not in lieu of, the longer duration (five years) exceedance allowed by S3.B. In the alternative, Ecology should explicitly grant a short-term or *longer-term water quality modification to the City of Seattle in the permit, based on Ecology's prior approval of the City's integrated pest management plan.*

Response: Ecology cannot reinsert section S3.B language from the 2007 permit because the language appears to come from Water Quality Standards prior to 2006. Ecology has added "short and long term" to section S3.B for clarification.

C. Pesticide Application Requirements

26. Commenter #6

S3.C.1.a: What does "direct management responsibilities" mean for the use of pesticides during application?

Include provisions for other adulticiding technologies (other than ULV) if requested by the applicant. Wind Speed needs to be changed from less than 10 mph to greater than 1 mph at ground level to be in line with FIFRA requirements.

Response: Ecology has changed this to "direct supervision." Direct supervision is defined in FIFRA as "Unless otherwise prescribed by its labeling, a pesticide shall be considered to be applied under the direct supervision of a certified applicator if it is applied by a competent person acting under the instructions and control of a certified applicator who is available if and when needed, even though such certified applicator is not physically present at the time and place the pesticide is applied" (Title 7 USC 136 Sec 2(4)). See also responses #27 and 28.

27. Commenter #7

Allow the use of other application types other than ULV for malathion.

Response: Ecology has changed the permit (section S3.C.3) to read "Use *Ultra Low Volume* (ULV) application equipment to apply adulticides if available. If ULV equipment is not available, use other FIFRA label approved application techniques." Other application techniques are available for adulticides; however, the preferred method is ULV application. The pesticide application techniques that may be used depends on the FIFRA pesticide label.

28. Commenter #140

S3.C.1.d – wind speeds for adulticiding should be changed to greater than 1 mph.

Response: Ecology has removed this permit requirement in the final permit.

S4. LARVICIDE USE

**Note that this section has changed to PESTICIDE ACTIVE INGREDIENT in the final permit.

B. Larvicides Authorized for Use Under This Permit

29. Commenter #121

Sections S4.B.2.a-b and S5.B *– We do not feel it is Ecology's role to make a determination of a public health threat. Public health threats should be determined by either a state or local health*

officer. We suggest that Ecology include statements indicating that a public health threat is determined in consultation with a state or local health officer.
Response: This has been addressed by removing the distinction between nuisance and vector mosquitoes. See response #37.

30. Commenter #140
Permit does not provide a pathway for the inclusion of new active ingredients after the permit is issued.
Response: According to EPA regulations, adding a new active ingredient after the permit is issued would constitute a major modification of the permit. After the permit is issued, if a new active ingredient(s) becomes available, Permittees may petition Ecology to reopen the permit to include the new active ingredient(s). Re-opening the permit for modification allows for a minimum 30-day public comment on the proposed changes.

31. Commenter #140, 221, 258
Requests spinosad be included on the list of active ingredients
Response: Ecology has added spinosad to the list of allowed active ingredients.

32. Commenter #258
S4.B - 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?
Response: Consulting with WDFW for fish bearing streams was included in 2007 permit. Ecology has changed to the language to reflect what is in the 2007 permit.

D. Additional Restrictions on the Use of Larvicides (S4.C in the final permit)

33. Commenter #121
***Section S4D.3.e** - Change "public health emergency" statements to "public health threat". The emphasis here is again on permitting prevention from the threat (proactive), as opposed to response to an emergency (reactive).*
Response: If this condition (now S4.C.1.f) is met, it allows Permittees to larvicide without dip sampling or meeting the other requirements in this section (now S4.C.1.a-f) and has changed the

requirement to say public health threat or emergency. Ecology expects that the other conditions allowing the use of larvicides (such as dip sampling) will commonly used.

34. Commenter #151

S4.D.3 Larvicide Restrictions. For clarity, please insert the underlined at S4.D.3.c, which appears to match Ecology's intent: "The application site is in or <u>in a county</u> adjacent to a county in which mosquito, bird, animal, or human borne disease cases are confirmed within the current treatment season."

Response: Ecology does not believe that adding "in a county" would change the meaning of the requirement. This requirement (now S4.C.1.d) remains the same.

35. Commenter #258

S4.D 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. 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".

Response: See response #33.

Ecology cannot clarify the dispute between state and local health over who has the responsibility or authority to declare a public health emergency. That is a discussion between those respective agencies and their legal counsel.

36. Commenter #221

Commenter asked for Ecology to consider allowing treatment of sites that have a history of breeding mosquitoes rather than just the current season.

Response: Ecology agrees that treating sites before they become a mosquito breeding ground would be helpful in controlling larva mosquitoes before they turn into adults. Ecology has added the following (now section S4.C.1.b): "Methoprene may be used as a pre-emergent dry-land treatment without dipping on intermittently flooded areas that have a historical record of mosquito hatches following flooding."

S5. ADULTICIDE USE FOR NUISANCE AND VECTOR CONTROL

**Note: This section as changed to INTEGREATED MOSQUITO MANAGEMENT PLAN in the final permit.

37. Commenters # 9-26, 28-36, 38-44, 46-47, 48-111, 113-120, 122, 124-128, 130-135, 138, 139, 141-146, 148, 149, 152-185, 187-194, 196-218, 220-223, 225-232, 234-242, 245-247, 249, 251, 252-254, 255, 257, 259, 261, 263-550

Allow spraying for nuisance mosquitoes. Don't make distinction between nuisance and vector mosquitoes. Reasons include public health, economic impact, recreational impact, quality of life, RCW- 17.28 Mosquito abatement districts are created specifically for the purpose of abatement and

extermination of mosquitoes, rather have spraying that use repellants on self or children, Nuisance mosquitoes, the draft permit is reactive instead of proactive.
Response: Ecology has removed the distinction between nuisance and vector mosquitoes. Spraying for adult mosquitoes will be dependent on Permittees developing an IMM plan as detailed in section S5 of the final permit and following the other permit and FIFRA requirements. The basis of the IMM plan is the "Best Management Practices for Integrated Mosquito Management" from the American Mosquito Control Association. Ecology agreed and has substantially followed this guidance and created permit requirements from it.

Once an IMM is developed for a Permittee's permit coverage area, the Permittee will be able to determine when and where to spray for adult mosquitoes. This determination will be based on mosquito surveillance and action thresholds. Mosquito surveillance can be conducted in a number of ways that do not require trapping mosquitoes such as complaints, landing counts, service requests, etc. Action thresholds will be developed by the Permittee for their jurisdiction and will determine when, where and what mosquito controls will be implemented.

The IMM plan also includes other requirements that affect how pesticides are applied, such as staff training. These are important considerations because they can help determine how much pesticide is discharged into water. For example, proper training in the use of application equipment can be related to applicators using the proper amount of pesticide.

38. Commenter #121
All mosquitoes are potential disease vectors or may play a role in maintaining a disease in nature. Do not differentiate between nuisance and vector mosquitoes. Replace all statements that differentiate mosquito species with "nuisance" or "vector" with "adult." All mosquito species that feed on humans are potential disease vectors and should be treated as such.
Response: Ecology has removed the distinction between nuisance and vector mosquitoes. See also response # 37.

A. Nuisance Mosquito Control

39. Commenter #85
<u>Problem</u>: S5A. "Adulticides and their residues used for nuisance mosquito control must not be discharged to waters of the state."
<u>Comment</u>: The proscription against using adulticides in nuisance mosquito control is unfortunate. Annoyance caused by large numbers of biting mosquitoes can profoundly affect children and infants due to shear number of bites, outdoor recreational activities, tourism, and dairy and livestock production. In addition, many of these "nuisance" species serve as bridge vectors after amplification by ornithophyllic species. Their capacity to transmit virus to humans could be significantly reduced if the numbers of questing female mosquitoes were curtailed early in the season.
Response: Ecology has removed the distinction between nuisance and vector mosquitoes. See also response # 37.

40. Commenter #121
***Section S5.A** - Delete statements on nuisance mosquito control. Ecology should focus on what the NPDES permit allows, and not include statements on what cannot be done. We suggest the following language:*

Incidental discharge from adulticiding is allowed provided the FIFRA label is followed and application is in accordance with an IPM plan. Direct discharge of Adulticides and their residues used for mosquito control to waters of the state is not permitted.
Response: Ecology has removed the distinction between nuisance and vector mosquitoes. See also response # 37.

41. Commenter #258
A) DOE is in direct conflict with RCW 17.28 with this section. (Italics are mine (the commenter's))
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.
Response: Ecology has removed the distinction between nuisance and vector mosquitoes. See also response # 37.

42. Commenter #258
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?
Response: Ecology has removed the distinction between nuisance and vector mosquitoes. See also response # 37.

B. Vector Mosquito Control

43. Commenter #85
Problem: S5B2. "The vector mosquito control period, April 1 to October 31 of the same year, is the only time incidental discharge is authorized. The Permittee may request an extension of this period in writing from Ecology if natural population control (die-off) after October 31 is not expected."
Comment: Given the vicissitudes of rainfall and temperatures that govern mosquito production, it would be exceedingly difficult to predict die-off in any particular season in order to provide enough lead time to draft a written extension request and receive an affirmative reply. The need to specify a vector control period in the permit is unclear. Response flexibility is key to effective vector-borne disease control. Our perception is that there is an inordinate amount of bureaucratic inertia built into overly conservative response algorithms that can allow viral amplification and transmission to occur while the chain of command sorts out responsibilities and the meaning of threat levels. This is not to promote control options unconnected to risk, but rather that those responsible for outbreak control be aware of the time-sensitive nature of vector-borne disease transmission.

This provisions of this permit should recognize that public health officials may be conversant with the epidemiology of a great many diseases yet not fully understand the nuances of vector bionomics that affect effective and efficient control. Other officials may be, for whatever reason, inordinately pesticide-averse and be unwilling or unable to recognize the documented efficacy of vector control. This is within the professional purview of the Mosquito Control District.

Response: Ecology has removed the distinction between nuisance and vector mosquitoes. See also response # 37.

44. Commenter #85

Problem: S5B. "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: Confirmation of mosquito-borne disease via test results will take valuable time and may result in increased virus amplification in host avians, further spread via mosquitoes migrating into the jurisdiction from outlying areas, and transmission of mosquito-borne disease. Organized mosquito control districts are uniquely positioned, via their application of sustained integrated mosquito management programs, to determine when mosquito populations require control efforts.

Response: Ecology has removed the distinction between nuisance and vector mosquitoes. Disease testing of mosquitoes is not required. See also response # 37.

45. Commenter #121

***Sections S4.B.2.a-b and S5.B** – We do not feel it is Ecology's role to make a determination of a public health threat. Public health threats should be determined by either a state or local health officer. We suggest that Ecology include statements indicating that a public health threat is determined in consultation with a state or local health officer.*

Response: Ecology has removed the distinction between nuisance and vector mosquitoes. A public health emergency or threat declaration is not necessary before adult mosquito spraying may occur. See also response # 37.

46. Commenter #121

***Section S5.B.3** – Remove the statement "and follows available DOH vector control guidance (e.g. the West Nile Outbreak Response Plan where the trigger for adulticiding is Alert Level 3)" so that the statement reads "A Permittee that is an organized mosquito control district (chapter 17.28 RCW) may use adulticides to control adult mosquitoes provided it is part of an Integrated Pest Management program including population monitoring, larval control, biological control methods, and breeding source reduction."*

Response: Ecology has removed the distinction between nuisance and vector mosquitoes. The final permit allows the Permittee to use adulticides to control adult mosquitoes provided it is part of an IMM plan including mosquito surveillance, larval control, biological control methods, and breeding source reduction. See also response # 37.

47. Commenter #121

***Section S5.B.4** – Add the statement "and follows available DOH vector control guidance (e.g. the West Nile Outbreak Response Plan where the trigger for adulticiding is Alert Level 3)" so that the statement reads "A Permittee that is not part of an organized mosquito control district (chapter 17.28 RCW) may use adulticides to control adult 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 or that the Permittee follows available DOH vector control guidance (such as the West Nile Outbreak Response Plan where the trigger for adulticiding is Alert Level 3)."*

Response: Ecology has removed the distinction between nuisance and vector mosquitoes. See also response # 37.

48. Commenter #258

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.)

Response: Ecology has removed the distinction between nuisance and vector mosquitoes. Ecology is relying on the mosquito control districts and the professionals who run them to develop district specific IMM plans documenting how mosquito control is carried out within the district. See also response # 37.

49. Commenter #258

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.

Response: Ecology has removed the distinction between nuisance and vector mosquitoes. See also response # 37.

C. Adulticides authorized for use under this permit

50. Commenter #85
Problem: S5C. "The Permittee may only use Malathion and Naled in case of documented pyrethroid resistance development in a specific vector mosquito population."
Comment: The permit does not list prallethrin or etofenprox as authorized adulticides, ostensibly because DoE has not conducted a full assessments of potential risks associated with these products. As a condition of their registration EPA has conducted such assessments and deemed them fully meeting environmental fate and effects criteria. It would seem prudent for DoE to provide some deference to EPA's expertise on these products so that availability of fully registered adulticide products is not artificially and unjustifiably abridged.
Given the weight of evidence demonstrating deposition levels and environmental effects well below levels of concern in the malathion and naled risk assessments from EPA and other peer-reviewed studies noted above, AMCA finds the relegation of these products to resistance management status to be unjustified. Both malathion and naled are frontline adulticides widely used by vector control entities throughout the United States for the past 40 years without any notable impacts on the environment or human health when used according to label specifications. Particularly problematic is the provision that they are to be used only when pyrethroid resistance is demonstrated. In the development of pyrethroid resistance, far more insecticide load will have occurred in achieving adequate control than if malathion and naled had been utilized, where appropriate, in the first place.
Response: See responses #55.

51. Commenters #117, 526
Requests etofenprox be included on the list of active ingredients
Response: Ecology has added etofenprox to the list of allowed active ingredients.

52. Commenter #121
Include language that allows for new products recently registered and labeled by EPA. Several new products appear to be even more environmentally friendly than current products and the permit should have language to allow for their use.
Response: See response #30.

53. Commenter #140
Permit does not provide a pathway for the inclusion of new active ingredients after the permit is issued.
Response: See response #30.

54. Commenters #140, 221, 258
Requests prallethrin be included on the list of active ingredients
Response: Ecology has added prallethrin to the list of allowed active ingredients.

55. Commenters 221, 258
Requests that Ecology remove the restrictions for demonstrating pesticide resistance in a mosquito population before using Malathion or Naled to spray for adult mosquitoes.
Response: Ecology agrees that waiting until pesticide resistance builds up in a mosquito population and is demonstrated is not an effective way to control mosquito pesticide resistance. Ecology has changed the language (now S4.C) to allow malathion and naled for adult mosquito pesticide resistance management. Mosquitoes will develop resistance to pesticides over time because no pesticide will kill every mosquito in a population. The intent is that these products are not for everyday use, but to remove pyrethroid-resistant mosquito populations so that pyrethroids remain effective for killing

mosquitoes long term. It is left up to the Permittee to determine when and where the products are used for resistance management.

S6. PUBLIC NOTICIFICATION OF PESTICIDE USE

56. Commenter #6

S6.A. and B: Is a public notice and posting required each year to apply Bacillus thuringiensis israelensis larvicides? Also, can the public notice be via email and/or a web site posting rather than in a newspaper?

Response: Yes, public notice and posting is required for *Bacillus* pesticides as has been the case since the 2007 permit was issued. The first public notice is in a local or regional newspaper of general circulation. Any follow up public notices may be by other methods such as email, mailings, web sites, radio, etc.

A. Public Notice

57. Commenter #248

The Washington State Department of Transportation has the following comment regarding the draft Aquatic Mosquito Control General Permit S6.A.1 Public Notice

In consideration of administrative workload and cost-effectiveness, we request that the Washington State Department of Transportation (WSDOT) and other state agencies that are large land owners be allowed to publish one notice prior to the first pesticide application of the season in a major paper. As Ecology is aware, WSDOT may apply mosquito larvicide in drainage structures on any portion of WSDOT owned right of way throughout the state.

Response: In consideration of how many areas that WSDOT may apply pesticides for mosquito control across the State, and the expense of publishing public notices in many local newspapers, Ecology has added S6.A.2: "State agencies with statewide permit coverage (e.g. WSDOT), may publish a public notice in one major newspaper of general circulation for each agency region (e.g. WSDOT Olympic Region, North Central Region, etc.) where the mosquito control activity will take place."

58. Commenter #258

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?

Response: This requirement is not waived for the 2010 season. This requirement is included in the 2007 permit, which remains in effect until Ecology issues the 2010 permit.

59. Commenter #258

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. "Water contact activities" needs to be clarified or at least have examples given (swimming, boating, etc).

Response: Permittees are required to post notices when waters are treated with larvicides that have water use restrictions, only when those waters are used for water supply, fish and shellfish harvesting, or water contact activities. Otherwise, posting is not required. Re-occurring public notice is required throughout the season for all pesticide applications covered by the mosquito permit, not just paraffinic

white mineral oil. Other than the initial newspaper public notice, Permittees may use other methods (e.g. email, web posting, etc) available to them to meet the permit requirements.

Ecology has clarified "water contact activities" by including the following definitions:
Water Contact Activities: Activities defined in WAC 173-201A-020 as primary or secondary contact recreation.
Primary Contact Recreation: Means activities where a person would have direct contact with water to the point of complete submergence including, but not limited to, skin diving, swimming, and water skiing (WAC 173-201A-020).
Secondary Contact Recreation: Means activities where a person's water contact would be limited (e.g. wading or fishing) to the extent that bacterial infections of eyes, ears, respirator or digestive systems or urogenital areas would normally be avoided (WAC 173-201A-020).

B. Posting Requirements

60. Commenter #151
Please reinsert as was included in 2007 General Permit: "The Permittee need not post notices at sites that are not directly accessible to the public (i.e., catch basins, storm drains, utility and transportation vaults, etc.)." Fact sheet at p.36 should be revised to consistent.
Posting a catch basin or storm drain is completely impractical and potentially hazardous. The commenter requests that the permit state explicitly that posting is not required if treatment is in catch basin, storm drain, utility or transportation vault."
Response: Ecology has added the language "The Permittee need not post notices at sites that are not directly accessible to the public (e.g. catch basins, storm drains, utility and transportation vaults, etc)" back to the posting requirements section S6.B.

S7. MONITORING REQUIREMENTS

61. Commenter #85
Problem: S7. Monitoring requirements
Comment: Monitoring requirements for both larvicides and adulticides are unspecified. It would seem prudent to require at least visual monitoring of adverse effects as is proposed by EPA in order to conform to the Clean Water Act provisions.
Response: Monitoring is included in the permit as tracking and reporting the amount of pesticide active ingredient used.

62. Commenter #221, 258

Allow the use of Methoprene on sites that will later be flooded (pre-treatment). Current requirement for dipping prevents this
Response: See response #36.

S8. REPORTING REQUIREMENTS

C. Reporting Permit Violations

63. Commenter #151
At S8.C.3, please delete "1 or" as follows for clarity, because paragraph 1 does not state a reporting obligation: "The Permittee must also provide a written submission within five days of the time that the Permittee becomes aware of any event required to be reported under ~~1 or~~ 2 above. . . . "
Response: Ecology has removed the refernce in S8.C.3 to S8.C.1 or 2.

GENERAL CONDITIONS

G18. DUTY TO REAPPLY

64. Commenter #151
Delete the two commas in the first sentence for clarity.
Response: Ecology agrees and has made this change.

APPENDIX A: GLOSSARY

65. Commenter #221
Definition of waters of the state is too broad. Requested language: Waters of The State: All surface waters in Washington State including lakes, ponds, rivers, streams and drainages to these waters.
Response: Waters of the State is defined by State law in RCW 90.48.010.

66. Commenter #258
Appendix A: Glossary
Are you planning to determine what the "minimum" amount will be?
Response: Ecology has changed its terminology to minimizing incidental discharges. Neither EPA nor the courts have defined what an incidental discharge is. Ecology has worked to clarify a definition of what incidental discharges are. Incidental discharges are: "A trivial amount of adulticide that does not cause or contribute to a violation of water quality standards and which occurs due to circumstances beyond the control of the applicator during a proper pesticide application following the terms and conditions of this permit including FIFRA label requirements and practices to control incidental discharges of adulticide to surface water. Circumstances beyond the applicators control include, but are not limited to, sudden shifts in wind direction, an increase in wind speed at the target application area, equipment malfunction, etc. Practices to control incidental discharge to surface waters include, but are not limited to, altering course around waters of concern, using other types of spray equipment that have a smaller spray width (swath), and turning application equipment off when passing waters of concern."

FACT SHEET

Ecology does not make changes to the fact sheet after public notice. The fact sheet provides Ecology's technical and legal basis for the draft permit. The response to comments shows where changes have been made to the permit between draft and final permits and provides the rationale for those changes.

67. Commenter #140

While a developed and implemented integrated pest management plan is a Best management Practice for mosquito vector control, a requirement to follow the Administrative Procedures Act (chapter 34.05 RCW) for public involvement when developing the plan appears inconsistent with the Act's intent (RCW 34.05.001), and is too broad a requirement to be enforceable as a practical matter. The Administrative Procedures Act is an extensive body of requirements that, if applied to each organized mosquito control district's IPM plan development would preclude timely finalization of the document and impede vector control.

Clarke strongly recommends that an IPM Plan similar to that tendered by the American Mosquito Control Association to US EPA for consideration in that agency's Aquatic Mosquito Control Draft be a required BMP for compliance with the final permit. The Final permit should require compliance with the BMP for permit compliance, but development of the BMP including the public involvement requirements at RCW 34.05 would seriously undermine mosquito vector control in Washington State.

Response: See response # 37.

Section S2.F of the permit requires that the IMM be completed for the public comment period for new Permittees. With the IMM part of the public comment period for permit coverage, the public involvement (APA) piece of WAC 173-201A-410 for integrated pest management plans should be satisfied.

68. Commenter #151

The Fact Sheet at pp.29-30 identifies Seattle Public Utilities as a Permittee having a separate coverage under the General Permit. Actually the permitted entity is The City of Seattle, of which Seattle Public Utilities is a department.

Response: Comments noted. Ecology has changed the references in this case for correctness.

69. Commenter #85

The AMCA understands that the FACT SHEET FOR THE AQUATIC MOSQUITO CONTROL NPDES GENERAL PERMIT will not be revised after DoE publishes the public notice. Nonetheless, this document provides the rationale for permitting requirements and must be accurate if the final permit language and conditions are to be fully valid. A number of problems in this document are of concern to us.

FACT SHEET FOR THE AQUATIC MOSQUITO CONTROL NPDES GENERAL PERMIT

1. Problem: Page 13 – "Of those cases, 12,088 were reported as meningitis/encephalitis, 16,765 were West Nile fever, and 771 were unspecified reports. 1161 mortalities due to the neuroinvasive form of WNV have been reported separately. 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: This appears to be included in the draft rather gratuitously to downplay the problem of West Nile Virus compared to influenza in terms of case numbers and outcomes. While this data is factually correct, it is irrelevant in the context of vector-borne disease control. Each one of the 1161 fatalities has a name, case history, and the anguish of families associated with it. In addition, each one could have been prevented through utilization of proper methods of reducing human/vector contact – one of which is adulticiding. Adulticiding is a method endorsed by both the CDC and EPA as a means to prevent disease transmission, but would not be allowed in the permit until either human disease or established zoonoses are documented. This effectively precludes prevention of disease spread by

infective adult mosquitoes during intrinsic and extrinsic incubation periods until virus is isolated. In effect, humans are being used as sentinels along with mosquitoes and other viral hosts.
Response: Comment noted.

2. Problem: Page 13 – "Even if mosquitoes do not transmit disease when they bite, mosquito bites can cause other effects such as irritation, redness, itching, pain, secondary infections and allergic reactions."

"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: Despite this admission that mosquito bites in and of themselves can produce health issues, the Permit does not allow adulticiding as a means to preclude this health problem. Yet, in the second paragraph it mentions MCDs applying adulticides for nuisance control – expressly forbidden in the permit.
Response: Comment noted.

3. Problem: Page 13 – "Public agencies accomplish mosquito control in two ways, by using larvicides and adulticides."

Comment: Integrated mosquito management (IMM) techniques used by MCDs utilize a great number of preventive/control strategies beyond larvicides and adulticides.

4. Problem: Page 14 – "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: Integrated mosquito management (see attached document entitles Best Management Practices for Integrated Mosquito Management) does not rely heavily on natural mortality factors. The demonstrable failure of natural mortality factors is the reason mosquito problems exist in the first place. Indeed, IMM welcomes natural mortality factors, but augments them with various source reductions, use of biological control (mosquito fish, etc), repellents, larvicides and adulticides – all of which (even the biorational controls) are decidedly "unnatural", because they are introduced into the natural setting.
Response: Comment noted.

5. Problem: Page 19 – "The National Marine Fisheries Service (NMFS) completed a biological opinion on the effects of EPA's malathion re-registration decision to endangered Pacific Salmon in 2008. NMFS concluded that EPA re-registration of malathion would jeopardize the existence of 27 endangered populations and adversely modify critical habitat for 25 endangered pacific salmonids."

Comment: It should be noted that EPA criticized the NMFS BIOP on a number of grounds, calling into question its methodology, utilization of modeling parameters composed of illegal applications and misuses, lack of demonstrated adverse effects over 40 years of observation predicted by these faulty models, and a host of transparency issues regarding data acquisition.
Response: Comment noted.

6. Problem: Page 21 – "Pyrethroids are toxic to beneficial insects such as butterflies, moths, and bees. Insects of similar size (midges) may see an increase in mortality after pesticide application. Larger insects may also be affected. LD50 mortality is seen in *Apis mellifera* (the domestic honeybee) at an average of 0.08 micrograms (ug)/bee permethrin.(36,40) . EPA lists toxicity to bees from permethrin for dermal exposure at LD50 = 0.13 ug/bee and oral exposure at LD50 = 0.024 ug/bee.

Comment: The data is true, but label specifications regarding timing of applications reduces potential exposures to these pesticides and reduces the risk below EPA levels of concern.
Response: Comment noted.

7. Problem: "Ecology must approve the use of Naled after consultation between Ecology, DOH, WDFW and WSDA in response to a public health emergency or pesticide resistance. This limits the amount and times that temephos may be discharged to surface waters to only times when human health becomes a priority."

Comment: The term "Temephos" should be replaced with Naled. The amount of consultation called for would be extremely time-consuming and potentially delay essential vector-control measures. The consultation process is no doubt vital, but should be streamlined to eliminate unnecessary delays. Furthermore, the vector biology and control expertise of the local MCD is totally ignored in this scenario. The local MCD is in the best position to determine and evaluate mosquito populations densities and fluctuations in order to ascertain potential risk.
Response: Comment noted.

8. Problem: Page 32 – "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:

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).

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's review of the literature available about the specific active ingredient.

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

Comment: The addition of EPA registered larvicides to a permit, while a "major modification", should certainly not be discouraged or prohibited. The larvicides in question have already undergone environmental fate and effects risk assessment by the full resources of the Agency as a precondition of their registration. It seems counter-productive to discourage inclusion of newer tools that have been fully vetted by a national regulatory authority. For instance, spinosad, a newly registered larvicide derived from certain bacteria, is not on the list, but is a perfectly reasonable substitute for any of the larvicides mentioned in the permit. Additionally, etofenprox, a newly registered adulticide, is not

mentioned in the permit. As a formulation not requiring the synergist piperonyl butoxide, etofenprox would be an ideal substitute for any of the pyrethroids recommended in the permit.
Response: Comment noted. Note that Ecology did add Spinosad, Etofenprox and Prallethrin to the final list of active ingredients in the permit.

9. Problem: Page 33 – "Monitoring for adulticides is a difficult and costly task. Entities can monitor deposition of adulticides by using fiber pads placed in an application area. Adulticide that falls out of the air column in the application area deposits on the pads, which the entity can then collect and analyze for the presence and concentration of adulticide. Monitoring of actual deposition to a water body is especially difficult where the water body is a river or stream (moving water). By the time the entity completes application the potentially polluted water has already moved down stream, mixing and diluting along the way. This makes any sample taken at an application site meaningless."

Comment: EPA is not requiring this level of monitoring in its general permit and it is unclear why DoE is requiring it. AMCA understands DoE's right to set more stringent standards than EPA, but it's not clear the rationale for monitoring deposition via GC/MS if there is no evidence of adverse impact. Furthermore, the dilution effects you mention would underscore this.
Response: Comment noted. This is not a statement about the monitoring required in the permit, rather a discussion about why Ecology did not include pesticide deposition or other water sampling type monitoring in the permit.

70. Commenter #221
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.
Response: Comment noted, see response #37.

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.
Response: Comment noted. See also responses # 55.

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.

Response: Ecology must note that research is available which demonstrates the deposition of the adulticides (permethrin and naled) to the ground, and therefore to water if the adulticide is used around water.

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*.
Response: The Aquatic Mosquito Control General Permit is a NPDES and State Waste Discharge permit. Therefore the broader, State definition of waters of the state is used.

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.
Response: Comment noted. The Sixth Circuit Court of appeals heard cases consolidated from many circuit courts across the country (including the ninth circuit court of appeals). The Sixth Circuit Court struck down EPA's rule, which means that the discharge of pesticides and pesticide residues into surface waters requires a Clean Water Act Permit. The EPA requested the Sixth Circuit Court stay their ruling to provide EPA and the states time to develop pesticide permits. The court did agree to a two year stay to allow EPA and states time to develop permits.

There are two issues with the Sixth Circuit Court's two-year stay. First, the Ninth Circuit Court's decision in *Headwaters Inc. v. Talent Irrigation District* still stands – the discharge of pesticides or pesticide residues to surface waters requires a Clean Water Act Permit. The second issue is the Sixth Circuit Court issued the stay to provide EPA and States time to write pesticide discharge permits. Washington already has a permit for pesticide discharges associated with mosquito control. This permit authorizes the discharge of larvicides only. When the permit was first developed in 2002 and again when

it was renewed in 2007 the inclusion of pesticide to kill adult mosquitoes was considered but not included.

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
Response: Comment noted. The information included in the background portions of the Fact Sheet is intended to be a general discussion so that a reader will have a general understanding of topics such as mosquito life cycles, not be an in depth discussion.

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.
Response: Comment noted. See also response #37

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.
Response: Comment noted.

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.
Response: Comment noted. See also responses #37 and 55.

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.
Response: Comment noted. See also responses#37 and 55

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.
Response: Ecology has changed the Fact Sheet in this case for correctness.

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.
Response: Comments noted. See also response # 37.

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 to 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.
Response: Comments noted.

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.
Response: Comments noted.

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?
Response: Comments noted. See also response #37.

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.
Response: Comments noted. See also response #37.

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.
Response: Comments noted. See also response #37.

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.
Response: Comments noted. See also response #36.

71. Commenter # 258
Pg 2. "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."
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.

Pg 2. "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."

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").

P 2. "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)."

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").
Response: Ecology had a very short time frame for developing the 2010 permit to provide a legal pathway for compliance for the discharge of adulticides. Because of this, Ecology did not hold stakeholder meetings. Instead, Ecology asked for participation in an informal advisory group that would work via email. The advisory group included the individuals below. See also response #37.

Angela	Balint	angela@mosquitocontrol.org	MCD
Ann	Wick	Awick@agr.wa.gov	WSDA
Del	Gilkerson	cowmo@cni.net	MCD
Tom	Haworth	acmcd@qwestoffice.net	MCD
Terry	Whitworth	wpctwbug@aol.com	Commercial Applicator
Liz	Dykstra	Elizabeth.Dykstra@doh.wa.gov	DOH
Wayne	Clifford	wayne.clifford@doh.wa.gov	DOH
Jo Marie	Brauner	JoMarie.Brauner@doh.wa.gov	DOH
Nancy	Napolilli	nancy.napolilli@doh.wa.gov	DOH
David	Ensunsa	cmcd@charterinternet.com	MCD
Bruce	Perkins	brucep@bfhd.wa.gov	LHJ

Brian	Benner	bwbenner@fcmcd.org	MCD
Dana	Pratt	dana@prattpest.com	Commercial Applicator
Heather	Hansen	heatherhh@qwestoffice.net	Industry Group
Lorna	Johnson	Dnl@pwi.net	MCD
Wendy Sue	Wheeler	WSWheeler@agr.wa.gov	WSDA
Shannon	Kelleher	shannon.kelleher@seattle.gov	City
Jenny	Mullins	jmullins3316@live.com	MCD
Dan	Couture	dcouture@co.grant.wa.us	MCD
Tim	Whittaker	T.JW88@live.com	MCD
Lorna	Mauren	lmauren@cityoftacoma.org	City
Jennifer	Davis	Jennifer.Davis@dfw.wa.gov	WDFW
Kelly	McLain	KMcLain@agr.wa.gov	WSDA

pp. 7 & 51 "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."

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?"
Response: Ecology does not make changes to the fact sheet after public notice. The fact sheet provides the legal and technical basis for the draft permit. The response to comments shows where changes have been made to the permit between the draft and final permit and provides the rationale for those changes.

Pg 10. "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)."

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.
Response: Ecology is not aware of any pesticide that would meet the third requirement of having no residue (i.e. no excess pesticide during application and no residue left after pesticide has completed its intended purpose).

Pg 11. "The highly variable mosquito life cycle ranges from one to three weeks, depending on factors such as water temperature and food availability."

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)".
Response: Comments noted, the information included in the background portions of the Fact Sheet is intended to be a general discussion so that a reader will have a general understanding of topics such as mosquito life cycles, not be an in depth discussion. When updating the fact sheet for the next permit, Ecology should add "typically" to the statement.

Pg. 11 ?="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."

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)
Response: Comments noted, the information included in the background portions of the Fact Sheet is intended to be a general discussion so that a reader will have a general understanding of topics such as mosquito life cycles, not be an in depth discussion.

Pg 11. "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."

"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".
Response: Comments noted, the information included in the background portions of the Fact Sheet is intended to be a general discussion so that a reader will have a general understanding of topics such as mosquito life cycles, not be an in depth discussion.

Pg. 12 "Adult mosquitoes are most active from dusk until dawn when they search for a meal and a mate."

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)
Response: Comments noted, the information included in the background portions of the Fact Sheet is intended to be a general discussion so that a reader will have a general understanding of topics such as mosquito life cycles, not be an in depth discussion. When updating the fact sheet for the next permit, Ecology should add "typically" to that statement.

Pg 12 "These diseases can cause serious, sometimes fatal neurological ailments in people (the WEE virus also causes disease in horses)."

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".
Response: Comments noted. This will be updated in the next fact sheet. Ecology is also aware that there is a vaccine available for horses that reduce the likelihood of a horse contracting WNV.

Pg 13 "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."

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.
Response: Comments noted

Pg. 13 "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."

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.
Response: Comments noted. See also response #37.

Pg. 14 "*Applicators use Ultra Low Volume (ULV) application equipment to apply adulticides from air (aerial ULV) and ground (ground ULV) based vehicles.*"

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.
Response: Comments noted. During the next permit renewal, Ecology will consider making the recommended change.

Pg. 14 "*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*."

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.
Response: Comments noted. During the next permit renewal, Ecology will consider making the recommended change.

Pg.14 "*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.*"

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).
Response: Agreed, during the next permit renewal, Ecology will consider making the recommended change.

Pg. 14 "*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*"

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.
Response: Agreed, during the next permit renewal, Ecology will consider making the recommended change. See also response #37.

Pg. 15 "*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*."

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."

Response: Comments noted. During the next permit renewal, Ecology will consider making the recommended change. After the permit is issed, three local health departments will be Permittees.

Pg. 15 "*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*."

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.

Response: "Petroleum and mineral based oil" in the table was changed to "Larvicidal oils" in the text.

Pg. 19 "*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*."

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.
Response: Comments noted. During the next permit renewal, will update the Fact Sheet to reflect how malathion and naled are used. See also responses #37 and 55.

Ecology cannot clarify the dispute between state and local health over who has the responsibility or authority to declare a public health emergency. That is a discussion between those respective agencies and their legal counsel. Ecology has removed the requirement to have a health emergency or threat declared before adulticides are used. See response # 37.

Pg. 22 "*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*."

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 single 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.
Response: Comments noted. See also response #37 and 55.

Pg. 25 "*Ecology considered Tier I and Tier II in this permit and determined that the permit does not cover discharges to Tier III waters."*

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?
Response: There are no Tier III waters in Washington State. If any waters are designated as Tier III waters in the future, it would be included in chapter 173-201A WAC.

Pg. 25 "Tier *I applies water quality-based limits to point source discharges and is discussed below.*"

Where is this discussed? What are the limits? Please indicate exact location with page number reference.
Response: Pg 26 starting with the heading "Evaluation of Surface Water Quality-based Effluent Limits for Numeric Criteria."

Pg. 26 "*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."*

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.
Response: Comments noted. The calculations used are referenced in Appendix B of the Fact Sheet as "Reasonable Potential Determination 1-22-2010.xlsx." These will be posted online.

Pg. 28 "*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."*

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.
Response: Comments noted. Only WDFW approval is needed for adulticide use on WDFW lands. See also response #37.

Pg. 29 "*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)."

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.
Response: We think it makes sense to focus on what are waters of the state as defined in law and regulation. See also response #5.

Pg. 29 "*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*."

Does this mean that DOH is responsible and liable for past permit violations up to the issuance of this 2010 permit?
Response: If a permit violation occurred, DOH would in part, be the responsible as the Permittee.

Pg 32 "*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.*"

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.
Response: Ecology is not modifying, revoking, re-issuing or terminating the permit during its term. Ecology is re-developing and rissuing an updated permit to replace the previous expired permit. Adding an active ingredient after the permit is issued is modifying the permit during its term.

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?
Response: With past pesticide permit developments, Washington-specific risk assessments of the active ingredients included for use in the permit were completed. This is a resource intensive task. Ecology made the policy decision to add several EPA registered pesticide active ingredients that were requested by Permittees during the redevelopment process without going through a risk assessment process.

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?
Response: See response to B above. In addition, to our knowledge, Ecology has not added active ingredients to a permit without a Washington-specific risk assessment. Doing so for spinosad, etofenprox and prallethrin is a first for Ecology.

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.
Response: Leaving the methoprene restriction in the draft permit was based on personal communication with Jennifer Davis of WDFW. WDFW was also asked to formally comment on the issue, but declined to do so. Ecology has removed this restriction on methoprene in the final permit.

Pg 33 "*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)."

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?
Response: Yes, Ecology has issued permits allowed products with proprietary active ingredients without knowing what those ingredients were. However, they went through a risk assessment process prior to their inclusion in the permits.

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.
Response: If Ecology were petitioned to add an active ingredient to the permit after it is issued, Ecology's likely path forward (since resources are not available for a risk assessment) would be to perform a literature review of the active ingredient. Based on that review, Ecology would then determine if it should include the new active ingredient in the permit. If the petitioners include a Washington-specific risk assessment of the active ingredient, this helps Ecology understand the potential ecological risks in making a determination to include the active ingredient.

Pg 34 "*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."*

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?
Response: Comment noted this has been removed from the final permit. See also response #37.

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?
Response: Comment noted this has been removed from the final permit. See also response #37.

C) I believe "Permit" needs to be omitted in the referenced section.
Response: Comment noted. At the time, this section referenced determining which species of mosquitoes would be considered vectors for permitting purposes. Due to changes in the permit is no longer applicable. See also response #37.

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.
Response: Comment noted. At the time, this section referenced determining which species of mosquitoes would be considered vectors for permitting purposes. This has been removed from the final permit. See also response #37.

Pg 35 *"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."

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.
Response: Comment noted. See also response #37.

Pg 36 "*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*."
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.
Response: Comment noted. This has been removed from the permit.

Pg 37 "*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).*"

I think you might have an extra word in here; either "place" or "impose" but probably not both are wanted.
Response: Comments noted. Ecology has changed the Fact Sheet in this case for correctness.

Pg 39 **"*Adulticide:* *A pesticide product designed to target adult mosquitoes and applied using ultra-low volume techniques*."

Not all "adulticides" require the use of ULV equipment.
Response: Comment noted. Section S3.C.3 has been updated to reflect this. It now reads "Use *Ultra Low Volume* (ULV) application equipment to apply adulticides if available. If ULV equipment is not available, use other FIFRA label approved application techniques." Ecology prefers that ULV be the primary application technique for wide area spraying, however it has changed the permit to allow for other application techniques should ULV equipment not be available.

Pg 40 "***Individual Permit:*** *means a discharge permit specific to s single point source or facility*."
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".
Response: For A, Ecology has changed the Fact Sheet in this case for correctness.

An individual permit is written specifically for a singular site or facility discharge. It is only for one site in the entire State of Washington, and is different from coverage under a general permit. A general permit is written to cover a class of dischargers that have the same type of effluent (e.g., stormwater discharge or pesticide discharge, etc) and may be applied across the entire State. Coverage under a general permit is then extended for specific areas to all those required to apply.

LIST OF COMMENTERS

1	Jay Carmony
2	John Woolley
3	Edward Chadd
4	Roberta T. Robbie Mantooth
5	Del Gilkerson
6	Gene Patterson
7	Tom Haworth
8	Daryl Boyle
9	Ray Gerk
10	Daniel Porter
11	Marvin and Joanne Erickson
12	Joe and Lee Steel
13	Christina Caprio
14	Walt Hampton
15	Robert and Janet Leveque
16	Shawnna Morris
17	Tom Mitchell
18	Chris and Donata Sorensen
19	Kevin Tucker
20	Jan Jordan
21	Kan and Kathy McGhee
22	Carl Cole
23	Roy and Sheila Hibbard
24	Vicki Ivory
25	Diane Berkey
27	Dr. Robert Vadas Jr.
28	Det Wegener
29	Missy Cartmell
30	Ron Hayden

31	Mark Kerns
32	Bruce E. Wilson MD
33	Robert Budd
34	Donna MacDonald
35	Craig & Donna Mac Donald
36	Dennis Gunderson
37	Richard N Lee
38	Amber Rosenthal
39	Rick Johnson
40	Anonymous
41	Alan Leverett
42	Carrie Hallquist
43	Cindy Wilson
44	Lori & Steven Olson
45	Dr. Robert K. D. Peterson
46	Mike Boone
47	Yvonne Neitzel
48	Judy Thompson
49	Sibyl Bolkan
50	Robert & Norlene Schuyler
51	Elana Thomas
52	Christy McCloy
53	Larry O'Dell
54	Larry and Sherry Davis
55	Mara Kraus
56	Peggy Nelson
57	Barbara Clausen
58	Eli A. Bouchea
59	Glen Correll
60	Rose and Wayne Kusuda

61	Rose and Wayne Kusuda
62	Marianne Bondi
63	Michele McKinney
64	James Day
65	Ann Rickel
66	Rand Elliott
67	Brian K. Brittain
68	Alisa Valdivia
69	Michael McKinney
70	Benjamin Fredricks
71	Rachel Ziegler
72	Linda Hendricks
73	Jim Milne
74	Blaine & Judy Crea
75	Rhonda Marino
76	Margee' Morris
77	Eileen F. Duncan
78	Ron Stephens
79	Ron J. Montgomery Program Manager
80	Joy Lakey
81	Nancy Champion-Kragt & Marvin Kragt
82	George Wolcott
83	Cindy Goulet
84	Jared Schneider
85	Joseph Conlon
86	Robert Barrowcliff
87	Wayne & Margo Thelen
88	Walter Scott
89	Earleen Eskildsen
90	William Kiel

91	Shelley
92	Dallas & Heidi Green
93	Calvin Manning
94	L.B. Sandy Rock, MD, MPH
95	Linda Lakefish
96	Lonnie & Joan Hunter
97	Rodney G. Hansen
98	Walt and Jeffra Naze
99	Erma Pardini
100	Mike Minelli
101	Wade Bonds
102	Les Cole
103	Ethel Bertermann
104	Cedric Thiel
105	Tony Valdez
106	Howard Cicon
107	Kevin K. Rex
108	Robin Quinton
109	Gary & Yolanda Dietel
110	Mark L Johnson
111	Cindy Linn
112	Margaret and John Green
113	Kathy Newell
114	Barbara L. McIntyre
115	JK Tarantino
116	Anthony Tarantino
117	Doug VanGundy
118	Tom Murphy
119	Molly & Bill Beaird
120	Bill & Gladys Malley

121	Liz Dykstra
122	Dr. Carole A Mylius, DVM
123	Del Gilkerson
124	Gregory Dorsett
125	Gary Smith
126	Van A. Youngquist
127	Bill Helem
128	Karen
129	Ellen Cole
130	Cathy Troske
131	Tom Jermann
132	Roger Krug
133	Brian M. Kreitzer
134	Janie Weinert
135	Alta Jones
136	Stephen Briggs
137	Michelle Briggs
138	Patty Coyne
139	James Raney
140	Karen J. Larson
141	Jim Richardson
142	Craig Norris
143	Rolf and Tulla Dilling
144	Angel Reyna
145	T.J. Norris
146	Myrna Mayfield
147	Jay Lawrence
148	Richard Hollenbaugh
149	Eric M. Butterworth
150	Susan Jones

151	Shannon Kelleher
152	James J. Graves
153	Stacy Graves
154	Travis Petty
155	Scott & Leanne Evenson
156	David Frost
157	Taytum Morris
158	Jennifer Starr
159	Rochelle Juette
160	Mildred Willingham
161	Linda Mitchell
162	Sandi Rowe
163	Sandi Rowe
164	Michael Good
165	Sheri Hill
166	Neal and Jennifer Tevlin
167	Kathy Culley
168	Patricia A. Drake
169	Frank C. Jones
170	Karen Burke
171	Patricia A. Drake
172	Tim Waters, Ph D
173	Sue Avery
174	William Hickman
175	Lee Dowers
176	Virginia and Javier Gutierrez
177	Brian and Sarah Dexter
178	Angel
179	Paul
180	Laurie Ensunsa

181	Dennis Anderson
182	Amber Hanchette
183	Kaye Romm
184	Jack &Dottie Radonski
185	Marian R Strong & Percy A Stiles
186	Steve Close
187	LaDell Yada
188	Steve and Susan McDonald
189	Patricia A. McSherry
190	Jim & Kandy Dexter, Michelle Dexter
191	Jim Sperry
192	Roland & Mary Fran McLaughlin
193	John Mostoller
194	Charlotte and Don Rakestraw
195	James Briggs
196	Jerald & Sharon Tate
197	Gale Newell
198	Tanya Rasmussen
199	Ron Vocht
200	Laurie Ensunsa
201	Monti Cooper
202	Rhonda Kaye Nissen
203	Angie Ensunsa
204	Denise A. Lefler
205	Vic Parks
206	Peter H. Connelly
207	Adrienne Scott, REHS
208	Nancy Murphy
209	Phyllis Lang
210	George M Glaesemann

211	Clint and Patricia Allen
212	Frank D. Roesler
213	Troy and Vicki Blake
214	Susan Williams
215	Judy Woodfall
216	Bruce Williams, MN
217	Arthur and Sally Mitchell
218	Sally J Hennessey
219	Jon C. Wood
220	Cliff Coffman
221	Angela Balint
222	LaRae Glessner
223	No Name Given
224	Mike Mahaffa
225	Rex McMullin
226	Mr. & Mrs. Charles E. Stout
227	Mark and Sharon Baasch
228	Duc and Kim Nguyen
229	C.E. (Gene) & Evelyn Whipple
230	Joyce Melton
231	Lee Helfer
232	Jill Harvill
234	Mike Roberts
235	Kally Dorn
236	Chris Soden
237	Crystal Massett
238	Gerald D. Johnson
239	Karen Gardner
240	Shannon Haselhuhn
241	Seth Haselhuhn

242	Kyle Kennedy
243	Bruce G. Perkins
244	Bill Williams
245	Peter Cole
246	Gene Grohs
247	Karie Mitchell
248	Norm Payton
249	Mary Larson
250	Nancy Briggs
251	Jisica Watkins
252	Robert Crater
253	Larry and Julie Hyde
254	Bill Meloy
255	Cynthia Gauthier
256	Heather Hansen
257	Diane Harn
258	Kevin Shoemaker
259	Kurt Hadley
260	Angela Balint
261	Christine Gibbens
262	Colin Hastings
263	Kevin A. Kennedy
264	Brendan Kester
265	Marilyn Meseberg
266	Frank A. Lyall
267	Karen Durkee
268	John Thompson
269	The Watkins Family
270	Senator Mark Schoesler
271	Mike and Joanne Simmons

272	Daniel and Cynthia Porter
273	Hershel Carpenter
274	Charlie and Linda Card
275	Boyd and Maralyn Lindholm
276	Dana Churchel
277	Roger Hartwig, Jeffery Stevens, Rudy Plager
278	Gerry and Diana McFaul
279	Ernie Troemel
280	Robert Follett
281	Fred Palmer
282	Dale Hendricks
283	Representative Jim McCune et. al.
284	Gary Reid
285	Robert Budd
286	Paulie Budd
287	Jeff and Jennifer Powell
288	John Butcher Jr.
289	Mike and Nancy Valentine
290	Nancy Meier
291	Clifford Beattie
292	Ann Fassino
293	Sherry Rheaume
294	Sandra Lail
295	Dale Gileeson
296	Walter Arola
297	Barbara Mitchell
298	William Sherman
299	Gerald and Linda Lacy
300	Brian Carr
301	William Long

302	Manfred Lemke
303	Gene Neathamer
304	Rex Carter
305	Daniel Ohall
306	Scott Drabek
307	Delores Whitman
308	Mayor Lindie Kadlee et. al
309	Mark Kirby
310	Gary and Carol Ash
311	Lee and Linda Suksdorf
312	Jerry White
313	Kent and Janet Oswalt
314	Blaine and Judy Crea
315	Nellie Sultan
316	George Wolcott
317	Jason Raine
318	Sonya Moore
319	Mary Bradshaw
320	PD Sari
321	Hutson, Mabton City Council
322	Mark and Donna Sindelar
323	Robert Radakovich
324	Tony Mansur
325	Pete Poulsen Mayor, City of Kalama
326	Darrell Sherrett
327	Edna Kell
328	Lisa Cartner
329	James Day
330	Jean Chase
331	Jeff and Kelly Klein

332	Roberta Whalen
333	Joyce Ellis
334	Clayton and Judith Peterson
335	Jerri McCloud
336	Steve and Darlene Rothwell
337	Marla Imsland
338	Bruce Pack
339	Ola Johnson
340	Debi Spjut
341	Ron and Amy Waters
342	Joel Buckner
343	Rosemary Buckner
344	Tammy Mansur
345	Frank Daer
346	Dan Spjut
347	Jim and Jane Ratliff
348	Donna Mansfield
349	Jo Dasso
350	Kenneth Laabs
351	Tom and Carol Lewis
352	Karen Joy
353	Ken Carver
354	Jeane Moksness
355	No commenter assigned
356	Phil and Willie Stockdale
357	Kathryn Snair
358	Joseph Jackson et. al.
359	Kathrin Fowler et. al.
360	Fredric and Judith Mickelsen
361	Roger Teeters

362	Heather Schoonover
363	JK Anderson
364	Marty and Charlotte Potter
365	John and Phyllis Brimhall
366	Bob Christensen
367	Bonnie Devine
368	Janine DeFord
369	Robert Fletcher
370	Norman Benson
371	Joan Falter
372	Denise McCoy
373	Mildred Durand
374	David and Beverly Ditter
375	Sheila Gordon
376	Jeremy Bunn
377	Mildred Willingham
378	Jack and Carol Zeilenga
379	Greg Bafus
380	Mary Bafus
381	Patrick Brock
382	Don Stevens
383	Kevin Bafus
384	Roy and Karen Andrews
385	Brian Benner and David Dorsett
386	Gregg Grunenfelder
387	Loretta Ebel
388	Harvey Ebel
389	Ed and Faye Negre
390	Gary Finn
391	Kati Scarborough

392	Richard and Muriel Ramey
393	Norma Whiteaker
394	Philip and Judy Paul
395	Carol Dinsmore
396	Sue Kirkland
397	Kevin Goodsel
398	Erin Tillenburg
399	Gary Brucher
400	Mary Agnes Gall
401	Roger Tillenburg
402	Gary and Carly Neuenschwander
403	Henry and Gladys Hinkle
404	Lewis McCullough
405	Michael Slate
406	Woody Trihey
407	Olaf and Grethe Odegaard
408	Richard Bennett
409	Les and Jeanne Babbitt
410	Shelly Wilder
411	Tim Waters, PhD
412	No commenter assigned
413	Arland and Better Roberston
414	Robert Houge
415	Jack and Sandra Schoenrock
416	Richard and Nancy Krause
417	Judy Clark
418	Andy and Anne Mowreader
419	Ellie Ensunsa
420	Dan Martin
421	Sherry Martin

422	Levi Henderson
423	Donna Noski et. al.
424	Susi Isleell
425	Ethel Casey
426	Norm Childress
427	Josh McVicker
428	Tailen Rodriguez
429	Forest Gordon
430	Desiree Vaughn
431	Taylor Blanc
432	Angel Luna
433	Howard and Marlene Curtis
434	Tim Wilson
435	Garrett Long
436	Sydnee Rowland
437	Bob Lawrence
438	Brady Contreras
439	Jess Shandy
440	Ramses Valdovinos
441	Joseph Stocks
442	Zach Grimm
443	Casey Hanshew
444	Erik Buts
445	Ely Tiffany
446	Sailor Hamling
447	Travis Albert
448	Chelsie Riehle
449	Jordin Wolf
450	Michelle Holzer
451	Dillon Byrd

452	Taytum Morris
453	Gary Wright
454	Olivia Rowland
455	McDonald
456	Duston Miller
457	Curt Carpenter, LA
458	Larry Marko
459	Shantia Miller
460	Henry and Sharon Pahlitzsch
461	Dr. Sara Mae Belchik et al
462	Deanna Brown
463	Dixie Fultz
464	Svetlana Frug
465	Edie Borgman
466	Darleen Norton
467	Cynthia Berkett
468	Debbie Shreve
469	Nicole Denny
470	Lucy Fittenen
471	Gary Brindle
472	Richard Fittenen
473	Luann Combs
474	June Vinyard
475	Jeff Williams
476	Marjorie Lee
477	Merle and Bonnie Knopp
478	Dixie Fultz
479	Pat and Melinda Hawes
480	Steven Morris
481	Dave and Belle Torrence

482	Roy and Karen Andrews
483	William and Linda Wrynn
484	John Vocht
485	Al and Gloria Steiger
486	Bruce and Kathryn Hewitt
487	Germaine Reed
488	Matt and Allison Halpin
489	Daniel Miller
490	Elizabeth Hall
491	Ron Vocht
492	Arthur and Carla Vrias et al
493	Tanya Rasmussen
494	Patricia Miller
495	James Moore
496	James and Delores Gregg
497	Kathryn Brown
498	Cindi Kiehn
499	Everett Cole et al
500	Kim Courses
501	Peggy Mereno-Trotter
502	Leslie Fanning
503	Frank Shade
504	Thelma Louise Tebeck
505	Milton Laurvick
506	Cynthia Sedelmeier
507	Bruce Perkins
508	Bill and Paulette McKinniy
509	Tim McGree
510	Representative Jim McCune et al
511	Paul Hirai

512	Eileen Martin
513	Phyllis McVay
514	Tim McGree
515	Tom and Laura Beaver
516	Kerry Lewis
517	Tom
518	Robyn Whitman
519	Ron Montgomery
520	Levi Meesburg
521	Mary Thorne
522	Carl Weber
523	Linda Shampiri
524	Sam Worsham
525	Renny Cubic
526	Ted Sleek
527	Rich Dorsett
528	Roger King
529	Woody Trevy
530	Fred LeGalt
531	Brian Benner
532	Dennis Gunnerson
533	John Jenson
534	Barbara Osburn
535	Lou McCullough
536	Angela Balint
537	Dave Ensunsa
538	Mick Hanson
539	Richard Hanson
540	Todd Voth
541	Bill Ekret

542	Frank Laguna
543	David Kirnell, MD
544	Diane Jones
545	Darryl Welch
546	Mick Hanson
547	Pete Standenrouse
548	John Arnold
549	Betty Jean Pruitt
550	Gae Whitehurst