



Oregon

Theodore R. Kulongoski, Governor

Department of Environmental Quality

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April 16, 2003

RE: WQ – Oregon Department of
Agriculture/Gypsy Moth/Fisher Area
Lincoln County

To Whom It May Concern:

Thank you for taking the time to comment on the proposed National Pollutant Discharge Elimination Permit for the above applicant. Enclosed are a copy of the Department's response to the comments received, and a copy of the Hearing Officer's report. After considering all of the comments received, the Department issued the permit without change. The Permit Evaluation Report was modified to include a section on the expected impact on drinking water supplies.

Sincerely,

Barbara A. Burton
Natural Resource Specialist

Enclosures



**Summary of Comments Received and
DEQ Response
Proposed NPDES Permit for Oregon Department of Agriculture/
Gypsy Moth Eradication/Fisher Area**

The public comment period for the proposed permit was from March 7, 2003 through April 11, 2003. Written comments (by mail, email, hand delivered or FAX) were accepted during the public comment period, and oral comments were received during a public hearing held in Waldport on April 10. A total nine written comments were received, including two petitions. One petition signed by 23 area residents supported the eradication of the gypsy moth, but requested a change of product and additional monitoring. A petition signed by 13 area residents supported the eradication program as proposed. Four people offered oral testimony at the public hearing. The following is a summary of the comments received, and the Department's response to those comments. After reviewing the comments received, the Department intends to issue the permit without change but will be amending the Permit Evaluation Report as indicated below.

Importance of eliminating gypsy moth

Comment: All but one of the commenters stated that the gypsy moth should be eradicated from the area. **Department response:** The Oregon Department of Agriculture has determined that the gypsy moth is a destructive pest and that eradication is necessary.

Issuance/denial of NPDES permit

Comment: The permit should be issued and the project as proposed by ODA should move forward (petition signed by 13 area residents plus a separately submitted comment). **Department response:** The Department agrees that the NPDES permit can be issued.

Impact on drinking water sources

Comment: A number of residents in the area use surface waters and springs for their drinking water. Some of the residents are concerned that the application of the *Bacillus thuringiensis* var. *kurstaki* (Btk) product Foray 48B may or will contaminate their drinking water supplies. **Department response:** The Oregon Health Division (OHD) is the lead agency in Oregon for evaluating public health impacts. They have reviewed the ingredients in Foray 48B and studies done on the application of Btk and possible human health impacts. OHD provided a Btk Fact Sheet which states in part: "Btk has an excellent safety record for humans... It is commonly used on commercial, and even organic produce... Eighteen human volunteers suffered no illness from swallowing 1 gm of Btk each day for five days... B.t. has been used for gypsy moth and other moth control since the 1950's. No harmful effects have been reported among residents of the sprayed communities." The Oregon Health Division recommends that residents in the area stay inside during the actual application of the product and thirty minutes after. The Oregon

Health Division does not make any recommendations on special measures needed to protect drinking water supplies. Based on the OHD analysis and the very minute amount of product that will reach the water surfaces, the Department believes that there will be no adverse impact on drinking water supplies.

Comment: ODA and OHD have indicated that it is the responsibility of individual residents to disconnect their water intake during the spraying. This is not practical or fair to put the responsibility on residents. A more realistic way to protect drinking water should be devised. **Department response:** According to OHD, disconnection of water intakes is not necessary or recommended. However, for those residents who choose to use unprotected surface waters to supply their potable water needs, disconnection of the water source is one alternative. Another alternative may be for those residents to use bottled water for drinking during those days applications are made and perhaps for up to a week afterwards in order that the other non-potable uses of their water supplies (bathroom hygiene, indoor/outdoor cleaning, laundry, showering/bathing, etc.) would reasonably flush out any minute levels of Btk that may have entered their system.

Comment: One or more residents were told that if they wished to test their drinking water for the presence of Btk or other Foray ingredients, it would be the responsibility of the homeowner. ODA should be responsible for the testing, not the residents.

Department response: This issue is between ODA and the residents. DEQ does not believe that the proposed eradication program will endanger the drinking water supplies for area residents. Therefore, no additional monitoring will be required in the NPDES permit.

Comment: DEQ did not consider the impact on drinking water, only on fish.

Department response: DEQ did consider the impact on drinking water, however this topic was not well covered in the permit evaluation report. The focus on fish impacts in the evaluation report is because fish are typically much more sensitive to pollutants than humans, and if fish are protected then so are humans. A section will be added to the evaluation report on drinking water impacts, based largely on the OHD evaluation.

Comment: For some residents taking water from smaller streams, the pesticide will get more concentrated over time. **Department response:** At any given point where drinking water might be taken out of the stream, the Foray concentration in the water will reduce over time due to dilution and degradation. Foray does not bioaccumulate and therefore cannot become more concentrated.

Comment: What will be the effect on one resident who has an immune deficiency disease? **Department response:** The Oregon Health Division Fact Sheet on Btk and Foray 48B states: "Although we don't have evidence that Btk will affect any given group of people, individuals with leukemia, AIDS, or any other physician-diagnosed causes of severe immune disorders, may consider leaving the spray area during the actual spraying. If you or someone in your home has one of these conditions, ask your doctor for advice about avoiding exposure before the spray project begins."

Impact on water quality

Comment: The eradication program will compromise water quality. **Department response:** We disagree. DEQ has evaluated the impact on water quality and finds that it will be very minimal and of short duration. No adverse impact on aquatic species, drinking water supplies or other uses for the water are expected.

Comment: The mixing zone analysis should have been done on smaller, unnamed streams. **Department response:** The mixing zone analysis was not done on any specific stream. Many of the streams in the eradication area were visited to determine “worst case” conditions for the water quality computer modeling that was done. The most impact would be expected in smaller streams (3 to 5 feet wide). Even using very conservative assumptions, the analysis demonstrated that there would be no measurable impact on water quality from the eradication operation.

Comment: Concern was expressed about the effects of the spraying on other aquatic insects. Some of these may be endangered, and aquatic insects are an important food source for salmon. **Department response:** The Department agrees that aquatic insects are important to streams. Oregon’s water quality instream standards are designed to protect aquatic insects as well as fish, drinking water, and other water uses. Based on the amount of product that will be applied and the small diameter of the droplets, the Department calculates that the product will be diluted by 6350 to 1 within 1/10th inch of the water surface and all instream water quality standards will be met beyond this surface area. Further dilution is expected to occur quickly. No adverse impact on any aquatic insects is expected. It should also be noted that Btk in high concentrations is toxic to members of the Lepidoptera Order (moths and butterflies) but has limited or no toxicity to other insects. There are no threatened or endangered invertebrates in the eradication area.

Comment: Concern was expressed about the impact of the spraying on endangered species. **Department response:** There are no endangered aquatic species within the eradication area, however Coho salmon are present and they are a “threatened” species. Toxicity testing done on rainbow trout (also a salmonid) shows no toxic effects at required application rates. Based on the small volumes of product and large amount of stream dilution, the Department expects there will be no adverse impact on Coho salmon.

Content of Foray 48B

Comment: People have a right to know specifically what is in the material that is being sprayed on their property. **Department response:** Both the Oregon Health Division and the U.S Environmental Protection Agency have been given a list of ingredients of Foray 48B. These agencies used this information in addition to studies that have been done by others to determine the public health impacts and other environmental impacts of the product. DEQ tested the product for pH and Biochemical Oxygen Demand, and has a certification from the manufacturer that none of the substances listed in DEQ’s water quality standards are present, to the best of their knowledge. Based on the evaluations done by the Oregon Health Division, the EPA, other studies cited, the information DEQ

received as part of the application, and the many years of use of this product with no known health or environmental impacts (other than to moths and butterflies), DEQ believes that there is sufficient information to issue the NPDES permit. However, the Department acknowledges that a lack of public disclosure of the full ingredients is very troubling to many residents.

Comment: The safety of Foray 48B is well established. **Department response:** The Department agrees that the product will be safe when applied according to label requirements.

Comment: The potential effects of this pesticide are not known. The toxicity of the inert ingredients is not known. Studies relied upon (if any) are not known. **Department response:** The Department disagrees with the first two comments. This product has been in use for many years in Oregon and around the country with no adverse effects on humans or the environment (other than moths and butterflies). Toxicity testing has been done on aquatic organisms and has shown that the product is not toxic at concentrations that will occur during application. DEQ used the EPA document Reregistration Eligibility Decision (RED) *Bacillus thuringiensis* in preparing the permit documents. The EPA document included an evaluation of the toxicity testing that has been done and has a list of citations for the various studies reviewed. This document is available at the following website: <http://www.epa.gov/REDs/0247.pdf>

Choice of pesticide

Comment: We want a pesticide that is certified by Oregon Tilth as organic (petition signed by 23). **Department response:** It is ODA's responsibility to determine the most appropriate pesticide for this eradication effort. The application filed for this permit action proposes Foray 48B as the biopesticide to be used. The Department has evaluated the water quality impacts of this material and whether the project could be permitted under state and federal water quality rules. Our conclusion is that Foray 48B can be applied in a manner that conforms to applicable rules and will have no adverse impact on water quality. Based on this evaluation, DEQ has no basis to deny the permit or to require another product be used.

Comment: I raise and sell raspberries that are described to buyers as not sprayed. If Foray 48B is used, I will lose business. **Department response:** This issue is outside of the scope of the NPDES permit, and should be addressed to the Oregon Department of Agriculture. ODA has indicated they will work with any residents about methods of covering or washing vegetation.

Area to be sprayed and application procedures

Comment: Several persons objected to having their property sprayed without their permission. **Response:** This issue is outside of the scope of the NPDES permit process, since this permit regulates discharges to public waters. However, it should be noted that ODA is both authorized and directed to "use such measures as may be necessary to

prevent the introduction into the state of dangerous insect pests and plant diseases...and accomplish the eradication of such pests..."

Comment: Egg masses and individual gypsy moths were only found on one property. The eradication area should be much smaller and application should be done on the ground. Two people said the eradication area was made larger than needed because federal funding is only available if the area exceeds 640 acres. **Department response:** The Oregon Department of Agriculture set the size and shape of the eradication area assuming that there was probably some spread from the original site and to insure that all gypsy moths would be killed. This conservative approach is taken so that further spread (and spraying next year in a much larger area) can be avoided. The factors that ODA used include gypsy moth biology, topography, host plants, weather conditions, and other factors. ODA reports that studies indicate only about 1% of male gypsy moths are captured in traps, and that they believe the gypsy moths have spread far beyond the initial site. DEQ defers to ODA expertise on this issue.

Comment: The Foray 48B label including application procedures shows different requirements for agriculture versus forestry. For agricultural settings, spraying over water is prohibited. Why the difference, and doesn't this mean that Foray 48B should never be sprayed over water? **Department response:** Generally, EPA labeling practice is to prohibit spraying in water if there is no need to spray in water; or if the spraying in water would produce unacceptable environmental or public health impacts. For agricultural applications, crops typically sprayed with Foray 48B are not in or very near water and therefore no spraying in water is needed. For forestry applications of Foray 48B, however, some spray is likely to get into surface waters. EPA has evaluated the impact of Foray 48B on the aquatic environment and has approved that use when label requirements are followed.

Additional monitoring

Comment: Monitoring of streams and property should be required, both before and after the spraying. **Department response:** Monitoring of land is outside of the NPDES permit program. The Department does not agree that stream monitoring is needed or appropriate for this operation. The Department requires stream monitoring only when a significant adverse impact is expected. In this case, the eradication project is expected to have no significant adverse impact on water quality or on any of the uses of the water, including aquatic life and drinking water supplies. Computer modeling calculates that there will be no measurable increase in dissolved oxygen or temperature due to the small amount of product reaching surface waters and the very large dilution that will occur, and the characteristics of the product being applied. Other calculations indicate that all instream water quality standards will be met within 1/10th inch of the water surface.

Comment: The impact on people and the environment should be measured before and after the eradication effort. **Department response:** Using before and after testing of aquatic populations to evaluate the impact of any activity is generally not scientifically conclusive, since many other factors can affect populations. For example, a population of

fish can change over time as a result of fishing, migration of fish, predation by other fish species, high temperatures, or high silt loads from a large storm or construction activity. It is therefore the Department practice to look at the material being discharged and the stream dilution. Regarding the impact on people from drinking surface waters, see the Department's responses to question regarding drinking water in a previous section.

Comment: Drinking water in the eradication area should be tested by ODA before and after the spraying, at weekly intervals, until the product is no longer detectable.

Department response: The Department expects that there will be no significant adverse impact on the quality of drinking water as a result of this operation, and what impact there is will be quickly diluted and carried downstream. Based on this, the Department does not agree that this monitoring should be required in the NPDES permit.

Comment: Much more monitoring should be required, including the presence of the biopesticide in surface waters. **Department response:** The Department disagrees. The monitoring required is sufficient to insure that the permit conditions are complied with. Based on the expected insignificant impact of this operation on water quality, no further monitoring is warranted.

Miscellaneous comments

Comment: The Health Division and ODA have provided some practices to protect property. These are unrealistic and better ideas should be provided. **Department response:** This is outside of the scope of the NPDES permit process.

Comment: There are 11, not 10 residences within the initial eradication area. **Department response:** The ODA Environmental Assessment for the project lists 10 private residences within the initial eradication area. Regardless, the number of residences is listed only for informational purposes in describing the project and did not affect the proposed NPDES permit conditions.

Comment: One person objected to the lack of timber harvesting in the area, and said that there is no point in the eradication project. If the eradication project is carried out, then timber harvesting should be allowed and should pay for the project. **Department response:** This issue is outside of the scope of the NPDES permit.

Comment: Several people stated they did not trust government to be honest and truthful. Government studies such as EPA's Reregistration of *Bacillus thuringiensis* and the Oregon Health Division's fact sheet are not to be believed. **Department response:** The Department believes that the information supplied by EPA and OHD is accurate and sufficient for the NPDES permitting process.

Comment: The permit and the eradication project are in violation of numerous federal and state laws and constitutions. **Department response:** The proposed NPDES permit complies with all applicable state and federal rules.

Comment: The U.S Forest Service is required to formally consult with NOAA over impacts on Coho salmon because Foray 48B contains a surfactant. **Department response:** Formal consultation under the Endangered Species Act is not required under the NPDES permit program, when that program is administered by a state agency as is the case in Oregon. However, the U.S. Forest Service has determined that formal consultation is not required because there will be no adverse impact on Coho salmon.

Comment: A study done by Teschke, et al in 2000 showed toxicity concerns and should have been included in the analysis for this project. **Department response:** OHD staff did review this study among others in preparing their evaluation and recommendations for gypsy moth eradication programs.