State of Oregon
Department of
Environmental
Quality

National Pollutant Discharge Elimination System

PERMIT EVALUATION AND FACT SHEET
March 5, 2003

Oregon Department of Environmental Quality

Western Region
750 Front St NE, Suite 120
Salem OR 97301
(503) 378-8240

Permittee:	Oregon Department of Agriculture 635 Capitol St., NE Salem, OR 97301 File Number: 112122
Source Information:	Aerial application of *Bacillus thuringiensis* var. *kurstaki* Area to be sprayed is located in and around the Fisher (Five Rivers) area, in Lincoln County, Oregon
Source Contact:	Daniel J. Hilburn, Plant Division Administrator Phone: (503) 986-4663
Proposed Action:	New NPDES Permit, Classified as Minor Industrial Application Number: 984794 Date Received: 1-21-2003
Permit Writer:	Barbara A. Burton Phone: 503-378-8240, extension 250

INTRODUCTION

The Oregon Department of Agriculture (ODA) is the State agency responsible for detection and eradication of gypsy moth in Oregon. The gypsy moth is not native to Oregon, and is considered a major pest of trees and shrubs in the United States. ODA has eradicated the small isolated populations of gypsy moth(s) when they are found in Oregon. In recent years this has been accomplished by spraying a biopesticide whose active ingredient is *Bacillus thuringiensis* var. *kurstaki*. There is currently a small population of gypsy moths in a 706 acre area around the Fisher (Five Rivers) area, Lincoln County, Oregon. ODA is proposing to eradicate this population in April through June, 2003.

Under a recent Ninth Circuit Appeal Court ruling, the USDA Forest Service (Forest Service) is required to obtain an NPDES permit in order to combat the Douglas Fir Tussock Moth. Although the U.S. has sought further appellate review and although the U.S. does not concede or admit that a NPDES permit for the aerial spraying of pesticide is indeed required in light of the court's ruling and the fact that there are certain similarities between the spraying programs, the Forest Service believes it is prudent to obtain a NPDES permit for this eradication effort pending further rulings on this issue. This gypsy moth project is being funded by a grant from the Forest Service to ODA, thus, ODA has applied for an NPDES permit. The Department of Environmental Quality (Department) received an application on January 21, 2003. The Department proposes to issue the permit. This permit evaluation report describes the basis and methodology used in developing the permit.

This permit is issued pursuant to Federal and State law and, therefore, subject to Federal and State regulations. The Clean Water Act, the Code of Federal Regulations, and numerous guidelines of the Environmental Protection Agency provide the federal permit requirements. The Oregon Revised Statutes, Oregon Administrative Rules, and policies and guidelines of the Department of Environmental Quality provide the state permitting requirements.

PROJECT DESCRIPTION

The gypsy moth is not native to the U.S., and is a major pest, capable of defoliating trees and shrubs in a large area and resulting in death for some of the vegetation. The U. S. Department of Agriculture/Forest Service finalized and issued in 1995 an Environmental Impact Statement (EIS) for managing gypsy moth populations in the U.S. For areas like Oregon where the gypsy moth has not been established, an active program to detect any new populations and prompt eradication is the preferred alternative in the EIS.

The Oregon Department of Agriculture operates an extensive detection program for gypsy moths, setting over 16,000 moth traps in 2002. When a gypsy moth is captured, ODA then sets numerous traps around the site to determine whether there is an infestation, and if so the area where the infestation is present.

ODA treats the infested area in the late spring, when gypsy moths hatch from eggs into the caterpillar stage, and start eating foliage. The biopesticide used by ODA and commonly used in the U.S for gypsy moth control efforts has as the active ingredient *Bacillus thuringiensis* var. *kurstaki*, or "Btk". This subspecies of bacteria specifically targets susceptible caterpillars of

butterflies and moths (Order Lepidoptera). Btk has been widely used for over 40 years in U.S. forests.

ODA has identified and eradicated numerous infestations of gypsy moth since the late 1970's. Based on trapping results in 2002, the only area targeted for eradication of gypsy moths in Oregon in 2003 is located in and around Fisher, Oregon. Fisher is a very small community located in the southeast corner of Lincoln County. The initial eradication area proposed is about 706 acres, within a larger 3820 acre environmental analysis area. There are 10 houses located in the initial eradication area. Named streams within the eradication area are: Five Rivers, Cougar Creek, Cherry Creek, Crab Creek, McDonald Creek and Buck Creek. Part of the eradication area (198 Acres) is located within the Suislaw National Forest.

The proposed eradication operation is to be carried out in three applications, approximately 7 to 14 days apart, starting in late April, 2003 when the gypsy moth caterpillars emerge. Foray 48B™ is the Btk formulation that will be used. It is manufactured by Valent BioSciences Corporation. ODA proposes to spray 0.5 gallons/acre of the Foray 48B product (no dilution) for each of the three applications, for a total of approximately 353 gallons for the entire site for each application. The product will be applied by helicopter, and will be applied in very fine droplets to insure coverage of foliage. The droplet density for the application will be 129 droplets per square inch, with a droplet diameter for most droplets of 100 to 150 microns as it appears on a card (.0039 to .0059 inches). The average droplet diameter based on the volume applied and number of droplets is 0.00652 inches.

After the spraying is completed, ODA will set out traps in the area to confirm that the gypsy moth population has been eradicated. Based on past experience, ODA expects that the 2003 spraying program will be successful. In the event the gypsy moth does spread outside of the initial eradication area, however, this proposed permit allows additional similar spraying operations over the 3820 acres specified as the Eradication Analysis Area. A map showing the initial eradication area and the Eradication Analysis Area is shown in Appendix A to this report.

The area covered by this permit is located within the Suislaw National Forest, in the southeast area of Lincoln County. The unincorporated town of Fisher is located within the initial eradication area. There are ten houses located within the initial eradication area of 706 acres, and another 11 houses located in the larger Eradication Analysis Area of 3820 acres.

Bacillus thuringiensis var. *kurstaki* (Btk) and Foray 48B™

Btk is a type of bacteria that has been widely used for control of some pest species including the gypsy moth and spruce budworm. It is considered a biopesticide, not a chemical pesticide. Btk is applied in a very thin layer to vegetation in the eradication area as caterpillars are emerging from their egg cases. The caterpillars ingest the Btk when they eat the vegetation. Btk first disrupts the digestive system when ingested by the caterpillars, and then infects the caterpillars. The caterpillars stop feeding and die within 3 to 5 days. The toxins in Btk are released only when it is ingested and exposed to digestive enzymes in the pH range of 9.0 – 10.5.

Btk is produced by fermentation in closed vats. Foray 48B™ consists of 2.1% Btk and 97.9% other material (referred to as "inert" since it does not significantly affect the target pest species). The inert material is reported by the manufacturer to be about 90% fermentation products, and a small amount of material used to stabilize the product and insure that undesirable bacteria and

fungi do not grow. It includes a sticky substance that insures that the Btk will stick to the vegetation.

Re-registration of Btk Under FIFRA Btk in general and Foray 48B™ specifically have been evaluated and approved for use by the U.S. Environmental Protection Agency (EPA), under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Re-registration of all products containing all subspecies of *Bacillus thuringiensis* was completed by EPA in March, 1998. As part of the evaluation of these materials, EPA looked at a number of areas of potential concern including effects on human health and effects on species other than the pests targeted. Btk was very effective at killing pest species of Lepidoptera (the Order which includes all butterflies and moths). Btk has varying levels of toxicity to other "non-target" species of Lepidoptera. EPA looked at the impact on aquatic organisms. EPA describes the risk to aquatic invertebrates "…is considered minimal to non-existent based on currently registered label use rates". Toxicity tests on freshwater fish also showed no effect. EPA also noted that continued quality control and testing in the manufacturing process for all strains of *Bacillus thuringiensis* including Btk is required to prevent unintended toxic byproducts that could affect non-target organisms.

Content of Foray 48B™ The two pollutants of possible concern are listed below:

Pollutant	Concentration, Foray 48B™	Acute Toxicity Criteria	Chronic Toxicity Criteria	Other WQ Standard
pH	4.1 – 4.8 in 10% water solution	NA	NA	**6.5 to 8.5**
Biochemical Oxygen Demand	**260,000 mg/L**	**NA**	**NA**	**NA**

The impact of these pollutants on the streams is discussed in the following sections.

RECEIVING STREAM WATER QUALITY

Outfalls

Unlike most facilities with an NPDES permit, this proposed operation will not have a physical outfall pipe. As the Btk is sprayed, a small quantity of the material in very small droplets will fall on the stream surfaces that are not protected by overhanging vegetation. The Five Rivers segment within the initial eradication area is approximately 2 miles, 200 feet. The portion of the other five creeks in the initial eradication area total approximately 3 miles, 1000 feet.

Receiving Stream Water Quality

Five Rivers and its tributaries located within the Eradication Analysis Area discharge into the Alsea River (at about River Mile 28), and hence to the Pacific Ocean. The named streams located within the area covered by this permit are: Five Rivers, Cougar Creek, Buck Creek, Cherry Creek, Crab Creek and McDonald Creek. These streams are located in the Mid Coast Basin. The designated beneficial uses of fresh water streams in the Mid Coast Basin are: public and private domestic water supply, industrial water supply, irrigation and livestock watering, anadromous fish passage, salmonid spawning and rearing, resident fish and aquatic life, wildlife and hunting, fishing, boating, water contact recreation, aesthetic quality and hydro power. The

water quality standards for the Mid Coast Basin (OAR 340-041-0245) were developed to protect the beneficial uses for the basin.

The water bodies that are potentially affected by the discharge and that are listed as Water Quality Limited are as follows:

Waterbody Name	**River Mile**	**Pollutant Parameter**	Season
Alsea River	4.9 to 31.4	Dissolved Oxygen	**Sept. 15 – May 31**
Alsea River	4.9 to 47.4	Temperature	**Summer**
Alsea River	0 to 10	Fecal coliform	**Year around**
Buck Creek	0 to 7.7	Temperature	**Summer**
Five Rivers	**0 to 22.3**	**Temperature**	**Summer**

Dissolved Oxygen For the streams potentially affected, the only pollutant parameter that exceeds instream water quality standards during the times of application would be dissolved oxygen in the Alsea River. Foray 48B™ does include material that could potentially reduce dissolved oxygen levels. The Biochemical Oxygen Demand (BOD) is an indirect measure of the organic material present. As organic material is eaten by bacteria present in the stream, the dissolved oxygen level is depleted. The BOD for this material is very high, however it is being applied in very small quantities.

A computer model was used to predict the amount of dissolved oxygen that would be depleted at the application rates of Foray 48B™. A technical report on this evaluation is attached to this report as Appendix C. A "worst case" analysis was done, assuming a very small stream. For this very small stream where the impact would be expected to be the worst, the maximum amount of oxygen depletion is calculated to be 0.05 mg/L about one mile downstream, which is not measurable and is insignificant. The actual dissolved oxygen impact in the larger streams such as Five Rivers will be much less than the 0.05 mg/L because of the greater dilution.

Temperature The streams within the eradication area are not listed for violating the numerical temperature standard during the scheduled time for spraying (late April through May). The temperature standard also prohibits a measurable increase in surface water temperature any time federally listed Threatened or Endangered species are present unless the increase would not "impair the biological integrity of the Threatened and Endangered population". According to Oregon Department of Fish and Wildlife (ODF&W) fish distribution maps, Coho salmon are found in Five Rivers and Alsea subbasins. The National Marine Fisheries Service has listed Coho salmon as Threatened in the Oregon Coast Evolutionarily Significant Unit (ESU).

The expected temperature impact of the spraying operation was calculated, and is included in the technical report attached to this document. The evaluation showed that the discharge will not cause a measurable increase in stream temperature. A "measurable increase" is defined as greater than a 0.25° F increase at the edge of the mixing zone (OAR 340-041-0006(55)). The calculated increase of temperature for this project is 0.001ºF which is much less than the increase allowed. Based on the evaluation, a Temperature Management Plan has not been required from this source.

If the project is not carried out, and gypsy moths are allowed to infest the area, then stream temperatures are likely to rise (the violation of stream temperature standards would get worse). The project will likely prevent stream temperature increases in the area, by preventing the loss of foliage on riparian trees and shrubs. Sunlight directly striking water surfaces is a major cause of warmer stream temperatures.

Fecal coliform Fecal coliform bacteria are not expected to be present in the Btk product, and therefore will have no effect on the fecal coliform levels in the Alsea River.

Overall, the eradication project is expected to have no significant detrimental impact on water quality. On the positive side, the project will prevent water quality degradation through prevention of defoliation of riparian trees and shrubs.

ANTI-DEGRADATION REVIEW

Oregon Administrative Rules (OAR) 340-041-0026 provides Oregon's anti-degradation policy for surface waters. The policy statements differ depending on the status of the waters. For this project area near Fisher and at the time of application of the Btk product, the waters are considered "High Quality Waters". For High Quality Waters, the existing level of water quality is to be maintained. Lowering of water quality may be allowed under some conditions.

DEQ developed a manual for implementing the anti-degradation policy, titled Anti-degradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications, March 2001. In this guidance document, "lowering of water quality" may potentially occur if there is a "measurable change" in water quality. What constitutes a "measurable change" has been defined for temperature and for dissolved oxygen, but not for other pollutant parameters. For other pollutants, DEQ is to use best professional judgment in making the determination.

The amount of Btk product that may enter public waters in the initial eradication area is estimated to be about 4.4 gallons spread over approximately 383,200 square feet of water, for each eradication operation. It will be applied in very fine droplets averaging 0.00652 inches in diameter, and will be very quickly diluted upon hitting the water surface. The worst case temperature and dissolved oxygen impacts from the discharge have been calculated and are included in an appendix to this report. These calculated impacts for the eradication area are 0.001° F for temperature and 0.05 mg/L or less for dissolved oxygen. These values are less than the minimum levels defined as measurable for these pollutants of 0.25° F and 0.1 mg/L, respectively.

The proposed eradication project will have no significant effect on water quality because of the small quantity of material to be discharged over a large area, the small droplet size, the large amount of dilution, and the short duration of the discharge. Based on the evaluations and calculations done, the Department finds that the proposed discharge will not cause a measurable change in water quality outside of the proposed mixing zones. Therefore, the Department finds that the proposed activity will not result in the lowering of water quality and is allowed under Oregon's Anti-degradation Policy.

PERMIT DRAFT DISCUSSION

The proposed permit limits and conditions are described below. Refer to the proposed permit and the discussion above when reviewing this section.

Face Page

The face page provides information about the permittee, description of the wastewater, outfall locations, receiving stream information, permit approval authority, and a description of permitted activities. The permittee is authorized to apply *Bacillus thuringiensis* var. *kurstaki*-based pesticide in accordance with the terms of the permit. All other discharges are prohibited.

Schedule A, Waste Discharge Limitations, Required Management Practices, and Public Notice Requirements

Effluent limits Two categories of effluent limitations exist for NPDES permits: 1) Technology based effluent limits, and 2) Water quality based effluent limits. Technology based effluent limits have been established by EPA rules for some types of discharges but not for all. Technology based effluent limits were established to require a minimum level of treatment for some types of industrial or municipal sources using available technology. There are no technology based effluent limits for this type of activity.

Water quality based effluent limits are designed to be protective of the beneficial uses of the receiving water and are independent of the available treatment technology. Pollutant parameters should be limited if there is a reasonable potential for the discharge to cause or contribute to an excursion above any state water quality criteria or standard.

The *Bacillus thuringiensis* var. *kurstaki*-based pesticide that is proposed for application consists of 2.1% Btk and 97.9% ingredients that are not effective at eradicating the gypsy moth. The Btk itself causes disease and death only in members of the Order Lepidoptera (moths and butterflies). There are no aquatic species that might be affected by Btk for this area, and so no further analysis was done and no limits are proposed for the Btk itself.

For the entire *Bacillus thuringiensis* var. *kurstaki*-based pesticide (Btk plus other ingredients), reasonable potential analyses were done for pH, temperature, and dissolved oxygen. Temperature was evaluated because it is required to be evaluated where federally threatened or endangered species are present. Coastal Coho salmon are present in the area and are on the federal threatened species list. Dissolved oxygen was evaluated because the Alsea River (located downstream) is water quality limited for dissolved oxygen. pH was evaluated because it is the pollutant in the Btk product that requires the most dilution to achieve instream standards. The product pH is a minimum of 4.1 Standard Units, compared to the instream standard minimum of 6.5 Standard Units.

The reasonable potential analyses are included with the technical details of the mixing zone analysis in Appendix B. DEQ is proposing to limit the application rates of *Bacillus thuringiensis* var. *kurstaki*-based pesticide to those specified for the product and approved by EPA.

Application and Management Requirements Schedule A requires that spraying must occur within the area specified in the permit application. Spraying must follow the application

directions for the product, and must be applied by a licensed applicator. Schedule A includes a condition detailing the preliminary findings regarding Threatened and Endangered Species for aquatic species, and allows re-opening of the permit in the event there are changes in any applicable Biological Opinions.

Public Notice Requirements Although this product is considered safe for human contact, DEQ recognizes that many people in past eradication areas have been very concerned. This permit includes requirements that area residents be notified of the spraying, and that recommendations from the Oregon Health Division be included in the notification. Letters of notification are required to each of the households in the eradication area, and a broader public notice in a local newspaper is required.

Mixing Zone Analysis The *Bacillus thuringiensis* var. *kurstaki*-based pesticide will be applied without dilution, in small quantities and with small droplet sizes. Since the Btk does not meet all instream water quality standards and criteria without dilution, a zone of dilution or mixing zone was considered and is proposed. The dimensions of the mixing zone are defined in this section of the permit. The proposed mixing zone is discussed in more detail below, and the technical analysis for the mixing zone is attached.

The Clean Water Act allows for the use of mixing zones, also known as "allocated impact zones", as long as acute toxicity to drifting organisms is prevented and the integrity of the water body as a whole is not impaired. Mixing zones allow the initial mixing of waste and receiving water, but are not designed to allow for treatment. The EPA does not have specific regulations pertaining to mixing zones. Each state must adopt its own mixing zone regulations.

Oregon's mixing zone rules were adopted to regulate a more typical on-going discharge from a point source discharge (pipe), for example a municipal sewage treatment plant or an industrial manufacturing plant with a stationary outfall pipe. For this spraying operation, the "discharge" will be very different. A very small quantity of Btk product will fall on the streams over a short period of time, and quickly be diluted. Less than 4.4 gallons of Btk will sprayed over an estimated 383,200 square feet of stream surfaces (about five linear miles of streams), for each of the three applications in the initial spraying operation. Specifications for the spraying require most of the droplets to be 100 to 150 microns in diameter (.0059 inches), with coverage of 20 droplets per square centimeter (129 droplets per square inch). This is a minute amount of material, which will be quickly diluted once it comes in contact with the streams.

Mixing Zone The mixing zone is defined and limited so as to protect the integrity of the entire water body as a whole. Oregon's mixing zone rules require that a proposed activity or discharge may not cause any exceedance of water quality standards outside of the mixing zone. For this activity, the biopesticide itself, without dilution, is outside of the water quality standards for pH and therefore a mixing zone should be considered.

The Department first determined a possible mixing zone based upon the type of activity, the receiving streams, beneficial uses of the streams, and the requirements in the mixing zone rules. The content of the product that will be applied and application rates were then evaluated to see whether the possible mixing zone would be acceptable. Based on this evaluation, the Department determined that the size of the mixing zone was protective of the stream and met all requirements of the mixing zone rule.

Since Btk product may fall to the water surface at any point within the initial eradication area or within the eradication analysis area for future spraying (if any), all of the surface waters are considered to be the mixing zone. The proposed mixing zone is the surface of the waters within the eradication area, plus 10 feet downstream from the edge of streams where Btk product falls. The Department is proposing a mixing zone depth of 0.10 inches from the water surface.

Chronic toxicity is allowed within a mixing zone. Chronic toxicity is a measure of whether an aquatic organism fails to thrive over a period of four days, for example failing to gain weight, failing to reproduce, or dying. Based on the very small quantities of Btk product and the large amount of dilution, any chronic toxicity from the pH of the product will only exist for a short period of time and very close to the water body surface. Therefore, the overall integrity of the water body will not be affected and chronic toxicity conditions (impairment of aquatic organisms) will not occur in the streams as a result of this activity. In addition, for this activity there will not be chronic toxicity conditions within the mixing zone, even though it is allowed by rule.

The proposed mixing zone is protective of the stream integrity and as small as feasible for this discharge. Because of the small amount of material that will reach surface waters, the large amount of dilution, and the very short time of application of the material, the Department finds that the proposed eradication activity will not cause either chronic or acute toxicity conditions, and therefore will not be a barrier to passage of any aquatic organisms. The Department finds that the beneficial uses of the receiving stream will not be affected by the discharges and these mixing zones. The defined mixing zones meet the all criteria in the mixing zone rule (Oregon Administrative Rules 340-0041-0245(4). See Appendix C for further details on the mixing zone evaluation.

Schedule B - Minimum Monitoring and Reporting Requirements

Schedule B describes the minimum monitoring and reporting necessary to demonstrate compliance with the conditions of this permit. The authority to require periodic reporting by permittees is included in ORS 468.065(5). Self-monitoring requirements are the primary means of ensuring that permit limitations are being met.

The monitoring requirements in Schedule B provide basic information about the spraying operation, the material sprayed, and the public notification provided. These correspond to the requirements and limitations in Schedule A. Schedule B also specifies how often reporting to DEQ is to be done, and where the reports are to be sent.

Schedule C, Compliance Schedules and Conditions

The only proposed compliance schedule item is that ODA must submit a written contingency plan to DEQ prior to initiation of spraying.

Schedule D - Special Conditions

Schedule D has two proposed permit conditions. Both conditions are standard permit conditions included in many DEQ permits. The content of the written contingency plan required is described. The contingency plan is designed both to provide direction in the case of a spill or other mishap, and to provide training to prevent spills and mishaps. In the event of a spill, reporting requirements are also specified. If an unplanned release exceeds "reportable quantities"

as specified in DEQ rules, then the Oregon Emergency Response System must be notified. For any other malfunction, DEQ must be notified.

Schedule F, NPDES General Conditions

All NPDES permits issued in the State of Oregon contain certain conditions that remain the same regardless of the type of discharge and the activity causing the discharge. These conditions are called General Conditions. These conditions can be changed or modified only on a statewide basis. The latest edition of the NPDES General Conditions is December 1, 1995 and this edition is included as Schedule F of the draft permit.

Section A contains standard conditions which include compliance with the permit, assessment of penalties, mitigation of noncompliance, permit renewal application, enforcement actions, toxic discharges, property rights and referenced rules and statutes. Section B contains requirements for operation and maintenance of the pollution control facilities. This section includes conditions for proper operation and maintenance, duty to halt or reduce activity in order to maintain compliance, bypass of treatment facilities, upset conditions, treatment of single operational events, overflows from wastewater conveyance systems and associated pump stations, public notification of effluent violation or overflow, and disposal of removed substances. Section C contains requirements for monitoring and reporting. This section includes conditions for representative sampling, flow measurement, monitoring procedures, penalties of tampering, reporting of monitoring results, additional monitoring by the permittee, averaging of measurements, retention of records, contents of records, and inspection and entry. Section D contains reporting requirements and includes conditions for reporting planned changes, anticipated noncompliance, permit transfers, progress on compliance schedules, noncompliance which may endanger public health or the environment, other noncompliances, and other information. Section D also contains signatory requirements and the consequences of falsifying reports. Section E contains the definitions used throughout the permit.

PERMIT PROCESSING/PUBLIC COMMENT/APPEAL PROCESS

The beginning and end date of the public comment period to receive written comments regarding this permit, and the contact name and telephone number are included in the public notice. The permittee is the only party having standing to file a permit appeal. If the Permittee is dissatisfied with the conditions of the permit when issued, they may request a hearing before the EQC or its designated hearing officer, within 20 days of the final permit being mailed. The request for hearing must be sent to the Director of the Department. Any hearing held shall be conducted pursuant to regulations of the Department.

Appendix B: Antidegradation Review Sheet

ANTIDEGRADATION REVIEW SHEET

FOR A PROPOSED INDIVIDUAL NPDES DISCHARGE

2 What is the name of Surface Water that receives the discharge? Five Rivers, Crab Creek, McDonald Creek, Buck Creek, Cherry Creek, and Cougar Creek

Briefly describe the proposed activity: Aerial application of biopesticide for gypsy Moth eradication, near Fisher, Oregon

Is this review for a renewal OR new (circle one) permit application?
Go to Step 2.

2. Is this surface water an **Outstanding Resource Water** or **upstream** from an **Outstanding Resource Water**?

Yes. Go to Step 5.
No. Go to Step 3.

3. Is this surface water a **High Quality Water**?

Yes. Go to Step 8.
No. Go to Step 4.

3 Will the proposed activity result in a Lowering of Water Quality in the **High Quality Water**?

Yes. Go to Step 9.
No. Proceed with Permit Application. Applicant should provide basis for conclusion. Go to Step 24.

4 On the basis of the Antidegradation Review, the following is recommended:
_XX__Proceed with Application to Interagency Coordination and Public Comment Phase.
___ Deny Application; return to applicant and provide public notice.

Action Approved

Section: _____

Review Prepared By: _____
Phone: _____
Date Prepared: _____