

Water Quality Permitting for Pesticide Applications in Pennsylvania

Frequently Asked Questions Revised, June 10, 2020

Background

The Pennsylvania Department of Environmental Protection (DEP) issues two types of approvals for the application of pesticides in Pennsylvania: 1) National Pollutant Discharge Elimination System (NPDES) permits under the authority of the federal Clean Water Act, Pennsylvania Clean Streams Law and Chapter 92a of DEP's regulations, and 2) a joint approval with the PA Fish and Boat Commission (PFBC) under the authority of the Clean Streams Law, Fish and Boat Code, Chapter 91 of DEP's regulations and Chapter 51 of PFBC's regulations.

NPDES Permits

In 2009 a decision by the U.S. Court of Appeals for the Sixth Circuit overturned an Environmental Protection Agency (EPA) rule exempting pesticide applications into or near bodies of water from NPDES regulations. The court granted EPA time to develop a mechanism to issue NPDES permit coverage to entities using pesticides in or near surface waters, and EPA issued its first NPDES general permit for the use of pesticides on October 31, 2011. This general permit applied to states and territories not delegated to administer the NPDES program.

Since DEP is delegated to administer most components of the NPDES program in Pennsylvania, DEP was required to begin regulating pesticide applications under the NPDES program at the same time. DEP issued an NPDES general permit for discharges associated with pesticide applications ("PAG-15") on October 29, 2011. An [individual permit application](#) was also made available for those who apply pesticides in Special Protection watersheds, where an individual permit must be issued in lieu of PAG-15 coverage. DEP reissued the [PAG-15 General Permit](#) for a new 5-year term on October 29, 2017.

Only certain entities must apply for an NPDES permit for pesticide applications, as discussed further below. Persons who decide to apply biological pesticides or chemical pesticides that leave a residue (collectively called pesticides) in or near surface waters above specific thresholds are required to obtain NPDES permit coverage when the pesticide application is for one of the following pesticide use patterns: (1) mosquito and other flying insect pest control; (2) weed and algae pest control; (3) animal pest control; and (4) forest canopy pest control. For any other use pattern and where the threshold will not be met, NPDES permit coverage is not required. A person who decides to apply pesticides in a manner requiring NPDES permit coverage is referred to as a "Decision Maker" in NPDES permits for pesticide applications.

Joint Approvals by DEP and PFBC

Under 25 Pa. Code § 91.38(2), the use of chemicals to control aquatic plants in surface waters and for the management of fish populations must be approved jointly by DEP and PFBC. Any entity using chemicals in this manner must apply to DEP for and obtain a “[joint Chapter 91 permit](#).” It is possible that both NPDES and joint Chapter 91 permits are needed for pesticide use in surface waters; it is also possible that a joint Chapter 91 permit alone would be sufficient for a pesticide use, as discussed further below.

What Are the Thresholds Where NPDES Permit Coverage Is Required?

For any state or federal agency for which pest management for land resource stewardship is an integral part of the organization’s operations, and for mosquito, irrigation and weed control districts and similar pest control districts, the annual treatment area threshold is zero. All pesticide applications performed by these entities must be covered by an NPDES permit and an NOI or permit application must be submitted prior to the pesticide applications.

For local governments and all other entities, the following annual treatment area thresholds apply:

- For the mosquito and other flying insect pest control AND the forest canopy pest control pesticide use patterns - adulticide treatment of at least 6,400 acres during a calendar year. Each application’s treatment area should be counted; for example, if a decision is made to treat the same 3,200 acres twice in one calendar year, the threshold has been met. This threshold is also cumulative; for example, if 3,200 acres will be treated in one county and another 3,200 acres will be treated in a neighboring county during the same calendar year by the same Decision Maker, the threshold has been met.
- For the weed and algae control and animal pest control pesticide use patterns – treatment in water or at water’s edge of at least 20 linear miles OR at least 80 acres of water during a calendar year. If the same area is treated more than once during the same calendar year, it is counted only once. The threshold for treatment in water is cumulative; for example, if 40 acres on a lake will be treated during a calendar year and a separate 40 acres will be treated at the same lake or a different body of water that is hydraulically connected by the same Decision Maker who is not a state or federal agency, the threshold has been met. The threshold for treatment at water’s edge is not cumulative; for example, if 10 linear miles will be treated during a calendar year and a separate 10 miles will be treated by the same Decision Maker, the threshold has not been met (i.e., the criterion is a continuous 20 linear miles).

These thresholds exist regardless of whether the pesticide applications are eligible for coverage under the PAG-15 General Permit (i.e., the thresholds also apply to pesticide applications to Special Protection waters that may be covered only through an individual permit).

What Are the Thresholds Where Joint Chapter 91 Permit Coverage is Required?

Entities planning to use an algicide, herbicide or fish control chemical in surface waters must obtain joint approval from DEP and PFBC under 25 Pa. Code § 91.38(2) and 58 Pa. Code Chapter 51.61(b)(18). Annual treatment area thresholds do not apply to such uses (i.e., any use of such chemicals require a joint approval).

What Are Examples of Federal and State Agencies That Have Zero Thresholds for NPDES Permits?

Federal and state agencies with a responsibility to control mosquitoes, animals, forest canopy pests, weeds and algae for public health, nuisance control, animal welfare and resource management must apply for NPDES permit coverage regardless of the size of the areas that will be treated. Such agencies include, but are not limited to, DEP, Department of Conservation and Natural Resources (DCNR), Pennsylvania Fish and Boat Commission (PFBC), U.S. Forest Service, and U.S. Fish and Wildlife Service.

Other federal and state agencies who may apply pesticides but whose missions do not include pest management are not subject to the zero threshold requirements and are treated as “other entities”. An example is the U.S. Army Corps of Engineers, who apply pesticides to control weeds on dams. Such federal and state agencies must apply for NPDES permit coverage only if the thresholds for other entities will be exceeded.

What Does the Term “At Water’s Edge” Mean?

PAG-15 defines water’s edge as thirty-five feet from the top of bank of surface waters, unless there is no vegetated buffer, in which case water’s edge is one hundred feet from the top of bank of surface waters.

What Is a “Direct Discharge” for Pesticide Applications?

Direct discharges for pesticide applications are applications directly to water or that occur at water’s edge. For land-based applications that will occur along water bodies, maintaining a 35foot setback from the water body when this zone is vegetated should negate the need to apply for permit coverage, even if annual treatment area thresholds will be met or exceeded. For aerial applications, if the treatment area includes waters of the Commonwealth, it should be assumed that a direct discharge will result from the applications, and an NOI or application should be submitted if the treatment area thresholds will be met or exceeded.

What Are the Requirements for Entities That Apply Pesticides Below the Thresholds Required for NPDES Permit Coverage?

All entities must continue to comply with the requirements of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

What Are the Deadlines to Apply for Permit Coverage?

A Decision Maker is required to submit an NOI or individual permit application for NPDES permit coverage to DEP least 30 days before an exceedance of an annual treatment area threshold is planned.

In the event of a declared pest emergency situation (as defined in the PAG-15 General Permit), a Decision Maker may commence use of pesticides immediately and exceed annual treatment area thresholds, as long as 1) an NOI or application is submitted to DEP within 30 days of commencing use and 2) the Decision Maker complies with the PAG-15 General Permit during use.

Entities planning to use an algicide, herbicide or fish control chemical in surface waters may not commence use until joint approval from PFBC and DEP is received.

When May the Application of Pesticides Begin?

The Decision Maker may commence the use of pesticides as indicated in the NPDES NOI or application upon receipt of notification from DEP that the pesticide application activities may commence. The notification is typically in the form of an NPDES permit but DEP may authorize the use to begin prior to permit issuance, if the NOI or application is complete.

However, if the application is to surface waters, a joint Chapter 91 permit is also needed before commencing the activities. DEP may, in its discretion and in consultation with PFBC, issue a joint permit for a treatment area less than the NPDES thresholds. For example, if a private Decision Maker wishes to apply an herbicide to 100 acres, the joint permit may authorize application to just 79 acres (i.e., below the NPDES threshold of 80 acres). Upon issuance of the NPDES permit, a new joint permit may be authorized for the full 100 acres. Note that this does not apply to state and federal agencies that have zero thresholds.

What is the Length of Permit Coverage?

DEP issues individual NPDES permits for a period not exceeding 5 years. If the Decision Maker with coverage under an individual permit wishes to continue the application of pesticides after the expiration date of the permit, the Decision Maker must submit a renewal application at least 180 days prior to the expiration date of permit coverage.

DEP's approval of coverage under the PAG-15 General Permit does not expire and the submission of renewal NOIs are not necessary, unless DEP notifies the permittee that the submission of an NOI is required. The submission of annual reports constitutes a permittee's ongoing notice of intent that it wishes to remain covered under PAG-15.

Joint permits are typically issued without expiration dates. Historically, joint permits were issued for 3- or 5-year terms (3 years for applications to special protection (HQ or EV) waters and 5 years for applications to non-special protection waters) and in some cases these terms may be applied in renewed permits.

What if Plans Change Following Receipt of a Permit?

When DEP issues a permit, it is authorizing the use of pesticides for the use patterns, pesticides, dosages, and treatment areas identified in the application. The following changes must be authorized by a permit amendment or approval request, as required by the permit, prior to commencing pesticide use:

- Increases (in area or length) in the treatment area(s) or location(s) of the treatment area(s), including new treatment areas not included in the NOI or application for a permit. For example, proposed change to the water body to be treated would require an amendment to permit coverage.
- Increases in the maximum dose for a pesticide application or to the number of annual treatments.
- Changes in the pesticide(s) used for treatment, unless the new pesticide(s) contains the same active ingredient(s) and the same or a lower percent composition in comparison to the pesticide(s) for which approval was issued.
- Changes in the pesticide use pattern (e.g., a change from animal pest control to forest canopy pest control).

For those with PAG-15 NPDES permit coverage, the permittee must provide notification of such changes by either: 1) submitting a complete NOI or application package to amend permit coverage to the appropriate DEP office or 2) submitting the relevant sections of the NOI or application form as an attachment to the Annual Pesticides Report required by the permit to the appropriate DEP office.

For those with an individual NPDES permit that requires a permit amendment to make changes, the permittee must submit an application for a minor amendment using DEP's [NPDES Permit Amendment Application](#) form. If the permit does not require an amendment the permittee must submit all of the information as required by the permit.

For those with a joint Chapter 91 permit, a new permit application form must be submitted.

To reduce the occurrence of permit amendments, it is suggested that applicants report all potential pesticide treatment areas and pesticides for the next five years in the NOI or application.

Can a Decision Maker Include Multiple Use Patterns on the Same NOI or Application?

Yes. Decision Makers may include all anticipated pesticide use patterns on the same application that are eligible for coverage under the appropriate permit. For example, a state agency Decision Maker intends to spray 10,000 acres of forest canopy during a calendar year and also 100 acres of water for algae control. The water is a lake that is classified as a High Quality Cold Water Fishery (HQ-CWF), while the forest treatment area is in a CWF watershed. The algae control use pattern

may not be reported on the same NOI form as the forest canopy spraying, as the algae control use pattern would be subject to an individual permit. In such cases, DEP recommends that one individual permit application be submitted to cover both activities.

Can a Decision Maker Include All Anticipated Spray Activities on the Same NOI or Application Regardless of Location?

Yes. To reduce paperwork, DEP will allow a Decision Maker to combine all anticipated pesticide applications, anywhere in Pennsylvania, on the same NOI or application, and DEP may issue permit coverage. Maps and other documentation submitted with the NOI or application must clearly identify all proposed activities for which coverage will be authorized. Similar to the answer above, only those applications that are eligible for the PAG-15 General Permit may be combined and reported on an NOI for general permit coverage. DEP prefers to issue one permit to the same entity for pesticide applications, and therefore if an entity's pesticide activities will include both HQ/EV watersheds and non-HQ/EV watersheds, the entity should combine all activities into one individual permit application.

What If Part of a Watershed is HQ/EV Where Spraying Will Occur, and the Other Part Is Not?

Assuming the pesticide application(s) will meet the thresholds, the Decision Maker will need to submit an individual permit application to cover both portions of the watershed.

What If the Applicator Listed on the NOI or Application Will Change?

A new NOI or amendment application is not necessary if the Applicator listed on the original NOI or application changes. However, it is recommended that annual reports include information on such changes.

Must DEP Consider Anti-Degradation in HQ/EV Watersheds?

Yes. The individual permit application includes an anti-degradation module (3800-PMBCW0025e) that applicants must complete for each treatment area in an HQ or EV watershed referenced on the permit application. Applicants must include documentation of its decision making, including a consideration of alternatives to pesticide application and the environment

impacts of the pesticide application. The module will be reviewed by DEP as part of the application review process.

Can There Be More Than One Decision Maker Per Treatment Area?

Yes, but only when different pesticide use patterns are employed. Where the same pesticide use pattern will be used for the same treatment area, the Decision Makers should submit separate applications.

How Does DEP Consider the Scenario Where There are Multiple Decision Makers and Treatment Areas Per Water Body?

DEP will consider each Decision Maker's treatment area(s) distinctly except where the total (combined) treatment area for all Decision Makers will (1) exceed NPDES thresholds and (2) meet or exceed 50% of the area of the water body. If the 50% threshold is met, an NOI or individual permit application will need to be submitted jointly by the Decision Makers, and DEP will issue one permit to all Decision Makers as co-permittees. For example, if four Decision Makers each plan to treat 20 acres of a 160-acre lake, the total treatment area of 80 acres within the lake would meet both of the criteria, and DEP would expect the submission of an NOI or individual permit application for NPDES permit coverage.

What Permits are Required if a Decision Maker Decides to Treat Multiple Bodies of Water Totaling More than 80 Acres?

If a Decision Maker (that is not a state or federal agency) decides to use pesticides for weed control in multiple bodies of water that are not hydraulically connected, the Decision Maker is not required to submit an NOI or individual permit application if the total area of all treatments meets or exceeds the 80-acre threshold. The 80-acre threshold for NPDES permitting applies to a single body of water, including waters that are hydraulically connected. For example, if a Decision Maker proposes to treat a 70-acre lake during a year along with 10 acres of a wetland area adjacent to the lake, an NPDES permit would be required. If a Decision Maker proposes to treat two 40-acre lakes that are located in separate watersheds, an NPDES permit would not be required. However, any pesticide application to surface waters requires a [joint Chapter 91 permit](#).

When May Agricultural Producers Applying Pesticides Need a Permit?

The use of pesticides as part of agricultural crop production is not one of the use patterns in which an NPDES permit may be required. If producers apply pesticides for (1) mosquito and other flying insect pest control, (2) weed and algae pest control in water or at water's edge, (3) animal pest control in water or at water's edge, or (4) forest canopy pest control, a permit is required only if the annual treatment area thresholds will be met or exceeded. Further, agricultural stormwater and irrigation return flow are exempt from NPDES permits. If an agricultural producer applies pesticides directly to surface waters to, for example, control weeds

or algae in a farm pond, the producer would need to obtain, at a minimum, a joint Chapter 91 permit.

Do Utilities Need a Permit for Spraying Power Line Corridors for Weed Control?

If the length of the treatment area *at water's edge* will be 20 continuous linear miles or greater, an NOI or application must be submitted. Surface waters that flow perpendicular through the corridor should not be counted toward the annual treatment area threshold – best management practices (BMPs) should be used to minimize spraying into these waters. However, drainage swales and ditches that flow with the contour of the corridor and are hydraulically connected to surface waters, or streams that flow parallel to or within the corridor, should be counted toward the annual treatment area threshold. For example, a 50-mile corridor is planned for a weed control application event. There are 40 miles in this treatment area in which ditches and swales are hydraulically connected to surface waters. If the treatment area is at least 20 continuous linear miles in these 40 miles then an NOI or application must be submitted. However, if the application is done in a manner that does not lead to direct spraying into waters of the Commonwealth, which would include maintaining a setback of 35 feet or more from the waters assuming a vegetated buffer, no NPDES permit coverage is required.

Are Chemicals Such as Alum Subject to Permit Requirements?

Chemicals that are applied to water for purposes other than controlling pests are not considered pesticides, and therefore are not subject to the NPDES requirements for pesticide applications. For example, alum is a product used to control concentrations of phosphorus in water to inhibit algae growth, but itself is not an algicide. However, use of alum or other chemicals to control algae or other pests are subject to the requirement to obtain a joint Chapter 91 permit.

Are Enzyme Treatments Subject to Permit Requirements?

If an enzyme is intended to directly effect a target pest organism and the product was created for the purpose of pest control, the enzyme would be considered a biochemical pesticide and be subject to NPDES permit requirements if thresholds are exceeded. If an enzyme will not target a target pest organism directly, it would not be subject to NPDES permit requirements. For example, an enzyme that promotes decomposition of organic matter would not be subject to permit requirements. However, enzymes could be considered chemicals under Chapter 91. Contact the Bureau of Clean Water to determine if your specific proposal would require a joint Chapter 91 permit.

Are Dyes and Other Products Used for Aesthetics Subject to Permit Requirements?

Any chemical product used to control aquatic plants in a surface water is subject to the requirement to obtain a joint Chapter 91 permit and, if thresholds are exceeded, an NPDES permit, including products that do not directly act upon plants. For example, some dyes are added to ponds to control algae by blocking parts of the visible light spectrum needed by algae to grow. Some dye products are introduced for aesthetic purposes only and not to control aquatic

plants. Such uses do not require a joint Chapter 91 permit but may require DEP authorization as discussed below.

In either case, if the product containing dye is applied to a surface water that is not a flow-through system, such as a pond on a golf course or farm that is recharged only by surface runoff and/or groundwater, the product may be applied according to the label. If there is a high-level overflow for the water body but no inflow from other surface waters, products may be applied according to the label as long as the normal operating depth is below the high-level overflow. However, if the pond has inflow from other surface waters as well as an outflow, dyes or other products that alter the appearance the surface water may generally not be used unless authorized by DEP. This is because the introduction of color to surface waters could constitute an exceedance of the state's narrative water quality standards.

How Will DEP Coordinate Permit Reviews with PA Fish and Boat Commission?

Under 25 Pa. Code § 91.38(2), DEP and the PA Fish and Boat Commission (PFBC) must jointly approve the use of algicides, herbicides or fish control chemicals in waters of the Commonwealth. This requirement applies regardless of the amount to be used (i.e., no thresholds), and the agencies' review and approval process has operated independently of the NPDES program. Now that NPDES permit coverage is required for certain pesticide applications, these applications are coordinated.

DEP is the recipient of all joint Chapter 91 permit applications. PFBC receives permit applications only for:

1. Proposals to control fish populations in surface waters; and
2. Proposals to control aquatic plants in flowing waters (e.g., not in ponds or lakes).

If PFBC receives a joint Chapter 91 permit application, it forwards its comments to DEP. DEP takes the final action on joint Chapter 91 permit applications.

Which DEP Office Conducts Reviews of Pesticide Permit Applications?

DEP regional offices reviews both NPDES and joint Chapter 91 permit applications where treatment areas are contained within the regional boundaries. For those applications that include treatment areas in more than one region, and for government entities subject to zero thresholds that have statewide activities, DEP's Bureau of Clean Water will conduct the reviews.

Are Pesticide Permits Subject to Annual Fees?

Decision Makers that have coverage under the PAG-15 General Permit will pay an annual NOI installment fee payment of \$500 by March 1st of each year. The fee is to be submitted to DEP's Bureau of Clean Water at the same time that an annual report, which describes pesticide

application activities for the preceding year, is submitted to the DEP office that approved permit coverage.

Decision Makers that have individual permits will pay an annual fee of \$500 by the anniversary date of the effective date of the permit. The fee is to be submitted to DEP's Bureau of Clean Water. Individual permittees also must submit an annual report, although the due date of the annual report may be different than the annual fee payment due date.

Joint Chapter 91 permits are not subject to annual fees.