ADDENDUM

FACT SHEET FOR THE
DRAFT MODIFICATION OF THE
AQUATIC NOXIOUS WEED MANAGEMENT
NPDES GENERAL PERMIT

NOVEMBER 2018

DEPARTMENT OF ECOLOGY

Permit Modification

The Washington State Department of Ecology (Ecology) proposes to modify the Aquatic Noxious Weed Management General Permit. The permit is a joint National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit issued on December 21, 2016. The permit will expire on February 2, 2022. This addendum supplements the September, 2016 Fact Sheet available at the following link.

https://ecology.wa.gov/Asset-Collections/Doc-Assets/Water-quality/Water-Quality-Permits/Aquatic-Pesticides-Permits/2017NoxWeedFactSheet

The permit regulates the use of pesticides and other products applied to manage Washington State listed noxious weeds and Washington State quarantine-listed weeds where pesticides or other products may indirectly enter the surface waters of the State of Washington. The permit covers all marine and freshwater activities that result in a discharge of herbicides, adjuvants, and marker dyes (collectively "chemicals") indirectly into streams, rivers, estuaries, marine areas, wetlands, along lake shorelines, and other wet areas. The permit also covers the treatment of noxious and quarantine-listed vegetation for roadside/ditch bank management activities where chemicals may indirectly enter the water.

The scope of this permit modification is to include additional active ingredients so the Permittee has more tools to manage aquatic noxious weeds. The active ingredients Ecology included were assessed in the 2017 Supplemental Environmental Impact Statement and were requested by Permittees.

Ecology worked with staff of other state agencies (listed below) to identify potential impacts from the proposed active ingredients and determine permit conditions to mitigate the potential impacts.

- Washington State Department of Agriculture (WSDA)
- Washington State Department of Fish and Wildlife (WDFW)
- Washington State Department of Health (DOH)

Summary of Permit Modifications

In the permit, Ecology modified Special Condition S4 – The Application of Products, Special Condition S6 – Monitoring Requirements for Freshwater Emergent Plants, and Special Condition S7 – Reporting and Recordkeeping Requirements. Each modification is discussed below. The added text is shown in blue (added text) and the removed text is shown-as red strikethrough (~~removed text~~).

S4. THE APPLICATION OF PRODUCTS

Special Condition S4.B – Authorized Discharges

Ecology added two herbicides (aminopyralid and topramezone) to Special Condition S4.B.3. The proposed changes are shown on the next page.

3. The Permittee may apply the following listed active ingredients that are labeled for use on aquatic sites indirectly to waters of the state, except as noted:

    a. Aminopyralid (4-amino, 3,6-dichloropyridine-2-carobxylic acid), except where restoration projects may occur within 18 months of treatment.

    b. Bispyribac-sodium: sodium, 2,6-bis [(4,6-dimethoxy-pyrimidin-2-yl)oxy] benzoate

    c. Carfentrazone-ethyl: Ethyl a,2-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]-4-fluorobenzenepropanoate

    d. 2,4-D: 2,4-Dichlorophenoxyacetic acid, dimethylamine salt

    e. Flumioxazin: 2-[7-fluro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione

    f. Glyphosate: N-(phosphonomethyl)glycine, isopropylamine salt

    g. Imazamox: 2-[4,5-dihydro-4-methyl-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-(methoxymethyl)-3-pyridinecarboxylic acid

    h. Imazapyr: 2-(4,5-dihydro-4-methyl-4-(1-methyleth7yl)-5-oxo-1H-imidazol-2-y1)-3-pyridinecarboxylic acid

    i. Penoxsulam: 2-(2,2-difluoroethoxy)--6-(trifluoromethyl-N-(5,8-dimethoxy[1,2,4] triazolo[1,5-c]pyrimidin-2-yl))benzenesulfonamide

    j. Topramezone: [3-(4,5-dihydro-isoxazol-3-yl)-4-methylsulfonyl-2-methylphenyl](5-hydroxy-1-methyl-1H-pyrazol-4-yl)methanone

    k. Triclopyr TEA: Triethylamine salt of 3,5,6-trichloro-2-pyridyloxyacetic acid

4. The Permittee may apply marker dyes indirectly to waters of the State.

5. The Permittee may apply the adjuvants listed in Table 2 indirectly to waters of the State.

Special Condition S4.B – Table2

Ecology added seven adjuvants to, and removed two adjuvants from, Table 2 –Adjuvants, in Special Condition S4.B so the permit contains the most up-to-date list of adjuvants registered by the WSDA.

Table 1 – Adjuvants

Adjuvant (Trade Name)/State Registration Number			
800 Plus/37686-18005	Agri-Dex™/5905-50094	AgriSolutions Inergy®/1381-13001	Antero-EA/2935-18001
Atmos™/1381-13006	Avor/9349-16011	Bond™/34704-04003	Brandt Magnify/48813-15003
Break-Thru SP 133/56630-15001	Breeze®/1381-13007	Bronc Max™/2935-03005	Bronc® Plus Dry/2935-12005
Bronc Plus Dry-EDT™/2935-03002	Chempro A-10/46059-16001	Choice Trio/34704-15003	Cide-Kick IIM®/99940/12001
Class Act NG™/1381-01004	Competitor™/2935-04001	Cut-Rate™/2935-06001	Cygnet Plus™/105114-50001
Denali-EA™/2935-15006	DestinyHC™/1381-09002	Droplex™/1381-12001	Dyne-Amic™/5905-50071
Fast Break®/1381-50006	Forge/46661-15002	Fraction™/45989-06001	Glacier-EA/2935-16001
Hasten-EA™/2935-15003	Interlock™/1381-05004	Kinetic™/5905-11004	Level 7™/1381-05002
LI-700™/34704-04007	Liberate™/34704-04008	MSO Concentrate/34704-04009	MSO Concentrate with Leci-Tech/34704-07001
~~NIS-EA™/2935-14001~~	One-Ap XL™/45989-02001	Phase/34704-05007	Pro AMS Plus™/71058-50001
Rainier-EA™/2935-15001	Renegade-EA™/2935-15002	~~Sinker™/5905-05001~~	Sphere 7/73127-10008
Spray-Rite™/7001-09003	Spreader 90/34704-05002	Superb HC™/1381-06003	Syl-Tac-EA™/2935-15004
Tactic™/34704-05008	Trail Blazer/91327-15009	Trapline Pro/86806-16003	Tronic™/45989-06003
Turbulence®/1381-13008	Winfield Solutions Inergy®/1381-13002	Yardage™/52467-13001	

S6. MONITORING REQUIREMENTS FOR FRESHWATER EMERGENT PLANTS

Special Condition S6.

Ecology added two herbicides (aminopyralid and topramezone) to Special Condition S6. Additionally, Ecology included requirements related to the use of aminopyralid. The proposed changes are included below.

In the following situations, the Permittee may use any laboratory that is able to perform the required analysis.

- If there is no approved EPA test method for the sample analysis for an active ingredient; or
- If the sample analysis for an active ingredient is not available at a laboratory accredited by Ecology.

In these situations, the Permittee must report to Ecology, the type of instrumentation used for analysis (for example, HPLC-Mass Spec, GCMS) and the detection and quantitation limits of the analysis.

A. The Permittee must submit an annual monitoring plan to Ecology by February 1 of each year. The plan must incorporate two components: water residue monitoring and aminopyralid persistence monitoring.

1. Water Residue Monitoring

    a. The annual monitoring plan must provide proposed monitoring locations and list the active ingredients proposed for monitoring. If the Permittee adds additional monitoring locations or active ingredients later in the treatment season, the Permittee must amend the plan to include the new information.

    b. The Permittee must monitor a subset of treatments when using aminopyralid, bispyribac-sodium, carfentrazone-ethyl, flumioxazin, penoxsulam, and topramezone for emergent plant treatment.

    c. If monitoring shows little to no herbicide residues entering the water adjacent to treated areas, Ecology may suspend any further monitoring for freshwater emergent weed herbicide applications under this permit.

2. Aminopyralid Persistence Monitoring

    The Permittee must monitor a set of aminopyralid treated sites to determine if aminopyralid impacts a beneficial use (habitat) of the waterbody longer than hours or days. If aminopyralid is proposed for use during the treatment season (calendar year), then the annual monitoring plan must include the following information.

    a. If aminopyralid is proposed for use in eastern and western Washington, then the Permittee must choose multiple sites representative of aminopyralid use in both

eastern and western Washington. If aminopyralid is proposed for use in only one side of the state, then the Permittee must choose sites representative of that side of the state.

b. Pre-Treatment Site Characterization

Prior to treatment of a site with aminopyralid or tank mix containing aminopyralid, the Permittee must collect the following data to characterize the site and treatment.

i. A treatment site name or other identifier.

ii. The noxious weed species present that are targeted for treatment.

iii. The Latitude and Longitude of the center of the treatment site.

iv. Digital photos representative of the treatment site.

v. The type of treatment site. Select from the following categories.
- Roadside.
- Drainage ditch, manmade waterbody.
- Natural waterbody (stream, river, lake).
- Lawn, urban developed and maintained area.
- Cropland.
- Other (describe).

vi. The vegetation characteristics of the treatment site. Select from the following categories.
- Evergreen trees.
- Deciduous trees.
- Bushes/shrubs.
- Tall grasses, ferns, understory plants.
- Agricultural crops.
- Bare soil.
- Gravel, cobble, sand.
- Other (describe).

vii. State the active ingredients used to treat the site.
- If aminopyralid is the only active ingredient used to treat the site, then state that only aminopyralid was used.
- If multiple active ingredients are used to treat the site, then state all active ingredients used.
- If a tank mix is used to treat the site, then state the mix used.

c. Current Season Post-Treatment Site Assessment

If there is at least 3 months between the treatment and the beginning of plant senescence, then the Permittee must conduct a post-treatment site assessment in the autumn of the current treatment season.

The Permittee must characterize the treatment site and plant growth. Include the following information in the site assessment.

i. The treatment site name or other identifier that corresponds to the identifier used for the pre-treatment site characterization.

ii. The noxious weed species present, new noxious weed species present, and if treated plants grew back.

iii. Digital photos representative of the treatment site.

iv. A description of sub-lethal impacts observed and species impacted.

v. The concentration of aminopyralid in the soil/sediment at the treated site.

vi. A visual estimate of the percentage of desirable (non-noxious weed) vegetation regrowth. If no regrowth occurred, include a summary of observed signs of erosion (for example, a plume of turbid water coming off the treatment site, dislodged plants, exposed roots, water scouring).

d. Ongoing Post-Treatment Site Assessment

The Permittee must conduct post-treatment site assessments every year until desirable plant cover (non-noxious weeds) reaches 70 percent or more. Conduct the post-treatment site assessments in the spring and fall each year.

The Permittee must characterize the treatment site and plant regrowth. Include the following information in the Ongoing Post-Treatment Site Assessment.

i. The treatment site name or other identifier that corresponds to the identifier used for the pre-treatment site characterization.

ii. The noxious weed species present, new noxious weed species present, and if treated plants grew back.

iii. Digital photos representative of the treatment site.

iv. A description of sub-lethal impacts observed and species impacted.

v. The concentration of aminopyralid in the soil/sediment at the treated site.

vi. A visual estimate of the percentage of desirable (non-noxious weed) vegetation regrowth.

After reaching the percentage of desirable plant cover, submit the Ongoing Post-Treatment Site Assessment to Ecology. Ecology and the WSDA will determine whether the information collected is sufficient to decide if aminopyralid impacts the habitat longer than hours or days. If the data is sufficient, Ecology may suspend further monitoring to determine the persistence of aminopyralid. This decision will be made separately for eastern and western Washington.

S7. REPORTING AND RECORDKEEPING REQUIREMENTS

Special Condition S7.B

Ecology created a new Special Condition S7.B and included reporting requirements for the aminopyralid persistence monitoring. The proposed changes are included below.

B. Aminopyralid Persistence Monitoring Reports

1. Aminopyralid persistence monitoring reports must be submitted by February 1 of each year. Submit the signed and dated reports to:

   Department of Ecology
   Water Quality Program
   Attn: Aquatic Pesticide Permit Manager
   P.O. Box 47600
   Olympia, WA 98504-7600

2. Aminopyralid persistence monitoring reports must adhere to the requirements in Special Condition S6.A.2.

Rationale for Permit Modifications

The following text explains why modifications were made to permit requirements in the Aquatic Noxious Weed Management General Permit.

Special Condition S4.B.3

Ecology added two herbicides (aminopyralid and topramezone) to Special Condition S4.B.3 so that the Permittee is authorized to use additional tools to control noxious aquatic weeds.

Aminopyralid

After consultation with Permittees, Ecology decided to include aminopyralid in the permit during the modification. Aminopyralid is an herbicide used to control noxious weeds. It was assessed in the 2017 Supplemental Environmental Impact Statement along with topramezone for potential inclusion in the aquatic pesticide general permits. Aminopyralid may prevent native dicot regrowth in treated areas, due to its long-term persistence and activity in the soil in riparian areas after treatment occurs.

Ecology is required to protect all beneficial uses of a waterbody. Preventing the regrowth of native vegetation, potentially for years, impacts the habitat functions of the riparian area of a waterbody. This is a long-term impact not currently contemplated by the short-term water quality modification under which herbicide discharges are allowed in the permit.

In order to better understand the potential long-term impacts aminopyralid has on the habitat as a beneficial waterbody use, Ecology is requiring the Permittee conduct extra monitoring of aminopyralid use to characterize impacts to the treatment site. For more information about the monitoring requirements, see the discussion in Special Condition S6.

The FIFRA product label for aminopyralid (for example, Milestone), states that aminopyralid is persistent on cropland. Therefore, Ecology is limiting the use of aminopyralid at locations where restoration projects may occur within 18 months, to prevent unintentional damage to plants, especially seeds, used for restoration.

Topramezone

Because the permit does not allow any direct application of pesticides to water, Ecology believes that any indirect applications of topramezone would be unlikely to cause unintended impacts to water quality, or aquatic biota.

Special Condition S4.B – Table2

Ecology revised Table 2 in Special Condition S4.B to reflect the current list of adjuvants registered by the WSDA. Since the permit was issued in 2017, the WSDA registered seven adjuvants for aquatic use and canceled registration for two adjuvants.

S6. MONITORING REQUIREMENTS FOR FRESHWATER EMERGENT PLANTS

Special Condition S6

Ecology added language to Special Condition S6 to support the addition of aminopyralid to the permit. In Special Condition S6.A.2, the Permittee is required to conduct monitoring to determine the persistence of aminopyralid, which includes analyzing soil samples—see Special Condition S6.A.2.c.v. It is possible that there is no approved EPA test method or no Ecology-accredited laboratory to analyze the soil samples. For this reason, Ecology included language to enable the Permittee to use a laboratory that is able to perform the required analysis.

Special Condition S6.A.1

The Permittee is required to monitor a subset of treatments when using the chemicals listed in Special Condition S6.A.1 for emergent plant treatment. Ecology added aminopyralid and topramezone to Special Condition S6.A.1 so that, when used, the Permittee must demonstrate whether or not these chemicals enter and persist in waters adjacent to indirect applications. Ecology did not remove bispyribac-sodium, penoxsulam, flumioxazin, or carfentrazone-ethyl from this requirement because the Permittee reported that no applications of the chemicals occurred since the permit was effective.

Special Condition S6.A.2

If the Permittee treats with aminopyralid, they are required to monitor a subset of treated sites to determine if aminopyralid impacts a beneficial use of the waterbody longer than hours or days. Ecology is required to protect all beneficial uses of a waterbody, including habitat along waterbodies. Preventing the regrowth of native vegetation, potentially for years, impacts the habitat functions of the riparian area of a waterbody.

Aminopyralid has chemical properties that cause it to degrade slowly in the environment—long half-life. It will still have active herbicidal effects after treated plants are composted or pass through the gut of an animal, like a cow. The long activity of aminopyralid can be desirable for long-term control of noxious weeds, but this may also be problematic for the revegetation of native plants. Aminopyralid is selective for dicots, which many native plants are, unlike grasses which are monocots.

When developing and issuing a general permit, Ecology must protect the beneficial uses of a waterbody. Examples of the beneficial uses of water include drinking water, irrigation for agriculture, industrial processes, supports habitats and biota, recreation, and aesthetics. Aquatic pesticides are used to control weeds and reduce impacts to beneficial uses. The aquatic pesticide general permits enable Permittees to temporarily exceed Washington State Water Quality Standards (standards), also known as a short-term modification. When using a short-term modification of the standards, impacts to the beneficial uses must be limited to hours or days, not weeks or months.

Aminopyralid has a half-life of 462 to 990 days in aerobic sediment-water systems, and a half-life of 31-553 days in aerobic soils. These half-lives and the long active life of aminopyralid even after treated plants are composted or pass through an animal's digestive tract indicate that it will continue to impact beneficial uses, like habitat, for longer than hours or days.

The current FIFRA product label for Milestone (aminopyralid) states that products—plants—and residues from areas treated with aminopyralid must not be used at off-site locations for at least 18 months following the treatment. This indicates that impact from aminopyralid treatments is expected for at least 18 months after treatment, possibly longer for more sensitive plant species or life stages.

In situations where a proposed action is likely to impact beneficial uses for longer than a period of hours or days, Ecology may require the Permittee to comply with the following actions.

- Provide data—conduct monitoring—to demonstrate that impacts do not continue longer than a period of hours or days.
- Develop a plan in accordance with WAC 173-201A-410(2), which states:

  The department [Ecology] *may authorize a longer duration where the activity is part of an ongoing or long-term operation and maintenance plan, integrated pest or noxious weed management plan, water body or watershed management plan, or restoration plan. Such a plan must be developed through a public involvement process consistent with the Administrative Procedure Act (chapter 34.05 RCW) and be in compliance with SEPA, chapter 43.21C RCW, in which case the standards may be modified for the duration of the plan, or for five years, whichever is less. Such long-term plans may be renewed by the department after providing for another opportunity for public and intergovernmental involvement and review.*

At this time, Ecology has insufficient information to determine if the impacts from aminopyralid treatments will last longer than a period of hours or days when used to control noxious weeds. It is also unclear how the persistence may differ between aminopyralid treatments conducted in eastern Washington, which typically has a drier climate, vs. western Washington, which typically has a wetter climate. Aminopyralid has a shorter half-life in water, approximately 0.6 days due to degradation through photolysis, and a much longer half-life in soil or a sediment-water system, half-lives range from 31 to 990 days. It is likely that the differences in the amount of rainfall and exposure to sunlight between eastern and western Washington may change the persistence of amiopyralid.

To determine the persistence of aminopyralid and the associated impacts to the regrowth of desirable plant species—native and non-native non-invasive species—Ecology requires the Permittee to conduct additional monitoring. Ecology will use the data collected from the additional monitoring to assess the duration of impact from treatment with aminopyralid. And to determine if, in the 2022 permit reissuance, Ecology will:

- Require the Permittee to develop a plan to comply with WAC 173-201A-410(2), or to further study the impacts of treating with aminopyralid.
- Restrict the use of aminopyralid to certain locations.

Ecology is requiring the Permittee to monitor sites treated with aminopyralid and collect data to determine how long aminopyralid impacts the treated area. The Permittee is required to characterize the treatment sites and to document visual indicators of impacts—sublethal impacts—and the concentration of aminopyralid in the soil. And due to the potential differences between the climate of eastern and western Washington, the Permittee must monitor treatment sites representative of the climate on each side of the Cascades. Ecology will consider the data representative of eastern Washington separate from the data representative of western Washington to determine if, in the 2022 permit reissuance, the Permittee must develop a plan to comply with WAC 173-201A-410.

Ecology used guidance from an archived EPA website to establish requirements for the Permittee to characterize the vegetative cover of the treated site. Click the following link for more information.

https://archive.epa.gov/water/archive/web/html/vms41.html

S7. REPORTING AND RECORDKEEPING REQUIREMENTS

Special Condition S7.B

The Permittee is required to submit the aminopyralid persistence monitoring report. Aminopyralid has long-term persistence in the soil in riparian areas and may prevent native dicot regrowth. For this reason, Ecology requires the Permittee to monitor the persistence of aminopyralid and assess the impacts at the treatment site after treatment.

When the permit is being reissued, Ecology will use the information submitted in the aminopyralid persistence monitoring reports to determine if additional restrictions are necessary.