

PESTS, DISEASE, FIRE

Many of the rules listed are shortened for easier readability. There are exceptions: the “general definitions” are not shortened, and one WAC is shown in its entirety and labeled under the WAC number: *This is the entire WAC.*

For the reader’s convenience, all of the chapter headings are hyperlinked so the rule can be seen in its entirety if desired.

Board Manual Section 12 is shown in its entirety.

[Chapter 222-12 WAC, Policy and Organization](#)

WAC 222-12-090, Forest practices board manual.

12) Guidelines for forest chemicals.

- a) A list of special concerns related to aerial application of pesticides developed under WAC 222-16-070(3).
- b) Guidelines for aerial applications of pesticides and other forest chemicals under chapter 222-38-WAC.

[Chapter 222-16 WAC, Definitions](#)

WAC 222-16-010, General definitions.

"Chemicals" means substances applied to forest lands or timber including pesticides, fertilizers, and other forest chemicals.

"Forest practice" means any activity conducted on or directly pertaining to forest land and relating to growing, harvesting, or processing timber or forest biomass, including but not limited to:

Road and trail construction;
Harvesting, final and intermediate;
Precommercial thinning;
Reforestation;
Fertilization;
Prevention and suppression of diseases and insects;
Salvage of trees; and
Brush control.

"Insecticide" means any substance or mixture of substances intended to prevent, destroy, repel, or mitigate any insect, other arthropods or mollusk pests.

"Other forest chemicals" means fire retardants when used to control burning (other than water), nontoxic repellents, oil, dust-control agents (other than water), salt, and other chemicals used in forest management, except pesticides and fertilizers, that may present hazards to the environment.

"Pesticide" means any insecticide, herbicide, fungicide, or rodenticide, but does not include nontoxic repellents or other forest chemicals.

"Wildlife reserve trees" means those defective, dead, damaged, or dying trees which provide or have the potential to provide habitat for those wildlife species dependent on standing trees.

Wildlife reserve trees are categorized as follows:

Type 1 wildlife reserve trees are defective or deformed live trees that have observably sound tops, limbs, trunks, and roots. They may have part of the top broken out or have evidence of other severe defects that include: "Cat face," animal chewing, old logging wounds, weather injury, insect attack, or lightning strike. Unless approved by the landowner, only green trees with visible cavities, nests, or obvious severe defects capable of supporting cavity dependent species shall be considered as Type 1 wildlife reserve trees. These trees must be stable and pose the least hazard for workers.

Type 4 wildlife reserve trees are live or dead trees with unstable trunks or roots, with or without bark. This includes "soft snags" as well as live trees with unstable roots caused by root rot or fire. These trees are unstable and pose a high hazard to workers.

WAC 222-16-050, Classes of forest practices.

There are 4 classes of forest practices created by the act. All forest practices (including those in Classes I and II) must be conducted in accordance with the forest practices rules.

- 1) **"Class IV-special."** ...
- 2) **"Class IV-general."** ...
- 3) **"Class I."** Those operations that have been determined to have no direct potential for damaging a public resource are Class I forest practices. When the conditions listed in "Class IV - Special" are not present, these operations may be commenced without notification or application...
 - 1) Emergency fire control and suppression.
- 4) **"Class III."** ...

WAC 222-16-070, Pesticide uses with the potential for a substantial impact on the environment.

To identify forest practices involving pesticide uses that have the potential for a substantial impact on the environment, the department shall apply the process prescribed in this section. See WAC 222-16-050 (1)(a).

- 1) Pesticide list - The department shall maintain a list of all pesticides registered under chapter 15.58 RCW for use in forest practices. The department shall conduct, in consultation with the departments of ecology, health, agriculture, and fish and wildlife, an annual review of the list for the purpose of including new pesticides and/or removing those pesticides which have been prohibited from use. The list shall be available to the public at each of the department's offices. A list of the department's offices and their addresses appears at WAC 332-10-030. In preparing the pesticide list, the department shall include information on the following characteristics:
 - a) Active ingredients, name brand or trade mark, labeled uses, pesticide type, EPA-registration number;

- b) Toxicity of the pesticide based on the Environmental Protection Agency (EPA) label warning under 40 C.F.R. 156.10 (h)(1), listed as “caution,” “warning,” “danger,” or “danger - poison” except as modified to consider aquatic or mammalian toxicity; and
 - c) Whether the pesticide is a state restricted use pesticide for the protection of ground water under WAC 16-228-1231.
- 2) Key for evaluating applications. To determine whether aerial application of a pesticide has the potential for a substantial impact on the environment, the department shall apply the following analysis:

KEY FOR EVALUATION OF SITE SPECIFIC USE OF AERIALLY APPLIED PESTICIDES

	Question	Response	Action
1 (a)	Is the pesticide on the pesticide list (WAC 222-16-070(1))?	Yes No	go to 2 go to 1(b)
1 (b)	Is the pesticide being used under a Dept of Agriculture Experimental Use Permit (WAC 16-228-1460)?	Yes No	Class III Class IV Sp
2	Is the toxicity rating for the pesticide to be used "Danger - Poison" as designated in the pesticide list (WAC 222-16-070(1)(b))?	Yes No	Class IV Sp go to 3(a)
3 (a)	Is <i>Bacillus thuringiensis</i> (BT) the only pesticide being used on this application?	Yes No	go to 3(b) go to 4(a)
3 (b)	Is there a Threatened or Endangered species or the critical habitat (Federal) or critical habitat (State) of a species within the application area that is susceptible to the BT strain being used?	Yes No	Class IV Sp Class III

4 (a)	Is this operation occurring over ground water with a high susceptibility to contamination as specified in EPA 910/ 9-87-169 or in documentation provided by the department of ecology?	Yes No	go to 4(b) go to 5(a)
4 (b)	Is this pesticide a state restricted use pesticide for the protection of ground water under WAC 16-228-1231?	Yes No	Class IV Sp go to 5(a)
5 (a)	Is the operation adjacent (within 100 ft.) of surface water?	Yes No	go to 5(b) go to 5(e)
5 (b)	Determine the toxicity rating from the pesticide list: *Is the toxicity rating "Caution" or "Warning"? *Is the toxicity rating "Danger"?	Yes Yes	go to 5(c) go to 5(d)
5 (c)	Is there a Group A or B water surface water system (WAC 246-290-020) intake OR a fish hatchery intake within one half mile downstream of the operation?	Yes No	Class IV Sp go to 5(e)
5 (d)	Is there a Group A or B water surface system intake OR a fish hatchery intake within 1 mile downstream of the operation?	Yes No	Class IV Sp go to 5(e)
5 (e)	Is the operation within 200 feet of the intake of a Group A	Yes No	Class IV Sp go to 5(f)

	or B spring water system?		
5 (f)	Is the operation applying a pesticide in a Type A or B wetland?	Yes No	Class IV Sp go to 6(a)
6 (a)	Does any portion of the planned operation cover 240 or more contiguous acres? Pesticide treatment units will be considered contiguous if they are separated by less than 300 feet or treatment dates of adjacent units are less than 90 days apart.	Yes No	Class IV Sp go to 6(b)
6 (b)	Is there a Threatened or Endangered species or the critical habitat (Federal) or critical habitat (State) of a species within the application area?	Yes No	Class IV Sp go to 6(c)
6 (c)	If there is a special concern identified for this pesticide in the Board manual, does it apply to this application?	Yes No	Class IV Sp Class III

WAC 222-16-100, Planning options for the northern spotted owl.

- 1) Landowner option plans for the northern spotted owl...
 - a) Required elements of LOPs...
 - i) Goals and objectives...
 - C) LOPs should be designed to achieve an appropriate contribution from nonfederal lands toward meeting SOSEA goals and are intended to be an efficient and effective alternative to site-by-site management planning. In Eastern Washington, LOPs must also consider the need to protect the forests from catastrophic loss from wildfire, insects, and diseases.

Chapter 222-20 WAC, Application and Notification

WAC 222-20-070, Emergency forest practices.

(This is the entire WAC.)

No prior notification or application shall be required for emergency forest practices necessitated by and commenced during or immediately after fire, flood, windstorm, earthquake, structural failure or other catastrophic event. Within 48 hours after commencement of such practice, the operator shall submit an application or notification to the department with an explanation why emergency action was necessary. Such emergency forest practices are subject to these rules: Provided, however, That the operator may take any reasonable action to minimize damage to forest lands, timber or public resources from the direct or indirect effects of the catastrophic event and: Provided further, The operator shall comply with any requirements of a notice to comply or stop work order as if conducted pursuant to an approved application.

WAC 222-20-075 Exotic forest insect or disease outbreaks.

(This is the entire WAC.)

Forest practices applications or notifications are not required for forest practices conducted to control exotic forest insect or disease outbreaks, when conducted by or under the direction of the department of agriculture in carrying out an order of the governor or director of the state department of agriculture to implement pest control measures as authorized under chapter 17.24 RCW, and are not required when conducted by or under the direction of the department in carrying out emergency measures under a forest health emergency declaration by the commissioner of public lands as provided in RCW 76.06.130.

- 1) For the purposes of this section, exotic forest insect or disease has the same meaning as defined in RCW 76.06.020.
- 2) In order to minimize adverse impacts to public resources, control measures must be based in integrated pest management, as defined in RCW 17.15.010, and must follow forest practices rules relating to road construction and maintenance, timber harvest, and forest chemicals, to the extent possible without compromising control objectives.
- 3) Forest lands where trees have been cut as part of an exotic forest insect or disease control effort under this subsection are subject to reforestation requirements under RCW 76.09.070.
- 4) The exemption from obtaining approved forest practices applications or notifications does not apply to forest practices conducted after the governor, the director of the department of agriculture, or the commissioner of public lands has declared that an emergency no longer exists because control objectives have been met, that there is no longer an imminent threat, or that there is no longer a good likelihood of control.
- 5) Nothing under this section relieves agencies conducting or directing control efforts from requirements of the federal Clean Water Act as administered by the department of ecology under RCW 98.48.260.

Chapter 222-30 WAC, Timber Harvesting

WAC 222-30-025, Even-aged harvest—Size and timing.

- 1) >120 acres requires ID team review
- 2) >240 acres prohibited
- 3) method to calculate areas ...
- 4) harvest unit design ...
- 5) The requirements of subsections (2), (3), and (4) of this section shall apply only to timber harvest by even-aged harvest methods and shall not apply to timber harvest to salvage timber damaged by wind, disease, insects, fire, or other natural causes or to forest practices involving the clearing of land or brush or understocked hardwoods to convert to managed hardwoods or conifers.
- 6) evaluating perimeters ...

WAC 222-30-100, Slash disposal or prescribed burning.

- 1) Prohibited in the core zone.
- 2) Slash disposal techniques:
 - a) Any conventional method of slash disposal may be used, except in Type A or B Wetlands, wetland management zones, and RMZ core and inner zones, Type Np RMZs, sensitive sites, and on sites where the department determines that a particular method would cause unreasonable risk to leave trees, public resources or site productivity. Conventional methods of slash disposal include controlled broadcast burning; pile or windrow and burn; pile or windrow without burning; mechanical scatter and compaction; scarification; chip, mulch or lop and scatter; burying; and physical removal from the forest lands; however on land shown to have low productivity potential the landowner or operator shall obtain the department's approval of its regeneration plan prior to utilizing controlled broadcast burning as a slash disposal technique. In riparian management inner zones, slash disposal shall be by hand, unless approved by the department. Slash disposal methods that employ machine piling, mechanical scatter and/or compaction, scarification or other techniques that result in soil disturbance shall not be allowed in equipment limitation zones. Scarification is not allowed within wetlands. Machine piling is not allowed in Type A and B Wetlands. Department approval, through a burning permit, is required for burning within an equipment limitation zone.
 - b) All slash burning requires a burning permit from the department which provides for compliance with the smoke management plan and reasonable care to protect Type A and B Wetlands, wetland management zones, riparian management zones, equipment limitation zones, soil, residual timber, public resources, and other property.
- 3) **Slash isolation, reduction, or abatement** is required when the department determines there is an extreme fire hazard according to law (see chapter 332-24 WAC).
- 4) **Slash disposal** is required where the forest landowner has applied for and been granted an extension of time for reforestation on the grounds that slash disposal is necessary or desirable before reforestation.

5) **Removing slash and debris** from streams.

Slash" or "debris" which can reasonably be expected to cause significant damage to the public resource shall be removed from Type S, F or Np Waters, to above the 100-year flood level and left in a location or manner minimizing risk of re-entry into the stream, lake or pond and if substantial accumulations of slash exist below the 100-year flood level of Type S, F or Np Waters, slash disposal is required. See the forest practices board manual section 4 for "Guidelines for clearing slash and debris from Type Np and Ns Waters.

6) **Fire trails.**

- a) Construct drainage structures as needed to control erosion.
- b) Reasonable care shall be taken to minimize excavation during fire trail construction and sidecast shall only be permitted above the 100-year flood level.
- c) Fire trails shall not be located within Type A or B Wetlands, wetland management zones, equipment limitation zones or riparian zones without prior written approval of the department. Hand constructed fire trails are preferred within forested wetlands. When machine built fire trails are necessary for control of burning, trail width and excavation shall be minimized.

7) **Disturbance avoidance for northern spotted owls.** Burning within a SOSEA boundary shall not be allowed within 0.25 mile of a northern spotted owl site center between March 1 and August 31, provided that, this restriction shall not apply if:

- a) The landowner demonstrates that the owls are not actively nesting during the current nesting season; or
- b) The forest practice is operating in compliance with a plan or agreement developed for the protection of the northern spotted owl under WAC 222-16-080 (6)(a), (e), or (f).

8) **Disturbance avoidance for marbled murrelets.** Slash disposal or prescribed burning shall not be allowed within 0.25 mile of an occupied marbled murrelet site during the critical nesting season, provided that, this restriction shall not apply if the forest practice is operating in compliance with a plan or agreement developed for the protection of the marbled murrelet under WAC 222-16-080 (6)(a) or (c).

WAC 222-30-110 Timber harvesting on islands.

On an island:

- 1) No more than forty contiguous acres clearcut.
- 2) Forest land harvested by clearcut remains in the clearcut condition until it has reached canopy closure or it has been reforested for at least ten years;
- 3) Clearcut harvest units are contiguous unless separated by a buffer at least two hundred feet wide that has reached canopy closure, has been reforested for at least ten years, or is in a land use other than timber production.
- 4) Within two hundred feet of the bankfull width of saltwater timber harvest shall be by selective harvest only, so that no more than thirty percent of the merchantable trees are harvested in any ten-year period: Provided, That other timber harvesting methods may be permitted in those limited instances where the topography, soil conditions, or silvicultural practices necessary for regeneration render selective harvest ecologically detrimental: Provided further, That harvest by clearcut on lands being converted to another use may be approved.

- 5) The requirements of this section shall not apply to timber harvest or salvage timber damaged by wind, disease, insects, fire, or other natural causes.

Chapter 222-38 WAC, Forest Chemicals

WAC 222-38-010 Policy – Forest chemicals.

(This is the entire WAC)

- 1) Chemicals perform important functions in forest management. The purpose of these regulations is to regulate the handling, storage and application of chemicals in such a way that the public health, lands, fish, wildlife, aquatic habitat, wetland and riparian management zone vegetation will not be significantly damaged, and water quality will not be endangered by contamination. This section in no way modifies the state department of agriculture regulations governing chemicals.
- 2) These rules are intended to implement best management practices designed to eliminate the direct entry of pesticides to water. Best management also includes minimizing the entry of forest chemicals into channel migration zones, wetland management zones, sensitive sites, or the core or inner zones of riparian management zones and buffers on Type Np Waters. Significant damage for purposes of this section includes any damage that would inhibit or preclude the existing vegetation from protecting public resources.

WAC 222-38-020 Handling, storage, and application of pesticides.

- 1) ...consistent with label requirements and state and federal requirements.
- 2) Mixing and loading areas ...
- 3) Riparian management and wetland management zones ...
- 4) Aerial application of pesticides ...
- 5) Ground application of pesticides with power equipment ...
- 6) Hand application of pesticides...
- 7) Limitations on application ...
- 8) Container disposal ...
- 9) Daily records – aerial application of pesticides ...
- 10) Reporting of spills ...

WAC 222-38-030 Handling, storage, and application of fertilizers.

- 1) Storage and loading areas ...
- 2) Riparian management zone and wetland management zone ...
- 3) Aerial application of fertilizer ...
- 4) Ground and hand application of fertilizers ...
- 5) Reporting of fertilizer spills ...

WAC 222-38-040 Handling, storage, and application of other forest chemicals.

- 1) Waters and wetlands...
- 2) Storage, mixing, and loading areas ...

Board Manual Section 12, Guidance for Application of Forest Chemicals.

PART 1. BEST MANAGEMENT PRACTICES

Forest management operations and Christmas tree operations using herbicides should apply the following best management practices (BMPs):

- Nozzle Orifice:** Minimum size of D10 (0.156") when core plates are used.
Minimum size of D7 (0.109") when no core plates are used.
- Core Plate:** Size # 46 or larger.
Nozzle Orientation: Maximum of 45 degrees downward and backward from the direction of flight.
- Operating Pressure:** Not to exceed 30 pounds per square inch.
Boom Length: Maximum length of 6/7 of rotor span for rotors less than 40 feet, and 2/3 of rotor span for rotors 40 feet or greater.
- Airspeed:** Not to exceed 60 miles per hour.
Release Height: Minimum height consistent with safe operations. Nozzles must be shut off when ascending or descending over an obstacle that would alter the application release height by more than 10 feet, unless buffer-width adjustments have already been made on initiation of the flight line or swaths are adequate distance away from areas needing protection based on release-height buffer specifications in Tables 1 and 2 under **WAC 222-38-020(4)(a)(i and ii)**.

Forest management operations and Christmas tree operations using insecticides or fungicides should apply the following best management practices (BMPs)*:

- Nozzle Orifice:** Minimum size of D8 (0.125") when core plates are used.
Minimum size of D4 (0.063") when no core plates are used.
- Core Plate:** Size # 46 or larger.
- Airspeed:** Not to exceed 60 miles per hour on swaths adjacent to spray buffers.
*Recommendations on nozzle orientation, operating pressure, boom length, and release height for insecticides and fungicides are the same as those stipulated above for herbicide operations.

PART 2. NOZZLE, EQUIPMENT AND OPERATIONS

The nozzle size restrictions (nozzle orifice and orientation), equipment limits (boom length), operations restrictions (air speed, weather, and release height), and buffer requirements, in combination, are set to minimize drift off-target. Use of different aerial application equipment which produces an equivalent or lower volume-based percentage of droplets in the less than 150 micron size range or other equipment or operations restrictions which result in less drift off target, will be considered under Alternate Plan provision **WAC 222-12-040**.

Applicators should apply the following best management practices to weather conditions:

Wind Speed:

Do not apply when wind speed exceeds 7 miles per hour.

Favorable winds:

For purposes of determining the appropriate buffers and offsets

Described under **WAC 222-38-020(4)(a)(i - iii)**, favorable winds are those where wind direction effectively moves the spray cloud away from the water, RMZ, or WMZ based on visual observation of spray drift (or other commonly used indicators such as smoke) at the site of application.

Unfavorable winds: For purposes of determining the appropriate buffers and offsets described under **WAC 222-38-020(4)(a)(i - iii)**, unfavorable winds are any winds, which are not clearly favorable (see above) including calm conditions, inversions, or conditions of highly variable wind conditions.

Temperature: Do not apply when ambient air temperature exceeds 70 degrees Fahrenheit for ester formulations or 85 degrees Fahrenheit for other pesticides.

Relative Humidity: For Western Washington (**WAC 222-16-010**), do not apply when relative humidity is below 50% for ester formulations or below 40% for other pesticides.

Precipitation: If applying pesticides during early foliar or dormant seasons, when precipitation runoff events are most common, avoid direct over-spraying of temporarily dry segments of Type 4 or 5 waters. Do not apply pesticides directly to temporarily dry Type 4 or 5 waters during the 24 hours before a predicted rainfall accumulation event of 1/4" or the 24 hours after an actual accumulation event of more than 1/4".

PART 3. MAINTENANCE OF PESTICIDE RECORDS

Pesticide records should be maintained by the landowner in compliance with **WAC 16-228-190, Applicator Requirements**. The records should also include copies of the approved forest practices applications showing all streams within and adjacent to the application area and indicating which streams were buffered. Direct observation to determine the presence of surface water in Type 4 or

5 waters is recommended, although this is not intended to preclude best professional judgment of the field forester. Direct observation may include walking all streams or a representative sample of the stream segments, checking culverts for flow, provided that the culverts are in a suitable downstream location, and the use of infrared aerial photography. Aerial surveillance is not adequate if the stream segment is obscured by slash or vegetation. Direct observation can be made by a landowner representative, pesticide applicator, or a state agency or tribal representative.