

LEAVING GREEN TREES AND SNAGS ALONG SMALL TYPE N STREAMS
SUBJECT TO RAPIDLY MOVING LANDSLIDES

OAR 629-640-0210

(1) The purpose of this rule is to provide a source of large wood that can be moved by rapidly moving landslides into Type F streams.

APPLICATION:

This section cannot be used for enforcement.

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- (2) *When directed by the State Forester, operators must retain green trees and snags required for harvest type 2 or type 3 units under ORS 527.676 adjacent to small Type N streams subject to rapidly moving landslides likely to deliver wood to Type F streams.*
- (a) *The green trees and snags must be retained within an area that is 50 feet on each side of the small Type N stream and 500 feet upstream from a riparian management area of a Type F stream.*
- (b) *Requirements under OAR 629-623-0300 supersede the requirements of this subsection.*
- (3) *Operators are required to retain all green trees and snags in the area described in subsection (2)(a) of this rule up to the number determined by the equation $H - T$ where:*
- (a) *H is the total number of green trees and snags required to be retained in the harvest type 2 or type 3 unit; and*
- (b) *T is the number of trees retained in riparian management areas in the harvest unit that may be counted as harvest unit leave trees under OAR 629-640-0100(11) and 629-640-0200(12).*

APPLICATION:

Section (2) can be used for enforcement. Section (3) can be used to determine a limit to the number of green trees and snags required to be retained. This rule applies **only** in harvest units where green tree and snag retention would be required under ORS 527.676(1). The rule therefore applies only in harvest type 2 or type 3 units that exceed 25 acres. Refer to the guidance for ORS 527.676 for more information. If the operator only fails to leave the correct number of green trees and snags in a harvest unit, take enforcement under ORS 527.676.

COMPLIANCE:

Operators comply with Section (2) when they retain green trees and snags adjacent to small Type N streams subject to rapidly moving landslides likely to deliver wood to Type F streams. The green trees and snags must be retained within a search zone that extends 50 feet on each side of the small Type N stream and 500 feet upstream from a riparian management area of a Type F stream.

Operators comply with Section (3) when they retain at least $H-T$ green trees and snags within a search zone.

Unsatisfactory Condition:

An unsatisfactory condition exists if:

- ODF notifies the operator that retention of green trees and snags is required along a small Type N stream within a harvest unit; and
- The stream is identified on the department's screening map; and

- Based on field verification, the screening criteria in this guidance are met; and
- The operator fails to retain all green trees and snags in the search zone(s) described in section (2) of this rule, up to the number identified in section (3).

Note that enforcement requires the department to conduct field verification. The presence of a qualifying small Type N stream, delivery to a Type F stream, and the location and number of leave trees should all be field-verified.

Damage: An unsatisfactory condition is considered a violation because there is no opportunity to take timely corrective action to replace green trees or snags that have been felled.

Written Statement of Unsatisfactory Condition: Because an unsatisfactory condition is a violation, there is no opportunity to use a written statement of unsatisfactory condition. Use written recommendations to alert operators if they appear headed for violations.

ADMINISTRATION:

Under ORS 527.676, operators are required to retain green trees and snags in harvest type 2 or type 3 units that exceed 25 acres, and in aggregations of those harvest units exceeding 25 acres (refer to ORS 527.676 for more information). **This rule does not require operators to retain any more or any fewer green trees or snags than would otherwise be required for a harvest unit under ORS 527.676.** This rule requires that a number of those green trees and snags be retained along qualifying small Type N streams. Operators may retain any combination of green trees and snags to comply with this rule, as long as each green tree or snag is at least 11 inches DBH and 30 feet tall and the 50% conifer requirement for the harvest unit is met, as specified in ORS 527.676.

The Department has developed screening criteria for application of this rule. The Department has also developed a screening map that identifies streams likely to be subject to this rule. Both the screening criteria and maps are described below. The department will use notification information and the screening map to determine if one or more of these streams are present within an operation. If a stream on the screening map is within a harvest unit, the department will notify the operator. Pre-operation field verification for the purpose of evaluating the validity of the screening map is the responsibility of the operator. The screening criteria should be applied during field verification. Field verification should be documented with an inspection report. Stewardship foresters should consult with department geotechnical specialists as needed.

Note that requirements for the Landslide and Public Safety Rules take precedence. This rule does **not** apply to streams associated with substantial or intermediate downslope public safety risk as identified in OAR 629-623-0300 (Shallow, Rapidly Moving Landslide and Public Safety; Public Safety Risk Levels).

Screening Process for Identifying Streams Subject to this Rule

This rule applies only to type 2 and type 3 harvest units exceeding 25 acres, where ORS 527.676 requires retention of green trees and snags. Location, type, and size of the planned harvest unit should be determined from the notification. This rule requires retention of green trees and snags along small Type N streams that are subject to rapidly moving landslides. The definition of

“debris torrent-prone streams” is used to identify streams subject to rapidly moving landslides. Debris torrent prone-streams are defined in OAR 629-0600-0100 as follows:

“‘Debris torrent-prone’ streams are designated by the State Forester to include channels and confining slopes that drain watersheds containing high landslide hazard locations that are of sufficient confinement and channel gradient to allow shallow, rapid landslide movement.”

This rule applies only to that subset of debris torrent-prone streams that is likely to deliver retained trees and snags to Type F streams. The screening criteria determine whether a debris torrent-prone stream is likely to deliver retained trees and snags to a Type F stream.

Screening Criteria

The criteria were used to make the screening map and will also be used for field verification. The criteria are summarized in Figure 1 and are outlined as follows:

- a. The waterway must meet the definition of a “debris torrent-prone stream” in OAR 629-600-0100. This rule only applies to debris torrent-prone streams with at least 30 acres of watershed. Watershed acreage may be measured on a map from the confluence of the Type N stream and the Type F stream.
- b. There must be at least 5 acres of high landslide hazard locations located within the Type N watershed. The high landslide hazard locations do not have to be contiguous acres to meet this 5 acre requirement. The high landslide hazard locations may be located outside of the unit. The acreage of high landslide hazard locations may be estimated using a map.
- c. The debris torrent-prone stream channel must maintain a gradient steeper than 15% between high landslide hazard locations and the receiving Type F stream channel. Gradient should be measured and averaged for stream sections approximately 100 feet in length.
- d. The debris torrent prone-stream channel must stay confined between high landslide hazard locations and the receiving Type F stream channel. Measure the width of the confining valley walls at a height 10 feet above the channel bed. If the horizontal distance is greater than 100 feet, the channel is considered to be unconfined.
- e. The debris torrent-prone stream channel must maintain a relatively straight course between high landslide hazard locations and the receiving Type F stream channel. Debris torrents are likely to stop at Type N-Type N stream junctions if the delivering stream enters the receiving stream at a 70° or greater angle.
- f. The potential for road crossings to prevent debris torrents from delivering to a Type F stream must be considered in this process regardless of the age of the crossing. Road fills greater than 5 feet deep (measured at the upstream shoulder of the fill) are likely to stop debris torrents. Judgment should be applied to road fills less than 5 feet deep, exceptionally wide fills, or other types of fills. If necessary, consult with a geotechnical specialist when making this determination.

Green Trees and Snags to be Retained

The number of green trees and snags to be retained for this rule is described in section (3) as the total number required for the harvest unit, minus the number of green trees retained in the riparian management area that can be “double counted” as harvest unit leave trees (refer to OAR 629-640-0100(11) and 0200(12)). If the number of green trees and snags in the search zone described below is less than the number specified in section (3) of this rule, the operator has to

leave enough green trees and snags in other locations in the harvest unit so that the two per acre number specified in ORS 527.676(1) is met for the entire harvest unit. It is the operator's responsibility to do the calculation for the specific harvest unit prior to harvesting.

Identifying the Search Zone

The area defined in paragraph (2)(a) of this rule is a zone in which to search for trees and snags to be retained, up to the total number required to be retained in the harvest unit as specified in section (3) of this rule. Within this search zone (or within multiple zones, if more than one stream in the unit qualifies), the operator must retain the required number of green trees and snags. If the number of green trees and snags in the search zone(s) exceeds the number required for the harvest unit, the operator may determine which green trees and snags will be retained within the search zone(s). There are many factors in making this decision, including safety and operational considerations, and the likelihood of a tree or snag reaching the Type F stream in a debris torrent. Although it is ultimately up to the operator, the stewardship forester may recommend the following strategies for selecting which trees to leave within a search zone:

- Leave green trees and snags that are on high landslide hazard locations.
- Leave green trees and snags that are within 20 feet of the high water level of the small Type N debris torrent prone stream.
- Leave a portion of the green trees and snags along each channel when there are multiple Type N debris torrent prone stream channels within the unit.

The 50-foot width of the search zone is measured from the high water level on each side of the small Type N stream. Use slope distance for this measurement except where there is steep exposed soil, rock, or a talus slope immediately adjacent to the channel of the small Type N stream. In that circumstance, measure the search zone as a horizontal distance until the top of the exposed soil, rock, or talus slope is reached. From that point, measure the remaining portion of the 50-foot zone as a slope distance. Measure the 500-foot distance up the small Type N channel starting from the edge of the Type F stream riparian management area. In general, use slope distance for this measurement. Use horizontal distance where there are vertical or near-vertical sections of the small Type N stream. Do not extend the search zone outside of the drainage of the small Type N.

Protecting Green Trees and Snags

The department should encourage operators to protect trees retained under this rule from damage during harvesting and other operations. If retained green trees remain alive and reasonably healthy, they have the potential to increase in size before the next landslide occurs in the stream. However, because ORS 527.676 allows retention of green trees or snags, dead trees meeting the size requirements in ORS 527.676 (11 inches DBH and 30 feet tall) may count toward the retention requirements for this rule. For example, both an existing snag and a conifer tree stripped of all branches would count toward meeting the retention requirements for this rule. Trees retained under this rule may not be replaced by wildlife trees in nearby harvest units.

High Value Wildlife Trees

An operator may file a plan for an alternate practice under OAR 527.676(3)(b) to retain high value wildlife trees outside the retention area identified in this rule. Examples would be scattered large-diameter snags or large-diameter, live, wolfy conifers in upland locations. Stewardship

foresters should evaluate the trees in question, and if the trees are considered high value for wildlife, should approve a one-to-one exchange. Consult the ODF Fish and Wildlife Specialist or an ODFW wildlife biologist as needed.

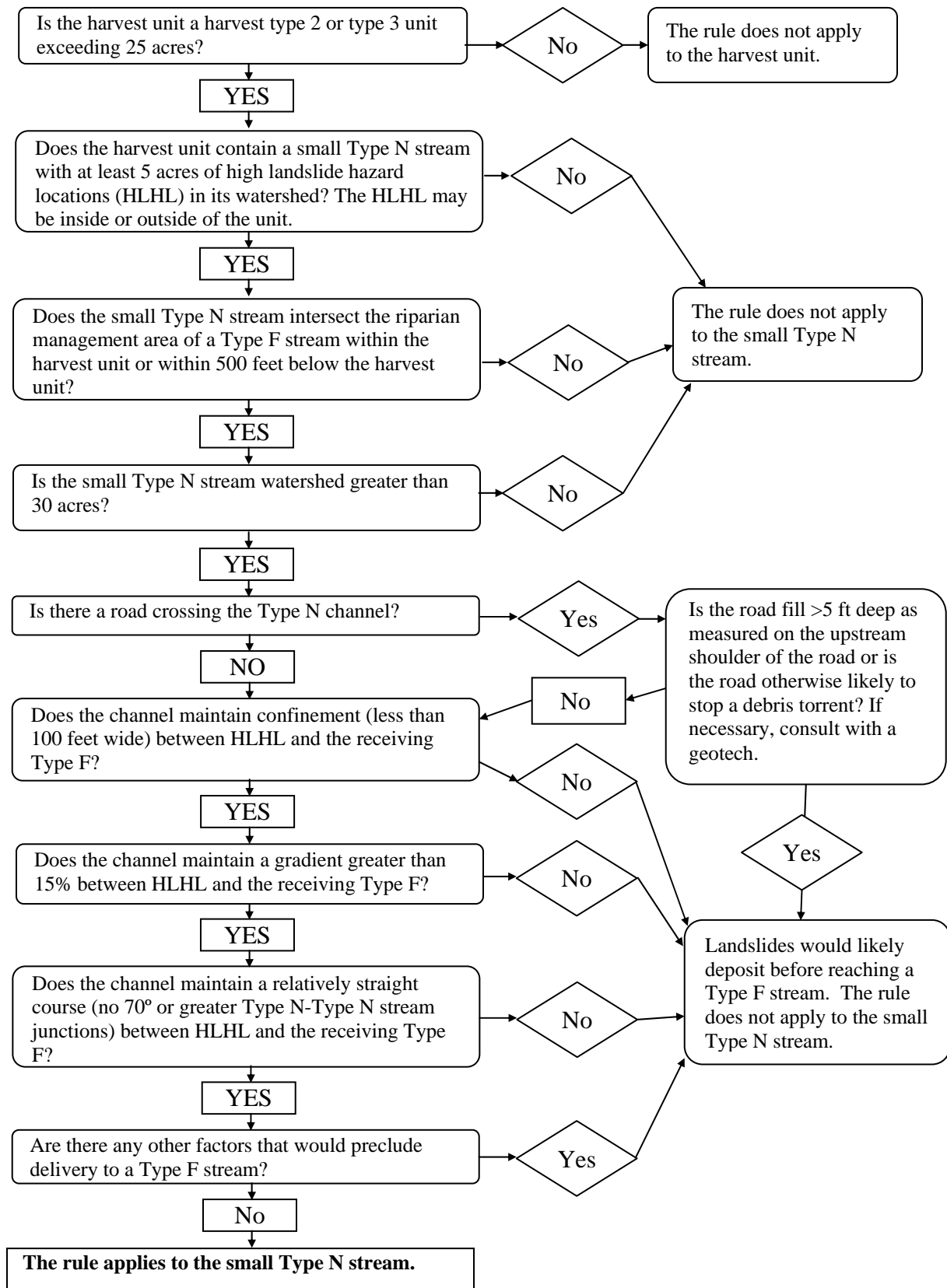
Operator Safety

Based on OAR 629-605-0400, an operator may fell green trees and snags otherwise required to be retained under this rule if the green trees and snags are found to be danger trees or snags under OAR 437-007-0225 (OR-OSHA rule, Working near Unstable Objects and Danger Trees). Up to 10% of the trees required to be left by this rule may be harvested for safety reasons, including along yarding corridors. However, operators must still retain the total number of green trees and snags required under ORS 527.676 in the unit. A plan for an alternate practice is required if more than 10% of the trees need to be harvested for safety reasons.

Compatibility with other Requirements

- Stewardship Foresters are authorized by ORS 527.676(3)(c) to direct retention of 25% of the required green wildlife trees in a harvest unit to be retained in or adjacent to RMAs of Type F or Type D streams. Where OAR 629-640-0210 applies, wildlife snags/trees must first be retained along qualified debris torrent-prone small Type N stream(s) in the unit. Any wildlife trees or snags needed for the unit total (H - T) that are not growing in the small Type N's search zone(s) may be dedicated to retention in Type F or D RMAs, limited to 25% of the factor "H".
- All qualifying trees and snags left within a Type F RMA count towards "T" in 629-640-0210 (3)(b). This applies to an overstocked RMA where the number of leave trees exceeds RMA requirements.
- Where the Division 623 Shallow, Rapidly Moving Landslides and Public Safety Rules apply, they take precedence over the requirements in OAR 629-640-0210. Trees left under Division 623 count towards ORS 527.676 and accordingly count towards "T" in 629-640-0210 (3)(b). Refer to OAR 629-623-0300 (12) for more information.

Figure 1. Determining if a Harvest Unit has Streams Subject to OAR 629-640-0210(2).



LEAVING GREEN TREES AND SNAGS ALONG DEBRIS TORRENT-PRONE SMALL TYPE N STREAMS

OAR 629-640-0210

- (4) *An operator may propose a plan for an alternate practice to meet the purpose of this rule. Alternate practices may include but are not limited to placing wood directly in the Type F stream.*
- (5) *This rule takes effect on October 1, 2007.*

APPLICATION:

Neither section (4) nor section (5) may be used for enforcement. Section (4) highlights the existing option for plans for alternate practices that meet the rule purpose described in section (1). If there is no approved plan for alternate practices, sections (2) and (3) apply. The date shown in section (5) is twelve months after the date of rule adoption; the Board of Forestry wanted to allow landowners time to incorporate this rule in their harvest unit planning. Note: the actual effective date of the rule is **July 1, 2008**; see Rule Implementation under ADMINISTRATION below).

ADMINISTRATION:

Rule Implementation

When the Board of Forestry adopted OAR 629-640-0210, the Board intended that the effective date of the rule would be October 1, 2007, as specified in section (5). However, to allow the department time to refine the maps and procedures needed for implementation, the Board deferred implementation to July 1, 2008. Therefore, consider that **this rule applies to operations for which notifications are filed on or after July 1, 2008**. Operations for which notifications were filed prior to July 1, 2008 are not subject to this rule; this exemption includes notifications which have been continued from previous years as allowed in OAR 629-605-0150(3) and (4).

Plans for Alternate Practices

Section (4) allows the department to consider a broad array of plans for alternate practices. The department will review the plans on a site-specific basis and evaluate them based on whether they are likely to achieve the purpose stated in section (1), "...to provide a source of large wood that can be moved by rapidly moving landslides into Type F streams." Although the purpose statement focuses on wood to be moved by landslides, the ultimate purpose of the rule is to get wood into fish-use streams to provide or improve fish habitat. Therefore, alternatives may involve retention of wood on other steep slopes or direct placement in a fish-use stream. The alternate practice must achieve equal or greater results compared to what would be expected from the standard practices in the rule. An approved plan for an alternate practice will modify or remove the requirement in these rules that green trees and snags must be left along debris torrent-prone stream channels. The basic requirements of ORS 527.676 will still need to be met and the correct number of green trees and snags will have to be left in a harvest unit.

Some examples of acceptable alternate practices are provided below. Operators may propose a combination of these examples or may propose entirely new ideas. Note that the department has

approval authority over plans for alternate practices. The department has developed standard forms for documentation of this process.

Example 1. Placement of wood directly in Type F streams.

Landowners and stewardship foresters should consult with ODFW to develop and evaluate this option. The in-stream placement should approximate the level of resource enhancement that would be expected if the wood were delivered through a landslide in the stream. Wood placement projects must conform to the standards in the ODF/ODFW guide to placing large wood.

Example 2. Retaining green trees and snags outside of the search zone.

Green trees and snags may be left more than 500 feet upstream of the riparian management area of a Type F stream. These alternative sites should be on or below high landslide hazard locations where shallow, rapidly moving landslides are likely to deliver large wood to a Type F stream. Green trees and snags may also be left on sites that are not within 50 feet of a stream channel. These alternative sites should be on or below high landslide hazard locations where shallow, rapidly moving landslides are likely to deliver large wood to a Type F stream.

Example 3. High value wildlife trees.

Green trees or snags with especially high value to wildlife may be “traded” for leave trees normally required to be left along small Type N streams that are subject to rapidly moving landslides. Examples of high value wildlife trees would be large-diameter snags or large-diameter, wolfy live conifers in upland locations. Landowners and stewardship foresters should consult with an ODF biologist to develop and evaluate this option.

REFERENCE:

Oregon Department of Forestry and Oregon Department of Fish and Wildlife. 1995. A guide to Placing Large Wood in Streams. Oregon Department of Forestry. Salem, Oregon.