

Summary of minimum Forest Stewardship Council requirements for forest management activities under NNRG’s group certificate

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Northwest Natural Resource Group (NNRG) developed this overview of the minimum requirements land owners and managers need to fulfill when carrying out forest management activities that meet the Forest Stewardship Council® (FSC®) standards. This document is not an exhaustive resource, but intended to be a “quick reference” regarding major forest management practices.

For detailed guidance on these topics – refer to the “FSC Guidance Documents” available on the NNRG website, refer to the FSC US Standard, or inquire with Kirk Hanson (kirk@nnrg.org, 360-316-9317) or Lindsay Malone (lindsay@nnrg.org, 206-971-8966) – NNRG staff.

Resources

NNRG webpage with resources for FSC group certificate members

<https://www.nnrg.org/resources/for-fsc-certified-members/>

Forest Stewardship Council-US Forest Management Standard (v1.0) last updated 2010

<http://us.fsc.org/download.fsc-us-forest-management-standard-v1-0.95.htm>

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Minimum FSC requirements for forest monitoring

At a minimum, FSC requires land managers to maintain a basic monitoring program to document the following forest management attributes:

1. Yield of all forest products harvested.
2. Growth rates, regeneration and condition of the forest.
3. Harvested volume of non-timber forest products and condition of harvested areas.
3. Composition and observed changes in the flora and fauna.
4. Environmental impacts of harvesting and other operations.
5. Costs, productivity, and efficiency of forest management.

Additional qualitative forest monitoring should be conducted during regular walks through the forest, and the resulting field notes periodically added to an appendix of the forest management plan.

Management plans should be periodically updated based on the results of monitoring.

The following attributes should be monitored, at a minimum, via written observations:

1. Growth of newly planted seedlings.
2. Location, presence, and abundance of invasive species.
3. Fish and wildlife presence.
4. Snags and downed logs.
5. Forest roads and drainage systems.
6. Chemical use (chemical type, application date, amount, method, effectiveness).

Remember: Photo points count as monitoring too! They are a helpful addition to your records that show changes over time.

Recommendations for monitoring road and culvert systems

Per the FSC-US Forest Management Standard, Indicator 8.2.d.2: Land managers need to annually monitor their forest's transportation system, including culverts and other drainage.

NNRG recommends that managers include a general description of the forest's road system infrastructure, noting areas of high risk, in the forest management plan. The management plan should also note when road monitoring occurs (quarterly, during peak rain events, winter, walking down the driveway etc.) and how the transportation system is maintained. It is also a good idea to note where these monitoring records are kept – some land managers need to use GIS mapping and inventory reports, some landowners can use NNRG's road monitoring worksheet, others with simpler road systems can keep records in their overall monitoring system. Road and culvert monitoring includes:

- Observing (then maintaining) bridges, culverts, and ensuring functional drainage
- Observing (then maintaining) roads for large cracks, sink holes, other damage or indicators or erosion
- Observing (then maintaining) uphill side of roads for erosion into ditch systems
- Observing (then maintaining) downhill side of roads for erosion into streams, ponds, or wetlands
- Observing water flows
- Evaluating orphaned roads, culverts, bridges, and road conditions

Minimum FSC requirements for chemical use

FSC encourages forest management that employs the use of silvicultural systems, integrated pest management, and strategies for controlling pests or invasive species that minimize the need for the use of chemicals. It's important to keep in mind:

- Chemicals should only be used where less environmentally hazardous techniques have been shown through research or empirical experience to be ineffective.
- Chemicals can be used when it has been deemed necessary to control invasive weed species that have the potential to alter forest habitat function and in some cases where invasive or native species are aggressively encroaching on active forest roads.
- When chemicals are applied, the least environmentally hazardous option will be used to minimize effects on non-target organisms or ecological systems.
- The applicator applying the chemicals is trained and will follow all applicable safety precautions.
- Chemicals will be stored and disposed of in a safe and environmentally appropriate manner.
- The forest manager actively monitors chemical application sites not only to determine effectiveness but also to check for residue damage or unintended consequences.
- If you do use chemicals, keep a record of the chemical, volume used (concentrate and diluted), dates of application, target species, application method, and monitor effectiveness.

If chemicals are used, the forest owner or manager must use the least environmentally damaging formulation and application method practical. Further, land managers need to develop written **strategies** that justify the use of any chemical pesticides, and a written **prescription** that includes, at a minimum, the following: the chemical, the quantity, and the targeted species. Prescriptions should also describe the site-specific hazards and environmental risks, and the precautions that workers will employ to avoid or minimize those hazards and risks, and include a map of the treatment area. These prescriptions should be included in the forest management plan. The level of detail of the prescription and application procedures will depend on the U.S. EPA rating of the chemical. Common general use pesticides require only brief and less technical procedures, while restricted use pesticides require more detailed, technical procedures.

Restricted Use pesticides, as defined by the U.S. EPA, may only be purchased and applied by licensed applicators with current safety and training certificates. With respect to EPA rated General Use pesticides, an applicator must have at least informal training, and application procedures must be consistent with pesticide label requirements. All pesticide use, regardless of its EPA rating, must be consistent with product label directions and written management plan prescriptions. Members are responsible for informing workers of the risk of pesticide exposure and how to limit exposure. Management plans need to include, whenever possible, a strategy to phase-out chemical use.

FSC List of Highly Hazardous Pesticides

FSC regularly reviews and maintains a list of chemicals that are deemed highly hazardous. FSC's policies on pesticide use can be found on the [FSC Pesticides website, which includes](#) a list of [FSC Highly Hazardous Pesticides](#). Before you use chemicals on your property you should check this list or contact NNRG for assistance.

Documenting and reporting chemical use to NNRG

If chemicals are used, land managers need to **monitor** the effects. Land managers need to keep written records of:

- pest occurrences
- control measures
- incidences of worker exposure to chemicals

Land managers also need to keep a written log or list, and report the following information to NNRG during the annual check-in process:

- chemicals used
- application dates
- quantities
- method of application
- the location and area treated
- effectiveness of application

Example of reporting format for chemical use during annual FSC check-in with NNRG:

Target Species: Herbicide: Method: Dates: Observations on effectiveness, impacts:						
Year	Amount herbicide (oz)	Tank mix (gallons dilution)	Area treated (ac)	Application Rate (oz/ac)	Application Method	Location (management unit)

Minimum FSC requirements for riparian buffers

This is a summary of minimum riparian buffer standards to be applied per the Forest Stewardship Council's U.S. Forest Management Standards for the Pacific Coast region. FSC requirements are superseded when and where state or federal laws, regulations, or other contractual requirements are more stringent.

Wetlands are identified as per the local regulatory agencies (WA DNR, ODF, County, etc.). If the local agency identifies a wetland on the ground, then the forest manager should apply the appropriate FSC buffer requirements to the wetland area.

Water type	Management standards
<ul style="list-style-type: none"> • Fish bearing stream – Type F or S • Shorelines • Lakes & wetlands >1 acre 	Minimum riparian management zone width: 150 foot 50 foot inner zone 100 foot outer zone <ul style="list-style-type: none"> • Single-tree selection in inner zone • No equipment in inner zone • Single & group tree selection in outer zone
<ul style="list-style-type: none"> • Non-fish bearing stream, perennial 	Minimum riparian management zone width: 100 foot 25 foot inner zone 75 foot outer zone <ul style="list-style-type: none"> • Single tree selection in inner zone • Single & group tree selection in outer zone
<ul style="list-style-type: none"> • Non-fish bearing stream, seasonal. Supports aquatic species. • Lakes & wetlands <1 acre 	Minimum riparian management zone width: 75 foot <ul style="list-style-type: none"> • Single-tree or group selection
<ul style="list-style-type: none"> • Non-fish bearing stream, seasonal. Does not support aquatic species 	No prescribed buffer width Management must: <ul style="list-style-type: none"> • Maintains root strength and stream bank and channel stability • Recruit coarse wood to the stream system

FSC Pacific Coast Region Stream definitions:

Category A stream: *A stream that supports or can support populations of native fish and/or provides a domestic water supply.*

Category B stream: *Perennial streams that do not support native fish and are not used as a domestic water supply.*

Category C stream: *An intermittent stream that never the less has sufficient water to host populations of non-fish aquatic species.*

Intermittent streams are mapped or unmapped stream that typically flows for less than twelve months of the year and/or that flows below ground for portions of its length.

Category D stream: *A stream that flows only after rainstorms or melting snow and does not support populations of aquatic species.*

FSC guidance for riparian zone management

Note: FSC requirements are superseded when and where state or federal laws, regulations, or other contractual requirements are more stringent.

Wetlands are identified as per the local regulatory agencies (WA DNR, ODF, County, etc.). If the local agency identifies a wetland on the ground, then the forest manager should apply the appropriate FSC buffer requirements to the wetland area.

Forest management within the riparian zone of all streams and wetlands needs to adhere to the following standards at a minimum.

- 1. Retain and recruit sufficient large, green trees; snags; understory vegetation; down logs; and other woody debris in riparian zones to provide shade, erosion control, and in-channel structures.**
- 2. For Type F & S (fish bearing and Shorelines of the state) streams, and for lakes and wetlands larger than one acre, an inner buffer zone is maintained.**

The inner buffer is at least 50 foot wide (slope distance) from the active high water mark (on both sides) of the stream channel and increases depending on forest type, slope stability, steepness, and terrain.

In this inner buffer, harvest activities:

- a. maintain or restore the native vegetation
- b. are limited to single-tree selection silviculture
- c. retain and allows for recruitment of large live and dead trees for shade and stream structure
- d. retain canopy cover and shading sufficient to moderate fluctuations in water temperature, to provide habitat for the full complement of aquatic and terrestrial species native to the site, and maintain or restore riparian functions
- e. exclude use of heavy equipment, except to cross streams at designated places, or where the use of such equipment is the lowest impact alternative
- f. avoid disturbance of mineral soil; where disturbance is unavoidable, mulch and seed are applied before the rainy season
- g. avoid the spread of pathogens and noxious weeds
- h. prohibit road construction and reconstruction with the exception of stream crossings

- 3. For Type F & S (fish bearing and Shorelines of the state) streams, and for lakes and wetlands larger than one acre, an outer buffer zone is maintained.**

This buffer extends from the outer edge of the inner buffer zone to a distance of at least 150 foot from the edge of the active high water mark (slope distance, on both sides).

In this outer buffer, harvest occurs only where:

- a. single-tree or group selection silviculture is used

- b. post-harvest canopy cover maintains shading sufficient to moderate fluctuations in water temperature, provide habitat for the full complement of aquatic and terrestrial species native to the site, and maintain or restore riparian functions
 - c. new road construction and reconstruction is prohibited (with the exception of stream crossings)
 - d. disturbance of mineral soil is avoided; where disturbance is unavoidable, mulch and seed are applied before the rainy season
- 4. For Type N (non-fish bearing) perennial streams, a 25-foot (slope distance) inner buffer is created and managed according to provisions for inner buffers for Type F & S waters. A 75-foot (slope distance) outer buffer (for a total buffer of 100 feet) is created and managed according to provisions for outer buffer for Type F & S waters.**
- 5. For Type N (non-fish bearing) seasonal streams that support aquatic species, and for lakes and wetlands smaller than one acre, a buffer zone 75 feet wide (on both sides of the stream) is established that constrains management activities to those that are allowed in outer buffer zones of Type F & S waters.**
- 6. For Type N (non-fish bearing) seasonal streams that do not support aquatic species, management:**
- a. maintains root strength and stream bank and channel stability
 - b. recruits coarse wood to the stream system
 - c. minimizes management-related sediment transport to the stream system

Minimum FSC requirements for retention

Retention is required when a regeneration harvest exceeds 6 acres in size. Such harvests must retain 10-30 percent of pre-harvest basal area. Retained trees must reflect the diversity of species and size classes, including large and old trees, represented within the management unit. Retention can be distributed in clumps or dispersed as individual trees as appropriate for site conditions.

The volume of green-tree retention (10-30 percent of pre-harvest basal area) depends on:

- size of regeneration harvest
- presence of legacy trees
- adjacent riparian zones
- slope stability
- upslope management
- presence of critical refugia
- extent and intensity of harvesting across the forest management unit

The maximum clearcut (regeneration harvest) under FSC is 60 acres. Thus, factoring in the 10-30 percent retention requirement, the harvest area is 42-54 acres in size.

The average size of an even-aged harvest should be no larger than 40 acres across the ownership.

Recommendations for adhering to FSC retention requirements

- Regulatory required retention (e.g. riparian and wetland buffers, steep slopes) can count towards the 10-30 percent retention.
- Scattered and/or clumped retention should also be included in the upland portion of the harvest unit, and not entirely concentrated in a single block of retention.
- Retain trees across all species and age classes. Retention does not have to be exclusively mature or dominant trees. Conversely, retention should not be exclusively young, suppressed or defective trees.
- Low value, defective, or pulp grade trees are good candidates for retention, and often times provide higher habitat values.
- Similarly, low value log segments (e.g. pistol butts, freeze crack) can be retained within the harvest unit vs. exported as pulp.
- Grouping retention around existing legacy structures (e.g. old-growth stumps, snags, large downed logs, etc.) enhances the conservation benefits of the retention practice.
- Retain trees that show obvious signs of wildlife use (e.g. nesting cavities, woodpecker foraging, roosting platforms, owl pellets, etc.).