

High Conservation Value Forest Assessment for Sparta Mountain Wildlife Management Area

In 2012 NJ Audubon, in partnership with the NJ Division of Fish and Wildlife, enrolled Sparta Mountain Wildlife Management Area (SMWMA) into NJ Audubon's Rainforest Alliance Group Certificate, thereby Forest Stewardship Council (FSC) certifying the property. In fulfillment of FSC Principal 9 and 7.1r, the partners began soliciting stakeholder input on March 26, 2012. During this time period no stakeholders conveyed High Conservation Value Forest (HCVF) input. However, in consideration of the Office of Natural Lands Management (ONLM) Natural Heritage Program data request and other NJ Audubon data sources (listed under HCV1), it was concluded that HCV1, Question #2 should be answered with a "Yes." Hence, Sparta Mountain WMA was believed to be categorized as a High Conservation Value Forest in its entirety.

Following the completion of NJ Audubon's comprehensive forest inventory in August 2012, botanical surveys completed by third part contractors, new information from ONLM, and with guidance from their certification body, the partners adjusted their HCVF Assessment and removed all of SMWMA's acreage from HCV1. HCV1 pertains to forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia). Therefore, the removal of HCV1 by answering "no" to Question 2 indicates that, based on the data surveys and the most current information available, SMWMA's forest did not contain concentrations of rare species or rare ecological communities that are significant at the eco-region scale (see eco-region 221 in attached map). Furthermore, precautionary measures have been retained in the revised plan that address rare species, and the harvest rates in the plan remain below the sustainable harvest allowance, both of which are in conformance with an HCVF.

It is important to note that the FSP and HCVF Assessment remain in draft format and under stakeholder review until March 31, 2016, and that FSC's HCVF Framework allows the final determination of the presence or absence of an HCV to be made by the forest owner or manager based on the weight of available evidence, including data and applicable consultations.



Appendix 7 - High Conservation Value Forest (HCVF) Assessment

Sparta Mountain WMA – Plan # 1

Purpose:

New Jersey Audubon's HCVF Assessment document is to be utilized internally by the Group Manager to determine the presence of new and existing HCVF's within the Group's base of certified forestland owners. The document will also provide guidance with respect to assigning appropriate management and monitoring protocol when applicable. More tract specific forest management guidance will be found within the Descriptions and Prescriptions portion of each cooperator's plan.

New Jersey Audubon's HCVF Assessment document has been prepared in conformance with FSC-US's July 2007 Version: High Conservation Value Forest Assessment Framework, originally prepared by Gary Dodge – FSC Director of Science and Certification. The below assessment, to be completed by the Group Manager before lands are enrolled into Group Certificate, covers all six FSC HCVF Values one section at a time. If during the assessment it is determined the forest contains one or more of HCVF Values that area will be considered a HCVF and managed as written within the FSC Forest Management Plan.

All FSC compliant forest management plans prepared by New Jersey Audubon and/or its preferred service providers shall include a specific section dedicated to addressing the findings of the Group's HCVF Assessment under the plan section labeled "High Conservation Value Forests."

HCV 1:**None**Definition:

Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia).

NJ Audubon Data Sources:

1. New Jersey Natural Heritage Program
2. New Jersey Audubon Society Publications
3. New Jersey Department of Environmental Protection's Division of Fish & Wildlife
4. Direct inquiries with land owner and neighbors

HCV1 Group Manager Questions:

1. Does all or part of the FMU contain an area that is legally protected or managed primarily for concentrations of biodiversity values that are significant at the eco-region or larger scale, or is such an area proposed for protection? If yes, then explain.

No

2. Does all or part of the FMU contain an area with significant concentrations of rare, threatened or endangered species or rare ecological communities, endemic (range restricted) species and/or natural communities that are significant at the eco-region scale? If yes, explain appropriate management actions not to disrupt.

NJA has obtained NJ Natural Heritage Program results which predict RTE species at SMWMA based on habitat suitability. NJA staff systemically inventoried SMWMA property in 2012 and made no observations of RTE species and we removed HCV1 from our previous year's assessment. Prior to implementation of management activities BMP's will be consulted and a re-evaluation of RTE species will be conducted at a more intensive level to ensure nothing was missed.

HCV 2:**None**Definition:

Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.

New Jersey Audubon Data Sources:

1. New Jersey Audubon's forest inventory data collected for specific forest
2. New Jersey Natural Heritage Program
3. New Jersey GIS Web Clearinghouse for federal, state, and municipally protected open spaces
4. Sierra Club's State Level Old Growth Forest Survey

HCV2 Group Manager Questions:

1. Does all or part of the FMU contain a globally, regionally or nationally significant large landscape-scale forest where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance?
No, Sparta Mountain WMA is a large FMU, consisting of approximately 3.5k acres. It is a contiguous, public tract and contains mostly naturally occurring species, however the tract is not considered significant as species composition is no different from surrounding open space and state held lands in the eco region.
2. What would happen to regional biodiversity if the characteristics of this forest (e.g., age class structure or relative species abundance) were significantly altered?
No. Biodiversity within this FMU is reliant on current forest characteristics. A significant alteration to the FMU, however, would not affect vegetative biodiversity on the regional level.
3. Does all or part of the FMU contain a landscape-scale forest recognized as being significant to biodiversity conservation at the eco-region scale because it contains landscape-scale biodiversity values that are not present on other forests due to landscape-scale habitat modifications on surrounding lands, (such as land use conversion or forest management practices that have significantly altered forest biodiversity values)?
No, the FMU is no different in terms of biodiversity and species composition than that of surrounding forests within the eco-region.
4. What would happen to regional biodiversity if the characteristics of this forest (e.g., age class structure or relative species abundance) were significantly altered?
Regional biodiversity would not be diminished. Management actions within NJA's forest management plan will never call for significant alterations to forest characteristics as described by FSC.

HCV 3:

None

Definition:

Forest areas that are in or contain rare, threatened or endangered ecosystems.

New Jersey Audubon Data Sources:

1. New Jersey Natural Heritage Program
2. New Jersey GIS Web Clearinghouse for federal, state, and municipally protected open spaces
3. Sierra Club's State Level Old Growth Forest Survey
4. New Jersey Audubon Society's Publications
5. New Jersey Audubon's forest inventory data collected for specific forest

HCV3 Group Manager Questions:

1. Does the FMU contain old growth stands? If yes, geo-reference via map to be included within management plan.
No
2. Does the FMU contain or is it part of a roadless area >500 acres in size or that has unique roadless area characteristics? If yes, geo-reference via map to be included within management plan.
No
3. Does the FMU contain any other rare, threatened, or endangered ecosystem? If yes, explain.
No

HCV4:

None

Definition:

Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control).

New Jersey Audubon Data Sources:

1. Stakeholder input via addition of property to Audubon's website within Forest Stewardship Program. Also, as new property becomes certified New Jersey Audubon's Group Certificate a press release will be generated which will offer opportunity for stakeholder input.
2. New Jersey Department of Environmental Protection's Division of Fish & Wildlife's Endangered and Nongame Species Program's (ENSP). Focuses on ecosystem integrity.
3. New Jersey Audubon's forest inventory data collection notes section. This section pertains to signs of cultural and historic significance as well as important ecological observations such as riparian zones and classified/non-classified US bodies of water.
4. New Jersey Best Management Practices for Forestry and Wetlands.

HCV4 Group Manager Questions:

1. Is all or part of the FMU owned or managed for the primary purpose of providing a source of community? If so what is the purpose and identify the community.
No, the FMU is a publically owned tract. It is owned by the state of New Jersey and managed by NJA. It provides various forms of recreational opportunities including hiking and hunting, however, being a Wildlife Management Area, the primary purpose of the tract is to maintain biodiversity in the eco region.

2. Does all or part of the FMU play a 'critical watershed role' in protecting community drinking water supplies? If so explain which community and how to mitigate adverse effects of future management activity within FSC Forest Management Plan. Create a map depicting mandated management buffers.
No, the community surrounding the FMU obtains the majority of its water through private wells not city water supplies.
3. Does all or part of the FMU include extensive floodplain or wetland forests that are critical to mediating flooding or in controlling stream flow regulation and water quality? Explain.
No. There are however several observed vernal pools. Within Appendix 7 find specific forest management guidelines for these vernal pools.
4. Is all or part of the FMU critical to control erosion, landslides, or avalanches that would threaten local communities? If yes, explain. Follow New Jersey Best Management Practices for Forestry and Wetlands.
No, however, each plan contains soil resource information from NRCS within Appendix 8 including a Custom Soil Resource Report. Findings from the NRCS report will be further explained within the Soils portion of the forest management plan along with specific management actions required to prevent erosion issues that may effect local communities.

HCV5:

Definition:

Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health, well-being).

New Jersey Audubon Data Sources:

1. New Jersey Department of Community Affairs – Office of Recreation
2. New Jersey GIS Web Clearinghouse for federal, state, and municipally protected open spaces
3. Stakeholder input via addition of property to Audubon's website within Forest Stewardship Program. Also, as new property becomes certified New Jersey Audubon's Group Certificate a press release will be generated which will offer opportunity for stakeholder input.

HCV5 Group Manager Questions:

1. Is all or part of the FMU fundamental to the basic needs of a local community? If yes, explain how.
No. While the FMU is publically assessable and used by local communities for various recreational opportunities it is not fundamental to basic needs of the community.

HCV6:

Yes, 2 acres.

Definition:

Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

New Jersey Audubon Data Sources:

1. Archeological Society of New Jersey – asnj.org
2. New Jersey Department of Environmental Protection's Historic Preservation Office
3. New Jersey GIS Web Clearinghouse for federal, state, and municipally protected open spaces
4. Stakeholder input via addition of property to Audubon's website within Forest Stewardship Program. Also, as new property becomes certified New Jersey Audubon's Group Certificate a press release will be generated which will offer opportunity for stakeholder input.
5. Contact Lenni Lenape Indian Tribe of New Jersey.

HCV6 Group Manager Questions:

1. Does all or part of the FMU contain specific forest area that is critical to the tribe and local community's cultural identity? If yes, explain.
No. There are no tribe lands on or around the FMU. While the community is involved, implementing the state's six recreational goals through volunteerism, the FMU is a relatively recent phenomenon and wouldn't be considered part of the local community's cultural identity.
2. Are significant cultural features created intentionally by humans present? If yes, explain.
There are sites within the FMU that contain historical and cultural areas of importance. Such areas are defined within the forest stewardship plan along with proper preservation recommendations. There are several old foundations and structures once used by Thomas Edison as to mine for materials required for his lab and inventions.
3. Are outstanding natural landscapes present that have evolved as a result of social, economic, administrative, and/or religious imperative? If yes, explain.
No

Sparta Mountain WMA Stakeholders

NJ Forest Service
P.O. Box 404
Trenton, NJ 08625

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[REDACTED]
[REDACTED]

NJDEP Division of Fish & Wildlife Bureau of Land Management
P.O. Box 420 Mail Code 501-03

Trenton, NJ 08625

[REDACTED]
[REDACTED]
[REDACTED]

NJDEP Division of Fish & Wildlife Bureau of Endangered and Nongame Species

P.O. Box 420 Mail Code 501-03

Trenton, NJ 08625

[REDACTED]
[REDACTED]
[REDACTED]

NJDEP Division of Fish & Wildlife Bureau of Information and Education

P.O. Box 420 Mail Code 501-03

Trenton, NJ 08625

[REDACTED]
[REDACTED]
[REDACTED]

NJDEP Division of Fish & Wildlife Bureau of Wildlife Management

P.O. Box 420 Mail Code 501-03

Trenton, NJ 08625

[REDACTED]
[REDACTED]
[REDACTED]

NJ DEP Office of Natural Lands Management

P.O. Box 420 Mail Code 501-04

Trenton, New Jersey 08625-0420

[REDACTED]
[REDACTED]
[REDACTED]

NJ DEP Office of Historic Preservation

P.O. Box 404

Trenton, NJ 08625

[REDACTED]
[REDACTED]
[REDACTED]

Sparta Township Municipal Building

65 Main Street

Sparta, New Jersey 07871

[REDACTED]
[REDACTED]

Borough of Ogdensburg Municipal Building

14 Highland Avenue

Ogdensburg, NJ 07439

[REDACTED]
[REDACTED]
[REDACTED]

Friends of Sparta Mt

[REDACTED]
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NJ State Federation of Sportsmen

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NJ Outdoor Alliance

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NJ Chapter of The Wildlife Society

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JORBA

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

NY NJ Trail Conference

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

New Jersey Highlands Council
100 North Road
Chester, NJ 07930

[REDACTED]

[REDACTED]

New Jersey Highlands Coalition

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Pinelands Commission
PO Box 359
15 Springfield Road
New Lisbon, New Jersey 08064

[REDACTED]

[REDACTED]

Office of the County Administrator
Sussex County Administrative Center
One Spring Street
Newton, NJ 07860

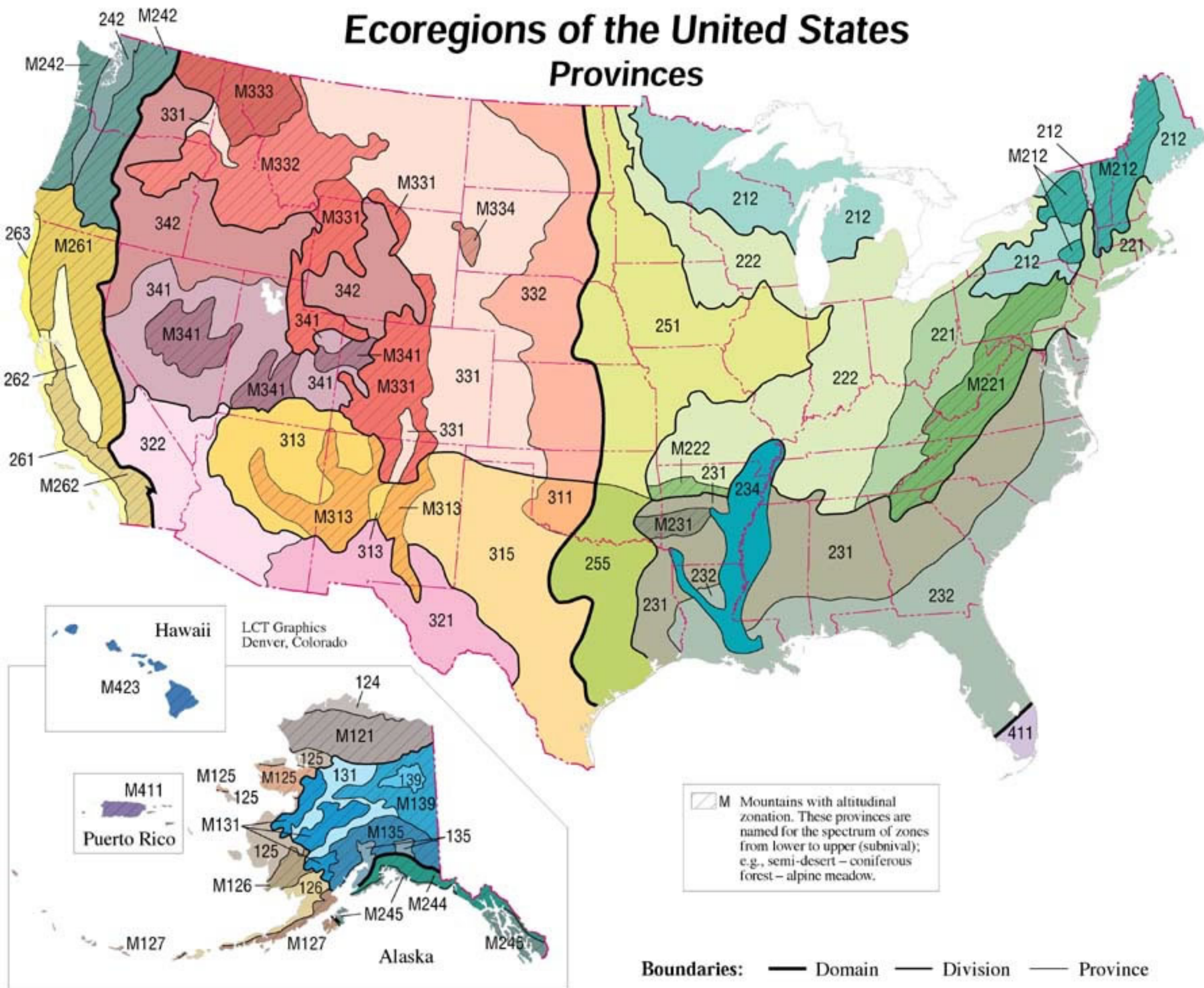
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Ecoregions of the United States

Provinces





FSC-US DRAFT HIGH CONSERVATION VALUE FOREST ASSESSMENT FRAMEWORK

Revised: July 7, 2010

Please address comments to: Gary Dodge, Director of Science and Certification, FSC-US;

High Conservation Value Forests (HCVFs) are managed to protect and maintain their identified high conservation value attributes. In some cases, active management is consistent with these attributes, and in other cases (e.g., most old growth forests), active management is specifically precluded.

FSC introduced the concept of High Conservation Value Forests (HCVFs) in 1999 to ensure identification and proper management of forest areas with exceptional conservation value. FSC defines High Conservation Value Forests as those that possess one or more of the following High Conservation Values (HCVs):

1. HCV forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia);
2. HCV forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance;
3. HCV forest areas that are in or contain rare, threatened or endangered ecosystems;
4. HCV forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control);
5. HCV forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health); or,
6. HCV forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

How to use the framework:

The High Conservation Value Forest (HCVF) Assessment Framework is a guidance document to help land managers identify if High Conservation Values (HCVs) are present on the forest. The Framework includes a set of six tables, one for each HCV. The land manager is not required to use this Assessment Framework in identifying HCVs on their FMU; however, compliance with Principle 9 of the FSC-US Forest Management Standard requires that the HCVF assessment is consistent with the assessment process, definitions, data sources, and other guidance described in the US National HCVF Assessment Framework.

A “No” answer to the questions in this Framework means that the forest operation does not include HCVs with the characteristics indicated by that question and associated guidance. A “Yes” answer will generally indicate the presence of an HCV. However, final determination of the presence or absence of an HCV should be made by the forest owner or manager based on the weight of available evidence, including data and applicable consultations.

As required in Indicator 9.1.c in the FSC-US Forest Management Standard, the report summarizing the HCVF assessment will vary depending on the size and complexity of the FMU

and the HCVs identified. At minimum, the assessment shall describe data considered, stakeholders consulted, and conclusions regarding identified High Conservation Values.

This Assessment Framework is also applicable for conducting assessments for controlled wood as per FSC-STD-30-010.

Guidance on Assessment Process: Data gathered to address rare or important ecological features associated with Criteria 6.1, 6.2, 6.3, and 6.4 should be the starting point for this assessment. If there is a concentration of these values and additional conservation is warranted to ensure that the integrity of the area as a whole is maintained, then HCVF designation is warranted.

Existing assessments of biodiversity values undertaken by public agencies and/or other conservation groups may be used when considering if this HCV is present. When a property adjacent to an area with known biodiversity values has not been surveyed for ecological values, then consultation with an outside expert may be necessary to determine if the High Conservation Values also occur on the FMU.

Initial consultation for HCVs 1-3 is generally with state Natural Heritage programs and state wildlife agencies. The US Fish and Wildlife Service (USFWS) and National Marine Fisheries Service should be consulted if the state conservation agency does not have USFWS location information.

In some regions TNC's Ecoregional Assessments may also identify areas with significant concentrations of biodiversity values. While areas identified on these maps are not intended to be HCVF as defined below, the compilation of data and consultation with TNC may provide useful information.

Additional consultation may be appropriate if the FMU is adjacent to an identified area with regionally significant concentrations of biodiversity values, or if the FMU contains ecosystems and site conditions that are similar to such areas.

On large FMUs, for HCVF Attributes 1-4, an FMU-specific assessment including on-site review may be appropriate if the FMU has not been assessed by a qualified ecologist and evidence suggests that HCVs may be present.

HCV 1: Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia).

<p>Definition of 'Significant concentrations of biodiversity values': areas that contain concentrations of rare/threatened/endangered species, natural communities, or other biodiversity values that occur in numbers, frequency, quality, and/or density that are sufficiently outstanding to be considered unique or highly important in comparison with other areas within the ecoregion within which the FMU is located.</p>

<p>Definition of Region/Ecoregion: For the purposes of HCVF assessment, the ecoregion will in</p>
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most cases be consistent with the scale of the USFS Section within which the ownership is located (see Ecoregion Map). If data for the region are limited, or in the cases of very small ecological sections, a larger area may be considered if justified.). Where justified by available data, a comparable classification system (e.g., TNC's Ecoregion Map) may be used.

Guidance on Data sources: The rigor of the assessment, including choices of data sources consulted, is based on the likelihood of HCVs on the FMU and the risk of negative impacts to the HCVs. Data sources include:

- State Natural Heritage Programs
- State conservation, fish and wildlife Agencies
- State Wildlife Action Plan
- US Fish and Wildlife Service
- National Marine Fisheries Service
- Nature Serve
- Conservation groups whose primary mission is science-based biodiversity protection and management (e.g., The Nature Conservancy, Audubon).
- Local experts (e.g. scientists, tribal experts)
- Forest Management Unit (FMU) cover type maps and forest inventory data
- US Forest Service (USFS) Ecoregions See Appendix D
http://www.fs.fed.us/land/ecosysmgmt/colorimagemap/ecoreg1_provinces.html; or
<http://nationalatlas.gov/natlas/Natlasstart.asp> click on *Biology/Ecoregion Bailey/Province and Section*.

Guiding Questions	Guidance
1.1. Does all or part of the FMU contain an area that is legally protected or managed primarily for concentrations of biodiversity values that are significant at the ecoregion or larger scale, or is such an area proposed for protection?	See guidance and definitions above.
1.2. Does all or part of the FMU contain an area with significant concentrations of rare, threatened or endangered species or rare ecological communities, endemic (range restricted) species and/or natural communities that are significant at the ecoregion scale?	<p>See guidance and definitions above. In most cases these areas are likely to be known to state conservation agencies (e.g. Natural Heritage and wildlife). However, not all “concentrations” identified by an agency may meet the intent of this HCV.</p> <p>This could also include areas with mapped significant seasonal concentrations of species (e.g., migratory staging areas).</p> <p>If state-level conservation rankings are available, they should be considered in the assessment. If state-level rankings are not available, then managers should seek the best available data.</p>

HCV 2. Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.

Definition of ‘Large landscape-level forests’: Relatively contiguous areas of forest (which may be crossed by land management roads or public roads). At the minimum these forests are likely to be thousands or tens of thousands of acres in size. However, “large” is relative to ecoregion landscape context (particularly the size of forested blocks in the ecoregion) and might be smaller or larger than this figure as indicated by consultation with regional experts. In ecoregions where natural forests are heavily fragmented by forest type conversion or land use conversion, the increased value of smaller occurrences of remaining natural forest should also be included in the assessment. The forest may be in single or multiple ownerships.

Definition of ‘Significant’: The forest is significant in the ecoregion due to its size, condition, and/or importance to biodiversity conservation. Factors to consider include:

- Rarity of forests of this size and quality within the ecoregion
- Less affected by anthropogenic factors than similar areas in the ecoregion.

See additional guidance below.

Definition of Ecoregion: See definition in HCV 1

Data sources: See HCV 1 Guidance on Assessment Process.

Guidance:

Areas with HCV 2 are less likely to be mapped than areas qualifying for HCV 1. When it is not clear if this value is present, then analysis of forest inventory and cover type data should be used to determine if HCV 2 occurs on the FMU.

The general approach in assessing for HCV 2 is to compare forest characteristics (such as extent and intensity of harvest practices, forest communities, successional stages, structures, and species composition and abundance) with natural forests that have only been subject to natural disturbance processes or minimal human intervention. Aerial photography or satellite images of the surrounding landscape should also be considered.

Guiding Questions	Guidance
<p>2.1. Does all or part of the FMU contain a globally, regionally or nationally significant large landscape-scale forest where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance?</p> <p>What would happen to regional biodiversity if the characteristics of this forest (e.g., age class structure or relative species abundance) were significantly altered?</p>	<p>Areas with this HCV include:</p> <ol style="list-style-type: none"> 1. Landscape-scale natural forests that have experienced lesser levels of past human disturbance (e.g., minimal timber harvesting) or other management (e.g. fire suppression), or areas within such forests (e.g., part or all of ownerships or management units). 2. Managed forests that are rare at the ecoregion or larger scale because they contain forest communities with successional stages, forest structures, and species composition that are similar in distribution and abundance to natural forests that have been only subject to natural disturbance processes or minimal human intervention., This

	<p>would also include areas (e.g., part or all of ownerships or management units) within such forests. Because these are managed forests they would not likely contain old growth, but nonetheless they would typically contain an abundance older forest attributes (biologically mature or late successional) characteristic of the forest type, as indicated by tree species composition, tree size, or other attributes applicable to the forest community type, such as coarse woody debris, snags, herb diversity, structural understory diversity, and the lack of invasive plant species.</p> <p>In some regions, Landfire's FRCC index can be used to identify these areas that have landscape scale expressions of low ecological departure from natural conditions (e.g. FRCC 1). These data may be used to supplement analyses based for Guidance conditions 1 and 2, above.</p> <p>Examples: HCVFs in this group are more likely to be in public ownership, although areas in private ownership may that have experienced low levels of timber harvesting could also qualify if they are part of landscape-scale forests as described above.</p>
<p>2.2. Does all or part of the FMU contain a landscape-scale forest recognized as being significant to biodiversity conservation at the ecoregion scale because it contains landscape-scale biodiversity values that are not present on other forests due to landscape-scale habitat modifications on surrounding lands, (such as land use conversion or forest management practices that have significantly altered forest biodiversity values)?</p> <p>What would happen to regional biodiversity if the characteristics of this forest (e.g., age class structure or relative species abundance) were significantly altered?</p>	<p>Areas with this HCV include:</p> <ol style="list-style-type: none"> Forests recognized as being regionally significant at the ecoregion or larger scale by conservation organizations due to the unusual landscape-scale biodiversity values provided by size and condition of the forest relative to regional forest land cover and land use trends. Forests that provide regionally significant habitat connectivity between larger forest areas. <p>See guidance above. These would typically be managed forests.</p> <p>Examples: HCVFs in this group are likely to be comparatively intact landscape-scale forests in developed regions (including regions where forests have been converted to agricultural use), relatively mature landscape-scale forests in regions where short-rotation forestry is the norm, and "island" forests isolated by agriculture or natural changes in vegetation (e.g., isolated mountain ranges surrounded by grassland).</p>

HCV 3. Forest areas that are in or contain rare, threatened or endangered ecosystems.

Guidance: Rare, threatened and endangered ecosystems include old growth, roadless areas, and other ecosystems that are considered 'rare' at a global, regional, or local (state) level.

- Distinctiveness in terms of size, quality (particularly lack of human disturbance), or location within the ecosystem's geographic range may be considered in assessing ecosystem rarity.
- For areas that have not been surveyed by state Natural Heritage programs or other plant community experts, forest manager should conduct a survey for assemblages of HCV3 attributes.
- For old growth, stand-level assessments are appropriate
- For roadless areas, cover type maps, and site reconnaissance information is appropriate.

Definition of Old growth: (1) the oldest seral stage in which a plant community is capable of existing on a site, given the frequency of natural disturbance events, or (2) a very old example of a stand dominated by long-lived early- or mid-seral species. The onset of old growth varies by forest community and region. For example, in the Pacific Coast region, old growth often begins around 200-250 years of age, whereas in the Northeast old growth is generally begins at 150-200 years after stand-replacing disturbances. Depending on the frequency and intensity of disturbances, and site conditions, old-growth forest will have different structures, species compositions, and age distributions, and functional capacities than younger forests. Old-growth and late successional stands and forests include: A) **Type 1 Old Growth:** stands that have never been logged and that display late successional/old-growth characteristics. B) **Type 2 Old Growth:** stands that have been logged, but which retain significant late-successional/old-growth structure and functions.

Definition of Roadless Area: Roadless areas are forested areas without evidence of roads or skid trails.

Data sources: Sources of information may include but are not limited to:

- FMU cover type maps and forest inventory data
- Nature Serve
- State Natural Heritage Programs
- Conservation NGOs
- Local experts (e.g. scientists, tribal experts)
- For Rare ecosystems, the primary data sources is the rare ecosystem information gathered as per Criteria 6.1, 6.2 and 6.4 in the FSC-US Forest Management Standard.

Guiding Questions	Guidance
3.1. Does the FMU contain old growth stands?	<p>National: See guidance and definition above and the appendix for regional variation.</p> <p>Regional: Regionally-specific assessment tools have been developed to help identify old growth and/or late successional forests. Examples include those developed</p>

	by the State of Washington DNR, State of Minnesota DNR, and by the Manomet Center for Conservation Sciences (Maine). These tools are not definitive for the purposes of the HCVF assessment but may be of practical value to the land manager. Other regional definitions and studies should be considered where available.
3.2. Does the FMU contain or is it part of a roadless area >500 acres in size or that has unique roadless area characteristics?	<p>Definition: See definition and guidance above</p> <p>Guidance on size: 500 acres is a general size guideline, not a definitive minimum, and generally applies to “block” shaped areas rather than linear figures such as riparian zone.</p> <p>Note: the HCV only occurs within the roadless area and does not apply to the entire FMU.</p>
3.3. Does the FMU contain any other rare, threatened, or endangered ecosystem?	See definition and guidance above.

HCV 4. Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control).	
<p>Intent: HCV 4 is focused on basic services of nature for human needs.</p> <p>Guidance on ‘critical situations’ – general. FSC-US cannot provide clear thresholds on when an area provides critical protection. An operable question to help address this question may be, “What is the impact of converting the forest in question to a non-forest use?”</p> <p>Guidance on ‘critical situations’ – watershed protection: A forest that is part of a local drinking water catchment or irrigation supply system, or is a critical source for a remote location (i.e., water is pumped to a remote location) may be considered a ‘critical situation’, particularly when people are dependent on the guarantee of water for drinking or irrigation, or where the regulation of water flow guarantees the existence of fishing grounds or agricultural land on which the local people are dependent, protects downstream communities from flooding, or provides critical protection to rare, threatened, or endangered aquatic species.</p> <p>Data sources: Data sources may include, but are not limited to:</p> <ul style="list-style-type: none"> • Soil, watershed and aquifer maps • Hydrologists and soil scientists in state or federal agencies or research institutions. • Local or regional water management districts. 	
Guiding Questions	Guidance
4.1. Is all or part of the FMU owned or managed for the primary purpose of providing a source of community	

drinking water?	
4.2. Does all or part of the FMU play a 'critical watershed role' in protecting community drinking water supplies?	See guidance on "Critical situations – watershed protection" above.
4.3. Does all or part of the FMU include extensive floodplain or wetland forests that are critical to mediating flooding or in controlling stream flow regulation and water quality?	See guidance for "Critical situations" above.
4.4. Is all or part of the FMU critical to control erosion, landslides, or avalanches that would threaten local communities?	See guidance for "Critical situations" above.

HCV 5. Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health, well-being).

Guidance and Definitions

Definition of 'basic human needs': Local people use the area to obtain resources on which they are critically dependent. This may be the case if local people harvest food products from the forest, or collect building materials or medicinal plants where no viable alternative exists. Forest uses such as recreational hunting or commercial timber harvesting (i.e., that is not critical for local building materials) are not basic human needs.

Definition of 'fundamental': Loss of the resources from this area would have a significant impact in the supply of the resource and decrease local community well-being. FSC-US has not set a threshold to determine the amount of basic human needs that constitute "fundamental." Outside of the US, precedent has been set in at least one HCVF "toolkit" at 25% (Indonesia; see Rayden 2008).

Data sources: In most cases assessment of local community rights (i.e., legal or customary tenure or use rights) and Native American rights consistent with Criterion 2.2, Principle 3, and Criterion 4.4 will be sufficient to determine if there is potential for this HCV to occur on the forest. HCV 5 sits alongside these requirements as additional safeguards for exceptional circumstances. Sources of assessment information may include but are not limited to:

- Native American tribes, bands, and organizations
- Community groups dependent upon the forest for basic needs as identified
- Federal and state government agencies with responsibilities to Native American groups and local communities
- Anthropologists or social scientists with local forest expertise

Guiding Questions	Guidance
5.1. Is all or part of the FMU fundamental to the basic needs of a local community?	See definitions and guidance above.

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HCV 6. Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

Definition of 'cultural significance': These include religious/sacred sites, burial grounds or sites at which regular traditional ceremonies take place. They may also include outstanding natural landscapes that have evolved as a result of social, economic, administrative, and/or religious imperative (i.e., fossils, artifacts, areas representing a traditional way of life); or areas that by virtue of their natural properties possess significant religious, artistic or cultural association.

Definition of 'critical': Loss of cultural resources from this area would have a significant impact to the traditional cultural identity of local and regional communities.

Data sources: In most cases, assessments of local community rights (i.e., legal or customary tenure or use rights) and Native American rights consistent with Criterion 2.2, Principle 3, and the social impact evaluation of Criterion 4.4 will be sufficient to determine if there is potential for this HCV to occur on the forest. HCV 6 sits alongside these requirements as additional safeguards for exceptional circumstances. Sources of assessment information may include but are not limited to:

- Native American tribes, bands, and organizations
- Federal and state government agencies with responsibilities to Native American groups and local communities
- Anthropologists or social scientists with local forest expertise
- State cultural heritage list

Guiding Questions	Guidance
6.1. Does all or part of the FMU contain specific forest area that is critical to the tribe and local community's cultural identity?	See definitions and guidance above.
6.2. Are significant cultural features created intentionally by humans present?	
6.3. Are outstanding natural landscapes present that have evolved as a result of social, economic, administrative, and/or religious imperative?	

Appendix 1: Regional variation and guidance

Ozark Ouachita:

- roadless areas (areas without roads, logging roads, or skid trails), larger than 500 acres;
- habitats for threatened or endangered species, either intact or in need of restoration;
- unique and sensitive geomorphic features, such as caves and rock outcrops;
- and buffers designed to protect their integrity, and forested wetlands or glades, including springs, fens, and seeps.

Lake States:

Examples of forest areas that *may have* high conservation value attributes include, but are not limited to:

Central Hardwoods:

- Old growth
- Old forests/mixed age stands that include trees >160 years old
- Municipal watersheds –headwaters, reservoirs
- Rare, Threatened, and Endangered (RTE) ecosystems, as defined by GAP analysis, Natural Heritage Inventory, and/or the World Wildlife Fund’s Forest Communities of Highest Conservation Concern, and/or Great Lakes Assessment
- Intact forest blocks in an agriculturally dominated landscape (refugia)
- Intact forests >1000 ac (valuable to interior forest species)
- Protected caves
- Savannas
- Glades
- Barrens
- Prairie remnants

North Woods/Lake States

- Old growth
- Old forests/mixed age stands that include trees >120 years old
- Blocks of contiguous forest, > 500 ac, which host RTEs
- Oak savannas
- Hemlock-dominated forests
- Pine stands of natural origin
- Contiguous blocks, >500 ac, of late successional species, that are managed to create old growth
- Fens, particularly calcareous fens
- Other non-forest communities, e.g., barrens, prairies, distinctive geological land forms, vernal pools
- Other sites as defined by GAP analysis, Natural Heritage Inventory, and/or the World Wildlife Fund’s Forest Communities of Highest Conservation Concern

Note: In the Lake States-Central Hardwoods region, old growth (see Glossary) is both rare and invariably an HCVF.

Note: Old forests may or may not be designated HCVFs. Old forests that either have or are developing old-growth attributes, but which have been previously harvested, may be designated HCVFs.

Appalachia:

Forest and community types in the Appalachia region that have HCVF attributes include, but are not limited to:

- Old-growth oak-hickory (*Quercus* spp.-*Carya* spp.) forests on the Cumberland Plateau and on the Highland Rim of Tennessee
- Mixed mesophytic cove sites on the Cumberland Plateau
- Limestone glades in Tennessee and Kentucky
- Pocosins (evergreen shrub bogs) and other mountain bogs in Virginia, Tennessee, and North Carolina
- other forest and woodland plant community types listed by NatureServe as critically endangered, endangered, or vulnerable (G1-G3, N1-N3, and S1-S3) in the region, unless further refined by consultations with heritage programs, local native plant societies, local experts, and ENGOS;
- un-entered old-growth stands and intact old-growth forests;
- roadless areas (areas without roads, logging roads, or skid trails), larger than 500 acres;
- habitats for threatened or endangered species;
- unique and sensitive geophysical features, such as caves and rock outcrops; and
- forested wetlands or glades, such as springs, fens, and seeps.
- Spruce-fir (*Picea rubens*-*Abies fraseri*) forests in southern Appalachia
- Atlantic white-cedar (*Chamaecyparis thyoides*) stands Red spruce (*Picea rubens*) forests in central Appalachia

NorthEast:

- Examples include the riverbank areas of the St. John's River in Maine, the "Yellow Bog area" within the Nulhegan watershed of northeastern Vermont, and the Southeastern Massachusetts Bioreserve.
- More common in the northeast are discrete areas of biodiversity value (i. e., they generally contain one rare natural community or an endangered species or two) that are not part of a network of isolated but interconnected habitats that would lead to HCVF status at the landscape scale.
- The best examples are in public and/or private conservation ownership such as the Big Reed Preserve in Maine, parts of the White Mountain National Forest in New Hampshire and Maine, and parts of the Adirondack and Catskill Parks in New York.
- There are areas of a few thousand acres in northern Maine where species composition and structure closely approach natural conditions due to light harvest history and a relatively long time (30-50 years) since the last harvest.
- Note: Rare, threatened, or endangered (hereafter collectively referred to as "rare") ecosystems belong to a subset of natural communities state-ranked as S1, S2, or S3 or

G1, G2, or G3 by state Natural Heritage programs. Rare ecosystems may also include outstanding examples of more common (ranked S4 or S5) community types. Rare natural communities that are not extensive in area may be adequately protected under Criterion 6.2 and/or 6.4.

- In the Northeast, rare communities or assemblages of communities dominated by a rare community that approach or exceed 500 acres (200 ha) in area are normally delineated and managed as rare ecosystems under HCVF.
- Other factors that may be considered include, but are not limited to, Relative rarity of S3-ranked communities (which may range from 21 to 100 examples in a state), Distinctiveness in terms of size (a smaller or larger threshold than 500 acres might be appropriate, depending on the size range of the community type), quality (particularly lack of human disturbance), or location within the community's geographic range, Vulnerability to degradation, and Proximity to protected examples of the same ecosystem type.
- Due to their rarity in the Northeast, intact old growth forests (see glossary), which represent an extremely rare stage of what may be a common natural community type, normally qualify as "rare, threatened, or endangered ecosystems" under the HCVF definition.
- Note: Examples of forest areas that provide basic services of nature in critical situations in the northeast are watersheds that supply water for municipalities (examples may include Quabbin Reservoir in Massachusetts, the Croton Reservoir in New York and Sebago Lake in Maine). There are few areas within the forest regions of New York and New England that provide basic services of nature in critical situations above and beyond the ecosystem services provided by all forests.

Appendix 2: References

Rayden, T. 2008. ***Assessment, management and monitoring of High Conservation Value Forest: a practical guide for forest managers.*** Proforest, Oxford, England.
<http://www.proforest.net/publication/pubcat.2007-01-19.4709481979> (last accessed 2/10/09).

Stewart, C., G. Perpetua, T. Rayden, and R. Nussbaum. 2008. ***Good Practice Guidelines for High Conservation Value Assessments: practical guide for practitioners and auditors.*** Proforest, Oxford, England. <http://www.proforest.net/publication/pubcat.2007-01-19.4709481979> (last accessed 2/10/09).

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<http://www.hcvnetwork.org/resources/global-hcv-toolkits>.