



**FSC Certification Report for the
2008 Recertification Audit of:
Collins Almanor Forest
Certificate Number: SCS-FM/COC-00006N**

**Under the
SCS Forest Conservation Program
(An FSC-Accredited Certification Program)**

**Date of Field Audit: July 21 - 22, 2008
Date of Report: August 10, 2008**

**Scientific Certification Systems
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Section 2.0 (Surveillance Decision and Public Record) will be made publicly available on the SCS website (www.scscertified.com) no later than 60 days after the report is finalized.

1.0 GENERAL INFORMATION

1.1 CONTACT INFORMATION

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P.O. Box 796
Chester, CA 96020
Contact: Jay Francis, Forest Manager
Webpage:http://www.collinswood.com/M2_Certified Forests/M2H4A1_Overview.html

1.2 General Background

This report covers the third five-year recertification audit of Collins Almanor Forest (CAF) since their 1993 certification. The procedure followed is pursuant to the FSC guidelines for recertification audits as well as the terms of the forest management certificate awarded by Scientific Certification Systems on July 31, 2003 (SCS-FM/COC-00006N). All certificates issued by SCS under the aegis of the Forest Stewardship Council (FSC) require five-year recertification audits to ascertain ongoing compliance with the requirements and standards of certification. A public summary of the initial evaluation is available on the SCS website www.scs-certified.com.

Pursuant to FSC and SCS guidelines, recertification audits are intended to comprehensively examine the full scope of the certified forest operations.

At the time of the 2008 recertification audit, all Corrective Action Requests (CARs), originally stipulated during the 2003 re-assessment, were closed. No CARs or Recommendations were open from any of the subsequent annual audits.

1.3 Guidelines/Standards Employed

For this recertification audit, the SCS audit team evaluated the extent of continued conformance with the FSC Pacific Coast Regional Standard v9.0.

2.0 SURVEILLANCE DECISION AND PUBLIC RECORD

2.1 Assessment Dates

The field portion of the annual audit occurred July 20-22, 2008.

Pre-audit activities included document review of the management system and review of previous audit reports (.5 auditor days). Two auditor days were necessary to conduct the field portion of

the audit and write the surveillance audit report. Therefore, a total of 2.5 auditor days were required to complete the 2007 annual audit.

2.2 Assessment Personnel

Mr. Sterling Griffin, RPF #2805: Sterling Griffin is a Senior Certification Forester with Scientific Certification Systems (SCS). He is a Registered Professional Forester in the State of California with 10 years professional experience in private and public forest management. After graduating from Purdue University with a B.S in Forestry, his professional career began with the U.S. Forest Service working in forest inventory (FIA), fire use, silviculture and ecosystem research. Areas of research activities include stand level response to vegetative competition and Long-Term Ecosystem Productivity (LTEP) in the Pacific Northwest. Prior to joining SCS, he was the founder of a forestry consulting firm in Northern California specializing in sustained yield management, fire-hazard reduction, and forest health management. Since joining SCS, Mr. Griffin has conducted numerous Forest Stewardship Council (FSC) assessments including forestlands administered by Fort Lewis Forestry Branch, Michigan DNR, Indiana DOF, New York DEC, Maryland DNR and numerous private operations in Oregon, Washington, and California.

2.3 Assessment Process

The scope of the 2007 annual audit, as with all annual audits, included: document review, spending time in the field and office, interviewing management personnel and, as appropriate, interacting with outside stakeholders.

Site selections for the 2007 surveillance audit were based upon current harvesting areas, areas of special concern (HCVF), and other operational areas. In addition to the specific areas listed below, each stop included inspections of best management practices, forest regeneration, and roads.

8:00 -10:00 am Opening Meeting - Office Review of documentary information

10:00 am – 5:00 pm Field visit including the following stops:

Bonanza THP

Sale was harvested in 2006 using single-tree selection prescription. Type III HCVF stand with legacy old-growth trees in stand. Many legacy trees retained throughout harvest area. Nice residual stand structure and multi-layered canopy. Snags and downed CWD retained. Residual BA appears to exceed 100 ft². Tops skidded to landing and chipped in areas along road to reduce fire-hazard.

Hobo THP

Area harvested in 2006 using group selection prescription. Group openings average 1 acre in size and are smaller than 2.5 acre maximum allowed under forest practice rules. Collins is utilizing group selection techniques to encourage pine regeneration and prevent a conversion to more shade tolerant white fir. Some areas biomass thinned. Residual stands have nice spacing and diameter distribution.

“Park 40”

Designated HCVF area. Area set aside from traditional green harvesting activities. Type II (salvage logging has occurred) HCVF stand. Biomass thinning and prescribed burning activities undertaken to reduce fire-hazard and reduce overcrowding to improve forest health. Groups or pockets of areas left untreated to improve structural diversity. PCT trail signage and interpretative brochures maintained on-site.

Wet Meadow HCVF

Designated HCVF area approximately 5 acres in size. Collins Forest Manager monitors encroachment of conifer/lodgepole around perimeter. There are efforts underway to secure grant money to construct a split rail fence around the meadow to prevent illegal OHV use of the area. Very little damage observed due to unauthorized activity.

Watertrough THP

Active harvesting operations underway. Logger had voluntarily shut down due to wet, rainy conditions in order to preserve road conditions and prevent rutting. Large portion of the harvest area biomass thinned by Timbco to reduce fuel-loads. Steep slopes not thinned.

2.4 Status of Corrective Action Requests

There were no open Corrective Action Requests at the time of the 2007 annual audit.

2.5 General Observations

The Collins Almanor Forest remains an exemplary model of a “well managed” forest. Stands are managed on a long-term sustained yield basis, rotations are long, and many big, old trees are left in the woods. The condition of the forest promotes future growth and provisions are made to prevent catastrophic events from threatening the future of the forest.

Some challenges that CAF foresters are facing include desirable species regeneration and continued fire-hazard reduction. CAF has shifted to utilizing more group selection when regenerating stands. This approach seems like a well reasoned response to an observed challenge and one that should retain the past character of the CAF. Furthermore, group selection seems to fit well with the historical disturbance regime and can have added value in creating a diversity of habitats where larger openings are absent.

In areas where ground fuels are reduced and ladder fuels eliminated to reduce fire hazards, there may be a challenge in maintaining an uneven-aged stand structure. Historic fire modeling seems to indicate that most fires burned in mosaic patterns producing patches of cohorts across the landscape. Biomass thinnings can replicate this condition by leaving small pockets of young regeneration untreated. As long as the pockets would not allow the spread of fire, there may be an opportunity to create a more balanced diameter distribution, diversity of habitats, and heterogeneity across the landscape. In conclusion, CAF seems to be very flexible in their adaptability to changing forest conditions and creative in the thoughtful approach to problem solving.

2.6 New Corrective Action Requests and Recommendations

There were three new minor corrective action requests issued as a result of the 2008 recertification audit.

There were one new recommendations issued as a result of the 2008 recertification audit.

Auditor Observation/Non-Conformity:

The SCS Team observed that the current practices for the establishment of the WLPZ for Class I (Category A), Class II (Category B), and Class III (Category C) streams is to follow the requirements in the FPR of the State of California. These WLPZ requirements vary by slope and stream class. The following table represents these requirements:

	STREAM	CLASS	(CA FPR)
SLOPE	I	II	III
<30%	75	50	0
30-50%	100	75	50
>50%	150	100	50

The minimum FSC standards from 6.5.p, 6.5.q, and 6.5.r are as follows:

	STREAM	CATEGORY	(FSC STANDARD)
	A	B	C
Inner Buffer	50	25	0
Outer Buffer	100	75	75
Total Buffer	150	100	75

Therefore on slopes of 50% or less for Class I and II streams the FSC required minimum buffer is larger than the CA FPR WLPZ requirement and new road construction and disturbance of mineral soil might occur within the FSC buffer or mulching and seeding of disturbed mineral soil might not take place. One landing within a Class III WLPZ was observed in the Watertrough THP where mulching and seeding of disturbed mineral soil had not occurred.

CAR 2008.1:
By the time of the 2009 annual audit, CAF must develop a WLPZ (buffer zone) approach to the establishment of the on the ground WLPZ protection that conforms to the FSC standards for inner and outer buffer zones.
Reference: FSC 6.5.p, 6.5.q, and 6.5.r
Status at July 10, 2008:
This is a new Minor CAR. This item will be reviewed in the annual audit in 2009.

Auditor Observation/Non-Conformity:
There is no unified document identifying specific types of HCVF's occurring on the CAF, nor the measures to ensure the maintenance and/or enhancement of applicable conservation attributes. Delineation of HCVF's by habitat descriptions and maps is disorganized and incomplete.
CAR 2008.2:
By the time of the 2009 annual audit, CAF must prepare a single unified report that identifies all types of HCVF, describes their habitat types/plant communities(where applicable), summarizes measures to ensure the maintenance and/or enhancement of conservation attributes , and delineates their locations on maps. The summary HCVF document can refer the reader to details in other documents by citation, unless the original documents are not publicly available. In which case, detailed measures must be described in the summary HCVF report.
Reference: FSC 9.1.a and 9.3
Status at July 22, 2008:
This is a new minor CAR and will be reviewed in the 2009 annual audit.

Auditor Observation/Non-Conformity:
The publicly available information on HCVF's and the measures that ensure the maintenance and/or enhancement of the applicable conservation attributes is not adequate. The Public Summary of the Management Plan includes only general categories of HCVF's, such as, Late Seral Types and Their Habitat Elements, Riparian and Wet Meadow Types, and Water-Lake Protection Zones. The measures to ensure maintenance and/or enhancement are also very general ("Appropriate management techniques....") or totally lacking.
CAR 2008.3:
By the time of the 2009 annual audit, CAF must provide information on the specific conservation attributes of the identified HCVF's and the measures to ensure the maintenance and /or enhancement of the applicable conservation attributes must be specifically included in a publicly available form. The public summary of the management plan or some other publicly available source, such as a specific HCVF Section on the CAF website would be appropriate forms.
Reference: FSC C 9.3
Status at July 22, 2008:
This is a new minor CAR and will be reviewed in the 2009 annual audit.

Auditor Observation/Non-Conformity:
Snag data are unavailable in a format to assess whether CAF is satisfying the FSC snag retention requirements (3 to 10 snags per acre averaged over 10 acres). Large snag recruitment and retention rates may be insufficient to meet habitat requirements of cavity using wildlife.
REC 2008.1:
By the time of the 2009 annual audit, CAF should provide data demonstrating that the FSC snag retention requirement has been met. CAF should review the published literature of snag needs by members of the Snag and Down Wood Guild (see draft Wildlife Management Plan) and provide evidence that snags of adequate size and decay stage are being sustained across the forest.
Reference: FSC 6.3.e.1 and 6.3.b.3
Status at July 22, 2008:
This is a new Recommendation and will be reviewed in the 2009 annual audit.

2.7 General Conclusions of the Annual Audit

Based upon information gathered through site visits, interviews, and document reviews, the SCS auditor concludes that Collins Almanor Forest's management of its forest estate in Plumas and Tehama Counties, California continues to be in strong overall compliance with the FSC Principles and Criteria, as now further elaborated by the Pacific Coast Regional Guidelines v9.0. As such, continuation of the certification is warranted subject to subsequent annual audits.

3.0 DETAILED OBSERVATIONS

This section is divided into two parts: Section 3.1 details the determining of conformance with the elements of the standard examined during this audit. Section 3.2 discusses any stakeholder comments.

3.1 Evaluation of Conformance

**Pacific Coast (USA)
Regional Forest Stewardship Standard Evaluation Table
Version 9.0, 5/9/05**

Note: this document omits applicability notes and examples found in the full standard.

Requirement	CNC	Comment/CAR
P1 Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.		

C1.1 Forest management shall respect all national and local laws and administrative requirements.		
1.1.a. The applicant's forest management plans and operations in the region demonstrate compliance with federal, state, county, municipal, and tribal laws, as well as case law and regulations.		
1.1.b. Forestry operations meet or exceed the current state forest-practice regulations, best management practices for forestry, roads, wildlife, and/or water quality that exist within the state(s) or other appropriate jurisdiction(s) in which the operations occur.		
1.1.c. Where required by law, forest (<i>see Glossary</i>) owners and managers share public information, provide open records, and conduct procedures for public participation.		
C1.2. All applicable and legally prescribed fees, royalties, taxes and other charges shall be paid.		
1.2.a. Taxes on forestland and timber, and other fees related to forest management, are paid in a timely manner and in accordance with federal, state, county, municipal, and tribal laws.		
C1.3. In signatory countries, the provisions of all binding international agreements such as CITES, ILO Conventions, ITTA, and Convention on Biological Diversity, shall be respected.		
1.3.a. Forest owners or managers comply with treaties, including those with American Indian tribes, and other international agreements that have been signed by the President of the United States, ratified by the Senate and have entered into force. (Note: see Analysis of US Government Procedures for Abiding with Treaties, FSC-US, 3/10/03)		
C1.4. Conflicts between laws, regulations and the FSC Principles and Criteria shall be evaluated for the purposes of certification, on a case by case basis, by the certifiers and by the involved or affected parties.		
1.4.a. Any perceived, possible conflict between US law and FSC P&C shall be referred to FSC ABU.		
C1.5. Forest management areas should be protected from illegal harvesting, settlement and other unauthorized activities.		
1.5.a. Forest owners or managers implement measures to prevent illegal and unauthorized activities in the forest.		
C1.6. Forest managers shall demonstrate a long-term commitment to adhere to the FSC Principles and Criteria.		
1.6.a. Forest owners or managers provide written statements of commitment to the FSC Principles and Criteria. The commitment is stated in the management plan [see 7.1], a document prepared for the certification process, or another official document.		
1.6.b. Forest owners or managers document the reasons for seeking partial certification.		
1.6.c. Forest owners or managers document strategies and silvicultural treatments for several harvest entries that meet the FSC Principles and Criteria (see Principle 7)		
P2 Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.		
C2.1. Clear evidence of long-term forest use rights to the land (e.g., land title, customary rights, or lease agreements) shall be demonstrated.		
2.1.a. Forest owners or managers make available information on legal and customary rights associated with the forest. These rights include both those held by the party seeking certification and those held by other parties.		
2.1.b. Land boundaries are clearly identified on the ground by the forest owner or manager prior to commencement of management activities adjacent to the boundary.		

C2.2. Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary to protect their rights or resources, over forest operations unless they delegate control with free and informed consent to other agencies.		
2.2.a. Legally recognized rights to use the forest are honored through compliance with relevant legislation and procedure for dispute resolution.		
2.2.b. The forest owner or manager allows customary and lawful uses of the forest to the extent they are consistent with conservation of the forest resource, forest management objectives, and do not present a legal liability.		
2.2.c. On ownerships where customary use rights and traditional and cultural areas/sites exist, forest owners or managers consult with stakeholders in the planning and implementation of forest management activities.		
C2.3. Appropriate mechanisms shall be employed to resolve disputes over tenure claims and use rights. The circumstances and status of any outstanding disputes will be explicitly considered in the certification evaluation. Disputes of substantial magnitude involving a significant number of interests will normally disqualify an operation from being certified.		
2.3.a. The forest owner or manager maintains relations with community stakeholders and/or American Indian groups to identify disputes in their early stages. If disputes arise, the forest owner or manager initially attempts to resolve them through open communication, negotiation, and/or mediation. If negotiation fails, federal, state, local, and/or tribal laws are employed to resolve land tenure (<i>see Glossary</i>) claims.		
2.3.b. The forest owner or manager provides information regarding disputes over tenure and use rights to the certifying body.		
P3The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.		
C3.1. Indigenous peoples shall control forest management on their lands and territories unless they delegate control with free and informed consent to other agencies.		
3.1.a. Managers of tribal forests secure informed consent regarding forest management activities from tribes or individuals (such as allottees (<i>see Glossary</i>)) whose forest is being considered for management.		
3.1.b. When requested to do so by the tribal landowner, forest owners or managers use tribal experience, knowledge, practices, and insights in forest management planning and operations on tribal lands.		
3.1.c. Areas of restricted access are delineated with the consent of affected tribal people and in accordance with their laws and customs on legally recognized tribal lands and/or customarily used non-tribal.		
C3.2. Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.		
3.2.a. Forest owners or managers identify and contact American Indian groups that have current legal or customary rights to use the management area. The recommended priority for tribal contacts is: 1) Tribal government, such as tribal chairpersons of federally recognized tribes and traditional cultural and religious leaders. 2) Tribal contact persons identified by tribal governments. 3) Representatives of non-recognized tribes or tribal groups with no formal governments. 4) Lineal descendants of American Indians with ties to the land.		

Unsuccessful attempts to contact tribal representatives are documented.		
3.2.b. Forest owners or managers invite the participation of tribal representatives in jointly planning forestry operations that affect tribal and other American Indian resources.		
3.2.c. On lands adjacent to tribal lands, and on other lands where operations might affect tribal lands or resources, steps are taken by the forest owner or manager to ensure that tribal resources are protected from adverse effects of management activities.		
C3.3. Sites of special cultural, ecological, economic or religious significance to indigenous peoples shall be clearly identified in cooperation with such peoples, and recognized and protected by forest managers.		
3.3.a. Forest owners or managers request the participation of tribal representatives in identifying sites of current or traditional significance within the property proposed for certification.		
3.3.b. Forest owners or managers and tribal representatives jointly develop measures to protect or enhance areas of special significance.		
3.3.c. Confidentiality of disclosures is maintained in keeping with applicable laws and requirements of tribal representatives.		
C3.4. Indigenous peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation shall be formally agreed upon with their free and informed consent before forest operations commence.		
3.4.a. Forest owners or managers respect the confidentiality of tribal knowledge and assist in the protection of tribal intellectual property rights.		
3.4.b. A written agreement is reached with individual American Indians and/or tribes prior to commercialization of their indigenous intellectual property, traditional ecological knowledge, and/or forest resources. The individuals and/or tribes are fairly compensated when such commercialization takes place.		
P4 Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.		
C4.1. The communities within, or adjacent to, the forest management area should be given opportunities for employment, training, and other services.		
4.1.a. Forest work is packaged and offered in ways that create a high-quality work environment for employees, contractors, and their employees.		
4.1.b. The conditions of employment are as good for non-local workers as they are for local workers doing the same job (e.g., remuneration, benefits, safety equipment, training, and workman's compensation).		
4.1.c. Employee compensation and hiring practices meet or exceed standards for comparable forest workers within the region.		
4.1.d. Forest owners or managers use qualified local foresters, loggers, and contractors. Forest managers and their contractors give preference to qualified local workers.		
4.1.e. Forest owners or managers demonstrate a preference for the local procurement of goods and services.		
4.1.f. Forest owners or managers and their contractors comply with the letter and intent of applicable state and federal labor laws and regulations (<i>see also 1.1.a</i>).		
4.1.g. Forest owners and managers contribute to public education about forest ecosystems and their management.		
C4.2. Forest management should meet or exceed all applicable laws and/or regulations covering health and safety of employees		

and their families.		
4.2.a. The forest owner or manager and their contractors develop and implement safety programs and procedures.		
4.3 The rights of workers to organize and voluntarily negotiate with their employers shall be guaranteed as outlined in Conventions 87 and 98 of the International Labour Organization (ILO).		
4.3.a. Forest owners or managers and their contractors develop effective mechanisms to resolve disputes between workers and management.		
4.4. Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups directly affected by management operations.		
4.4.a. Forest owners or managers of large-scale operations provide opportunities for people, as individuals and/or groups, to offer input into management planning when they are affected by forestry operations.		
4.4.b. People and groups affected by management operations are apprised of proposed forestry activities (e.g., logging, burning, spraying, and traffic) and associated environmental and aesthetic effects in order to solicit their comments or concerns. Such concerns are documented and addressed in management plans and operations.		
4.4.c. Significant archeological sites and sites of cultural, historical, or community significance, as identified through consultation with state archeological offices, tribes, universities, and local expertise, are designated as special management zones or otherwise protected during harvest operations.		
C4.5. Appropriate mechanisms shall be employed for resolving grievances and for providing fair compensation in the case of loss or damage affecting the legal or customary rights, property, resources, or livelihoods of local peoples. Measures shall be taken to avoid such loss or damage.		
4.5.a. The forest owner or manager attempts to resolve grievances and mitigate damage resulting from forest management activities through open communication and negotiation prior to legal action.		
4.5.b. Forest owners or managers and their contractors have adequate liability insurance.		
P5 Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.		
C5.1. Forest management should strive toward economic viability, while taking into account the full environmental, social, and operational costs of production, and ensuring the investments necessary to maintain the ecological productivity of the forest.		
5.1.a. The forest owner or manager is financially able to support long-term (i.e., decades rather than quarter-years or years) forest management (and if necessary restoration), such as planning, inventory, resource protection, and post-harvest management activities.		
5.1.b. Responses (e.g., increases in harvests or debt load) to short-term financial factors, such as fluctuations in the market, requirements for immediate cash flow, need for sawmill equipment and log supplies, are limited to levels that enable fulfillment of the management plan.		
C5.2. Forest management and marketing operations should encourage the optimal use and local processing of the forest's diversity of products.		
5.2.a. Preference is given to local, financially competitive, value-		

added processing and manufacturing facilities.		
5.2.b. New markets are explored and developed for common, but less-used, species (e.g., alder, tanoak, and madrone), grades of lumber, and/or an expanded diversity of forest products (e.g., small diameter logs, flooring).		
5.2.c. The technical and financial specifications of some sales of forest products are scaled to promote successful competition by small businesses.		
5.2.d. When non-timber products are harvested or utilized, the management and use of those products are incorporated into the management strategy.		
C5.3. Forest management should minimize waste associated with harvesting and on-site processing operations and avoid damage to other forest resources.		
5.3.a. Felling, skidding/yarding, bucking, sorting, and handling are carried out in a way that maximizes volume and value.		
5.3.b. Harvest is implemented in a way that conserves the integrity of the residual stand. Provisions concerning acceptable levels of residual damage are included in operational contracts.		
5.3.c. Tree limbs, tops, snags, down logs, and other biomass are retained on site in adequate quantities and quality for ecosystem function, wildlife habitat, and future forest productivity. After adequate woody debris has been left on site to provide nutrient cycling and habitat, additional byproducts of harvest and in-the-field milling operations are considered for use in other productive processes.		
C5.4. Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest product.		
5.4.a. Forest uses and products are diversified through management, while maintaining forest composition, structures, and functions.		
5.4.b. The forest owner or manager reinvests in the local economy and the community through both active civic engagement and ongoing capital investment.		
C5.5. Forest management operations shall recognize, maintain, and, where appropriate, enhance the value of forest services and resources such as watersheds and fisheries.		
C5.6. The rate of harvest of forest products shall not exceed levels that can be permanently sustained.		
5.6.a. The level of sustainable harvest is based on clearly documented projections that use growth and regeneration data, site index models, and the classification of soils. The level of documentation is determined by the scale and intensity of the operation. <i>(see also 7.1.d)</i>		
5.6.b. Growth rates equal or exceed average harvest rates over rolling periods of no more than 10 years. In cases where owners or managers harvest timber at intervals longer than ten years, the allowable harvest is determined by the target stocking levels and the volume of re-growth since the previous harvest.		
5.6.c. The rate and methods of harvest lead to well-stocked stands across the forest management unit (FMU). Under-stocked and over-stocked stands are returned to fully stocked levels at the earliest practicable time.		
P6 Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.		
C6.1. Assessments of environmental impacts shall be completed -- appropriate to the scale, intensity of forest management and the uniqueness of the affected resources -- and adequately integrated into management systems. Assessments shall include landscape		

<p>level considerations as well as the impacts of on-site processing facilities. Environmental impacts shall be assessed prior to commencement of site-disturbing operations.</p>		
<p>6.1.a. Using available science and local expertise, forest owners and managers identify and describe: (1) ecological processes, such as disturbance regimes; (2) common plants, animals, and their habitats; (3) rare plant community types (<i>see Glossary and Appendix D</i>); (4) rare species and their habitats (<i>see Glossary</i>); (5) water resources; and (6) soil resources (<i>see also 7.1.a and b</i>).</p>		
<p>6.1.b. Using available science and local expertise, current ecological conditions are compared to the historical conditions within the landscape context, considering the elements identified in 6.1.a.</p>		
<p>6.1.c. Prior to the commencement of management activities, potential environmental impacts and their cumulative effects are evaluated.</p>		
<p>6.1.d. Using assessments derived from the above information, options are developed and implemented to maintain and/or restore the long-term ecological functions of the forest (<i>see also 7.1.c</i>). Actions needed to avoid and mitigate negative environmental impacts are identified, and a mitigation plan is formulated (<i>see also criterion 7.1</i>).</p>		
<p>6.1.e. Assessments developed under 6.1.a. – d. for public lands are made available to the public.</p>		
<p>C 6.2. Safeguards shall exist which protect rare, threatened and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping, and collecting shall be controlled.</p>		
<p>6.2.a. If consultation of databases for rare species and/or plant community types (<i>see Glossary and 6.1</i>) indicate the likely presence of a rare species (<i>see Glossary</i>), then either a survey is conducted prior to the commencement of management activities (to verify the species' presence or absence) or the forest owner or manager manages as though the species were present. If a rare species is determined to be present, its location is reported to the manager of the species' database.</p>		
<p>6.2.b. When a rare species and/or plant community type is present or assumed to be present, modifications are made in both the management plan and its implementation in order to maintain, improve, or restore the species and its habitat.</p>		
<p>6.2.c. Conservation zones (<i>see Glossary</i>) and other protected areas for existing rare species and/or plant community types are created and/or maintained to enhance the viability of populations and their habitats, including their connectivity within the landscape. Forest managers consult recovery plans and specialists, such as biologists or ecologists, to determine species' habitat needs.</p>		
<p>6.3. Ecological functions and values shall be maintained intact, enhanced, or restored, including: a) Forest regeneration and succession. b) Genetic, species, and ecosystem diversity. c) Natural cycles that affect the productivity of the forest ecosystem. d) Old-growth stands and forests e) Retention f) Even-aged silvicultural systems</p>		
<p>C6.3.a. Forest regeneration and succession</p>		

6.3.a.1. Forest owners or managers use the following information to make management decisions regarding regeneration: landscape patterns (e.g., successional processes, land use/land cover, non-forest uses, habitat types); ecological characteristics of adjacent forested stands (e.g., age, productivity, health); species' requirements; and frequency, distribution, and intensity of natural disturbances.		
6.3.a.2. Forest owners or managers maintain or restore portions of the forest to the range and distribution of age classes of trees that would result from natural processes inherent to the site.		
6.3.a.3. Silvicultural practices generate stand conditions (species composition, physical structures, habitat types, and ecological processes) that are similar to those produced by disturbance regimes typical for the site		
C6.3.b. Genetic, species, and ecosystem diversity		
6.3.b.1. The forest owner or manager selects trees for harvest, retention, and planting in a manner that maintains or enhances the productive capacity, genetic diversity and quality, and species diversity of the residual stand.		
6.3.b.2. Native seeds of known provenance are used for artificial regeneration.		
6.3.b.3. Habitat components necessary to support native species are protected, maintained, and/or enhanced within the harvest unit and across the FMU (<i>see also 6.3.e.1</i>).		
6.3.b.4. At the FMU level, a comprehensive range of native species, habitats, stand types, age and size classes (including large and old trees), and physical structures is maintained over time.		
C6.3.c. Natural cycles that affect the productivity of the forest ecosystem		
6.3.c.1. If a decline in soil fertility or forest health is observed, forest owners or managers determine the source of the decline through tests and investigation. If soil degradation is found to be the source of the decline, forest owners or managers modify soil-management techniques.		
6.3.c.2. Forest managers identify and apply site-specific fuels management practices, based on: (1) natural fire regimes, (2) risk of wildfire, (3) potential economic losses, and (4) public safety.		
6.3.c.3. Post-harvest management activities maintain soil fertility, structures, and functions.		
6.3.c.4. Prescriptions for salvage harvests balance ecological and economic considerations.		
C6.3.d. Old-growth stands and forests		
<p><i>This section uses the following definitions:</i></p> <p><i>Type 1</i> stands are those stands of at least 20 contiguous acres that have never been logged and that display late successional/old-growth characteristics. Stands that have never been logged, but which are smaller than 20 acres, are assessed for their ecological significance, and may also be classified as Type 1 stands. Areas containing a low density of existing roads may still be considered Type 1 stands, provided the roads have not caused significant, negative ecological impacts.</p> <p><i>Type 2</i> stands are old unlogged stands smaller than 20 acres that are not classified as Type 1, and other stands of at least 3 contiguous acres that have been logged, but which retain significant late-successional/old-growth structure and functions.</p> <p><i>Type 3</i> stands are those that have residual old-growth trees and/or other late-successional/old-growth characteristics, but do not meet the definition of a Type 2 stand.</p>		
6.3.d.1. Non-tribal Type 1 stands are not harvested. Timber harvests may be certifiable on Type 1 American Indian lands, in recognition of their sovereignty and unique ownership. Requirements for certification of tribal operations that include harvest in Type 1 stands are:		
<ul style="list-style-type: none"> · Type 1 forests comprise a significant portion of the tribal ownership. · A history of forest stewardship by the tribe exists. · High 		

<p>Conservation Value Forest attributes are maintained.</p> <ul style="list-style-type: none"> · Old-growth structures are maintained in the managed stand. · Conservation zones representative of Type 1 stands have been established. · Landscape level considerations have been addressed. · Rare species (<i>see Glossary</i>) are protected. 		
6.3.d.2. Management activities adjacent to Type 1 stands are conducted to minimize abrupt forest/opening edge effects and other negative impacts on the ecological integrity of these areas.		
6.3.d.3. Timber harvests in Type 2 and Type 3 stands maintain late-successional/old-growth structures, functions, and components, including individual trees that function as refugia. There is no net decline in the area or the old-growth characteristics of Type 2 or Type 3 stands due to forest management, with the exception of Type 3 stands that are elevated to Type 2 stands.		
6.3.d.4. Where Type 1, 2, and 3 stands are under-represented in the landscape, a portion of the forest is managed to create late-successional/old-growth characteristics.		
6.3.e. Retention		
6.3.e.1. Forest owners and managers retain (or, if absent, recruit) legacy trees, old and large trees, snags and woody debris to sustain populations of native plants, fungi, and animals, both within the harvest unit and across the FMU.		
6.3.e.2. Where necessary to protect against wind throw and to maintain microclimate, green trees and other vegetation are retained around snags, down woody debris, and other retention components.		
6.3.e.3. Native hardwoods and understory vegetation are retained as needed to maintain and/or restore the natural mix of species and forest structure.		
6.3.e.4. Live trees and native understory vegetation are retained within the harvest unit in proportions and configurations that are consistent with the characteristic natural disturbance regime in each community type (<i>see Glossary</i>), unless retention at a lower level is necessary for purposes of restoration.		
6.3.e.5. Within harvest openings larger than 6 acres, 10-30% of pre-harvest basal area is retained. The levels of green-tree retention depend on such factors as: opening size, legacy trees, adjacent riparian zones, slope stability, upslope management, presence of critical refugia, and extent and intensity of harvesting across the FMU. Retention is distributed as clumps and dispersed individuals, appropriate to site conditions. Retained trees comprise a diversity of species and size classes, which includes large and old trees.		
6.3.f. Even-aged silvicultural systems		
6.3.f.1. Even-aged silviculture (<i>see Glossary</i>) may be employed where: <ol style="list-style-type: none"> 1) native species require openings for regeneration or vigorous young-stand development, or 2) it restores the native species composition, or 3) it is needed to restore structural diversity in a landscape lacking openings, while maintaining connectivity of older, intact forests. 		
6.3.f.2. When trees are planted, the plantings maintain or enhance the composition and/or diversity of the forest ecosystem.		
6.3.f.3. If regeneration harvest ages do not approach culmination of mean annual increment (CMAI, <i>see Glossary</i>), retention approaches the upper end of the range required in 6.3.e.5.		
6.3.f.4. Regeneration harvest blocks in even-aged stands average 40 acres or less. No individual block is larger than 60 acres (<i>see 6.3.e.4</i>).		

and 6.3.e.5. for provisions of within-stand retention in openings larger than 6 acres).		
6.3.f.5. Regeneration in previously harvested areas reaches a mean height of at least seven feet or achieves canopy closure (<i>see Glossary</i>) before adjacent areas are regeneration harvested.		
C6.4. Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.		
6.4.a. Forest owners or managers assess the adequacy of representation of their forest types in protected areas across the landscape. This assessment entails collaboration with state natural heritage programs; public agencies; regional, landscape, and watershed planning efforts; universities; and/or local conservationists. It may also include gap analysis.		
6.4.b. Where existing protected areas within the landscape are not of a size and configuration to serve one or more of the three purposes described in the applicability note above, forest owners or managers, whose properties are conducive to the establishment of such areas, designate ecologically viable areas that serve these purposes. The size and arrangement of on-site and off-site representative sample areas are documented.		
6.4.c. The size and extent of representative samples on public lands being considered for certification is determined through a science-based (e.g., gap analysis, regional reserve design principals and methodologies), transparent planning process that is accessible and responsive to the public.		
6.4.d. Managers of large, conterminous public forests (<i>see Glossary</i>) establish and maintain representative protected areas sufficient in size to maintain species dependent on interior core habitats.		
C6.5. Written guidelines shall be prepared and implemented to control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and to protect water resources.		
<u>Logging and Site Preparation</u>		
6.5.a. Logging operations and the use of roads and skid trails occur only when soil compaction, erosion, and sediment transport do not result in degradation of water quality, site productivity, or habitats.		
6.5.b. Logging damage to regeneration and residual trees is minimized during harvest operations.		
6.5.c. Areas in which the risk of landslides is extreme (considering factors, such as slope, soil, and concavity), are neither logged nor roaded.		
6.5.d. On sites with a high risk of landslides, the forest owner or manager assures that such risks will not be exacerbated by management operations, especially where landslide “runout” may affect water bodies.		
6.5.e. In order to minimize soil disturbance, silvicultural techniques and logging equipment are selected in accordance with slope and the hazard rating for soil erosion.		
6.5.f. Plans for site preparation either minimize impacts to forest resources or specify the following mitigations: (1) Slash is concentrated only as much as necessary to achieve the goals of site preparation and the reduction of fuels to moderate or low levels of fire hazard. (2) Scarification of soils is limited to the minimum necessary to		

achieve successful regeneration of desired species. (3) Topsoil is minimally disturbed.		
<u>Transportation System (including permanent and temporary haul roads, skid trails, and landings)</u>		
6.5.g. The transportation system is pre-planned, designed, located, constructed, maintained, and/or reconstructed to minimize the extent and impact of the system and its potential cumulative adverse effects:		
6.5.h. Landings are designed and constructed to minimize soil erosion.		
6.5.i. Access to temporary and permanent roads is controlled to minimize impacts to soil and biota while simultaneously allowing legitimate access as addressed by Principles 3 & 4 and identified in the management plan. Access is restricted to roads that are not immediately needed for purposes of management.		
6.5.j. Failed drainage structures or other areas of active erosion caused by roads and skid trails are identified, and measures are taken to correct the drainage and erosion problems.		
6.5.k. Access is restricted and erosion is controlled on infrequently used roads.		
6.5.l. Unnecessary roads are permanently decommissioned or put to bed.		
<u>Stream and Water Quality Protection</u>		
<i>The following water quality requirements of this standard are superseded when and where state or federal laws, regulations, or other contractual requirements are more stringent. This section uses the following definitions:</i>		
<ul style="list-style-type: none"> ▪ <i>Category A stream: A stream that supports or can support populations of native fish and/or provides a domestic water supply.</i> ▪ <i>Category B stream: Perennial streams that do not support native fish and are not used as a domestic water supply.</i> ▪ <i>Category C stream: An intermittent stream that never the less has sufficient water to host populations of non-fish aquatic species</i> ▪ <i>Category D stream: A stream that flows only after rainstorms or melting snow and does not support populations of aquatic species</i> 		
6.5.m. Streams, vernal pools, lakes, wetlands, seeps, springs, and associated riparian areas are managed to maintain and/or restore hydrologic processes, water quality, and habitat characteristics (<i>see NMFS (1996); state water quality standards; Karr (1981)</i>), which may include: <ul style="list-style-type: none"> ▪ the capacity for water to infiltrate the soil ▪ habitat for riparian species ▪ moderating water temperature ▪ controlling sedimentation ▪ clean gravel for spawning ▪ physical structures to protect the integrity of the stream channel, ▪ including pools used by anadromous fish 		
6.5.n. Forest owners or managers 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.		
6.5.o. For Category A streams, and for lakes and wetlands larger than one acre, an inner buffer zone is maintained. The inner buffer is at least 50 feet 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. Management activities in the inner buffer: <ul style="list-style-type: none"> ▪ maintains or restore the native vegetation ▪ are limited to single-tree selection silviculture ▪ retain and allows for recruitment of large live and dead trees for shade and stream structure ▪ 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, 		

<p>and maintain or restore riparian functions</p> <ul style="list-style-type: none"> ▪ exclude use of heavy equipment, except to cross streams at designated places, or where the use of such equipment is the lowest impact alternative ▪ avoid disturbance of mineral soil; where disturbance is unavoidable, mulch and seed are applied before the rainy season ▪ avoid the spread of pathogens and noxious weeds ▪ avoid road construction and reconstruction 		
<p>6.5.p. For Category A 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 feet from the edge of the active high water mark (slope distance, on both sides) of the stream channel. In this outer buffer, harvest occurs only where:</p> <ul style="list-style-type: none"> ▪ single-tree or group selection silviculture is used ▪ post harvest canopy cover maintains shading sufficient to moderate fluctuations in water temperature, provide habitat for the full compliment of aquatic and terrestrial species native to the site, and maintain or restore riparian functions ▪ new road construction is avoided and reconstruction enhances riparian functions and reduces sedimentation ▪ disturbance of mineral soil is avoided; where disturbance is unavoidable, mulch and seed are applied before the rainy season 		
<p>6.5.q. For Category B streams, a 25-foot (slope distance) inner buffer is created and managed according to provisions for inner buffers for Category A. 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 Category A (<i>see 6.5.n</i>).</p>		
<p>6.5.r. For Category C streams, 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 Category A streams.</p>		
<p>6.5.s. For Category D streams, management:</p> <ul style="list-style-type: none"> ▪ maintains root strength and stream bank and channel stability ▪ recruits coarse wood to the stream system ▪ minimizes management-related sediment transport to the stream system 		
<p>6.5.t. Grazing by domestic animals is controlled to protect the species composition and viability of the riparian vegetation and the banks of the stream channel from erosion.</p>		
<p>6.5.u. Stream crossings are located and constructed to minimize fragmentation of aquatic habitat (<i>see Glossary</i>), maintain water quality, and either to accommodate a 100-year peak flood event or to limit the consequences of an unavoidable failure. Road crossings, dams, and other human-made structures that impede fish passage are removed or modified to enable passage, taking legal or environmental constraints into account.</p>		
<p>C6.6. Management systems shall promote the development and adoption of environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organization Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement, shall be prohibited. If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks.</p>		
<p>6.6.a. Forest owners and managers demonstrate compliance with</p>		

FSC Policy paper: “Chemical Pesticides in Certified Forests, Interpretation of the FSC Principles and Criteria, July 2002” and comply with prohibitions and/or restrictions on World Health Organization Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement.		
6.6.b. Forest owners or managers employ silvicultural systems, integrated pest management, and strategies for controlling pests and/or unwanted vegetation that result in the least adverse environmental impact, with the goal of reducing or eliminating chemical use. Chemical pesticides, fungicides, and herbicides are used only when and where research or empirical experience has demonstrated that less environmentally hazardous, non-chemical pest/disease management practices are ineffective.		
6.6.c. When and where chemicals are applied, the most environmentally safe and efficacious chemicals are used. Chemicals are narrowly targeted, and minimize affects on non-target species.		
6.6.d. Chemicals are used only when and where they pose no threat to supplies of domestic water, aquatic habitats, or habitats of Rare species.		
6.6.e. When chemicals are used, the effects and impacts are monitored and the results are used for adaptive management. Records are kept of pest occurrences, control measures, and incidences of worker exposure to chemicals.		
6.6.f. Forest owners or managers develop written strategies for control of pests as a component of the management plan (criterion 7.1), which comply with official FSC policy.		
6.6.g. When chemicals are used, a written prescription is prepared that fully describes the risks and benefits of their use and the precautions that workers will employ.		
C6.7. Chemicals, containers, liquid and solid non-organic wastes including fuel and oil shall be disposed of in an environmentally appropriate manner at off-site locations.		
6.7.a. Forest Owners and managers prevent the unintended release of chemicals, petroleum products, containers and non-organic wastes, and minimize health and environmental risks due to their disposal.		
6.7.b. In the event of a spill of hazardous material, forest owners or managers immediately contain the material, report the spill as required by applicable regulations, and engage qualified personnel to perform the appropriate removal and remediation.		
6.7.c. Equipment is routinely checked for leaking fluids. Broken and/or leaking equipment and parts are repaired or removed from the forest; discarded parts are taken to a designated disposal facility.		
6.7.d. Equipment is parked outside of riparian management zones and away from vernal pools and supplies of ground water to prevent toxic fluids from leaking into them.		
6.7.e. If washing chemical containers is necessary, the contaminated water and containers are disposed of in a location and manner that is environmentally sound.		
C6.8. Use of biological control agents shall be documented, minimized, monitored, and strictly controlled in accordance with national laws and internationally accepted scientific protocols. Use of genetically modified organisms shall be prohibited.		
6.8.a. Exotic (i.e., non-indigenous), non-invasive predators or biological control agents are used only as part of a pest management strategy for the control of exotic species of plants, pathogens (<i>see Glossary</i>), insects, or other animals when other pest control methods		

are ineffective, or can reasonably be expected to be proven ineffective. Such use is contingent on peer-reviewed scientific evidence that the agents in question are noninvasive and are safe for indigenous species.		
C6.9. The use of exotic species shall be carefully controlled and actively monitored to avoid adverse ecological impacts.		
6.9.a. The use of exotic plant species (<i>see Glossary</i>) is contingent on peer-reviewed scientific evidence that any species in question is non-invasive and does not diminish biodiversity. If non-invasive exotic plant species are used, their provenance and the location of their use are documented, and their ecological effects are actively monitored.		
6.9.b. Forest owners or managers develop and implement control measures for invasive exotic plants.		
6.10. Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion: a) Entails a very limited portion of the forest management unit; and b) Does not occur on High Conservation Value Forest areas; and c) Will enable clear, substantial, additional, secure, long-term conservation benefits across the forest management unit.		
P7 A management plan -- appropriate to the scale and intensity of the operations -- shall be written, implemented, and kept up to date. The long-term objectives of management, and the means of achieving them, shall be clearly stated.		
7.1. The management plan and supporting documents shall provide: a) Management objectives. b) Description of the forest resources to be managed, environmental limitations, land use and ownership status, socioeconomic conditions, and a profile of adjacent lands. c) Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories. d) Rationale for rate of annual harvest and species selection. e) Provisions for monitoring of forest growth and dynamics. f) Environmental safeguards based on environmental assessments. g) Plans for the identification and protection of rare, threatened and endangered species. h) Maps describing the forest resource base including protected areas, planned management activities and land ownership. i) Description and justification of harvesting techniques and equipment to be used.		
7.1.a. Management objectives		
7.1.a.1. A written management plan is prepared that: (1) includes the landowner's vision (ecological, silvicultural, social, and economic), desired future conditions, potential future outcomes, goals, and objectives, as well as short-term and long-term actions and (2) incorporates strategies for the maintenance, enhancement, and/or restoration of forest resources. The actions and objectives are specific, achievable, measurable, and adaptive. (The elements of a comprehensive forest management plan are found in Appendix H.)		
7.1.b. Description of forest resources to be managed, environmental limitations, land use and ownership status, socioeconomic conditions, and profile of adjacent lands		
7.1.b.1. Using data collected proportionally to the scale and intensity of management, the forest owner or manager describes the following		

resources: <ul style="list-style-type: none"> ▪ timber ▪ fish and wildlife ▪ harvested non-timber forest products (e.g., botanical and mycological) ▪ non-economic natural resources 		
7.1.b.2. Descriptions of special management areas, Rare species and their habitats, Rare plant communities, and other ecologically sensitive features in the forest are included in the management plan.		
7.1.b.3. A description of past land uses is included in the management plan and incorporated into the goals and objectives.		
7.1.b.4. The legal status of the forest and its resources is identified in the management plan (e.g., ownership, usufruct rights, treaty rights, easements, deed restrictions, and leasing arrangements).		
7.1.b.5. Relevant cultural and socioeconomic issues (e.g., traditional and customary rights of use, access issues, recreational uses, and issues of employment), conditions (e.g., composition of the workforce, stability of employment, and changes in forest ownership and tenure), and areas of special significance (e.g., ceremonial and archeological sites) are identified in the management plan.		
7.1.b.6. Landscape-level considerations within the ownership and among adjacent and nearby lands, including major bodies of water, critical habitats, and riparian corridors shared with adjacent ownerships, are incorporated in the management plan.		
7.1.c. Description of silvicultural and/or other management system		
7.1.c.1. The choice of silvicultural system(s) and prescriptions are based on the integration of ecological and economic characteristics (e.g., successional processes, soil characteristics, existing species composition and physical structures, desired future conditions, and market conditions) (<i>see also 6.3.a</i>).		
7.1.c.2. Prescriptions are prepared prior to harvesting, site preparation, pest control, burning, and planting and are made available to people who carry out the prescriptions.		
7.1.d. Rationale for the rate of annual harvest and species selection		
7.1.d.1. The management plan is based on the best available data on growth, yield, stocking, and regeneration. (<i>see also 5.6.b</i>).		
7.1.d.2. Species selection meets the economic goals and objectives of the forest owner or manager, while maintaining or improving the ecological composition, structures, and functions of the forest.		
7.1.e. Provisions for monitoring forest growth and dynamics (see also Principle 8)		
7.1.f. Environmental safeguards based on environmental assessments (see also Criterion 6.1.)		
7.1.g. Plans for the identification and protection of rare, threatened, and endangered species. (see also Criterion 6.3.)		
7.1.h. Maps describing the forest resource base including protected areas, planned management activities, and land ownership.		
7.1.h.1. Appropriate to the scale and intensity of the operation, and to the relevance of the management of the FMU, the following maps are included in the management plan: <ul style="list-style-type: none"> ▪ property boundaries ▪ roads ▪ areas of timber production ▪ forest types by age class ▪ topography ▪ soils 		

<ul style="list-style-type: none"> ▪ riparian zones ▪ streams, springs, and wetlands ▪ archaeological sites ▪ areas of cultural and customary use ▪ locations of and habitats for rare species ▪ designated High Conservation Value Forests <p>Maps of some features may be kept confidential to protect their integrity.</p>		
<p>7.1.i. Description and justification of harvesting techniques and equipment to be used. (see also Criterion 6.5)</p>		
<p>C7.2. The management plan shall be periodically revised to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances.</p>		
<p>7.2.a. Relevant provisions of the management plan are modified: (1) every 10 years or in accordance with the frequency of harvest for the stand or forest, whichever is longer; (2) in response to effects from illegal and/or unauthorized activities (e.g., damage to roads, depletion of timber and non-timber resources), (3) in response to changes caused by natural disturbances.</p>		
<p>C7.3. Forest workers shall receive adequate training and supervision to ensure proper implementation of the management plans.</p>		
<p>C7.4. While respecting the confidentiality of information, forest managers shall make publicly available a summary of the primary elements of the management plan, including those listed in Criterion 7.1.</p>		
<p>P8 Monitoring shall be conducted -- appropriate to the scale and intensity of forest management -- to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.</p>		
<p>C8.1. The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations, as well as, the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.</p>		
<p>8.1.a. Implementation of the management plan is periodically monitored to assess:</p> <ul style="list-style-type: none"> ▪ the degree to which management vision, goals, and objectives have been achieved ▪ deviations from the management plan ▪ unexpected effects of management activities ▪ social and environmental effects of management activities 		
<p>8.1.b. Inventories noted under section 8.2 below, are updated over periods not to exceed ten years, or the harvest frequency on the ownership, whichever is longer. Relevant ecological indicators (e.g., the status of and capacity for regeneration, habitat qualities of rare species, impacts to the quality of soil and water) are monitored before and after field management activities take place. Detailed monitoring is implemented at sites of special ecological significance (<i>see Appendix G</i>).</p>		
<p>8.2. Forest management should include the research and data collection needed to monitor, at a minimum, the following indicators:</p> <ol style="list-style-type: none"> a) Yield of all forest products harvested. b) Growth rates, regeneration and condition of the forest. c) Composition and observed changes in the flora and fauna. d) Environmental and social impacts of harvesting and other operations 		

e) Cost, productivity, and efficiency of forest management		
8.2.a. Yield of all forest products harvested		
8.2.a.1. The forest owner or manager maintains records of timber-harvest volumes.		
8.2.a.2. The forest owner or manager maintains records of the yield of harvested non-timber forest products.		
8.2.a.3. Significant, unanticipated removal (e.g., theft and poaching) of forest products is monitored, and recorded, and appropriate action is taken.		
8.2.b. Growth rates, regeneration, and condition of the forest		
8.2.b.1. An inventory system is maintained to monitor: <ul style="list-style-type: none"> ▪ growth, mortality, stocking, and regeneration of the timber ▪ stand composition and structure ▪ effects of disturbances to the resources (e.g., disease, wind, fire, damage by insects and/or mammals) ▪ abundance, regeneration, and habitat conditions of non-timber forest products ▪ characteristics of water quality, such as temperature, sedimentation, and chemical loads (<i>see Appendix G; Karr 1981</i>) ▪ characteristics of terrestrial and aquatic habitats ▪ Soil characteristics 		
8.2.c. Composition and observed changes in the flora and fauna		
8.2.c.1. Forest owners or managers periodically monitor and assess (1) their contribution toward recovery goals for threatened and endangered species in relation to changes in major habitats and populations, (2) changes in major habitat elements, and (3) presence and/or absence of and changes in the occurrence of Rare species.		
8.2.d. Environmental and social impacts of harvesting and other operations		
8.2.d.1. The environmental impacts of site-disturbing activities (e.g., road construction and repair, harvesting, and site preparation) are monitored after completion.		
8.2.d.2. A monitoring program is in place to assess the condition and environmental impacts of the forest-road system.		
8.2.d.3. Generation or maintenance of local jobs and public responses to management activities are monitored.		
8.2.d.4. The influence of forest management on the viability of forest-based livelihoods is monitored, especially in the case of large forest holdings.		
8.2.d.5. The opportunity to jointly monitor sites of special significance (<i>see also criteria 3.2 and 3.3</i>) is offered to tribal representatives in order to determine adequacy of the management prescriptions.		
8.2.e. Cost, productivity, and efficiency of forest management		
8.2.e.1. Forest owners and managers monitor cash flows, costs, revenues, profit margins, and other financial indicators, to assure long-term financial viability.		
8.2.e.2. Forest owners and managers take into account the economic benefits of all forest goods and services, including water quality, fish and wildlife, aesthetics, recreational uses, and carbon sequestration, and identify ways in which they might generate income.		
C8.3. Documentation shall be provided by the forest manager to enable monitoring and certifying organizations to trace each forest product from its origin, a process known as the "chain of custody."		
C8.4. The results of monitoring shall be incorporated into the implementation and revision of the management plan.		
8.4.a. Discrepancies between outcomes (i.e., yields, growth, ecological changes) and desired future conditions (i.e., plans,		

projections, anticipated impacts) are appraised. Management plans and actions are revised to better achieve the desired future conditions.		
C8.5. While respecting the confidentiality of information, forest managers shall make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.		
8.5.a. A summary of monitoring results is maintained up-to-date and is made available to the public on request, either at no cost or at a nominal price.		
P9 Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.		
C9.1. Assessment to determine the presence of the attributes consistent with High Conservation Value Forests will be completed, appropriate to scale and intensity of forest management.		
9.1.a. Attributes and locations of High Conservation Value Forests are determined by the identification of globally, nationally, regionally, and locally unique HCV attributes (<i>see Appendix D</i>) that may be present in or adjacent to the forest, and their delineation by habitat descriptions and maps.		
C9.2. The consultative portion of the certification process must place emphasis on the identified conservation attributes, and options for the maintenance thereof.		
9.2.a. Consultations are held with stakeholders and scientists to confirm that proposed HCV locations and attributes have been accurately identified. On public forests, a transparent and accessible public review of proposed HCV attributes and areas is carried out. Information from stakeholder consultations and other public review is integrated into HCVF descriptions and delineations.		
C9.3. The management plan shall include and implement specific measures that ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach. These measures shall be specifically included in the publicly available management plan summary.		
9.3.a. Where the identification of HCVF attributes and areas is incomplete at the time of certification, forest owners or managers identify HCVF attributes and areas, develop a plan to maintain and/or enhance them, and begin implementation of the plan within one year of certification.		
9.3.b. Stands and forests designated as HCVFs, which have been entered for timber harvest, are managed over the long term to assure that both the quality of their HCVF attributes and their area are maintained.		
9.3.c. Forest owners and managers of HCVFs (forests and/or stands) coordinate conservation efforts with owners and managers of other HCVFs within their landscape.		
C9.4. Annual monitoring shall be conducted to assess the effectiveness of the measures employed to maintain or enhance the applicable conservation attributes.		
P10 Plantations shall be planned and managed in accordance with Principles and Criteria 1 9, and Principle 10 and its Criteria. While plantations can provide an array of social and economic benefits, and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests.		
C 10.1. The management objectives of the plantation, including natural forest conservation and restoration objectives, shall be explicitly stated in the management plan, and clearly demonstrated in the implementation of the plan.		
10.1.a The objectives for and management of plantations are described in the forest management plan.		
10.1.b. The management plan explains how plantation stands, areas		

of natural forest management, including areas of long-rotations, areas of late-seral stages (<i>see 10.5.a</i>), and other set-asides (<i>see 6.3.e applicability note</i>), relate to one another in the landscape.		
10.1.c. The plantation management plan is consistent with existing regional forest conservation and landscape plans (<i>see also 10.5.e</i>).		
C 10.2. The design and layout of plantations should promote the protection, restoration and conservation of natural forests, and not increase pressures on natural forests. Wildlife corridors, streamside zones and a mosaic of stands of different ages and rotation periods shall be used in the layout of the plantation, consistent with the scale of the operation. The scale and layout of plantation blocks shall be consistent with the patterns of forest stands found within the natural landscape.		
10.2.a. For plantations on soils capable of supporting natural forests, the average harvest opening is 40 acres or less, with a maximum opening of 80 acres (<i>see 6.3.f.4., which establishes limits for openings in natural forest management</i>).		
10.2.b. Regeneration in previously harvested areas reaches a mean height of at least ten feet or achieves canopy closure (<i>see Glossary</i>) before adjacent areas are harvested.		
10.2.c. The cumulative ecological impact of the extent, distribution, and configuration of plantation stands across the landscape is assessed and considered in the selection and layout of plantation management units within the FMU.		
10.2.d. For FMUs larger than 1000 acres with plantation management, areas maintained in or restored to natural forest cover are chosen through a landscape analysis, in accordance with 10.5.b. The analysis considers: 1) providing mature forest conditions and other ecological attributes that may be under-represented across the forest landscape, 2) implementing regional, state, and landscape-level forest ecosystem and native fish and wildlife habitat conservation and restoration plans and objectives, 3) creating conservation zones that provide adequate interior forest habitat for native species, 4) protecting rare and/or poorly protected plant community types; existing natural forest stands; and refugia for rare (<i>see Glossary</i>) aquatic or terrestrial species. (See also 6.1.a.)		
10.2.e Aesthetic factors are incorporated in plantation layout and design.		
C10.3. Diversity in the composition of plantations is preferred, so as to enhance economic, ecological and social stability. Such diversity may include the size and spatial distribution of management units within the landscape, number and genetic composition of species, age classes and structures.		
10.3.a. For plantations on soils capable of supporting natural forests, plantation stands are managed to create and maintain structural and species diversity that results in high quality early- and mid-successional wildlife habitat.		
10.3.b. All plantations are managed to assure long-term soil maintenance and replenishment.		
10.3.c. Genetic diversity is maintained as a buffer against pests and extreme environmental conditions.		
10.3.d. For plantations on soils capable of supporting natural forests, a minimum average of four dominant and/or co-dominant trees and two snags per acre are retained. Where sufficient snags do not exist, they are recruited		

C10.4. The selection of species for planting shall be based on their overall suitability for the site and their appropriateness to the management objectives. In order to enhance the conservation of biological diversity, native species are preferred over exotic species in the establishment of plantations and the restoration of degraded ecosystems. Exotic species, which shall be used only when their performance is greater than that of native species, shall be carefully monitored to detect unusual mortality, disease, or insect outbreaks and adverse ecological impacts.		
10.4.a. Species native to the site are planted on soils capable of supporting natural forests.		
10.4.b. On forest soils, multiple tree species are used.		
C10.5. A proportion of the overall forest management area, appropriate to the scale of the plantation, shall be managed so as to restore the site to a natural forest cover.		
10.5.a. In plantations on forest soils, a percentage of the FMU is managed to maintain and/or restore natural forest vegetation and structure in accordance with the table below:		
10.5a <i>continued</i>		
<i>Note: All percentages are of the total FMU.</i>		
	<i>Maximum % in Plantation</i>	<i>Minimum % in Natural Forest</i>
		<i>TOTAL</i>
		<i>In long rotation*</i>
		<i>In late seral**</i>
for FMUs of 100 to 1,000 acres	70 %	30%
for FMUs 1,001 to 10,000 acres	60 %	40%
for FMUs > 10,000 acres	50 %	50%
		30%
		20%
<p>The FMU is divided into two categories: plantations and natural forests. Natural forests are divided into areas designated for long-rotation* management and areas designated for management for late seral conditions**. At least forty percent of the minimum required natural forest areas above are maintained in and/or restored to late seral conditions. The remainder of these natural forest areas are managed on long rotations (i.e., 80 years or longer west of the Cascade Range, and 120 years or longer east of the Cascade Range; but short-lived species, such as lodgepole pine, may require a shorter rotation than recommended above). Those portions of the natural forest that are managed under uneven-aged silviculture have similar target ages (as noted above for even-aged management) for crop trees. Both circumstances fully meet, at the earliest possible time, all aspects of P&C 1-9 that are relevant to natural forests for the area. FMUs within the same ecoregion that are 100 acres or larger and that are part of ownerships greater than 10,000 acres within the Pacific Coast region provide the percentage of natural forest areas expected of FMUs greater than 10,000 acres.</p> <p>Where the landscape analyses conducted according to 10.2.e. indicates that forest areas outside the FMU are a higher priority for conservation and/or restoration than are areas within the FMU, forest managers may secure cooperative conservation agreements for those areas, and count them towards the requirements of 10.5.b. To be eligible, the areas outside the FMU must be within the same forest type and the same ownership type as the FMU (i.e., public versus private).</p>		
10.5.b. The plantation management plan delineates natural forest and restoration areas in accordance with the proportions in 10.5.a.		
10.5.c. Plantations on forest soils on public lands are managed to restore and maintain natural forest vegetation, structure, function, and habitats, and fully meet, at the earliest possible time, all aspects of P&C 1-9 that are relevant to natural forests for the area.		
10.5.d. In plantations on agricultural soils, at least 10% of the plantation area is restored to the ecosystem native to the site.		
10.5.e. Forest owners and managers assure that natural forest and conservation areas provided by 10.5.b are maintained over time.		
C10.6. Measures shall be taken to maintain or improve soil structure, fertility, and biological activity. The techniques and rate of harvesting, road and trail construction and maintenance, and the choice of species shall not result in long term soil		

degradation or adverse impacts on water quality, quantity or substantial deviation from stream course drainage patterns.		
10.6.a. Sufficient woody debris is retained within plantation stands to assure adequate nutrient recycling.		
C10.7. Measures shall be taken to prevent and minimize outbreaks of pests, diseases, fire and invasive plant introductions. Integrated pest management shall form an essential part of the management plan, with primary reliance on prevention and biological control methods rather than chemical pesticides and fertilizers. Plantation management should make every effort to move away from chemical pesticides and fertilizers, including their use in nurseries. The use of chemicals is also covered in Criteria 6.6 and 6.7.		
C10.8. Appropriate to the scale and diversity of the operation, monitoring of plantations shall include regular assessment of potential on-site and off-site ecological and social impacts, (e.g., natural regeneration, effects on water resources and soil fertility, and impacts on local welfare and social well-being), in addition to those elements addressed in Principles 8, 6 and 4. No species should be planted on a large scale until local trials and/or experience have shown that they are ecologically well-adapted to the site, are not invasive, and do not have significant negative ecological impacts on other ecosystems. Special attention will be paid to social issues of land acquisition for plantations, especially the protection of local rights of ownership, use or access.		
10.8.a. Exotic tree species are not used in plantations on soils capable of supporting natural forests.		
10.8.b. On former agricultural lands, the use of exotic plant species (<i>see Glossary</i>) is contingent on credible scientific analysis (<i>see Glossary</i>) that the species is non-invasive and does not diminish off-site native biodiversity. If non-invasive exotic plant species are used, their provenance and the location of their use are documented, and their ecological effects are actively monitored.		
C10.9. Plantations established in areas converted from natural forests after November 1994 normally shall not qualify for certification. Certification may be allowed in circumstances where sufficient evidence is submitted to the certification body that the manager/owner is not responsible directly or indirectly of such conversion.		

3.2 Stakeholder Comment

Collins Almanor Forest has not received any stakeholder complaints or disputes since the previous evaluation, and stakeholder consultation by the audit team has not revealed any further stakeholder complaints or disputes.

3.3 Controversial Issues

No exceptionally controversial or difficult issues presented themselves during this surveillance audit.

3.4 Changes in Certificate Scope

There were no changes in the scope of this certificate during the previous year.