Report No. 23



Comparison of Two Forest Certification Systems and Idaho Legal Requirements

by

Philip S. Cook and Jay O'Laughlin

Policy Analysis Group — College of Natural Resources Jay O'Laughlin, Director



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Report No. 23 Policy Analysis Group College of Natural Resources University of Idaho

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About the Policy Analysis Group (PAG)

Role and Mission. The Idaho Legislature created the Policy Analysis Group (or "PAG") in 1989 as a way for the University of Idaho to provide timely, scientific and objective data and analysis, and analytical and information services, on resource and land use questions of general interest to the people of Idaho. The PAG is a unit of the College of Natural Resources Experiment Station, administered by Steven B. Daley Laursen, Director, and Dean, College of Natural Resources.

PAG Reports. This is the twenty-third report of the Policy Analysis Group (see inside cover). The PAG is required by law to report the findings of all its work, whether tentative or conclusive, and make them freely available. PAG reports are primarily policy education documents, as one would expect from a state university program funded by legislative appropriation. The PAG identifies and analyzes scientific and institutional problems associated with natural resource policy issues. In keeping with the PAG's mandate, several alternative policy options are developed and their potential benefits and detrimental effects are analyzed. As an operational policy the PAG does not recommend an alternative.

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Short Summary

This report summarizes and compares legal requirements for Idaho's non-federal forests with the standards of two leading forest certification systems. Most of the legal requirements affecting Idaho's private forest landowners are codified in the Idaho Forest Practices Act, the Idaho Forestry Act, and the administrative rules associated with these two statutes. The two forest certification systems we compare to Idaho's laws are the Sustainable Forestry Initiative (SFI) and the Forest Stewardship Council (FSC) programs. The intent of our analysis is to examine the legal requirements and certification systems using a common set of terms and perspectives about relevant forestry issues. Our findings include the following key points:

- There are two fundamentally different approaches for achieving better forest management: Idaho's forestry statutes and rules are mandatory and must be followed by all non-federal forest landowners and managers, whereas participation in a forest certification program is voluntary. As a result, program content and administration vary between state programs and certification systems.
- The purpose or goal of Idaho's forest laws is to maintain and enhance the benefits of forests for the people of the state of Idaho, whereas the purpose or goal of forest certification systems is to demonstrate that forests are well-managed.
- The Idaho Department of Lands (IDL), a state government agency, is charged with implementing forestry laws passed by the Idaho Legislature, which represents the citizens of the state. Both certification programs are private organizations, in which members, staffs, committees, and governing bodies have the ability to influence certification programs by changing operating rules and procedures.
- Certification systems assess an organization's or landowner's entire landholding and management systems, whereas Idaho law looks at individual sites and a narrower set of forest components and management activities.
- Idaho law sets minimum standards for forest management. Both FSC and SFI require adherence to all federal, state, and local laws and regulations, and have developed other requirements that go beyond laws and regulations. Idaho law could be considered a subset of requirements under both certification systems.
- The FSC and SFI programs both require comprehensive, written forest management plans and policies. Idaho law does not require a comprehensive management plan; however, before work is undertaken a landowner must file a forest practice notification form with IDL.
- Both SFI and FSC require forest inventory systems for timber, as well as for other forest resources; and both have monitoring requirements. Idaho law does not specifically address either inventory or monitoring.
- The three systems have common features, including:
 - supporting timber harvesting as a forest management objective,
 - requiring prompt reforestation following timber harvest,
 - requiring protection of fish and wildlife habitat,
 - recognizing the need to control or limit major pest or pathogen problems,
 - · addressing long-term forest productivity issues, and
 - addressing the management of fire.
- Water quality protection receives heavy emphasis in all three systems.
- Opportunities may exist for IDL and certifiers to work together to improve forest management through both regulation and certification. This may provide efficiencies for private forest landowners and IDL.

Part 1. Summary of Analysis

Background

This report summarizes and compares legal requirements for Idaho's private forest landowners with the standards of two popular forest certification systems. Most of the legal requirements for Idaho's private forest landowners are codified in the Idaho Forest Practices Act [Idaho Code § 38-1301 et seq.], the Idaho Forestry Act [Idaho Code § 38-101 et seq.], and the administrative rules associated with these two statutes. Other laws, such as those dealing with pesticides, labor, and safety, are examined only as they pertain to forest land management.

The two forest certification systems we examine are the Sustainable Forestry Initiative (SFI) and the Forest Stewardship Council (FSC) programs (see Cook and O'Laughlin 1999, Wallinger 2003, Washburn and Miller 2003). In the case of FSC, we analyze the FSC's standards as applied in the Rocky Mountain Regional Standards, which apply to Idaho, Montana, Wyoming, northern Colorado, northern Utah, and western South Dakota. With the SFI program, we analyze the system-wide SFI Standard and associated procedures for completing certifications.

This report does not assess the results of implementation of the laws or certification systems; rather, we base our findings on comparative analysis of the statutes, regulations, and policy documents that guide implementation. The primary documents analyzed for this report were the most current versions available of:

- Idaho Forest Practices Act (IFPA) and related administrative rules for forest lands and operations;
- other Idaho statutes and administrative rules related to forest land use and operations;
- 2002-2004 Edition, Sustainable Forestry Initiative (SFI) Program (July 1, 2002); and
- Forest Stewardship Council (FSC) Rocky Mountain Regional Standards (August 2001).

This report is similar in form and content to *Comparison of Two Forest Certification Systems and Oregon Legal Requirements* (Fletcher et al. 2001), a report from Oregon State University's (OSU) College of Forestry to the Oregon Department of Forestry.

Five Categories of Analysis

We acknowledge and thank the authors of the OSU report for the inspiration and organizational structure they provided, and which we have used in this report. Like the OSU study, the intent of our analysis is to examine the legal requirements and certification systems using a common set of terms and perspectives about relevant forestry issues. Therefore, we use the same set of certification analysis categories as the Oregon researchers (Table 1-1).

Our report, however, differs from the OSU report in several substantial ways. First, obviously, we examine Idaho statutes and administrative rules, rather than those of Oregon. Second, both the SFI and FSC programs have evolved since the OSU analysis; we use the most current versions of both certification programs in our analysis. Third, in FSC's program, Oregon operates under the Pacific Coast Regional Standards, whereas Idaho operates under the Rocky Mountain Regional Standards.

Several other reports comparing certification programs and certification with state regulation deserve mention. The Meridian Institute (2001) repot on *Comparative Analysis of the Forest Stewardship Council and Sustainable Forestry Initiative Certification Programs* provides an exhaustive, in-depth comparison of the FSC and SFI programs as they existed in 2001. California researchers (Dicus and Delfino 2003) published *A Comparison of California Forest Practice Rules and Two Forest Certification Systems*, including a comparison of certification program implementation and participant interviews. The December 2003 issue of the *Journal of Forestry* has numerous articles on the theme of forest certification and third-party auditing.

Table 1-1. Five categories for certification analysis.	
1. Program Administration/Process (see Table 2-1)	4. Environmental Considerations (see Table 2-4)
Sponsor/Administrator	Ecological Function/Long Term Productivity
Standard Setting Process & Participants	Species Conservation
Verification Process	Landscape Scale Concerns
Enforcement Protocol	Exotic Species
Dispute Resolution	Reserves/Special Area
Training & Credentialing	Water Resources & Water Quality
Public Transparency & Involvement	Soil Resources
2. Forest Planning & Monitoring (see Table 2-2)	Chemicals
Written Plans	Air Quality
Inventory	5. Socio-Economic Considerations (see Table 2-5)
Sustained Yield	Land Tenure & Use
Monitoring	Community & Cultural Relations
Chain-of-Custody	Worker Relations & Safety
3. Forest Management Practices (see Table 2-3)	Economic Viability & Stability
Forest Regeneration	Legal & Other Policy Requirements
Site Preparation	Visual Management
Genetics	
Stocking Control	
Fertilization	
Fire	
Pests & Pathogens	
Road Access	
Timber Harvest & Utilization	
Personnel & Supervision	
Source: Fletcher et al. (2001)	

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Idaho Forest Law and Forest Certification History

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Most of Idaho's 22.3 million acres of forest lands are administered by the U.S. Department of Agriculture–Forest Service as part of the National Forest System (Figure 1-1). Other federal agencies administer about 1.0 million acres of forest land in Idaho. The State of Idaho manages 1.1 million acres of forest, administered by the Idaho Department of Lands. There are 3.4 million acres of private forest lands in Idaho. About 1.2 million acres are owned by forest industry (i.e., companies with their own timber processing facilities), and the rest are owned by non-industrial private owners (2.2 million acres).

Idaho's first forestry-related state laws were passed early in the twentieth century. In 1925, the Idaho Legislature created the position of State Forester "to further the enforcement of laws for the protection and preservation of forests," and created forest protective districts and fire warden positions in an effort to protect forests from wildfire. This law and its subsequent amendments were codified as the Idaho Forestry Act, and it remains the primary forestry statute addressing the protection of forests from wildfire. In the 1940s, Idaho passed several laws creating fire hazard reduction programs, providing for the reseeding of burned areas, and addressing forest insects, pests, and diseases. These statutes, as amended, remain in effect today. In 1974, Idaho passed the Forest Practices Act, which provided for the first comprehensive regulation of forest management activities on private lands. It remains the basis for most state forest management regulations today.

Forest certification programs are voluntary programs in which forest landowners may choose to participate to show others that their forests are well-managed (see Cook and O'Laughlin 1999). The first certification of forests was by the American Tree Farm system, which was created in 1941 by forest industry representatives to recognize private landowners who practiced good stewardship. Tree Farm membership is limited to properties that have passed an inspection by a tree farm inspector appointed by the American Forest Foundation, a non-profit group that runs the program.



Figure 1-1. Idaho forest land ownership categories (acres). Data source: Brown and Chojnacky 1996.

In the early 1990s, in response to environmental and marketplace concerns, new types of forest certification programs emerged. In 1993, the Worldwide Fund for Nature and other environmental groups created the Forest Stewardship Council (FSC) and its international certification system. The intent was to protect tropical forests and to help tropical timber producers avoid boycotts of their products in Europe's environmentally sensitive wood product markets (Fletcher et al. 2001). FSC has since expanded its focus to countries worldwide and to all forest types. FSC has adopted 10 worldwide forest management principles and associated criteria, and FSC has overseen the development of national and regional standards that adapt the worldwide principles and criteria to specific regions. One of FSC's primary roles is to accredit and oversee organizations that conduct forest certifications according to FSC's principles, criteria, and regional standards.

The American Forest & Paper Association (AF&PA) is the forest industry trade association in the United States. AF&PA began developing it own certification system in the late 1980s because public polling showed Americans were concerned about the sustainability of U.S. forests (Fletcher et al. 2001). AF&PA member companies own approximately 80% of the forest industry timberlands in the United States. Initially, AF&PA developed the Sustainable Forestry Initiative (SFI) Standard and Program as a self-reporting system for its members, but the program has evolved to include voluntary third-party certification open to members and non-members alike. The SFI program is now run by an organization independent of AF&PA, the Sustainable Forestry Board, Inc.

Worldwide, several other forest certification systems have proliferated, but SFI and FSC are two of the most widespread and popular programs in the United States. There are currently 41.1 million acres of forest land in the United States that have been third-party certified under the SFI program (AF&PA 2003). Much of the 1.2 million acres of forest industry land in Idaho has been third-party certified under the SFI program. About 8.9 million acres of forest land in the United States are third-party certified under the FSC program (FSC-US 2003). None of that is in Idaho.

Certification Terminology

Discussions of forest certification systems can be confusing because each program uses somewhat different terminology for system components. This section is intended to clarify some of the commonly used terms in certification processes and differences in terminology between the SFI and FSC programs.

This report's focus is on **third-party certification**. This means that an independent, neutral third party—the certifier—assesses whether or not forest land management meets the requirements of the certification program. SFI allows first-party (done by self) and second-party (done by trade association or related organization) "verification" of adherence to its program, but specifically refers to third-party verification as "certification." FSC requires that certification be done by an accredited third-party certifier.

Forest certification systems are usually constructed in a hierarchy of elements that lead toward achievement of an overall goal. Each system uses a somewhat different lexicon for these elements. SFI refers to its "vision and direction for sustainable forest management" as **principles**. Each "fundamental goal of sustainable forest management" is referred to as an **objective**. The "means of judging whether an objective has been fulfilled" is a **performance measure**. SFI refers to the compilation of its principles, objectives, and performance measures that detail specific requirements for program participants as the SFI **Standard**. SFI uses **core indicators** and other indicators to indicate weather a performance measure has been achieved. Core indicators are integral to determining conformance with the Standard.

FSC refers to the "essential rules or elements" of forest stewardship as **principles**. A **criterion**, or set of **criteria**, is used as "a means of judging whether or not a Principle (of forest stewardship) has been fulfilled." An **indicator** is a variable that specifically tells whether a criterion is met in a regional context, and which specifically states desired management outcomes and processes." FSC refers to "the set of principles, criteria and regional indicators used by FSC-accredited certifiers" as the **standards**.

Analysis Findings

This analysis provides insight into the similarities and differences of Idaho's legal requirements for non-federal forest landowners, and the FSC and SFI certification systems. Listed below are some of the key points resulting from our analysis, followed by some implications for Idaho landowners and policy makers. Summary tables and key points for each of the five major analysis categories are then presented in Part 2 of this report. Detailed information for each category of analysis comprises Part 3 of this report.

Idaho law is similar to forestry law in other western states where forest practices are regulated. Therefore, many of our summary points and implications are similar to those of other analyses that have compared state regulation and certification programs (e.g., Dicus and Delfino 2003, Fletcher et al. 2001).

Overall Summary Points:

- Idaho forestry law focuses on the importance of growing and harvesting trees for forest products, while protecting public resources, such as water quality. Certification systems place a more holistic, encompassing emphasis on other forest resources and social concerns.
- Certification systems assess whole ownerships and management systems, while Idaho law looks at individual sites and a narrower set of forest components and management activities.
- Idaho law sets minimum standards for forest management. Both FSC and SFI require adherence to all federal, state, and local laws and regulations, and their other requirements go beyond that. Idaho law could be considered a subset of both certification systems.
- Core or minimum standards are common to all systems. In addition to required core indicators, the SFI program also lists additional indicators that may be used.
- Participants in the FSC and SFI certification programs must show their commitment to continuous improvement over time, which is a different target than the minimum standards required by Idaho law.

- The SFI program is focused on several highly visible concerns the public has about forest industry actions (i.e., sustainability, reforestation, special-use areas, water quality, chemical use).
- The FSC certification system explicitly addresses many socioeconomic concerns (e.g. responsibility to communities, workers' rights, indigenous peoples, land use/tenure, economic viability) that Idaho law and the SFI program do not fully address.
- Certification under the SFI program follows well-established, professional accounting and auditing procedures used by businesses, whereas the FSC system allows accredited certifiers to develop their own auditing systems with some overall direction in procedures.
- The FSC and SFI systems appear to be converging together on many levels. The SFI system has undergone extensive changes in the recent past in how it is administered and its performance measures, in order to become a stronger third-party certification system.

Implications of Findings

The analysis has implications for Idaho forest landowners and for Idaho policymakers.

Implications for Idaho Forest Landowners

Forest certification involves financial costs to the landowner. Costs are of two types: complying with certification standards and the certification process itself. Many private forest landowners may need incentives before they are willing to undertake the costs of certification. So far, a financial incentive to undertake certification in order to maintain access to timber markets has not been realized in Idaho.

Forest certification in Idaho appears to be primarily a tool for improving public relations about forest management activities. Forest product manufacturers in Idaho are not requiring that timber come from certified forests. There is some evidence that many forest product manufacturers are requiring, or soon will require, that logs delivered to their facilities come from operators who have completed Idaho's "Pro-Logger" program or a similar logger accreditation program (Colla, review comments), but logger education is not the same thing as forest certification. Forest products manufacturers who are AF&PA members must adhere to SFI procurement requirements. SFI encourages sustainable forestry, but third-party certification of lands and timber is not required.

Our analysis reveals that Idaho landowners appear to be at or above the level of the SFI and FSC certification systems on a number of categories of analysis (e.g., water quality, air quality, forest regeneration, and fire control). If Idaho forest owners want to become certified, they may have to make fewer adjustments in management practices than in states and countries without a comparable array of legal requirements. This is good news for Idaho's forest owners.

If an Idaho forest landowner wants to be certified under SFI or FSC, he or she will have to exceed the state legal standard in some categories. Specifically, the landowner will have to do the following, which are not required by state law:

- write a comprehensive management plan,
- inventory resources, and
- monitor impacts of management activities.

Additional actions may be required. Some management practices that meet state legal requirements may have to be altered to meet certification requirements, such as limitations on clearcut size and meeting "green-up" requirements. How much a landowner will have to adjust practices depends on current management plans and activities, and which certification system is chosen. For example, if a landowner chooses the SFI system, current state and federally controlled use of herbicides in the forest may be adequate. But if a landowner chooses the FSC system, significant changes to herbicide use and documentation may be required.

One item that stands out is the lack of a state requirement for a comprehensive written management plan for forest lands. Both the FSC and SFI systems require written plans as part of the third-party certification process. A written plan is also required for other popular certification systems such as the American Tree Farm program. Landowners wishing to pursue certification need to have a written plan for their property.

Implications for Idaho Policy Makers

The major point of this analysis is that Idaho has an extensive set of laws and regulations to protect public assets such as air, water, fish and wildlife, in addition to the well-being of Idaho's citizens. Federal laws also protect many of these same assets. Idaho policymakers and citizens have recognized the need to protect public assets while at the same time providing for private uses of forests. Laws and subsequent administrative rules can increase the costs and complexity of managing forests in Idaho, but also work toward the protection of public resources.

Forest certification provides an opportunity for forest landowners, timber harvesters, and forest product manufacturers to self-regulate with the oversight of independent, third-party certifiers. This opportunity has both benefits and drawbacks. Certification may offer opportunities to reduce statutory regulation of forestry operations, which may produce efficiencies for forest landowners and state regulatory agencies. However, the ability to enforce standards and impose meaningful penalties for violation of standards is not a strength of voluntary certification. Certification cannot replace regulation, but it may provide a useful supplement that leads to improved forest management.

It also seems that opportunities exist for IDL, forest land managers, and certifiers to work together more closely. IDL and some forest products manufacturers are currently cooperating and exploring ways to cooperate on issues related to training and operator accreditation, compliance enforcement, forester training, and data sharing (Colla, review comments). Such efforts could be expanded to include certifiers so that landowners could receive the dual benefit of meeting state regulation with the same efforts that lead to certification.

Part 2. Analysis Summary: Tables and Key Points by Category

This section of the report summarizes our findings for each of the five certification analysis categories that are outlined in Table 1-1:

- Program administration/process summary (Table 2-1),
- Forest planning and monitoring summary (Table 2-2),
- Forest management practices summary (Table 2-3),
- Environmental considerations summary (Table 2-4), and
- Socio-economic considerations summary (Table 2-5).

These five summary table are followed by lists of key points. Part 3 of this report provides detailed information upon which the analysis is based.

Program Administration/ Process	Idaho legal requirements	SFI	FSC
Sponsor/ Administrator	Idaho Department of Lands (IDL)	Sustainable Forestry Board, Inc. (SFB)	Forest Stewardship Council (FSC)
Standard Setting Process & Participants	Idaho Legislature; citizen initiative process available. Land Board adopts administrative rules.	SFB has sole responsibility; consults with External Review Panel	Rocky Mountain Working Group of FSC-U.S. Initiative set regional standards.
Verification Process	Landowner must notify IDL of forest practices. IDL inspects a portion of active sites.	Extensive guidance in Sustainable Forestry Initiative Verification/Certification Principles and Procedures.	Details of protocol left to certifier, but must be compliant with FSC Accreditation Manual
Enforcement Protocol	Violators subject to criminal or civil penalties. IDL can repair and file lien.	Certification can be suspended for non- compliance.	Certification certificate can be withdrawn if terms of its issue not satisfied.
Dispute Resolution	Hearing before the Land Board, or challenge in county court.	Accredited certifier must have a dispute resolution process.	Accredited certifier must have a dispute resolution process.
Training & Credentialing	Education, experience, and training vary.	Extensive requirements in Sustainable Forestry Initiative Qualification Criteria for Verifiers.	Specific criteria left up to certifier, but must meet threshold in FSC Accreditation Manual.
Public Transparency & Involvement	Public notification of rule adoption, amendment, and appeal. IFPA records are open public records.	Several objectives require public reporting and disclosure.	Numerous FSC principles and criteria require public involvement and disclosure.

Table 2-1. Program administration/process summary.

Key Points (Table 2-1):

• Most provisions of Idaho's forestry statutes and rules are mandatory and must be followed by all forest landowners and managers; however, some administrative rules, such as those related to cumulative watershed effects, are implemented voluntarily. Participation in a forest certification program is voluntary. This fundamental difference in approaches for achieving better forest management leads to differences in program content and administration.

- The roots of the three administrative organizations are different and lead to differences in programs. Idaho forestry laws are rooted historically in concern about timber production, particularly protection of timber resources from wildfire. Primary emphases of Idaho forestry law are site productivity for timber production and water quality. SFI grew out of the U.S. forest industry's concern over public acceptance of forestry practices. The SFI program reflects business and industrial concerns. FSC grew out of more general environmental concerns at the international level. The FSC program reflects more international concerns (e.g., land tenure, indigenous people's rights) than the other two systems.
- The types of administrators of the three systems are different. The Idaho Department of Lands (IDL) is a state government agency, charged with implementing laws passed by the Idaho Legislature, which represents the citizens of the state. The Sustainable Forestry Board, which runs SFI, is a private organization, whose members and program staff have the direct ability to influence certification rules and the program through committee appointments and other internal input. The FSC is a private, international membership organization, that accredits third-party certifiers. In the U.S., FSC accredits Smartwood, a non-profit corporation, and Scientific Certification Systems, a for-profit business.
- IDL administers most Idaho legal requirements related to forestry, from policy-making to field implementation. This is different from the two certification programs. SFI policy is made by the Sustainable Forestry Board, but field-level audits for certification are done by private, third parties. FSC policy is set by the international FSC, the FSC-U.S. Initiative, as well as regional working groups—in Idaho's case, the Rocky Mountain Working Group. FSC certifications are done by independent, thirdparties, who do the field-level audits for certification.
- The legislative process that determines Idaho forest laws is a public process with mandated transparency and opportunity for change coming through the election and voting processes. The certification systems have some stakeholder input into standard setting, but the processes are generally less transparent than the governmental one.
- Idaho Forest Practice Act rules are reviewed annually. SFI is on a three-year review cycle for its Standard. FSC has no set review schedule for the Rocky Mountain Regional Standards.
- Idaho law requires notification of IDL for each forest practice undertaken; whereas, the certification systems look at an entire ownership, ownership block, and/or management system. The interrelationships and interactions of individual forest practices are assessed with certification.
- Many of the details of FSC certification procedures are left up to the accredited certifiers. SFI procedures are specified centrally by the SFI program.
- Violation of the Idaho Forest Practices Act can result in legal action, with both civil and criminal penalties possible. If an operator damages a site, IDL can complete a repair and file a lien to the cover costs. IDL also can stop an operator in violation of the IFPA from working. Certification programs only have the threat of revocation of the certification as a means of enforcing requirements.
- All three systems have dispute resolution processes. Idaho law allows appeals to the Land Board and the court system. Both SFI and FSC leave the details of dispute resolution processes up to certifiers.
- Disputes with forest landowners may result in political consequences for IDL, but do not seem to have a direct financial impact on IDL. On the other hand, certifiers are businesses, and disputes with their clients—the landowners being certified—may result in financial consequences for the certifier. This difference in consequences may affect implementation.

- The level of training and experience for IDL foresters who administer the forest practices act varies from entry-level IDL foresters, who may inspect sites for IFPA compliance, to senior managers who are responsible for overall IFPA program implementation. Of the two certification systems, SFI has more extensive requirements for training and credentialing of certifiers. SFI's system is based on professional accounting and auditing practices. FSC leaves many specifics of the training and credentialing requirements up to the certifier.
- Although its standard-setting processes (legislative and administrative) are the most publicly transparent of the three systems examined, Idaho law has the least public disclosure requirements for private landowners. Both SFI and FSC require public disclosure of portions of the certification audit and forest management plans. Idaho forest practices records are public records, but are not disclosed without a specific request.

Forest Planning &			
Monitoring	Idaho legal requirements	SFI	FSC
Written Plans	Only written document is the IDL forest practice notification form, unless participating in a stewardship cost-sharing program.	= Written policy for achieving the SFI Standard objectives and performance measures.	= Written management plan required with criteria detailing contents of plan.
Inventory	Not specifically required. Requirements such as residual stocking levels imply some level of inventory.	= Periodic and on-going forest inventory required.	= Technically sound inventory system required.
Sustained Yield	No specific requirement for sustained-yield management. Harvesting and reforestation may be associated with sustained yield.	= Long-term harvest levels must be sustainable.	= Harvest levels cannot exceed that which can be permanently sustained.
Monitoring	< Not required by landowner.	= Some monitoring required, including water quality, clearcut size and numbers, tree utilization during harvest, and reforestation.	> FSC Principle 8 is Monitoring and Assessment. Extensive monitoring requirements.
Chain-of-Custody	< Initial purchaser of harvested timber must receive copy of approved IFPA notification.	= Participants using on- product label must follow guidelines. Wood procurement policies must support Principles of Sustainable Forestry.	= Specifics left to accredited certifiers, but must meet threshold in <i>FSC</i> <i>Accreditation Manual.</i> Separate chain-of-custody certificate available.

Table 2-2. Forest planning and monitoring, with relative ratings (<, =, >).

Rating System:

< : requirements or specificity less than other systems analyzed.

= : requirements substantial and/or equal to other systems analyzed.

> : requirements or specificity greater than other systems analyzed.

Note: Ratings do not represent a judgment of positive or negative impacts of the system provisions, but indicate the relative level of constraints imposed or extra features offered by the provisions.

Key Points (Table 2-2):

• FSC requires a comprehensive, written forest management plan. SFI requires a written policy for implementing the SFI Standard objectives and performance measures. Idaho legal requirements require only that a forest practice notification form be filed with IDL, rather than a comprehensive management plan. If a landowner chooses to participate in a federal cost-sharing, stewardship program with IDL or

another government agency, then a written woodland management plan is required. However, it is less comprehensive than the plans required by the certification systems.

- SFI and FSC require forest inventory systems for timber as well as for other forest resources. Idaho's legal requirements do not require a forest inventory, but some requirements for meeting residual stocking levels imply some inventory information.
- Idaho legal requirements do not directly address sustained yield. Rules associated with harvesting and reforestation may be applicable to sustained-yield management, but it is not required. Both SFI and FSC specifically require calculation of and adherence to sustained-yield management for timber. FSC requires sustained yield management for non-timber forest products as well.
- Both SFI and FSC have monitoring requirements. Monitoring is a principle of the FSC program, and monitoring requirements are extensive. Idaho law does not specifically address monitoring, but it may be implied by some road maintenance and reforestation requirements.
- Chain-of-custody is the ability to track a product (wood) from the beginning of production (harvesting trees in the forest), along the processing and marketing channels, to the final consumer. None of the three systems requires a full chain-of-custody audit—tree to consumer—for certification of forest lands. FSC requires some documentation allowing managers to trace a forest product's origin, but full chain-of-custody certification is a separate FSC certification process. SFI does not have specific chain-of-custody requirements for all participants, but includes several requirements related to wood procurement. SFI participants who wish to use an on-product label must follow guidelines from the SFI Office of Label Use and Licensing, which include some chain-of-custody provisions. Idaho requires only that initial purchasers of logs receive a copy of the corresponding forest practice act notification.

Forest Management	Idaho legal		
Practices	requirements	SFI	FSC
Forest Regeneration	= Minimum stocking levels required within 3 years. Seeding or planting to reach levels may be required.	= Prompt reforestation required. Planting or reseeding within 2 years; natural regeneration within 5 years.	= Natural regeneration preferred, but may be supplemented by planting.
Site Preparation	< Nothing specific. Slash management rules may improve site regeneration conditions.	= Must protect soil productivity.	= Effective method that minimizes ecological impact. Minimize scarification and disturbance of soil.
Genetics	< Not addressed.	= Use of genetically improved seedlings must follow federal and state regulation and international protocols.	= Genetic diversity to be maintained. Prohibits use of genetically modified organisms.
Stocking Control (post regeneration)	= Not required. Minimum stocking levels after thinning required.	= Not required. Practices must be documented and related to long-term sustainable harvest levels.	= Not required. Stocking must be sufficient to maintain long-run sustainable yield.
Fertilization	= Not required. Chemical application regulated.	= Not required. Performance measures for chemicals apply to chemical fertilizers.	= Not required. Synthetic fertilizers used only to further ecosystem restoration or environmental quality.
Fire	> Idaho Forestry Act extensively addresses fire protection and management.	Forests are managed to protect against damaging agents including wildfire, but few specific requirements.	= Written management plan must include fire management—both prescribed fire and wildfire—and slash management.
Pests & Pathogens	= IDL develops programs to manage and eradicate forest pests.	= Forests are managed to protect against pests and diseases. Minimize chemical use; use IPM where feasible.	= Promotes non-chemical pest management. Some chemicals banned. Consider effects of disturbance events.

Table 2-3. Forest management practices, with relative ratings (<, =, >).

(continued)

Forest Management Practices	Idaho legal requirements	SFI	FSC
Road Access	> Extensive IFPA rules for road construction, reconstruction, and maintenance.	= Road construction kept to minimum necessary to meet management objectives efficiently.	= Minimize extent of road network and cumulative effects on soil, water, and wildlife habitat. Specific road density limits identified.
Timber Harvest & Utilization	= Encourage forest practices, including timber harvesting.	> Objective 7 is to promote efficient use of forest resources.	> Benefits from Forest principle encourages efficient use of multiple forest products.
Personnel & Supervision	< Not mentioned, except for licensed pesticide applicators.	> Numerous requirements for roles and training of employees, contractors, and others.	= Forest workers must receive adequate training and supervision.

Rating System:

< : requirements or specificity less than other systems analyzed.

= : requirements substantial and/or equal to other systems analyzed.

> : requirements or specificity greater than other systems analyzed.

Note: Ratings do not represent a judgment of positive or negative impacts of the system provisions, but indicate the relative level of constraints imposed or extra features offered by the provisions.

Key Points (Table 2-3):

- Prompt reforestation following timber harvest is required under both certification systems and Idaho law. FSC encourages the use of natural regeneration.
- FSC has specific requirements for site preparation. SFI requires that site preparation protect soil productivity. Idaho's slash management rules are related to site preparation, as are all three system's requirements to protect long-term site productivity.
- FSC is the only system that specifically prohibits the use of genetically modified organisms. SFI requires that the use of genetically improved seedlings, including those derived through biotechnology, follow state and federal regulations and international protocols. Genetics is not addressed in Idaho forestry law.
- None of the systems require intermediate stand treatments, such as thinning, that are stocking controls. If thinning is undertaken, all three systems require some level of residual stocking. Idaho prescribes minimum trees per acre and spacing. The certification programs require that stocking levels be compatible with plans for long-term sustained yield.
- All systems allow forest fertilization, but do not require it. FSC encourages minimal use of synthetic fertilizers.

- All systems address fire management, both prescribed burning and wildfire. Idaho law has the most detailed and specific requirements regarding fire management and control.
- All systems recognize the need to control or limit major pest or pathogen problems. FSC emphasizes natural cycles and processes for control. SFI encourages IPM where feasible.
- All systems address road issues. Idaho law is the most specific about construction and maintenance requirements. FSC identifies specific maximum road densities, while SFI requires densities be kept to the minimum necessary to meet management objectives.
- All systems support timber harvesting as a legitimate part of forest management.
- Both SFI and FSC emphasize minimizing waste and efficient utilization of harvested trees.
- Both FSC and SFI address adequate training of employees, with SFI having more specific requirements. Idaho law and both certification systems require training and licensing of pesticide operators.

Environmental Considerations	Idaho legal requirements	SFI	FSC
Ecological Function/ Long Term Productivity	= Rules designed to "maintain the productivity of forest land." No mention of ecological function.	= Objective 2 is "to ensure long-term forest productivity." Ecological function inherent in definition o f "biological diversity".	= Written plan requirements address ecological function and productivity.
Species Conservation	= Many rules are related to protecting fish and wildlife habitat. No state endangered species law.	> Objective 4 and related performance measures promote habitat diversity and conservation.	> Conservation zones for endangered species are to be established. Diversity of habitats is to be protected.
Landscape Scale Concerns	< Cumulative Watershed Effects (CWE) process results in voluntary BMPs.	= Wildlife habitat diversity and visual quality addressed at landscape level.	> Assessment of environmental impacts must include landscape-level considerations.
Exotic Species	< Tree species used for reforestation must be "acceptable" to IDL.	= Planting of exotic trees is to be minimized.	= Effects of the use of exotic species must be monitored.
Reserves/Special Areas	< Special consideration can be given to wildlife and aquatic habitat, but not required.	= Among SFI principles: protecting special sites. Includes ecological, geological, cultural, and historic significance.	> Principle 9—Maintenance of High Conservation Value Forests—addresses extensively.
Water Resources & Water Quality	> IFPA requires use of BMPs for forest practices. Extensive rules apply.	= SFI Objective 3 is to protect water quality. Must meet or exceed state standards.	= Principle 6 requires that forest management must conserve water resources.
Soil Resources	= Rules protect "productivity," which is a function of soil conditions.	= Management practices must protect and maintain soil productivity.	= Many criteria relate to the conservation of soil resources during harvesting and other forest management operations.

Table 2-4. Environmental considerations, with relative ratings (<, =, >).

(continued)

Table 2-4. (continued).			
Environmental Considerations	Idaho legal requirements	SFI	FSC
Chemicals	= Rules provide for protection of public health and aquatic and wildlife habitat. Applicators must be licensed.	= Minimize chemical use required to achieve management objective. Protect employees, neighbors, public, and forest environment.	= Strive to avoid use of chemical pesticides. Certain pesticides prohibited.
Air Quality	= Management system for smoke from prescribed fires.	< Mentioned in SFI principles, but not specifically addressed.	< Not specifically mentioned. Could be included as an environmental impact to be assessed.

Rating System:

- < : requirements or specificity less than other systems analyzed.
- = : requirements substantial and/or equal to other systems analyzed.
- > : requirements or specificity greater than other systems analyzed.

Note: Ratings do not represent a judgment of positive or negative impacts of the system provisions, but indicate the relative level of constraints imposed or extra features offered by the provisions.

Key Points (Table 2-4):

- All three systems extensively address long-term forest productivity, particularly as it relates to timber. FSC emphasizes maintaining ecological functions for a variety of purposes. Ecological function is imbedded in SFI's definition of "biological diversity," which participants must promote. Idaho law do not explicitly address ecological function.
- All three systems extensively address protecting fish and wildlife habitat. Idaho does not have a state endangered species law, but all landowners must obey the provisions of the federal Endangered Species Act. SFI and FSC emphasize habitat diversity and management for species conservation.
- Both FSC and SFI have requirements that address forest management's effects at the landscape level. Idaho's Cumulative Watershed Effects (CWE) process addresses some concerns beyond the stand level, but it relates primarily to water quality issues.
- Idaho requires that tree species used for reforestation are "acceptable" to IDL, but does not specifically mention the role of exotic species. SFI requires that the use of exotic species be minimized, and FSC requires explicit justification for their use.
- Both FSC and SFI require protection of areas that are of special significance for ecological or social reasons. Idaho's forestry laws primarily address the growing and harvesting of trees, but other factors may be considered in management.
- All three systems place a heavy emphasis on protection of water quality. Idaho law and FSC provide more specific requirements for management in riparian areas (e.g., widths, residual stocking) than SFI.

- All three systems address the protection of soil productivity. Erosion control, which also protects water resources, is included as a primary soil protection measure by all three systems.
- None of the three systems prohibits the use of chemicals, but all require careful and controlled use. All require training for chemical applicators. SFI requires chemical use be minimized while meeting the management objective. FSC strives to avoid the use of chemicals, and certain pesticides are prohibited.
- Idaho law has the most explicit requirements addressing air quality, particularly smoke management from prescribed fires.

Table 2-5. Socio-economic considerations, with relative ratings (<, =, >).			
Socio-Economic Considerations	Idaho legal requirements	SFI	FSC
Land Tenure & Use	< Not significant in Idaho. Right to conduct forest practices protected.	< Not specifically addressed in Standard.	= Principle 2—Tenure and Use Rights and Responsibility—extensively addresses.
Community & Cultural Relations	< Not specifically addressed.	= Participation in community activities in several indicators. Forest practices are to be "socially responsible."	> Community Relations and Workers' Rights principle and Indigenous People's Rights principle extensively address.
Worker Relations & Safety	= Right-to-work state. Logging safety rules administered by Idaho Industrial Commission.	< Mechanism must exist to address employee concerns regarding practices that appear to be inconsistent with SFI.	> Community Relations and Worker's Rights principle extensively addresses. Workers must have right to organize.
Economic Viability & Stability	= IFPA encourages economic use of forests.	= Use forest practices that are economically responsible.	= Forest management should strive toward economic viability and strengthen and diversify local economy.
Legal & Other Policy Requirements	= IFPA and its rules set "minimum standards" for management.	= Must comply with applicable federal, state, and local forestry and related environmental laws and regulations.	= Forest management must comply with all national, state, and local laws and regulations, as well as international treaties.
Visual Management	< Not specifically addressed or required, except near highways, recreation and other high-use areas.	= Objective 5 is to manage the visual impact of forest operations.	Not specifically addressed. May be related to High Conservation Value Forests, sites of special cultural uses, or non-timber products.

Rating System:

< : requirements or specificity less than other systems analyzed.

= : requirements substantial and/or equal to other systems analyzed.

> : requirements or specificity greater than other systems analyzed.

Note: Ratings do not represent a judgment of positive or negative impacts of the system provisions, but indicate the relative level of constraints imposed or extra features offered by the provisions.

Key Points (Table 2-5):

• Land tenure issues are not explicitly addressed by Idaho law or SFI because such issues are not a primary concern in the United States where land ownership and private property rights are well established. The international nature of FSC is reflected in the heavy emphasis on land tenure and use rights.

- IDL has a community forestry program, but community responsibility for private forest landowners is not addressed in Idaho forestry law. SFI tends to emphasis community outreach as part of the commitment to sustainable forestry. FSC has the most extensive and explicit requirements for community and cultural relations.
- All three systems address worker relations and safety, but to varying degrees. The Idaho Industrial Commission has responsibility for Idaho's worker safety rules, including logger safety. Idaho is a right-to-work state. SFI requires training to address safety, but does not address worker rights. FSC focuses extensively on workers rights and working conditions.
- To some degree, each system addresses economic viability. FSC explicitly addresses economic viability, including strengthening and diversifying the local economy. Idaho's forestry laws implicitly address economic use of forest resources, and SFI addresses the use of economically responsible forest practices.
- Idaho forestry laws and rules set minimum standards for management. Both FSC and SFI require compliance with all federal, state, and local laws and regulations.
- SFI has the most explicit requirements for management of the visual impact of forestry operations. Idaho rules only mention visual considerations in areas near highways and other high-use areas, and does not have specific clearcut size or "green up" requirements.. FSC does not specifically address visual management.

Part 3. Detailed Analysis by Categories

This part of the report provides the specific data and information upon which the analysis in Part I is based. The presentation is arranged in the same categories as found in Table 1-1. Idaho legal requirements and the requirements of the Sustainable Forestry Initiative and Forest Stewardship Council certification programs are summarized for each category.

1. Program Administration/Process

The items in this category address the overall administration of the three programs. Similarities and differences in program administration, operation, and structure are important for identifying the relative strengths of each program.

1.1. Sponsor/Administrator

Some entity is responsible for the operation and administration of each program. Differences in administrators and sponsorship help to explain differences in program objectives and operations.

Idaho Legal Requirements. The Idaho Forest Practices Act [Idaho Code § 38-1301 et seq.] and administrative rules [IDAPA 20.02.01] assign both the Idaho State Board of Land Commissioners (Land Board) and the Director of the Idaho Department of Lands (IDL) as primary administrators of the act's legal requirements. However, staff of the Forestry Assistance Bureau and field offices of IDL are typically recognized as authorized "designees" of the IDL Director [IDAPA 20.02.01.010.17]. IDL staff thus provides primary field administration of the state's forest practices laws and rules, and are the state personnel who have the most frequent and substantial contact with forest landowners and operators. The Idaho Forestry Act [Idaho Code § 38-101 et seq.], which deals primarily with fire protection, also assigns the Land Board and IDL as primary administrators of its requirements.

In some circumstances—for example, worker safety, smoke management, chemical use, species conservation, and water use—staff of other state and federal agencies may work with forest landowners and operators to administer certain state and federal laws and rules. Such agencies include the Idaho Industrial Commission, Idaho Department of Environmental Quality, Idaho Department of Fish and Game, Idaho Department of Agriculture, Idaho Department of Parks and Recreation, Idaho Department of Water Resources, U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Army Corps on Engineers, and U.S. Environmental Protection Agency. Agencies such as the U.S. Bureau of Citizenship and Immigration Services also interact with landowners and operators regarding worker status and rights.

Sustainable Forestry Initiative. The Sustainable Forestry Initiative (SFI) was launched in 1994 as a program of the American Forest and Paper Association (AF&PA). During 2000, the AF&PA appointed the Sustainable Forestry Board (SFB) to oversee the SFI program. In 2001, the SFB was chartered as a separate not-for-profit entity (Sustainable Forestry Board, Inc.) with full authority for management of the SFI and associated certification processes. The SFB has fifteen members—one-third representing SFI program participants; one-third from the conservation and environmental community; and one-third from the broader forestry community.

The SFB or SFI staff do not perform certification audits themselves, rather private, third parties perform the certification. SFI certifiers must be approved by the SFB Verifiers Accreditation Subcommittee. Certifiers must meet all required training credentials and relevant work experience, gain a positive report in a formal field peer review, and operate in accordance with the International Organization for Standardization (ISO) series of standards for environmental auditing or their equivalent [SFI-VCPP, p.36]. Extensive descriptions of the qualification criteria for SFI certifiers is contained in the *Sustainable Forestry Initiative Qualification Criteria for Verifiers* [SFI-QCV 2002].

Forest Stewardship Council. The Forest Stewardship Council (FSC) is an international, non-profit, membership organization composed of forest products buyers groups (wholesalers and retailers), producers of forest products, government agencies and representatives, and environmental groups. The FSC is organized as three chambers (economic, social, and environmental), which determine policies. Each chamber has only one vote on policy matters, and members can only be represented in a single chamber. The FSC accredits independent third-party certifiers.

The U.S. Initiative of the Forest Stewardship Council (FSC-US) oversees the activities of the FSC in the United States—specifically regional rules promulgation, certifier actions, and public relations. FSC-US appointed a committee during mid-2000 to create a set of national indicators to use for developing consistent regional rules within the 11 geographic regions it has delineated in the United States. Idaho falls within the Rocky Mountain region. The Rocky Mountain Working Group of FSC-US was formed in 1998 to draft standards for the region.

Two organizations in the U.S.—Scientific Certification Systems and Smartwood—are currently accredited to conduct FSC third-party certifications. Scientific Certification Systems (SCS) is a private company based in Emeryville, CA, that specializes in certification of the food industry, forestry, marine habitats, and a wide variety of businesses. SmartWood is a program of the Rainforest Alliance, an international nonprofit environmental group based in New York City.

1.2. Standard Setting Process & Participants

Each program has a protocol for setting standards, or the measures by which compliance is measured. The standard setting process, and the participants in it, have a large influence over the overall shape and functioning of the program.

Idaho Legal Requirements. Idaho statutes are promulgated via either legislative or initiative processes. The legislative process requires majority votes of elected representatives in both chambers of the Idaho Legislature subject to veto by the Governor. The initiative process requires review of the initiative by the state attorney general, distribution of an informational brochure about the initiative to all households in the state, and a majority vote from the public [Idaho Code § 34-1801 et. seq.].

The Idaho Administrative Procedures Act [Idaho Code § 67-5201 et. seq.] defines the process for rule promulgation. The Land Board is given exclusive authority by the Idaho Forest Practice Act to develop forestry rules [Idaho Code § 38-1304]. The IDL Director appoints a Forest Practices Advisory Committee to provide technical advice on proposed rules [Idaho Code § 38-1305(2)]. The IDL Director must meet with other state agencies and the Forest Practices Advisory Committee at least once each year to review recommendations for amendments to rules, new rules, or repeal of rules. The director must report the recommendations to the Land Board [IDAPA 20.02.01.020.03]. The IDL Director must consult with other state agencies and departments about forest management where expertise from those agencies is desirable or necessary [IDAPA 20.02.01.020.04].

The Idaho Governor can issue executive orders that have the force and effect of administrative rules [Idaho Code § 67-802]. The Idaho Legislature can pass laws which direct the Land Board to draft new rules.

Sustainable Forestry Initiative. The Sustainable Forestry Board (SFB) has sole responsibility for development of the SFI program and its standard. The SFB has several operating committees through which it conducts its work. The Resources Committee has the primary policy development responsibility. An External Review Panel—made up of 18 independent professionals from academia, government, and conservation organizations—reviews recommended SFI program enhancements.

The SFI program has been revised and updated periodically since its inception. Beginning in January 2002, the SFB established a three-year review cycle for the SFI program. The next review will occur in 2004, with any resulting changes effective in 2005.

Forest Stewardship Council. The Rocky Mountain Working Group of FSC-US was formed in 1998 as an ad hoc group to draft standards for the region. Draft standards for the Rocky Mountain region were submitted for public

review and field tested in 1999. The regional standards were revised based on those events and the direction provided by the FSC-US national indicators. Final Rocky Mountain Regional Standards (RMRS) were published in August 2001, and endorsed by the FSC Secretariat in September 2001.

1.3. Verification Process

Verification is the way in which a program administrator determines if a landowner is complying with its requirements. Verification provides credibility for the program.

Idaho Legal Requirements. IDL has primary responsibilities for monitoring compliance with statutes and rules related to forest management activities. A landowner, timber owner, or operator, must notify IDL before undertaking a forest practice, and IDL staff reviews all notifications of forest practices [Idaho Code § 38-1306].

IDL staff do not field inspect 100% of notifications; however, they have criteria and procedures for choosing notifications to inspect. Priority for inspection is usually given to practices taking place along Class I streams or other water bodies or on steep ground, or that receive complaints. In 2002, IDL received 3,911 forest practice notifications statewide and conducted 2,478 inspections; however, it is inappropriate to report an overall inspection rate because some sites are visited more than once and some notifications extend over a two-year period. In addition to forest practice inspections, fire hazard inspections are done on all timber harvesting jobs greater than 20,000 board feet [Barkley, personal communications].

Sustainable Forestry Initiative. The SFB has adopted the *Sustainable Forestry Initiative Verification/Certification Principles and Procedures* [SFI-VCPP 2002] which provides extensive guidance to SFI program participants. Verification of compliance with the SFI Standard can take three forms. An organization may choose: (1) firstparty or self-verification; (2) second-party verification; or (3) third-party certification by an independent third party to conduct the verification and prepare the verification report [SFI Standard, p. 13]. Self-verification to the SFI Standard is required of all AF&PA members, but third-party verification is voluntary. Re-verification is required within three years of the initial verification and cannot exceed five years thereafter [p.42].

The SFI verification process is consistent with the auditing principles and procedures of various international standards including: Generally Accepted Accounting Principles (GAAP), Generally Accepted Auditing Standards (GAAS), and the ISO series of standards for environmental auditing now adopted as American National Standards Institute (ANSI) standards for the United States. Third-party certification requirements include: (1) a certifier totally independent of the organization being verified and who meets the qualifications outlined in the *Sustainable Forestry Initiative Qualification Criteria for Verifiers* [SFI-QCV 2002]; (2) a written report of findings and conclusions with mutually agreed contents which remains confidential at the discretion of the participant; (3) a formal certificate of compliance issued by the certifier; and (4) a publicly available summary of findings for those participants wishing to make public claims about their compliance. A team of evaluators actually carries out the certification process.

Forest Stewardship Council. FSC accredits certifiers, and much of the protocol for verifying compliance is left to the certifier. The two certifiers in North America—Scientific Certification Systems (SCS) and Smartwood—use similar approaches that include a team of evaluators, field data collection, and a review of findings by the candidate operation and independent peer reviewers. SCS and Smartwood differ some in their scoring system for candidate operations. The duration of certification for Smartwood is five years for most operations, whereas SCS ties the length of certification to the landowner's management planning cycle, usually three to six years [SCS 1995, Smartwood 2000].

1.4. Enforcement Protocol

Enforcement is the way a program administrator identifies and deals with non-compliance by forest landowners. Enforcement also provides credibility to the program.

Idaho Legal Requirements. IDL is assigned the duty of enforcing most laws related to forest management activities, including the Idaho Forest Practices Act (IFPA) [Idaho Code § 38-1305]. Protocol for enforcement of IFPA is set forth in Idaho Code § 38-1307, and penalties are assigned in Idaho Code § 38-1310. Enforcement protocols for the Idaho Forestry Act (fire hazard management) are set forth in Idaho Code § 38-123. Violations of administrative rules have the same penalties as violations of the statutes on which the rule is based [Idaho Code § 38-132]. The IDL Director may delegate the powers and duties of peace officers to any person within IDL [Idaho Code § 38-131].

Habitual violators of IFPA requirements may be required to post a \$200 per acre bond for each forest practices notification, with a minimum bond of \$5,000 and a maximum bond of \$15,000 [Idaho Code § 38-1306B]. IDL will not accept a new forest practice notification from any operator having an outstanding notice of violation until the repairs are completed to IDL's satisfaction [Idaho Code § 38-1306[(9)](10)].

Sustainable Forestry Initiative. Beginning in 1997, members of AF&PA were required to follow the SFI Standard. Third-party certification, added in 1999, remains optional. SFI certification requires that there be no "major non-conformances" and minor non-conformances must be resolved or addressed in a written plan for timely corrective actions approved by the certifier [SFI-VCPP, p.41].

SFI requires periodic surveillance audits if the participant wants to use the SFI on-product label. The audits focus on: action plans to address non-conformances, formal reports of inconsistent practices, changes in conditions or operations, and changes in the SFI Standard [SFI-VCPP, p. 42]. Non-conformances are addressed in the same manner as during the initial certification [SFI-VCPP, p. 42].

SFI includes a process where a party may make specific claims of noncompliance against a program participant [SFI-VCPP, p.44]. If after completing the process and the participant is found not to be in compliance, certification can be suspended [SFI-VCPP, p.45].

Forest Stewardship Council. The FSC-US Rocky Mountain Regional Standards working group recognized that standards are "a tool that must be applied with the professional discretion of certifiers" and chose "not to establish any 'fatal flaw' standards, preferring that certifiers evaluate the cumulative weight of adherence to the overall body of standards. The standards seek to establish a rigorous performance bar that forest managers must clear to be certified, while also providing certifiers sufficient flexibility to exercise professional judgment" [RMRS, p.2].

FSC requires that accredited certifiers have the right to withdraw a certification certificate if the terms and conditions of its issue are not satisfied [FSC Accrediation Manual, Part 3.1. § 9]. The certifier must clearly state in its contract with certification holders the conditions under which certification can be suspended or withdrawn, and the procedures for doing so must be clearly documented.

1.5. Dispute Resolution

If disagreements arise between a program administrator and the forest landowner, dispute resolution processes determine how disagreements are resolved. Dispute resolution provides some balance of power between the program and the landowner.

Idaho Legal Requirements. As part of its enforcement protocol, IDL may issue an order directing an operator that it finds to be in violation of the Idaho Forest Practices Act to cease further violation and to commence and continue repairing the damage or correcting the unsatisfactory condition. This action is referred to as a "cease and repair order" [Idaho Code § 38-1307(2)(a)]. If an operator is dissatisfied with a cease and repair or stop work order, the operator can: [1] within 30 days, challenge the order in county court where the alleged damaged land is situated; or [2] within 10 days, request a hearing before the Land Board to challenge the merit or basis of the order. If the Land Board affirms the order, the operator may within 30 days after the board's decision appeal the decision to the district court for the county where the alleged damaged land is situated. The action in the district court is limited to appellate review. The operator bears the burden of proving that the order is without merit or basis [Idaho Code § 38-1307(3)].

Forest landowners who are subject to the provisions of the Idaho Forestry Act can request and must be granted a hearing before the Land Board or an executive committee of the Land Board. The activities which the landowner is protesting are not suspended, unless the Board directs so after the hearing [Idaho Code § 38-106].

Sustainable Forestry Initiative. SFI requires that: "Each accredited verifier conducting certifications must have in place an internal disputes resolution process in keeping with ANSI/RAB or equivalent guidance. Resolution of all disputes between a verifier and a program participant shall be addressed via these mechanisms" [SFI-VCPP, p.43].

Forest Stewardship Council. FSC requires that accredited certifiers have a dispute resolution process "which ensures that disputes, grievances, complaints, and appeals are dealt with by the certification body in an equitable manner" [FSC Accreditation Manual, Part 3.1 § 6.1] and outlines threshold requirements for such a process [FSC Accreditation Manual, Part 3.1 § 6.2].

1.6. Training & Credentialing

Each program has training, educational, and credentialing requirements for personnel administering its program. These requirements affect the overall credibility of the program.

Idaho Legal Requirements. Inspections of forest practices is a job responsibility of several positions within IDL. Entry-level foresters, who meet the basic requirements for the Lands Resource Manager position, may have some IFPA responsibilities. District forest practice advisors, who also administer and inspect the Idaho Forest Practices Act on private lands, tend to have experience with the agency and forest practices either as IDL fire wardens or area resource foresters [Barkley, personal communications.]

Sustainable Forestry Initiative. The Sustainable Forestry Initiative Qualification Criteria for Verifiers [SFI-QCV 2002] extensively outlines the training and credentialing requirements for SFI certifiers. Certifiers must "have the education, formal training and experience that promotes competency in and comprehension of:

- Forestry operations as they relate to natural resource management, including wildlife, fisheries, recreation, etc.;
- Environmental regulation and related disciplines;
- International and domestic sustainable forestry management systems and performance standards; and
- Verification requirements related to the SFI" [SFI-QCV 2002, p. 48].

Forest Stewardship Council. FSC-US Rocky Mountain Regional Standards do not specify any particular credentials or training requirements to conduct FSC certifications in the United States. However, certifications may only be done under the direction of an accredited FSC certifier.

FSC leaves the specific educational and training criteria for the certifier's personnel up to the certifier; however, the certifier's criteria must meet certain threshold requirements including:

- specification of appropriate, education, training, and experience;
- some members of the certification team must have previous evaluation experience within the country;
- knowledge of the local language; and
- knowledge of the forest management system (including silviculture) being implemented in the evaluated forest [FSC Accreditation Manual, Part 3.1 § 11].

Records of the education, training, and experience of all permanent and contract personnel must be available, accurate, complete, up-to-date, and legible.

1.7. Public Transparency & Involvement

Public transparency is the degree of openness to the public that each program's processes have. Public involvement is about how much say the public has in determining the elements and implementation of the programs. Transparency and involvement may affect the social acceptability and credibility of each program.

Idaho Legal Requirements. Idaho forestry laws do not specifically address public transparency and involvement. However, the Idaho Administrative Procedures Act does provide for public notice of rule adoption, amendment, or appeal through publication in a bulletin and a required 21-day public comment period [Idaho Code § 67-5221 and § 67-5222]. Idaho also has an "open" public meetings law that requires public agencies and governing bodies to conduct their business in public and not in secret [Idaho Code § 67-2340 et seq.]. Private citizens also have the right to examine public records [Idaho Code § 9-338], and IFPA records are public records.

Sustainable Forestry Initiative. SFI does not have requirements for public involvement in standard setting or overall program administration, although the External Review panel represents various interests and makes suggestions for program modification.

Objective 9 of the SFI Standard is to "publicly report Program Participants' progress in fulfilling their commitment to sustainable forestry" [4.3.1 Objective 9]. Program participants must report annually to the SFI program on their compliance with the SFI Standard [4.3.1.1.1].

Objective 10 of the SFI Standard is to "provide opportunities for the public and the forestry community to participate in the commitment to sustainable forestry [4.3.2 Objective 10]. Program participants must support and promote public outreach, education, and involvement in related forest management [4.3.2.1.1].

Program participants who undertake third-party certification must work with the certifier to prepare an audit summary for public disclosure [SFI Verification Process, p. 42].

Forest Stewardship Council. FSC does not have requirements for public involvement in its standard-setting process, although the broad representation in FSC's membership might be considered representative of the public. The Rocky Mountain Regional Standards were developed by a committee that represented a spectrum of public interests, and the standards were subject to public review before they were finalized.

FSC-US certified forest owners or managers must share public information, provide open records, and conduct public participation procedures as required by law [RMRS 1.1.c]. Where opportunities afford, FSC Principles and Criteria must be explicitly supported in the public arena [RMRS 1.6.a]. Principle 3 extensively addresses the involvement of indigenous peoples in forest management, and Principle 4 extensively addresses community relations. Forest managers must consult with people and groups directly affected by management operations [RMRS 4.4]. While respecting the confidentiality of information, forest managers must make publically available a summary of the primary elements of their forest management plan [RMRS 7.4] and the results of monitoring indicators of forest condition [RMRS 8.5]. Attributes and locations of high conservation value forests are determined with public input and review [RMRS 9.1.a].

2. Forest Planning and Monitoring

Each of the items in this category addresses general forest planning issues. Each program's general approach to overall forest planning and monitoring influences the operational details of the program.

2.1. Written Plans

Written plans provide documentation of resource conditions and agreements between program administrators and forest landowners. The effort required to write forest management plans may indicate a stronger or longer-term commitment to a program.

Idaho Legal Requirements. The Idaho Forest Practices Act requires landowners to notify IDL before conducting a forest practice [Idaho Code § 38-1306]. Forest practices include the harvesting of trees, associated road construction, reforestation, use of chemicals or fertilizers, management of slashings, and salvage of dead or dying timber [Idaho Code § 38-1303(1)]. When more than one forest practice is to be conducted in relation to tree harvesting, a notice must be filed for each forest practice [Idaho Code § 38-1306(1)]. The forms used for notification require some basic information that might be found in a written management plan, but the required information is not very detailed.

Private forest land owners who wish to participate in federal cost share programs, such as CRP, SIP, or FLEP must have a written management plan, which is written in conjunction with an IDL forester or a U.S. Natural Resources Conservation Service conservationist depending on the program. These written "woodland management plans" may constitute a suitable forest practices notification [Idaho Code § 38-1306(1)].

Sustainable Forestry Initiative. The SFI Standard requires program participants to have written "policies" about almost every item addressed in the Standard and defines "policy" to include a "plan to achieve an objective or outcome" [SFI Standard, p. 8]. Among the many written policies that program participants must have are plans for: implementing and achieving SFI Objectives and Performance measures; long-term sustainability of harvest levels; time frame for reforestation; protection and maintenance of forest and soil productivity; protection of forests from damaging agents; use of genetically improved seedlings; implementation of BMPs to protect water quality; management and protection of riparian zones; promotion of wildlife habitat and forest cover diversity and the conservation of biological diversity; visual quality management; and efficient utilization of trees.

Forest Stewardship Council. Principle 7 (Management Plan) specifies that the management plan must be written, and subsequent criteria detail what must be contained in the plan. Written guidelines also must be prepared to: control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and protect water resources [RMRS 6.5]. When chemicals are being applied, a written prescription also must be prepared that fully describes the risks and benefits of their use and the precautions that workers employ [RMRS 6.6.c].

2.2. Inventory

Inventory is the collection of data about the amount and/or state of forest resources. Inventory provides information on which to base management decisions.

Idaho Legal Requirements. Idaho forestry law and rules do not specifically mention a need to inventory trees or other forest features. However, meeting requirements such as residual stocking levels [IDAPA 20.02.01.050.04] and standing trees in stream protection zones [IDAPA 20.02.01.030.07] seem to require some level of inventory information.

Sustainable Forestry Initiative. Part of the SFI program participant's commitment to implementing and achieving the SFI Standard is the have a periodic and ongoing forest inventory, and a soils inventory, where available [4.1.1.1]. The inventory must be updated periodically [4.1.1.1.4]. Participants must be able to inventory the effects of wet weather events on BMPs and water quality [4.1.3.1.1]. Program participants also must collect information on imperiled species and communities and other biodiversity-related data through forest inventory processes [4.1.4.1.3].

Forest Stewardship Council. The forest owner or manager must maintain records of standing timber and timber harvest volumes by species and volume [RMRS 8.2.a.1] and of the yield of harvested non-timber forest products by species, volume, and grade [RMRS 8.2.a.2]. A technically sound inventory system is required to monitor: (1) timber growth, mortality, stocking, and regeneration, (2) stand composition and structure, (3) effects of disturbances to the resources, (4) abundance, regeneration, and habitat conditions of non-timber forest products,

(5) quality and quantity of water, (6) terrestrial and aquatic habitat, (7) ecosystem composition, structures, and functions, (8) soil characteristics, and (7) vulnerability to fire and pests [RMRS 8.2.b.1]. Inventory measurements must be sufficiently detailed to provide adequate monitoring of compliance with the criterium that harvest levels can be permanently sustained [RMRS 8.2.b.2].

2.3. Sustained Yield

Sustained yield is a management philosophy in which the rate at which a renewable resource is harvested or removed is not greater than the rate at which it is growing or replenished. Sustained yield has formed the philosophical basis for much of timber management since the late 19th century.

Idaho Legal Requirements. Idaho law makes no specific reference to sustained yield of timber. However, some IFPA administrative rules relate to or may affect sustained yield, if a landowner chooses to manage for it. Rules associated with timber harvesting [IDAPA 20.02.01.030], residual stocking and reforestation [IDAPA 20.02.01.050], and slashing management [IDAPA 20.02.01.070] may apply.

Sustainable Forestry Initiative. SFI program participants must ensure that long-term harvest levels are sustainable and consistent with appropriate growth and yield models and written plans [4.1.1.1.4]. Program participants must have recommended sustainable harvest levels, documentation of annual harvest trends in relation to the sustainable forest management plan, a forest system inventory and a method to calculate growth, periodic updates of inventory and recalculation of planned harvest, and documentation of forest practices consistent with the assumptions in the harvest plan.

Forest Stewardship Council. FSC criteria require that the rate of harvest of forest products not exceed levels which can be permanently sustained [RMRS 5.6]. The rationale for the rate of annual harvest and species selection must be included in the management plan for a forest [RMRS 7.1.d.]. Inventory measurements must be sufficiently detailed to provide adequate monitoring of compliance with the sustained yield criterium [RMRS 8.2.b.2.].

2.4. Monitoring

Monitoring involves continuing to examine the results and consequences of an action after it is completed. Monitoring can help determine the long-term effectiveness of an action and the need to modify future management.

Idaho Legal Requirements. The only reference to monitoring in the Idaho Forest Practice Act rules is in regards to modifying BMPs based on monitoring and surveillance [IDAPA 20.02.01.020.04.a]. However, monitoring is an obligation of the Idaho Department of Environmental Quality, not landowners. Monitoring, at least in the short term, is implied in other rules such as those about road maintenance [IDAPA 20.02.01.040.04] and reforestation [IDAPA 20.02.01.050].

Sustainable Forestry Initiative. SFI program participants must monitor overall BMP implementation for water quality [4.1.3.1.1] and must monitor water quality when chemicals are used in forest management operations [4.1.2.1.3]. Program participants must have a written policy to monitor clearcut sizes and number [4.1.5.1.2]. They must have an auditing or monitoring system to ensure efficient utilization of trees during harvesting and inwoods manufacturing processes [4.1.7.1.1]. Program participants must have a verifiable auditing or monitoring system in place to evaluate the results of promoting reforestation and use of BMPs within wood supply systems [4.2.1.1.1]. Objective 11 requires monitoring of achieving the commitment to sustainable forestry [4.4.1 Objective 11].

Forest Stewardship Council. Monitoring is a major part of FSC certification criteria. Principle 8 (Monitoring and Assessment) specifically and extensively addresses the issue. The frequency and intensity of monitoring depends on the scale and intensity of forest management as well as the relative complexity and fragility of the affected environment [RMRS 8.1]. Forest managers are to monitor, at a minimum, (1) yield of all forest products harvested, (2) growth rates, regeneration, and condition of the forest, (3) composition and observed changes in the flora and fauna, (4) environmental and social impacts of harvesting and other operations, and (5) cost productivity and efficiency of forest management [RMRS 8.2]. Results of monitoring are to be incorporated into the implementation and revision of the management plan [RMRS 8.4]. While respecting the confidentiality of information, forest managers are to make publicly available a summary of the results of monitoring indicators [RMRS 8.5].

2.5. Chain-of-Custody

Chain-of-custody is the ability to track a product (e.g., a piece of lumber), from its origin in the forest (a tree or stand of trees) through the production process (sawmill) and then on through marketing and retail channels (distributors and stores). Chain-of-custody provides some assurance to the consumer of a product that it was produced in accordance with a particular program.

Idaho Legal Requirements. Idaho has two policies that might be considered related to chain-of-custody. The initial purchaser of harvested timber (e.g., a sawmill) must receive and keep on file a copy of the approved IDL forest practices act notification from the timber harvester [Idaho Code § 38-1309]. Also, operators may use log brands but are not required to do so [Idaho Code § 38-808].

Sustainable Forestry Initiative. The general SFI program does not have specific chain-of-custody requirements. However, SFI participants who wish to use one of the SFI on-product labels must follow guidelines from the SFI Office of Label Use and Licensing. These guidelines include more specific requirements about sources of wood, procurement procedures, and product content. Objective 8 of the general SFI standard supports a commitment to broadening the practice of sustainable forestry through wood procurement programs [4.2.1. Objective 8].

Forest Stewardship Council. FSC leaves specific chain-of-custody certification requirements up to accredited certifiers. The FSC-US Rocky Mountain Regional Standards do not specifically address chain-of-custody requirements other than to repeat the FSC criteria that documentation must be provided by the forest manager to enable monitoring and certifying organizations to trace each forest product from its origin [RMRS 8.3], and to see the FSC Accreditation Manual [2002] for chain-of-custody certification requirements. Parts 3.4 to 3.6 of the manual contain extensive guidance and requirements for certifiers who implement chain-of-custody certification systems. FSC has a separate chain-of-custody certificate process for those organizations wishing to pursue an on-product label.

3. Forest Management Practices

The items in this category address specific forest management practices, particularly those related to timber production. Similarities in how each of the forest management practices is addressed emphasizes similarities in practices that are considered to be part of sustainable forest management.

3.1. Forest Regeneration

Forest regeneration is the set of practices that ensures that a new forest will grow after one has been harvested. Forest regeneration ensures the long-term sustainability of resource supplies from the forest.

Idaho Legal Requirements. The Idaho Forest Practices Act (IFPA) requires the Land Board to adopt rules that ensure reforestation [Idaho Code § 38-1304(1)(c)]. IFPA rules require minimum stocking levels [IDAPA 20.02.01.050.04], and if after three growing seasons after harvest stocking levels do not meet the minimum standard, seeding and/or planting may be required. Required seeding and/or planting must be completed before the end of the fifth growing season after harvest, unless the IDL Director grants an exception [IDAPA 20.02.01.050.06]. Reforestation practices must insure seedlings become established [IDAPA 20.02.01.050.06.a].

Sustainable Forestry Initiative. SFI program participants must ensure long-term forest productivity and conservation of forest resources through prompt reforestation [4.1.2 Objective 2]. Program participants must reforest after final harvest by planting or direct seeding within two years or two planting seasons, or by planned natural regeneration methods within five years [4.1.2.1.1]. Program participants must promote state-level reporting of the overall rates of reforestation success [4.1.2.1.2].

Forest Stewardship Council. FSC criteria require that ecological functions and values are maintained intact, enhanced, or restored, including forest regeneration [RMRS 6.3]. Regeneration methods are to be compatible with natural disturbance characteristics, site characteristics, and landscape patterns [RMRS 6.3.a.1]. Methods of natural regeneration are used to achieve a desired level of stocking. Where necessary for natural regeneration, high quality seed trees are retained in number and distribution adequate to achieve the desired stocking levels. Where necessary to meet stocking, genetic restoration, and/or species diversity objectives, natural regeneration may be supplemented by planting locally adapted, source-identified, native species [RNRS 6.3.a.7]. The written management plan for a forest must include a description and rationale for regeneration strategies [RMRS 7.1.a.1]. Prescriptions for regeneration are to be prepared prior to planting and are made available to the people who carry out the prescriptions [RMRS 7.1.c.2]. Forest management should include the research and data collection needed to monitor regeneration [RMRS 8.2.b.1].

3.2. Site Preparation

Site preparation is the set of actions that prepare a harvested site for regeneration. Good site preparation provides optimal conditions to ensure the survival and growth of seeds and seedlings.

Idaho Legal Requirements. The Idaho Forest Practices Act (IFPA) requires the Land Board to adopt rules that address reforestation [Idaho Code § 38-1304(1)(c)], but does not specifically address site preparation. IFPA rules include a general statement recognizing slash treatment as a necessary tool for optimizing the conditions for future regeneration of forest tree species [IDAPA 20.02.01.070.01].

Sustainable Forestry Initiative. The SFI standard requires that site preparation protects soil productivity [4.1.2.1.4], and that participants must support wood producer training courses that include BMPs for site preparation [4.2.1.1.2]. Many of the performance measures for ensuring long-term forest productivity (Objective 2) also are related to proper site preparation and regeneration.

Forest Stewardship Council. FSC certification requires that when post-harvest site preparation is required, managers select an effective method that minimizes ecological impact [RMRS 6.3.a.6]. Plans for site preparation must specify the following mitigations to minimize impacts to the forest resources: slash management, minimum scarification of soils, and minimal disturbance of topsoil [RMRS 6.5.d]. Prescriptions are to be prepared prior to site preparation and made available to the people who carry them out [RMRS 7.1.c.2]. The management plan is to identify information to be covered in site-specific logging plans, such as site preparation [RMRS 7.1.i.1].
3.3. Genetics

This category encompasses a wide range of genetics issues, from maintaining genetic diversity to the use of genetically modified organisms.

Idaho Legal Requirements. Idaho forestry laws and rules do not address issues of genetics; neither genetically improved growing stock, nor genetically modified organisms are mentioned.

Sustainable Forestry Initiative. SFI program participants that use genetically improved seedling, including those derived through biotechnology, must use sound scientific methods and follow all appropriate federal and state regulations and other internationally applicable protocols [4.1.2.1.6].

Forest Stewardship Council. FSC criteria require that ecological functions and values are maintained intact, enhanced, or restored, including genetic diversity [RMRS 6.3]. High grade logging is not to be practiced. The forest owner or manager is to select trees for harvest, retention, and planting in a manner that maintains or enhances genetic diversity and quality of the residual stand [RMRS 6.3.b.1.].

FSC prohibits the use of genetically modified organisms [RMRS 6.8]. Genetically improved organisms are not considered to be genetically modified and may be used.

3.4. Stocking Control

Stocking control is the set of actions used to affect the number or spacing of trees in a forest. Stocking control is used to promote the growth of desirable species as well as reduce the incidence and severity of pests, diseases, and other damaging agents.

Idaho Legal Requirements. No laws or rules require stocking control (e.g., pre-commercial or commercial thinning) to maintain or enhance forest productivity, except when stocking control results in basal area or tree counts below specified limits [IDAPA 20.01.030.02; IDAPA 20.02.01.050.04].

Sustainable Forestry Initiative. Except for stocking requirements related to regeneration, SFI does not require stocking control. Corrective actions are required on regenerated areas that are understocked [4.1.2.1.1]. Trees in clearcut harvest areas must be at least 3 years old or 5 feet high at a desired stocking level before adjacent areas are clearcut [4.1.5.1.3]. Thinning and other stocking control practices are not required, but those that are undertaken must be documented to ensure the sustainablity of long-term harvest levels [4.1.1.1.4]. A

Forest Stewardship Council. FSC criteria require that stocking levels and distribution of stocking throughout the forest be sufficient to maintain the long-run sustainable yield [RMRS 5.6.b]. Methods of natural regeneration must achieve the desired level of stocking and may be supplemented by planting [RMRS 6.3.a.7]. Monitoring plans and procedures must include provisions for pre-harvest and post-harvest assessments of stocking [RMRS 7.1.e.1 and 8.2.b.1].

The only mention of thinning in the Rocky Mountain Regional Standards is as an example of maintenance activities that can be carried out to maintain old-growth and High Conservation Value Forest attributes [RMRS 9.3.a]. However, Principle 6 (Environmental Impact) requires that ecological function and integrity be maintained. Some methods of stocking control (e.g., thinning) that imitate natural disturbance processes may be acceptable.

3.5. Fertilization

Fertilization is the act of supplementing the nutritional elements trees need to grow. Fertilization can lessen the time it takes trees to reach a particular size.

Idaho Legal Requirements. No Idaho laws or administrative rules specifically require or ban the use of fertilizers in forests. The Idaho Forest Practices Act requires that rules be adopted that "provide for the use of chemicals or fertilizers in such a manner that the public health and aquatic and wildlife habitat will not be endangered from their handling, storage and application" [Idaho Code § 38-1304(1)(d)]. The Idaho Fertilizer Act of 2000 regulates the labeling and sales of commercial fertilizer [Idaho Code § 22-601 et. seq.]. The Soil and Plant Amendment Act of 2001 regulates the labeling and sales of other types of soil and plant amendments [Idaho Code § 22-2201 et. seq.].

Sustainable Forestry Initiative. Fertilization is not specifically mentioned in the SFI Standard, except that fertilization practices are to be documented as part of the written plan to ensure that long-term harvest levels are sustainable [4.1.1.1.4]. The performance measures and indicators that apply to chemicals [4.1.2.1.3] apply to chemical fertilizers as well.

Forest Stewardship Council. FSC criteria require that synthetic fertilizers are used only to further overall goals of ecosystem restoration or environmental quality, and only if such use maintains water quality [RMRS 6.6.d]. Tree plantation management should make every effort to move away from chemical fertilizers, including in their nurseries [RMRS 10.7.].

3.6. Fire

This category includes numerous aspects of the management of fire in forests. Fires can be prescribed—intentionally set or allowed to burn for the benefit of the forest, or wildfire—those that do not provide management benefits to the forest.

Idaho Legal Requirements. Idaho forestry laws and administrative rules extensively address fire protection and management. The Idaho Forestry Act (IFPA) [Idaho Code § 38-101 et seq.] creates forest protective associations and funding mechanisms for them, and requires timber harvesters to manage and reduce fire hazard during and after harvesting operations. Every forest landowner is required to provide protection against the starting, existence, and spreading of fire. This can be done by the landowner individually, or by a forest protective association through a fee assessed to the landowner , or IDL will do so at actual cost [Idaho Code § 38-111]. Additional fire hazard reduction provisions are provided in Idaho Code § 38-401 et seq. Burned areas are required to be reseeded [Idaho Code § 38-501]. IFPA rules regulate fire both in slashing management [IDAPA 20.02.01.070] and prescribed fire [IDAPA 20.01.01.071].

Sustainable Forestry Initiative. SFI program participants are to manage so as to protect forests from damaging agents such as wildfire [4.1.2.1.5]. Program participants must have a written policy to protect forests from damaging agents, and forests must be managed to minimize susceptibility to the damaging agents. Participants must support and participate in fire prevention and control programs.

Forest Stewardship Council. The written management plan, required under FSC Principle 7, must include a description and rationale for fire management—both prescribed fires and wildfires—that are appropriate to the scale, intensity, and context of management [RMRS 7.1.a]. Prescriptions are to be prepared prior to burning and made available to the people who carry out the prescription [RMRS 7.1.c.2]. The management plan must identify information to be covered in site specific logging plans, such as slash treatment [RMRS 7.1.i.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 fire hazard levels [RMRS 6.5.d].

FSC criteria also state that when natural disturbance regimes, such as fire, have been altered in a High Conservation Value Forest in a way that significantly modifies the naturally occurring stand structures and

composition, forest managers are to restore stand structure and composition to conditions within the historical range of variability [RMRS 9.3.c].

3.7. Pests & Pathogens

This category includes management of insects and diseases that destroy economic value of timber in the forest. Some level of pest and pathogen activity in a forest is "normal" and required for it to function ecologically.

Idaho Legal Requirements. It is public policy of the state of Idaho to "adopt measures to control, suppress and eradicate outbreaks of the Tussock moth, pine beetle, or other destructive forest insects, pests, and disease" in cooperation with the federal government and private timber owners [Idaho Code § 38-601]. The IDL director is given the powers to develop plans and programs for the management of forest pests [Idaho Code § 38-603], as well as to declare infestation areas and take measures to eradicate pests in the affected area [Idaho Code § 38-602].

The Idaho Forest Practice Act (IFPA) requires that rules must provide for timely salvage logging [Idaho Code § 38-1304(1)(f)]. IFPA rules also recognize slash treatment as a necessary tool for the protection of reproduction and residual stands from the risk of fire, insects, and disease [IDAPA 20.02.01.070.01]. Pesticide use is allowed under rules for safety and protection of air and water quality [IDAPA 20.02.01.060].

Sustainable Forestry Initiative. SFI program participants are required to manage so as to protect forests from damaging agents including pests and diseases [4.1.2.1.5]. Program participants are to minimize chemical use in the control of pests and use integrated pest management where feasible [4.1.2.1.3].

Forest Stewardship Council. FSC criteria require that management systems promote the development and adoption of environmentally friendly non-chemical methods of pest management [RMRS 6.6]. Forest owners or managers are to employ silvicultural systems, integrated pest management, and vegetation control strategies that offer the greatest environmental protection [RMRS6.6.a], and pest control strategies must be written [RMRS 6.6.b]. Prescriptions are to be prepared prior to pest control, and made available to those people who carry out the prescription [RMRS 7.1.c.2]. Forest management plans are to consider the cyclical and potentially disruptive effects of future insect, disease, and pests in setting the periodic allowable cut [RMRS 7.1.d.2]. A technically sound inventory system is to be maintained to monitor the effects of disturbances on the resources, including pests and pathogens [RMRS 8.2.b.1]. Prescriptions for salvage harvest are to incorporate variable retention methods and balance ecological and economic considerations [RMRS 6.3.c.3].

If exotic species are used in plantations, they are to be carefully monitored to detect unusual mortality, disease, or insect outbreaks [RMRS 10.4]. Measures are to be taken to prevent and minimize outbreaks of pests and diseases in plantations [RMRS 10.7].

3.8. Road Access

Roads provide access for managing resources, such as removing timber from a forest. Roads also provide access for other activities such as recreation. Roads also affect wildlife habitat and are a primary source of soil erosion that results from forest management activities.

Idaho Legal Requirements. Idaho Forest Practice Act rules "provide standards and guidelines for road construction, reconstruction, and maintenance that will maintain forest productivity, water quality, and fish and wildlife habitat" [IDAPA 20.02.01.040.01]. Road specifications and plans are to be "consistent with good safety practices and should be no wider than necessary to accommodate the anticipated use" [IDAPA 20.02.01.040.02].

Sustainable Forestry Initiative. SFI program participants are to keep road construction to the minimum necessary to meet management objectives efficiently [4.1.2.1.4]. Aesthetic considerations are to be considered in road

design where visual impacts are a concern [4.1.5.1.1]. SFI participants are to support training efforts for BMPs for road construction and other transportation issues [4.2.1.1.2]. Public access to roads is to be controlled during and after forest chemical applications [4.1.2.1.3].

Forest Stewardship Council. FSC criteria specifically address the transportation system, including permanent and temporary haul roads and skid trails. The transportation system is to be designed, maintained, and/or reconstructed to minimize the extent of the road network and its potential cumulative adverse effects on soils, water quality and wildlife habitat [RMRS 6.5.g]. Total road densities are to be less than 2.5 miles per square mile, and open road densities are to be less than 1.5 miles per square mile [RMRS 6.5.h and 6.5.i]. Plans for road management are to minimize habitat fragmentation [RMRS 6.5.j]. Access to temporary and permanent roads is to be controlled, while legitimate access is allowed [RMRS 6.5.k]. Failed drainage structures and other areas of active erosion in the road systems are to be identified and measures taken to correct the problem [RMRS 6.5.l].

3.9. Timber Harvest & Utilization

This category identifies measures in the three programs that promote or protect timber harvesting as a legitimate use of forests. It also identifies measures that promote efficient use of harvested forest resources.

Idaho Legal Requirements. The Idaho Forest Practices Act (IFPA) states that "it is the public policy of the state to encourage forest practices," which include timber harvesting [Idaho Code § 38-1302(1)]. IFPA rules state that "harvesting of forest trees is a part of forest management by which wood for human use is obtained and by which forests are established and tended" [IDAPA 20.02.01.030.01]. IFPA rules establish minimum standards for timber harvesting that will maintain the productivity of the land and minimize soil and debris entering streams and protect wildlife and fish habitat [IDAPA 20.02.01.030.01]. Rules also provide for timely salvage logging [Idaho Code § 38-1304(1)(f)]. Under Idaho law, the right to conduct forest practices, including timber harvesting, is protected from nuisance lawsuits, provided that the practice is carried out in a lawful manner [Idaho Code § 38-1401].

Sustainable Forestry Initiative. SFI Objective 7 is to "promote the efficient use of forest resources" [4.1.7 Objective 7]. Program participants must employ appropriate forest harvesting technology, "in-woods" manufacturing processes, and practices to minimize waste and ensure efficient utilization of trees harvested, where consistent with other SFI Standard objectives [4.1.7.1.1].

Forest Stewardship Council. Principle 5 (Benefits from Forests) states that forest management operations should encourage the efficient use of the forest's multiple products and services. Forest management should minimize waste associated with harvesting and on-site processing operations [RMRS 5.3]. FSC Criteria 6.5 specifically address how the environmental impacts of timber harvesting are to be managed. Forest management areas also are to be protected from illegal timber harvest [RMRS 1.5].

3.10. Personnel & Supervision

Forest management activities are carried out on the ground by people. This category identifies specific educational, experiential, or training requirements those people must have, and it identifies any supervisory roles that must be fulfilled.

Idaho Legal Requirements. Idaho laws and rules make few specific references to personnel and supervision for forest management practices. One exception is that pesticide applicators must comply with the licensing requirements of the Idaho Pesticide Law and "Rules Governing Pesticide and Chemigation Use and Application," unless the individual is using pesticides on his/her own property [IDAPA 20.02.01.060.03].

Although no training or licensing is required for timber harvesters in Idaho, the Idaho Department of Lands, University of Idaho Extension Forestry, the Associated Logging Contractors of Idaho, and other forest industry groups have worked to implement a "Pro-Logger" program to meet the educational needs of Idaho loggers, forest owners, and forest product companies. Some wood processors are requiring that the wood used in their production facilities has been harvested by trained personnel.

Sustainable Forestry Initiative. The SFI program includes numerous references to the roles and training of employees, contractors and others. Staff roles and responsibilities for achieving the SFI Standard must be assigned and fully understood [4.1.1.1] and communicated throughout the organization [4.2.1.1.5]. All persons involved in forest chemical application are required to have appropriate training, and designated state trained or certified applicators must supervise forest chemical applications [4.1.2.1.3]. Field staff and contractors must be trained in water quality laws and state BMPs [4.1.3.1.1]. Program participants must require BMP training for employees in forest management and wood procurement operations and should encourage BMP training for forest management and harvesting contractors [4.1.3.1.4 and 4.2.1.1.1]. Training or education for appropriate personnel in endangered species identification and protection is required [4.1.4.1.3]. Foresters are to be trained in principles of landscape architecture or visual quality management [4.1.5.1.1], and program participants must maintain a list of qualified logging professionals [4.2.1.1.4].

Forest Stewardship Council. FSC criteria require that forest workers receive adequate training and supervision to ensure proper implementation of the management plan [RMRS 7.3]. Forest management must meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families [RMRS 5.3]. Qualified personnel are to perform the appropriate removal and remediation in the event of a spill of hazardous materials [RMRS 6.7.a].

4. Environmental Considerations

The items in the following categories examine specific environmental resources that forests provide. Differences in the relative emphases that each program places on a particular environmental resource reflect the philosophy and objectives of that program.

4.1. Ecological Function/Long Term Productivity

Certain ecological processes must remain intact in order for a forest to continue to produce trees and other resources in a manner that it has in the past. Protecting ecological function and long-term productivity is one of the basic tenets of sustainable forest management.

Idaho Legal Requirements. The Idaho Forest Practices Act (IFPA) directs the Land Board to adopt rules for timber harvesting that will "maintain the productivity of forest land" [Idaho Code § 38-1304]. IFPA rules extensively address harvesting practices that are designed to assure continuous growing and harvesting of trees and to protect soil, air, water, and wildlife resources [IDAPA 20.02.01.030.08].

Sustainable Forestry Initiative. SFI Objective 2 is to ensure long-term forest productivity through prompt reforestation, soil conservation, afforestation, and other measures [4.1.2 Objective 2]. Program participants must implement practices to protect and maintain forest productivity [4.1.2.1.4], including practices which protect forests from damaging agents such as wildfire, pests, and diseases [4.1.2.1.5]. Program participants must also provide funding for forest research to improve productivity [4.1.1.1.2]. SFI requires policies to promote the conservation of biological diversity [4.1.4.1.1], which is defined to include ecological functions.

Forest Stewardship Council. Principle 6 (Environmental Impact) specifically and extensively addresses ecological function and long-term productivity issues. Forest management must maintain the ecological functions and the integrity of the forest. The written management plan required by Principle 8 also addresses aspects ecological function and long-term productivity. An assessment of environmental impacts must be completed [RMRS 6.1], and from the assessment options are developed and implemented to maintain and/or restore the long-term ecological functions of the forest. Ecological functions and values that are to be maintained intact, enhanced, or restored include natural cycles that affect the productivity of forest ecosystems [RMRS 6.3].

FSC criteria also address the financial ability of the forest owner or manager to support long-term forest management [RMRS 5.1.a]. Investment and reinvestment in forest management must be sufficient to fulfill management objectives and maintain and/or restore forest health and productivity [RMRS 5.1.c]. Forest managers and owners are to maintain or enhance the inherent benefits and services that forests provide including watershed protection, habitat diversity, and other ecological functions [RMRS 5.5.a]

4.2. Species Conservation

Species conservation is a part of the conservation of biological diversity, which is important for long-term sustainable forest management. Species conservation involves the preservation of habitat, species populations, and genetic diversity.

Idaho Legal Requirements. The Idaho Forest Practices Act directs the Land Board to adopt rules for timber harvesting that will "protect fish and wildlife habitat" [Idaho Code § 38-1304]. Many of the rules for timber harvesting relate to protecting terrestrial and aquatic habitat, including stream protection [IDAPA 20.02.01.030.07], special consideration for critical habitat, and providing wildlife escape cover [IDAPA 20.02.01.030.08].

Administrative rules of the Idaho Department of Fish and Game classify and protect wildlife species [IDAPA 13.01.06.150]. The Idaho Conservation Data Center, a unit of the Idaho Department of Fish and Game, helps maintain a comprehensive database of the status and locations of rare, threatened and endangered species throughout the state. Extensive threatened and endangered habitat protection is provided through legal requirements placed on state and federal forest lands.

Sustainable Forestry Initiative. SFI Objective 4 is to "manage the quality and distribution of wildlife habitats and contribute to the conservation of biological diversity by developing and implementing stand- and landscape-level measures that promote habitat diversity and the conservation of forest plants and animals including aquatic fauna" [4.1.4. Objective 4]. Program participants must have policies that promote habitat diversity at the stand and landscape levels [4.1.4.1.1]. They must also provide research funding to improve the science and understanding of wildlife management and the conservation of biological diversity [4.1.4.1.2], and they must apply that science and understanding to their management [4.1.4.1.3].

Forest Stewardship Council. FSC criteria require that safeguards exist which protect rare, threatened and endangered species and their habitats. Conservation zones and protection areas are to be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping and collecting are to be controlled [RMRS 6.2]. A diversity of habitats for native species is to be protected, maintained, and/or enhanced [RMRS 6.3.b.2]. Forestry operations are to minimize habitat fragmentation from timber harvesting [RMRS 6.5.e]. Stream crossings of roads are to be located to minimize fragmentation of aquatic habitat [RMRS 6.5.p].

4.3. Landscape Scale Concerns

Addressing the effects of forest management at a variety of scales, particularly those beyond the forest stand level, is a hallmark of sustainable forest management. The landscape, or watershed, level is an important scale for addressing the cumulative impacts of forest management.

Idaho Legal Requirements. Idaho law requires that methods be developed for controlling watershed impacts resulting from cumulative effects [Idaho Code § 38-1305(8)]. IDL has developed and implements the Cumulative Watershed Effects (CWE) process for forest practices. The CWE process and any resulting site-specific BMPs are encouraged but not mandatory [IDAPA 20.02.01.031].

Stream protection zones, required by Idaho Forest Practice Act rules [20.02.01.030.07], provide some continuity and consistency in riparian conditions among different forest landowners in a watershed. Similarly, fire and pest protection requirements provide some continuity and consistency at larger landscape level among different landowners.

Sustainable Forestry Initiative. SFI Objective 4 addresses landscape level measures that promote habitat diversity and the conservation of forest plants and animals including aquatic fauna [4.1.4. Objective 4]. Program participants must have policies that promote habitat diversity at the stand and landscape levels [4.1.4.1.1], and must provide funding for research to improve the science and understanding of wildlife management at the landscape level [4.1.4.1.2].

Management of visual quality impacts of harvesting and other operations also may be a landscape level concern [4.1.5 Objective 5]. Program participants must adopt a "green-up" requirement, or other more comprehensive methods that provide age, habitat, and aesthetic diversity. Program participants also must use harvest methods, age classes, and judicious placement of harvest units to promote diversity across the forest landscape [4.1.5.1.4].

Forest Stewardship Council. FSC criteria require that assessment of environmental impacts must include landscape level considerations [RMRS 6.1]. Current ecological conditions are to be compared to historical conditions within the landscape context [RMRS 6.1.b]. Consistent with management objectives and natural patterns of regeneration, forest management is to maintain and/or restore a range of age classes, including large/old trees, as well as a diversity of native plants, at both the landscape and stand levels [RMRS 6.3.a.2]. Forestry operations are to minimize habitat fragmentation from timber harvesting by emulating natural disturbance patterns that are characteristic of the ecosystem when practicing forestry at the landscape level [RMRS 6.5.e]. Landscape level concerns also are taken into account in identifying High Conservation Value Forests [FSC Principle 9].

4.4. Exotic Species

This category addresses both the beneficial use of exotic species and the control of unwanted exotic species. Exotic species have the potential to provide benefits to programs such as integrated pest management; however, unwanted exotic species can disrupt ecological function.

Idaho Legal Requirements. The Idaho Forest Practice Act does not specifically mention exotic species; however, IFPA rules require that tree species used for reforestation be "acceptable" to IDL [IDAPA 20.02.01.010.46], which generally means native species from the correct "zone" (Colla, review comments). Although not specifically targeted at forest lands, Idaho law includes provisions for identification, assessment, and control of noxious weeds, which are often non-native species [Idaho Code § 22-2401 et. seq.] One of the reasons given for promoting the reseeding of burned areas is to prevent weed infestation [Idaho Code § 38-501].

Sustainable Forestry Initiative. SFI program participants must minimize the planting of exotic trees [4.1.2.1.1].

Forest Stewardship Council. FSC criteria state that the use of exotic species is to be carefully controlled and actively monitored to avoid adverse ecological impacts [RMRS 6.9]. The use of exotic plant species is contingent on peer-reviewed scientific evidence that any species in question is non-invasive and does not diminish biodiversity [RMRS 6.9.a]. Exotic species' provenance and location must be documented and their ecological effects actively monitored [RMRS 6.9.a].

Effective measures to control noxious weeds must be applied to log landing and other within-forest processing areas [RMRS 6.5.f]. Use of biological control agents is to be documented, minimized, monitored, and strictly controlled in accordance with national laws and internationally accepted scientific protocols [RMRS 6.8]. Exotic, non-invasive predators and/or biological control agents are to be used only as part of a pest management strategy for the control of exotic species of plants, pathogens, 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 non-invasive and are safe for indigenous species [RMRS 6.8.a.].

Native species are preferred over exotic species in the establishment of plantations and the restoration of degraded ecosystems. Exotic species, which are to only be used when their performance is greater than that of native species, and they are to be carefully monitored to detect unusual mortality, disease, or insect outbreaks and adverse ecological impacts [RMRS 10.4]. The use of exotic plant species in plantations is contingent on peer-reviewed scientific evidence that any species in question is non-invasive, does not diminish biodiversity, and is actively monitored [RMRS 10.4.a].

4.5. Reserves/Special Areas

Reserves and special areas can exist for ecological as well as cultural reasons. Some ecological resources are fragile, some species survive best in areas with little human activity, and reserves may be the best way to protect these resources. Human societies also have areas that are specially protected for cultural reasons.

Idaho Legal Requirements. Under Idaho law, timber harvesting practices are designed first and foremost to assure continuous growing and harvesting of tree species and to protect soil, air, water, and wildlife resources. However, other values may be considered. Special consideration can be given to preserving any critical wildlife habitat. Harvesting should be avoided along bogs, swamps, springs, seeps, wet draws, and other sources where the presence of water is indicated, to protect water quality and wildlife and aquatic habitat. When practical, clearcutting should be planned so that adequate escape cover is within one-quarter mile [IDAPA 20.02.01.030.08].

It is noteworthy that 85% of Idaho's forest lands are in public ownership where there are significant legal requirements for forest reserves and the protection of special areas. Thus, while private lands have limited legal requirements for reserve areas, on a landscape scale, state and federal laws and other policies address this issue on extensive public lands in the state.

Sustainable Forestry Initiative. One of SFI's Principles of Sustainable Forestry is "protecting special sites." Program participants must manage lands of ecological, geological, cultural, or historic significance in a manner that recognizes their special qualities [4.1.6. Objective 6]. Program participants must have a written policy to identify, map, and manage special sites. They also must obtain natural heritage data and cooperate with those with expertise in identifying sites for protection.

Forest Stewardship Council. Principle 9 (Maintenance of High Conservation Value Forests) specifically and extensively addresses reserve and special areas. Management activities in high conservation value forests must maintain or enhance the attributes which define such forests. Criteria for identifying and managing High Conservation Value Forests emphasize consultation with stakeholders and scientists, publicly available

management plans, and annual monitoring [RMRS 9.1 to 9.4]. Outside of high conservation value forest areas, representative samples of existing ecosystems within the landscape should 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 [RMRS 6.4].

4.6. Water Resources & Water Quality

Forested landscapes contribute to the quantity and quality of surface waters. Protection of water resources, including water quality, is a hallmark of sustainable forest management.

Idaho Legal Requirements. The Idaho Forest Practices Act and its rules are the main mechanisms for meeting the requirements of the federal Clean Water Act and Idaho Water Quality Standards [Idaho Code § 39-3601 et seq.] on forest lands (see PAG Report No. 14, O'Laughlin 1996). IFPA rules identify the "Best Management Practices" (BMPs) to be used to maintain water quality and adequately meet existing legal standards. Many of the rules related to timber harvesting [IDAPA 20.02.01.030], road construction [IDAPA 20.02.01.040], and chemicals [IDAPA 20.02.01.060] relate to keeping soil, debris, and chemicals out of surface waters during harvesting and other forest management operations. Forest practices also must comply with the Stream Channel Alteration Act (Idaho Code § 42-3801) [IDAPA 20.02.01.020.01.b].

IFPA administrative rules establish two types of streams [IDAPA 20.02.01.010.58]. Class I streams are used for domestic water supply and the spawning, rearing, or migration of fish. Class II streams are used by only a few, if any, fish for spawning or rearing. The stream protection zone for Class I streams is 75 feet on each side of the high water marks.. For Class II streams the stream protection zone is 30 feet unless the stream does not contribute surface flow into Class I streams. In such cases the stream protection zone can be as little as 5 feet. During and after forest practice operations, stream beds and streamside vegetation is to be protected to leave them in the most natural condition as possible to maintain water quality and aquatic habitat [IDAPA 20.02.01.030.07]. Transportation networks are to avoid construction within stream protection zones, except at approaches to crossings [IDAPA 20.02.01.040.02.a].

Sustainable Forestry Initiative. One of the objectives of the SFI program is to "protect water quality in streams, lakes and other water bodies by implementing riparian protection" [4.1.3. Objective 3]. Program participants must meet or exceed Idaho's approved BMPs and other state water quality policies or forest practices [4.1.3.1.1], and all employees in forest management and wood procurement operations must be trained in the use of BMPs [4.1.3.1.4]. Program participants also must develop, implement, and document riparian protection measures based on soil type, terrain, vegetation, and other applicable factors [4.1.3.1.2]. Program participants also must provide funding for water quality research [4.1.3.1.3].

Forest Stewardship Council. FSC Principle #6 states that forest management must conserve water resources, and many of the Rocky Mountain Regional Standards directly or indirectly address water resources. Forest operations meet or exceed the current state forest practices regulations, best management practices for forestry, and other protective measures for water quality [RMRS 1.1.b].

Forest owners or managers must identify and provide adequate protection for all streams, lakes, wetlands, and associated riparian areas. Streams, lakes, and wetlands must be maintained in or restored to their properly functioning condition. Streamside management zones (SMZs) must be established and maintained adjacent to all bodies of water and water courses [RMRS 6.5.m], and minimum widths for various topographies are provided [RMRS 6.5.n]. SMZs must be at least 50 feet on either side of the high water marks on all streams, and at least 100 feet on slopes greater than 35%. On streams that do not support fish, or flow less than six months per year, SMZs must be established, but much greater flexibility exists in the management actions that can be undertaken within the zone [RMRS 6.5.o].

Management in the SMZs must take a conservative approach that puts aquatic and riparian concerns above timber consideration. Roads are prohibited in SMZs, except for permanent road crossings [RMRS 6.5.0]. Stream

crossings must be located and constructed to minimize fragmentation of aquatic habitat and maintain water quality [RMRS 6.5.p]. Logging operations and construction of roads and skid trails can only be conducted during conditions when soil is least susceptible to sediment transport into streams and other bodies of water [RMRS 6.5.a].

4.7. Soil Resources

Soil provides the medium in which forest trees grow. Maintaining soil resources—both quantity and quality—is essential for the long-term sustainability of forests.

Idaho Legal Requirements. The Idaho Forest Practices Act directs the Land Board to adopt rules for timber harvesting that will "maintain the productivity of forest land," which is primarily a function of soil conditions [Idaho Code § 38-1304(1)(a)]. Rules also must minimize soil entering streams and must require the stabilization of soil the has become exposed as a result of harvesting [Idaho Code § 38-1304(1)(c)]. IFPA rules require that harvesting operations be designed to protect soil [IDAPA 20.02.01.030.03].

Sustainable Forestry Initiative. One of the SFI Standard's objectives is to ensure long-term forest productivity through soil conservation [4.1.2. Objective 2]. Program participants must implement management practices to protect and maintain soil productivity [4.1.2.1.4]. Core indicators include: a written policy on protecting and maintaining soil productivity; the use of soil maps; a process to identify soils vulnerable to compaction and use of appropriate methods to avoid excessive soil disturbance; use of erosion control measures; criteria to protect soil during harvest and site preparation; and minimization of road construction.

Forest Stewardship Council. FSC criteria require that logging operations and construction of roads and skid trails be conducted only during conditions when soil is least susceptible to compaction, surface erosion, or sediment transport [RMRS 6.5.a] Silvicultural techniques and equipment types should vary with slope, erosion hazard rating, and/or soil instability with the goal of minimizing soil disturbance [RMRS 6.5.c]. Plans for site preparation should minimally disturb topsoil [RMRS 6.5.d], and effective measures to control soil erosion on highly-impacted areas such as logging decks should be applied [RMRS 6.5.f]. Access to temporary and permanent roads are to be controlled to minimize impacts to soil [RMRS 6.5.k]. Post-harvest management activities should maintain soil fertility, structures, and functions [RMRS 6.3.c.2]. If soil degradation does occur, forest owners or managers must modify soil management techniques [RMRS 6.3.c.4].

4.8. Chemicals

This item addresses the use of manufactured compounds in forest management. It addresses not only the ecological effects of chemicals, but the human safety aspects of their use. The two primary uses of chemicals in forest management are as fertilizers and as pesticides and herbicides.

Idaho Legal Requirements. The Idaho Forest Practices Act requires rules that "provide for the use of chemicals or fertilizers in such a manner that the public health and aquatic and wildlife habitat will not be endangered from their handling, storage and application" [Idaho Code § 38-1304(1)(d)]. Forest practices must comply with the Idaho Pesticide Law (Idaho Code § 22-3401 et. seq.) and the Hazardous Waste Management Act of 1983 (Idaho Code § 39-4401 et seq.) [IDAPA 20.02.01.020.1.b]. The application of chemicals is regulated by the Commercial Fertilizer Law [Idaho Code § 22-601 et. seq.], the Soil and Plant Amendment Law [Idaho Code § 22-2201 et. seq.] and the and "Rules Governing Pesticide and Chemigation Use and Application" [IDAPA 02.03.03]. Any person applying, mixing, or loading pesticides must comply with the licensing requirements of the Idaho Pesticide Law and "Rules Governing Pesticide and Chemigation Use and Application" [IDAPA 02.03.03].

Sustainable Forestry Initiative. SFI program participants must minimize chemical use required to achieve management objectives while protecting employees, neighbors, the public, and the forest environment [4.1.2.1.3]. Participants must have a written policy for appropriate application and handling of forest chemicals, including legal compliance, storage, transport, spills, drift, signage, public notification and information, restriction of access, and retention of records. Participants must use the narrowest spectrum and least toxic pesticide necessary to achieve the management objective, and must use integrated pest management where feasible. All persons applying chemicals must have appropriate training, and SFI program participants must participate in research projects that increase efficiency, reduce chemical use rates, and apply integrated pest management.

Forest Stewardship Council. FSC criteria state that management systems must promote the development and adoption of environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides [RMRS 6.6]. Pesticides whose use is prohibited include: (1) World Health Organization Type 1A or 1B or chlorinated hydrocarbon pesticides, (2) persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use, or (3) are banned by international agreement. If chemicals are used, proper equipment and training are to be provided [RMRS 6.6]. Chemical containers and liquid and solid non-organic waste including fuel and oil are to be disposed of in an environmentally appropriate manner at off-site locations [RMRS 6.7].

4.9. Air Quality

Good air quality is important for human health as well as for other elements of the forest ecosystem. Smoke from fire is the primary air quality concern of forest management.

Idaho Legal Requirements. Idaho Forest Practice Act rules establish a management system for smoke from prescribed fire that protects air quality [IDAPA 20.02.01.071]. The use of prescribed fire requires notification as with other forest practices. Recommended practices include: piling and drying slash, broadcast burning within a prescription that minimizes adverse effects on air quality, and membership in a recognized Airshed Group [IDAPA 20.02.01.071.03]. Although intended to protect water quality, rules pertaining to aerial pesticide spraying in windy conditions may also protect air quality [IDAPA 02.03.03.320].

Sustainable Forestry Initiative. The SFI Principles of Sustainable Forestry lists conservation of air quality as one of components of "sustainable forestry" [p. 15]. It is not explicitly addressed anywhere else in the SFI standards or core indicators, but is certainly related to references on fire control and management activities [4.1.2.1.5]. SFI participants also can indicate their commitment to forest management research by participating in the National Council for Air and Stream Improvement Forest Environmental Studies Task Group, which addresses air quality issues, and by support for projects that offset carbon emissions [4.1.1.1.2].

Forest Stewardship Council. Air quality is not specifically mentioned in the FSC Rocky Mountain Standards. However, FSC Criterion 6.1 requires an assessment of environmental impacts including "documented and projected impacts of environmental change," which might include changes in air quality. Also, all forest management activities must meet or exceed all applicable laws and regulations [RMRS 1.1], including those pertaining to air quality.

5. Socio-Economic Considerations

In addition to being ecologically sound, forest management must be socially acceptable and economically viable in order to be sustainable. The items in this category address the social and economic dimensions of sustainable forest management.

5.1. Land Tenure & Use

In many parts of the world, private land ownership rights and legitimate uses of land are contentious. Land ownership and use issues must be resolved before people are willing to make long-term investments of time and money in sustainable forest management.

Idaho Legal Requirements. The United States and the State of Idaho have a long history of respect for private land ownership and the rights that go with private property ownership. The federal government also has legally binding treaties that recognize sovereign lands of Native American tribes within Idaho's borders. Other than eminent domain provisions [Idaho Constitution Article I, Section 14; Idaho Code § 7-701 et. seq.], Idaho law does not specifically create or address significant forest land tenure issues.

Idaho's local land use planning statute [Idaho Code § 67-6502 et seq.] states that encouraging the protection of forest land is one of its purposes, although no provisions specifically address the protection of forests. The Idaho Forest Practices Act does not prevent the conversion of forest land to any other use; however conversions require a forest practice notification, and compliance with all rules except those relating to reforestation and residual stocking. In particular, soils must be stabilized [Idaho Code § 38-1312; IDAPA 20.02.01.020.02].

Idaho law provides a unique property tax system for forest land [Idaho Code § 63-1701 et seq], which may encourage land to remain as forests. The property tax system—a productivity tax option and a bare land & yield tax option—were reviewed extensively in PAG Report No. 20 (Cook and O'Laughlin 2001).

Idaho statute also emphasizes the right to conduct forest practices, which under most circumstances cannot be considered a public nuisance [Idaho Code § 38-1401]. Local governments also cannot regulate forest practices in ways that conflict with state law [Idaho Code § 38-1302(3)].

Sustainable Forestry Initiative. The SFI Standard does not specifically address land tenure or use issues. The is an apparent expectation that program participants have clear title to the land or have an agreement with the owner to manage the land. The SFI Standard does not address conversion of forest land to other uses, except that special sites must be managed in a manner appropriate for their unique features [4.1.6 Objective 6].

Forest Stewardship Council. FSC Principle 2 (Tenure and Use Rights and Responsibilities) specifically and extensively addresses land tenure and use. Clear evidence of long-term forest use rights to the land (e.g., land title, customary rights, or lease agreements) must be demonstrated [RMRS 2.1]. Appropriate mechanisms must be employed to resolve disputes over tenure claims and use rights [RMRS 2.3].

Forest management areas should be protected from illegal harvesting, settlement, and other unauthorized activities [RMRS 1.5]. Conversion of forest lands to other uses should not occur, except where conversion involves only a limited portion of the management unit, does not occur on "high conservation value forest" areas, and will enable clear, substantial, additional, secure, long-term conservation benefits across the forest management unit [RMRS 6.10].

5.2. Community & Cultural Relations

Community members live and work in the closest proximity to the forest. The community level is an important scale at which to address the social aspects of sustainable forest management.

Idaho Legal Requirements. Idaho forestry law does not specifically address community and cultural relations. Several provisions might be considered tangentially related:

• IDL has a community forestry program that is funded primarily by grants from the U.S. Forest Service, partnerships with other state agencies, and Idaho taxpayers who choose to donate via their income tax return [Idaho Code § 38-136 and § 63-3067B].

- Cairns or graves cannot be willfully removed, mutilated, defaced, injured or destroyed. Persons disturbing
 graves through inadvertence, including logging, must be sure the human remains are reinterred [Idaho Code §
 27-502].
- Lumber or lumber products produced in a foreign country must be labeled as such [Idaho Code § 38-1101].

Sustainable Forestry Initiative. SFI Principle 3.2 (Responsible Practices) states that participants are to use in forests and promote among other forest landowners, sustainable forestry practices that are socially responsible. Program participant are to support and promote landowner assistance programs and encourage other landowners to apply principles of sustainable forest management [4.2.1.1.6]. Participants publicly report progress in fulfilling their commitment to sustainable forestry [4.3.1.], and provide opportunities for the public to participate in the commitment to sustainable forestry [4.3.2.]. Program participants are to provide recreation and education opportunities for the public where they are consistent with forest management objectives [4.1.1.3].

Chemical use is minimized to that required to achieve management objectives while protecting neighbors and the public [4.1.2.1.3]. Adjoining landowners and nearby residents are to be notified about chemicals and their application.

Program participants also are to identify special sites and manage them in a manner appropriate for their unique features [4.1.6.1.1.]. Participants are to cooperate with those with expertise in identifying or selecting for protection of significant cultural qualities.

Forest Stewardship Council. FSC Principle 4 (Community Relations and Workers' Rights) and Principle 3 (Indigenous People's Rights) specifically and extensively address the issues of community and cultural relations. Local communities are to be given opportunities for employment, training and other services [RMRS 4.1]. Forest owners or managers should attempt to process and manufacture products locally [RMRS 5.2.a] and procure goods and services locally [RMRS 4.1.d]. Forest owners or managers are to participate in community development and civic activities [RMRS 4.1.e] and reinvest in the local community through both active civic engagement and ongoing capital investment [RMRS 5.1.d]. Forest owners or managers are to contribute to public education about forestry practices in community schools and colleges [RMRS 4.1.f].

Management planning operations must incorporate the results of evaluations of social impact, and people and groups directly affected by management operations must be consulted [RMRS 4.4]. Appropriate mechanisms must be in place to address grievances and fair compensation in case of the loss or damage to the legal or customary rights, property, resources, or livelihood of local peoples, and measures should be taken to avoid such loss or damage [RMRS 4.5]. In the U.S. the provisions of criterion 4.5 do not evoke protections or liabilities beyond those provided by the U.S., state, and local laws.

Indigenous people, or local communities with tenure and use rights, are to control forest management on their lands and territories unless they delegate the control with free and informed consent to other agencies [RMRS 2.2 and 3.1]. Forest management cannot threaten or diminish the resources and tenure rights of indigenous people [RMRS 3.2]. Sites of cultural or religious significance to indigenous people are to be identified in cooperation with such people, and protected by forest managers [RMRS 3.3] Indigenous people are to be compensated for application of their traditional knowledge regarding forest species or management systems [RMRS 3.4].

5.3. Worker Relations & Safety

People implement forest management on the ground. The well-being of those workers is important in sustainable forest management.

Idaho Legal Requirements. Idaho's labor laws are covered in Title 44 of Idaho Code. Idaho is a right-to-work state [Idaho Code § 44-2001], which means that workers cannot be forced to join a union, or similar organization, as a condition of employment.

Title 72 of Idaho Code addresses worker's compensation and safety. The Idaho Industrial Commission has promulgated extensive rules regarding safety while logging [IDAPA 17.08.01 to 17.08.16] and has staff to train

loggers and inspect logging sites. The Idaho Forest Practices Act does not directly address worker relations or safety, except for chemical applications which require a licensed operator.

Sustainable Forestry Initiative. SFI Program participants must establish at the state or other appropriate levels procedures to address concerns raised by employees regarding practices that appear to be inconsistent with the SFI Principles and Objectives [4.3.2.1.2]. All persons involved in chemical application are required to have appropriate training [4.1.2.1.3].

Forest Stewardship Council. FSC Principle 4 (Community Relations and Workers' Rights) specifically and extensively addresses worker relations and safety. Employment of local workers is encouraged [RMRS 4.1]. Employee compensation and hiring practices must meet or exceed prevailing local norms [RMRS 4.1.g]. Forest owners must provide or support training opportunities for workers [RMRS 4.1.i]. Nonlocal workers must have employment conditions (remuneration, training, safety equipment, etc.) equivalent to local workers doing the same job [RMRS 4.1.b]. All applicable laws related to worker safety must be met or exceeded [RMRS 4.2]. Workers must have the right to organize for the purpose of advancing their own employment interests [RMRS 4.3].

5.4. Economic Viability & Stability

Forest management is not sustainable if it does not provide for the economic well-being of landowners, forest workers, and others who depend on forest resources.

Idaho Legal Requirements. The Idaho Forest Practices Act recognizes that forests make a vital contribution to the state by providing jobs, products, tax base, and other social and economic benefits, and thus it is public policy to encourage forest practices on these lands that maintain and enhance those benefits [Idaho Code § 38-1302]. Harvesting practices are to be designed first to assure the continuous growing and harvesting of forest tree species by suitable economic means [IDAPA 20.02.01.030.08].

Idaho law creates a unique property tax system for forest land [Idaho Code § 63-1701 et seq]. Idaho forest landowners have two tax options: a productivity tax option and a bare land & yield tax option. The provisions of each of these options were reviewed extensively in PAG Report No. 20 (Cook and O'Laughlin 2001). These property tax options for forest land may increase the economic viability of retaining land in forests.

Sustainable Forestry Initiative. Principle 3.2 (Responsible Practices) requires SFI participants "to use in forests, and promote among forest landowners, sustainable forestry practices that are economically" responsible. Participants are to broaden the implementation of sustainable forestry by employing an array of economically sound practices in the conservation of forests using the best scientific information available [4.1.1]. Program participants must manage so as to protect forests from damaging agents to maintain and improve long-term economic viability [4.1.2.1.5].

Forest Stewardship Council. Principle 5 (Benefits from Forests) specifically and extensively addresses economic viability, as well as other environmental and social benefits from forest management. Forest management should strive toward economic viability, while taking into account the full environmental, social and operational costs of production, and ensuring investments necessary to maintain the ecological productivity of the forest [RMRS 5.1]. Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest product [RMRS 5.4].and marketing operations should encourage optimal use and local processing of the forest's diversity of products [RMRS 5.2].

5.5. Legal & Other Policy Requirements

The legality of activities is a measure of their social acceptability. This category illustrates how the certification programs fit with legal requirements.

Idaho Legal Requirements. The Idaho Forest Practices Act and its rules set "minimum standards" for management [Idaho Code § 38-1304 and IDAPA 20.02.01.000].

Sustainable Forestry Initiative. Principles 3.5 requires SFI participants to "comply with applicable federal, state, or local forestry and related environmental laws and regulations," and program participants must have policies to implement and achieve the SFI principles [4.1.1.1.1]. Specific references to complying with laws are mentioned throughout the SFI standard, including: state reforestation laws and regulations [4.1.2.1.1]; chemical use regulatory requirements [4.1.2.1.3]; federal and state regulations and international protocols for genetic tree improvement and biotechnology [4.1.2.1.6]; requirements for protection of federally-listed threatened and endangered species [4.1.4.1.1]; and regulatory requirements related to visual quality [4.1.5.1.1]. SFI participants are required to meet or exceed best management practices related to state and federal water quality programs [4.1.3.1.1].

Forest Stewardship Council. FSC Principle 1 (Compliance with Laws and FSC Principles) specifically and extensively addresses legal and other policy requirements. Forest management must comply with all national, state, and local laws and regulations [RMRS 1.1]. If conflicts between laws and regulations and FSC principles and criteria arise, they are evaluated on a case-by-case basis [RMRS 1.4].

All applicable and legally prescribed fees, royalties, taxes, and other charges must be paid [RMRS 1.2]. Binding international agreements to which the United States is a signatory must be "respected" [RMRS 1.3], and forest owners must comply with treaties ratified by the U.S. Senate, including those with American Indian tribes [RMRS 1.3.a].

By implication much of FSC Principle 6 (Environmental Impact) deals with specific federal and state laws covering species and habitat protection and water quality and many forest practice act provisions.

5.6. Visual Management

Often people's first and most common observations of forests and forest management are visual. Their opinions and beliefs about the acceptability of forest practices may be made based on visual evidence.

Idaho Legal Requirements. Idaho forestry law does not specifically address visual management, except that IFPA rules state that special consideration is to be given to scenic values, by prompt cleanup and regeneration, where major scenic attractions, highways, recreation areas or other high-use areas are located within or traverse forest land [IDAPA 20.02.01.030.08.a].

Sustainable Forestry Initiative. SFI Objective 5 states: "Manage the visual impact of harvesting and other forest operations [4.1.5. Objective 5]. Participants must have a written visual quality management policy that incorporates aesthetic considerations in harvesting, road, landing design and management, and other management activities where visual impacts are a concern. Foresters are to be trained in principles of landscape architecture or visual quality management. Program participants must develop and adopt appropriate policies from managing the size, shape, and placement of clearcut harvests [4.1.5.1.2]. They must have a written policy to monitor and report clearcut size and number. The average size of clearcuts is restricted to 120 acres, except in forest health emergencies. Participants also must adopt a "green-up" requirement or other, more comprehensive methods that provide aesthetic diversity [4.1.5.1.4.3]. Trees in clearcut harvest areas must be at least 3 years old or 5 feet high at the desired level of stocking before adjacent areas are clearcut.

Forest Stewardship Council. FSC Principles and Criteria do not explicitly address visual management or scenic beauty. To the extent that visual resources are related to sites of special cultural uses or are a non-timber forest product or service, they may be addressed through several criteria.

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