OUR RESPONSIBILITY TO OREGON'S FORESTS

Sustainable Forestry **PLANTED 1988**

Section 7 – Our Responsibility to Oregon's Forests

36: Forest Sustainability

Overview

Students examine forest certification as one approach for ensuring forest sustainability and then identify other ways to be stewards of Oregon forests.

Time Considerations

Preparation: 20 minutes
Procedure: One 50-minute class period

Learning Objectives

Students will be able to:

- Articulate what parameters they think would be important to include in a forest certification scheme.
- Identify the pros, cons, benefits and drawbacks of three forest certification systems.
- Communicate other ways that Oregonians can be stewards of our forests.

Standards Connections

Next Generation Science Standards

- Disciplinary Core Idea – HS-LS4.D. Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.

Common Core State Standards—English Language Arts

- Reading Standards for Literacy in Science and Technical Subjects – RST.11-12.9. Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent

understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

Oregon Forest Literacy Plan Concepts

- Theme 3, C.7. Sustainable management of forests takes into account social, economic and ecological dimensions of sustainability. It includes maintaining forest health, productivity and diversity, and conserving a forested land base for the needs of present and future generations.
- Theme 4, B.1. Everyone has a responsibility to treat forests with respect and to become a conscientious steward of Oregon forests and forest resources.
- Theme 4, B.2. Personal behaviors directly impact the health and resiliency of our forests. For example, the products we buy, how we treat trails and campgrounds, and how we hunt or use fire can either harm or help forests.
- Theme 4, B.3. Choices we make regarding the use of forest resources affect our ability to sustain forest ecosystems into the future.

Materials

- "Forest Certification Systems Compared" student page
- Colored markers
- Access to websites for American Tree Farm System Certification at http://treefarmsystem.org, Forest Stewardship Council at http://fscus.org, and the Sustainable Forestry Initiative at http://sfiprogram.org

Background Information[80]

Nearly all forest landowners want to manage their lands to sustainably produce environmental, social and economic benefits. Forest certification is a market-based approach to recognizing sustainable forest management by labeling forests and the wood products from those forests as being certified. Having forestland certified under the American Tree Farm System (ATFS), the Sustainable Forestry Initiative (SFI) or the Forest Stewardship Council (FSC) lets people know that landowners are proudly managing their forests sustainably and are in it for the long haul.

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[80] Source: "Forest Certification Demonstrates Sustainability." Oregon Forest Resources Institute. http://oregonforests.org/blog/forest-certification-demonstrates-sustainability.

In the mid-1990s the Forest Stewardship Council (FSC) was created by the World Wildlife Fund and other conservation groups as a way to certify that wood products were sustainably managed to meet conservation goals. The American Forest and Paper Association (AFPA) followed with the development of the Sustainable Forestry Initiative (SFI), to demonstrate sustainability while meeting industrial wood-production goals.[81] The American Tree Farm System, which has been around since 1941, also developed a certification system to demonstrate sustainability while meeting a diverse set of family forestland goals.

Today these private, independent programs apply third-party standards to wood and manufactured products from the forest. This level of transparency gives consumers, architects, engineers and builders credible evidence that the products were produced through responsible forestry practices. Certified products earn the right to display an "eco-label" seal of approval. In total, nearly 4.7 million acres of private Oregon forestlands are certified by one of the three systems. FSC certifies about 567,000 acres; the ATFS certifies about 887,000 acres; and the SFI certifies about 3,229,000 acres.

Key Vocabulary

afforestation
conservation value
forest certification
sustainable forest management[*]
tenure and use rights

[*]included in Glossary

Preparation

Make copies of the student page or plan for students to have on-screen access to it.

Procedure

1. Ask students whether they've ever received a certificate for completing a program or taking a class and ask them to describe what it means to "certify" something. List some of their ideas on the board. Ask whether they have heard of forests being certified, and what they think that might mean.

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[81] SFI subsequently separated from the AFPA, reorganizing as a nonprofit organization governed by an independent board.

2. Explain that forest certification is one approach to ensuring forest sustainability: when a particular forest meets certain criteria, the forest and products that come from it can be labeled as "certified" to help consumers make more sustainable purchases.

3. Have partners or small groups create a list of criteria they would include in a forest certification program. Challenge them to consider the social, economic and environmental aspects of the forest or forest product.

4. Invite groups to share elements from their list with the class.

5. Explain that there are currently three different forest certification systems that forest landowners use in Oregon. Give students a copy of the "Forest Certification Systems Compared" student page and direct them to use the student page to compare the three different systems. Allow them to look at the organizations' websites to learn more about the three systems.

6. Discuss:
   - How does forest certification help Oregon forests?
   - What are the benefits of certification for forest landowners?
   - What are the benefits for consumers?
   - What might be drawbacks to certification?

7. Point out that forest certification is just one way that Oregonians can be stewards of our forests. Challenge students working in pairs or small groups to create a list of things that they and others can do to ensure the sustainability of forests.

8. Invite groups to share some of their ideas.

Assessment

Use student responses to the student page to assess their understanding of the material.

Extension Idea

Conduct a study of local stores to find out what certified wood products are available and whether they differ in quality, cost or other features from noncertified products. Use a data collection sheet, such as

Location (Store)	Wood Type	Size	Cost	Certification System	Quality or Other Observations

Student Page   Name:_____

Lesson 36

Forest Certification Systems Compared

Compare the standards and principles from the three forest certification systems commonly used in Oregon: the American Tree Farm Certification System, the Sustainable Forestry Initiative, and the Forest Stewardship Council. Check the website for each system to learn more about their approach and their overarching goals.

1. For each standard or principle, mark whether it focuses on environmental (EN), economic (EC) or social (SO) aspects of sustainable forestry.

2. Looking at the three different systems, use colored markers to color-code the standards and principles that are the same or similar.

3. What are the overarching goals for each of the three systems? In what ways are these goals the same, and how do they differ?

4. What differences do you note among the three systems?

5. What are the strengths and weakness (or pros and cons) of each system?

6. Why might someone choose one certification over another?

American Tree Farm System (ATFS) Certification Standards[82]

Standard 1: Commitment to Practicing Sustainable Forestry. Landowner demonstrates commitment to forest health and sustainability by developing a forest management plan and implementing sustainable practices.

Standard 2: Compliance with Laws. Forest management activities comply with all relevant federal, state and local laws, regulations and ordinances.

Standard 3: Reforestation and Afforestation. Landowner completes timely restocking of desired species of trees on harvested sites and nonstocked areas where tree growing is consistent with land use practices and the landowner's objectives.

Standard 4: Air, Water and Soil Protection. Forest management practices maintain or enhance the environment and ecosystems, including air, water, soil and site quality.

Standard 5: Fish, Wildlife and Biodiversity. Forest management activities contribute to the conservation of biodiversity.

Standard 6: Forest Aesthetics. Forest management activities recognize the value of forest aesthetics.

Standard 7: Protect Special Sites. Special sites are managed in ways that recognize their unique historical, archeological, cultural, geological, biological or ecological characteristics.

Standard 8: Forest Product Harvests and Other Activities. Forest product harvests and other management activities are conducted in accordance with landowner's objectives and consider other forest values.

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[82] Source: American Forest Foundation 2015-2020 Standards of Sustainability for Forest Certification.
https://www.treefarmsystem.org/stuff/contentmgr/files/2/b8f6888af4ce4097c7ca5b66fab52cde/pdf/final_standards_and_guidance_jan12015_updated_7012015.pdf.

SFI (Sustainable Forestry Initiative) Principles[83]

SFI requires Program Participants to have a written policy (or policies) to implement and achieve the following principles.

1. Sustainable Forestry: To practice sustainable forestry to meet the needs of the present without compromising the ability of future generations to meet their own needs by practicing a land stewardship ethic that integrates reforestation and the managing, growing, nurturing and harvesting of trees for useful products and ecosystem services such as the conservation of soil, air and water quality, carbon, biological diversity, wildlife and aquatic habitats, recreation and aesthetics.

2. Forest Productivity and Health: To provide for regeneration after harvest and maintain the productive capacity of the forestland base, and to protect and maintain long-term forest and soil productivity. In addition, to protect forests from economically or environmentally undesirable levels of wildfire, pests, diseases, invasive exotic plants and animals, and other damaging agents and thus maintain and improve long-term forest health and productivity.

3. Protection of Water Resources: To protect water bodies and riparian areas, and to conform with forestry best management practices to protect water quality.

4. Protection of Biological Diversity: To manage forests in ways that protect and promote biological diversity, including animal and plant species, wildlife habitats, and ecological or natural community types.

5. Aesthetics and Recreation: To manage the visual impacts of forest operations, and to provide recreational opportunities for the public.

6. Protection of Special Sites: To manage lands that are ecologically, geologically or culturally important in a manner that takes into account their unique qualities.

7. Responsible Fiber Sourcing Practices in North America: To use and promote among other forest landowners sustainable forestry practices that are both scientifically credible and economically, environmentally and socially responsible.

8. Legal Compliance: To comply with applicable federal, provincial, state and local forestry and related environmental laws, statutes and regulations.

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[83] Source: *SFI 2015-2019 Standards and Rules*. Sustainable Forestry Initiative. January 2015. http://sfiprogram.org/files/pdf/2015-2019-standardsandrules-web-lr-pdf/.

9. Research: To support advances in sustainable forest management through forestry research, science and technology.

10. Training and Education: To improve the practice of sustainable forestry through training and education programs.

11. Community Involvement and Social Responsibility: To broaden the practice of sustainable forestry on all lands through community involvement, socially responsible practices, and through recognition and respect of Indigenous Peoples' rights and traditional forest-related knowledge.

12. Transparency: To broaden the understanding of forest certification to the SFI 2015-2019 Forest Management Standard by documenting certification audits and making the findings publicly available.

13. Continual Improvement: To continually improve the practice of forest management and to monitor, measure and report performance in achieving the commitment to sustainable forestry.

Forest Stewardship Council Principles[84]

The ten FSC Principles require the forest owner or manager to do the following:

Principle 1: Compliance with laws and FSC Principles - to comply with all laws, regulations, treaties, conventions and agreements, together with all FSC Principles and Criteria.

Principle 2: Tenure and use rights and responsibilities – to define, document and legally establish long-term tenure and use rights.

Principle 3: Indigenous peoples' rights – to identify and uphold indigenous peoples' rights of ownership and use of land and resources.

Principle 4: Community relations and worker's rights – to maintain or enhance forest workers' and local communities' social and economic well-being.

Principle 5: Benefits from the forest – to maintain or enhance long-term economic, social and environmental benefits from the forest.

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[84] Source: "The 10 Principles." Forest Stewardship Council.
https://ic.fsc.org/en/certification/principles-and-criteria/the-10-principles.

Principle 6: Environmental impact – to maintain or restore the ecosystem, its biodiversity, resources and landscapes.

Principle 7: Management plan – to have a management plan, implemented, monitored and documented.

Principle 8: Monitoring and assessment – to demonstrate progress towards management objectives.

Principle 9: Maintenance of high conservation value forests – to maintain or enhance the attributes which define such forests.

Principle 10: Plantations – to plan and manage plantations in accordance with FSC Principles and Criteria.

37: Service-Learning Project[85]

Overview

In this lesson, students plan and carry out a service-learning project related to Oregon forests.

Time Considerations

Preparation: One hour or more
Procedure: The duration of this lesson depends on the specific project, and may range from one class period to an entire term

Learning Objectives

Students will be able to:

- Identify and assess their community's needs.
- Develop and implement an action plan.
- Practice problem-solving skills.

Standards Connections

Next Generation Science Standards

- Disciplinary Core Idea – HS-LS4.D. Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.

Other relevant standards depend on the specific project.

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[85] Source: This lesson was adapted from "Service-Learning and Forests" in *Oregon Forest Literacy Program*, page 15. Oregon Forest Resources Institute.

Oregon Forest Literacy Plan Concepts

- Theme 4, A.1. Everyone should have the opportunity to identify and explore their personal connection to forests.
- Theme 4, A.3. There are many ways individuals can connect with forests in Oregon, including hiking and picnicking in forests, volunteering for projects in and around forests, becoming informed and active voters, attending public meetings and making wise consumer choices.
- Theme 4, B.1. Everyone has a responsibility to treat forests with respect and to become a conscientious steward of Oregon forests and forest resources.

Materials

- "Service-Learning Planning Template" teacher page
- "Sample Service-Learning Projects" teacher page
- Any materials needed for the planned project

Background Information[86]

Service-learning is a teaching method that combines service to the community with meaningful and relevant learning experiences. According to the National Youth Leadership Council, high-quality service-learning actively engages students in meaningful and personally relevant service activities. It is an intentional instructional strategy used to meet learning goals or content standards.

To be effective, service-learning incorporates ongoing reflective activities that prompt deep thinking and analysis about one's relationship to society. It provides students with a strong voice in planning, implementing and evaluating their service-learning experiences. It also gives students the opportunity to demonstrate what they learned from the project or how the service affected them.

Preparation

- "Service-Learning Planning Template" teacher page to map out possible service-learning projects, taking into account your community's needs. Identify your instructional goals, any assessment you plan to incorporate into the project, and any time or space constraints. See the Use the "Sample Service-Learning Projects" teacher page for possible projects.

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[86] Source: Adapted from "Service-Learning and Forests" in *Oregon Forest Learning Program*, page 18. Oregon Forest Resources Institute.

- Check other resources for project ideas and opportunities, including SOLVE Oregon at http://solveoregon.org and Oregon Metro at http://oregonmetro.gov.
- Consider having students invite community leaders, stakeholders, or local media for a presentation about the completed project.

Procedure

1. Explain to students that service-learning is an opportunity to apply what they learn in school to the real world. Ask for their ideas of service-learning projects that would both help the community in some way and enable them to apply their learning about forestry. See the ʺSample Service-Learning Projectsʺ teacher page for ideas.
2. As a class, look at the list of project ideas and combine or eliminate any, as appropriate. Discuss what sector of the community each project remaining on the list would serve, how the project might meet the community's needs, and what knowledge and skills students would be able to demonstrate. Vote on one project, or use another method for determining which to undertake.
3. As a class, develop an action plan for the selected project. The plan should include a timeline, materials needed, budget, community resources and steps required to carry out the project. It should also include a way for students to demonstrate their learning.
4. Implement the action plan, making sure that all students have meaningful roles. Encourage students to problem-solve any issues that arise.
5. After the project, take time for students to reflect on their learning and celebrate their accomplishments.

Assessment

Build into the project a way for students to demonstrate what they have learned and then use that to assess their learning.

Teacher Page

Lesson 37

Service-Learning Planning Template

Forest-Related Project Idea:

_____

_____

Service

Community Need:

Learning

Connections to Curriculum, Oregon Standards and Conceptual Framework:

❑ Arts: _____

❑ English/Language Arts: _____

❑ Mathematics: _____

❑ Science: _____

❑ Social Sciences: _____

❑ Other: _____

Concept Development:

❑ _____

❑ _____

❑ _____

❑ _____

Skill Development:

❑ _____

❑ _____

❑ _____

❑ _____

Project Plan

Timeline:

Preparation:

Action:

Reflection:

Demonstration of Learning:

Community Resources:

Books, Other Resources:

Notes:

Sample Service-Learning Projects

Forest Stream Monitoring. Students monitor a nearby forest stream and riparian zone for the local watershed council. They map the area using GPS units, take ongoing water quality samples, keep photo journals, analyze their results and develop a multimedia presentation of their findings.

Invasive Species Removal. Students remove invasive plants from a nearby forest area, after assessing the prevalence of invasive species. They learn about the impact of invasive species on forest ecosystems, practice identifying some of the most prevalent invasive species, learn the best methods for removal, document the effectiveness of the treatment and communicate with others in the community about the problem of invasive species.

Forest Interpretive Trail. Students develop an interpretive trail for the community that goes through a local forest. Students learn about the local ecosystem; research interesting facts about plants, animals or historical figures; work with government agencies and businesses; and create signs or a brochure for the trail.

Forest Species Living Lab. Students design an outdoor forest species living lab for their school community. They research Oregon native plants and what they need to thrive, organize fundraising efforts for suitable plants and needed supplies, create planning maps of the lab site and then plant and care for the plants.

Forest Field Day. Students plan and carry out a field day to teach elementary students about the local forest ecosystem. They research topic areas, plan activities and demonstrations, practice teaching their lessons and present them to elementary students.

Tree Planting and Monitoring. Students work with a local park or government agency to plant trees and then monitor the trees' development over time. They plan what, where and how many trees to plant; organize fundraising efforts to buy the trees; and carry out their planting plan. Then, over time, they collect data on the newly planted trees to monitor their growth and impact.