Taxation and other Economic Strategies that Affect the Sustainable Management of Forests (Indicator 7.47): An Assessment of Taxation Provisions and Financial Assistance Programs in the United States through the Montreal Process Framework

By

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Abstract

United States forestland provides a number of ecological, social and economic benefits. Almost 40 percent of all forest ownership in the United States is private non-corporate, or operated by private family forestland owners. Investment in Sustainable Forest Management practices is important in the United States due to the growing need to protect the valuable non-market and market benefits forest land provides. Indicator 7.47 of the Montreal Process framework for Sustainable Forest Management addresses taxation and other economic strategies that affect the sustainable management of forests. This indicator covers Federal, State and Private taxation and financial assistance mechanisms in the United States. Overall, private forestland owners can be encouraged (or discouraged) to invest in Sustainable Forest Management practices through economic mechanisms such as income, estate, and property tax as well as financial assistance programs that offer cost-share assistance or grants and loans. The following paper will discuss taxation and financial assistance programs administered throughout the United States that are designed to encourage sustainable forestry investment.

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Taxation and other Economic Strategies that Affect the Sustainable Management of Forests (Indicator 7.47): An Assessment of Taxation Provisions and Financial Assistance Programs in the United States through the Montreal Process Framework

The full text of Indicator 7.47 is as follows: *Legal, institutional, and economic framework for forest conservation and sustainable management:* ***Taxation and other economic strategies that affect sustainable management of forests*** (Montreal Process Working Group, 2009).

Rationale and Interpretation

Sustainable management and protection of forestland is important at international, national, and sub-national scales; forests provide a number of valuable ecosystem services to public and private land users. Given the necessity of sustainable forestry investment and the public values associated with forest resources, taxation and other economic strategies are used as a mechanism to address management and protection of forests in the United States. Investment is driven by a number of economic instruments and government policies, such as product or service costs and prices, capital costs, management efficiency, forest land productivity, and government tax, financial and technical assistance policies (Ellefson et al. 2005). Encouraging sustainable forestry investment by public and private forestland owners in the United States has been addressed at Federal, State and Private levels through economic strategies such as tax provisions and financial assistance programs.

Indicator 7.47 of the Montreal Process for Sustainable Forest Management (SFM) addresses taxation and other economic strategies for sustainable forest investment, and is one of 10 indicators in Criterion 7: Legal, Institutional and Economic Framework for Forest Conservation and Sustainable Management. Criterion 7, along with the six other Criterion established by the Montreal Process Working Group, is designed as an assessment and monitoring tool for participating members of the Montreal Process. Given the importance of taxation and other economic strategies to address sustainable forestry investment around the globe, the Montreal Process Working Group developed Indicator 7.47.

This Indicator 7.47 was designed to address taxation and payment strategies for primarily forest market commodities, which does have some overlap with policy instruments for non-timber

and nonmarket goods and services; these are covered separately in Indicator 6.27 (Figure 1). Indicator 6.27 addresses payments for ecosystem services not associated with forest market commodities; details associated with Indicator 6.27 are not within the scope of this paper, but may overlap with 7.47 due to the nature and design of Federal, State, and Private financial assistance programs in the United States.

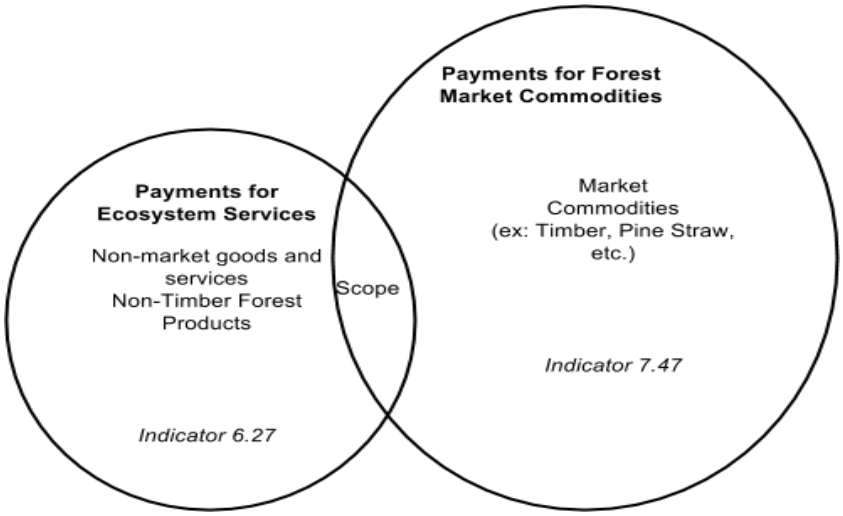

Figure 1. Relationship between SFM Indicators 7.47 and 6.27

In this indicator, we focused on obtaining information on financial and fiscal incentives that affect sustainable forest management of traditional forest commodities, most notably timber and other products. However, most Federal and many State financial incentive programs are now oriented toward conservation and environmental benefits, but still promote tree planting and forest management, which have timber and conservation purposes. Thus in Indicator 7.47 we summarize the status of those multiple purpose programs, and try to tally the economic payments for commodity and environmental services. The indicator covers tax and financial assistance for SFM. Taxes include various "fiscal" instruments, and include income, property, or estate taxes that encourage SFM. Financial instruments cover payments for SFM, either for timber, non-timber, or environmental services.

Conceptual Background

Forests provide a number of market and non-market values including ecological, social, and economic benefits. Forests provide habitat, recreational opportunity, and aesthetic enjoyment (Ellefson et al. 2005). In addition, forests provide economic benefits in the form of wood supply

and non-timber forest products. United States provided almost 4 trillion board feet of saw timber from timberland in 2012 (Oswalt et al. 2014).

In 2012, approximately 445 million of the United States forests and woodlands were owned by private corporate and non-corporate bodies (Oswalt et al. 2014). A large portion of United States forestland is owned by the federal government, a small amount by State and local governments, and the rest is owned by private investment vehicles such as Timber Management Organizations (TIMOs) and Real Estate Investment Trusts (REITs). TIMOs and REITs have purchased most of the forestland owned by the forest products industry (Lonnstedt and Sedjo 2012). Forty-four percent of forestland is publicly owned by the Forest Service, State Forestry, Park, and Wildlife agencies, and local governments. Of the 10 million family forestland owners in the United States, most own between one and 50 acres. However, most of the acreage holdings are in forestlands of 100 or more acres. Family forest owners generally rate beauty and scenery as a top concern and timber forest production as the lowest concern (USDA 2008).

Table 1. Forest Land Statistics in the United States, 2012.

	Public								Private	
	Thousands of acres									
		Federal								
Forest on all ownerships	Total Public	Total Federal	National Forest	Bureau of Land Management	Other	State	County and Municipal	Total Private	Private Corporate	Private Non-Corporate
766,234	321,167	238,469	145,229 45.2%(Pub.) 19% (T)	38,104 11.9% (Pub.) 5% (T)	55,136 17.2%(Pub.) 7.2% (T)	69,477 21.6%(Pub.) 9% (T)	13,221 4.1%(Pub.) 1.7% (T)	445,067	147,468 33.1%(Pr.) 19.3% (T)	297,599 66.9%(Pr.) 38.8% (T)

Source: Oswalt et al., 2014

Note: It is no longer possible to classify private forest as forest industry and non-industrial private due to disclosure issues. The new classes are private corporate and non-corporate. Native American lands are included in private non-corporate.

Methods and Organization

Information for this paper was gathered from various sources. Both Federal and State taxation sections required examination of taxation policies throughout the United States. To gather this information, internet databases and documents were used which include the National Timber Tax website, the Internal Revenue Code of the United States, USDA Forest Service publications,

State agency websites and publications, and miscellaneous other sources that provided tax data for States. Federal and State Financial Assistance sections required review of publications or other sources covering tax or fiscal incentives, such as Ellefson et al. (2005), Butler et al. (2012), and Kilgore et al. (2014).

Federal and State agency website pages were used to obtain information to summarize all financial assistance programs. To obtain numerical information on Federal program funding, the CFDA (2014) reference book was used. For State program funding, sources were either directly contacted through telephone or electronic mail communication, and rarely were available through a website.

This paper is intended to provide an assessment of economic strategies of the Montreal Process for Sustainable Forest Management, which will be addressed by the use of literature from the Montreal Process Working Group and other resources covering the Montreal Process.
This paper draws on the format of the 2005 SFM C&I report by Ellefson et al. It is intended to provide an update on the previous report, while including other information not covered in 2005. First, this paper will introduce tax and financial assistance programs and their influence on sustainable forest management. Next the paper will discuss the current Federal and State economic capacity of tax provisions and financial assistance programs in the United States. The subsequent sections will include a summary of conditions, information adequacy, discussion of issues, trends and recommendations, and a closing section on the apprpriateness of Indicator 7.47.

Influence of Taxation Provisions

Tax policies are commonly implemented to influence investment decisions in the United States due to *market failure.* Market failure occurs when economic factors, such as externalities which impose social costs different from the private costs of a specific action, cause the market to fail in reaching economic efficiency. In order to address externalities associated with sustainable management of forests, tax provisions are enacted that affect private forestland owners throughout the United States. Landowner actions associated with forest goods and services production can be encouraged or discouraged through the use of tax policies. Three fundamental reasons for the use of tax policy on private forestland owners include: (1) to encourage investment in activities that increase timber supply and promote capital flow between outside sources and the forestry sector; (2) to compensate forestland owners for the intangible and non-timber benefits provided to society as a whole by forests; and (3) to provide an equitable basis for widespread and long-term investment in forests (Ellefson et al. 2005). The United States implements a number of forest tax mechanisms to promote sustainable

forestry, which includes Federal and State *Income Tax*, Federal and State *Estate Tax*, and State *Property Tax*.

Tax policies should be implemented in a manner that achieves worthwhile investment in sustainable forestry practices. In other words, tax provisions should be "well designed, properly focused, and well administered…" Ellefson et. al (2005). Ellefson et Al. (2005) suggest that good tax policies are equitable, efficient, simple, adequate, stable, and visible. Equitable tax policies are those that provide fair treatment for multiple sectors and individuals within sectors; or taxpayers are liable for the same amount of tax under the same circumstances, across a range of abilities to pay. Tax policies that are efficient do not adversely interfere with market behavior or timing of forestry activities. Efficient tax policies are administered with the purpose of gathering revenue for government operations in an efficient manner. Tax policies characterized by simplicity are both easy to administer and easy to understand; taxpayers should know details of the tax (i.e. who is taxing them, what determines the tax, and how to make use of tax provisions). Last, tax policies that are adequate, stable, and visible have a reliable source of revenue and are transparent, or clear and widely known.

Influence of Financial Assistance Programs

Fiscal incentives programs are used as a tool to encourage forest landowners to make stewardship decisions that are otherwise discouraged without interference. Without assistance programs, forestland owners may not have the tools necessary to establish stewardship and sustainable management plans on their property. Even if landowners have the monetary capital or expertise to establish sustainable forestry plans for their land, they may not adopt stewardship practices unless incentives are provided.

In a study conducted on the relationship of forest owner behavior and landowner assistance, Kilgore et al. (2014) found that assistance recipients are more likely to harvest timber and plant trees in the future than those without assistance. Subsequently, they also state that "Many of these actions and intentions are explicit or implicit desired outcomes of federal and/or state forest landowner assistance programs." Stated in a sustainable forestry context, landowner assistance programs may be designed to encourage an initial investment in stewardship practices, but can also intentionally or unintentionally encourage an investment over a longer period of time.

Cost share programs are one of the principal financial assistance methods used to promote forest management investment in the United States. Cost share assistance often includes reimbursements or prior payments for landowners who perform specific management actions,

as well as annual payments to keep and maintain the practice for a fixed period of time. Each cost share program pays varying initial payment allocations and annual cost share rates per acre and practice to the participating landowner. Similar to cost share, grants and loans are distributed directly to the landowner through the Federal or State administering body. Grants provide payments without the requirement to be paid back. Last, conservation easements are often used as a financial assistance tool to promote land stewardship, as landowners receive payments in return for placing their land under certain management conditions and restrictions.

Federal agencies such as the USDA Natural Resources Conservation Service, the USDA Farm Service Agency, and the USDA Forest Service administer a number of cost share, grant and loan, and easement programs intended to promote sustainable forest management (Table 3). In addition to Federal programs, States also administer natural resource driven cost share programs through their State agencies (Table 6).

Taxation and financial incentives provide various policy tools at the federal and state level. We summarize by Federal programs first, then cover State programs second.

Federal Government Capacity

Taxation provisions

Income tax.--Private forestland owners are affected by a number of tax provisions via the Federal tax code. Most of these provisions are directed towards a range of costs associated with forestland property: purchase of forestland and the values attributed to land, timber, and other property improvements; expenses subsequent to forest management activities; and equipment and land improvement depreciation (Ellefson et. al 2005). Federal woodland income tax is collected by the Internal Revenue Service (IRS) under three woodland tax classifications: Personal Property, Investment Property, and Business Property. The main difference between each classification is intent of use; woodland use can range from ownership without specific investment purposes to active or passive business level investment purposes. Investment property receives more favorable tax treatment and can deduct many expenses on annual basis against income—like a business—while passive investors usually must capitalize their business expenses and deduct them when timber is thinned or at the end of a forest rotation (Table 2).

Table 2. Federal Non-corporate Income Tax Rates for Woodland Property in the United States, FY 2015.

Personal Property; Passive Investors *gains from sale taxed as capital gains (Gross Sale Proceeds-Adjusted Basis-Selling Expenses).*	**Investment Property** *taxed as long (L) or short (S) term capital gains. Short-term gains are taxed at ordinary income tax rate.*	**Business Property** *sale of standing timber (ST) taxed as long-term capital gains. sale of cut timber (CT) taxed as ordinary income unless election for capital gains is made.*
minimum: 0%	minimum: (L) 0%, (S) 10%	minimum: (ST) 0%, (CT) 10%
maximum: 20%	maximum: (L) 20%, (S) 39.6%	maximum: (ST) 20%, (CT) 39.6%

Source: USDA Forest Service, 2011 & Charles Schwab, 2015

Table 3. Federal Income Tax Brackets, 2014

Marginal Tax on Income	Single Person Income Tax Bracket	Married Filing Jointly Tax Bracket
10%	$0 - $9,075	$0 - $18,150
15%	$9,076 - $36,900	$18,151 - $73,800
25%	$36,901 - $89,350	$73,801 - $148,850
28%	$89,351 - $186,350	$148,851 - $226,850
33%	$186,351 - $405,100	$226,851 - $405,100
35%	$405,101 – $406,750	$405,101 - $432,200
39.6%	$406,751 +	$457,601+

Table 4. Capital Gains and Income Tax Rates, 1998-2013

July 1998 – 2000		2001 – May 2003		May 2003 – 2007		2008–2012	2013–	
Ordinary Income Tax Rate	Long-term Capital Gains Tax Rate	Ordinary Income Tax Rate	Long-term Capital Gains Tax Rate	Ordinary Income Tax Rate	Long-term Capital Gains Tax Rate	Long-term Capital Gains Tax Rate	Ordinary Income Tax Rate	Long-term Capital Gains Tax Rate
15%	10%	**10%**	10%/8%**	**10%**	5%	0%	**10%**	0%
		15%	10%/8%**	**15%**	5%	0%	**15%**	0%
28%	20%	**27.5%/27%***	20%/18%**	**25%**	15%	15%	**25%**	15%
31%	20%	**30.5%/30%***	20%/18%**	**28%**	15%	15%	**28%**	15%
36%	20%	**35.5%/35%***	20%/18%**	**33%**	15%	15%	**33%**	15%
39.6%	20%	**39.1%/38.6%***	20%/18%**	**35%**	15%	15%	**35%**	15%
							39.6%	20%

Source: The Tax Foundation. http://taxfoundation.org/article/federal-capital-gains-tax-rates-1988-2013

Among the large number of tax provisions relevant for forestland owners, there are three specifically designed to encourage investment in forest management: Capital gains treatment of timber, reforestation amortization and deductions, and operating expense and carrying charges deductions (Ellefson et. al 2005, USDA Forest Service 2013).

- *Capital gains treatment of timber*- Capital gains treatment can provide an important incentive for noncorporate forestland owners, as long-term capital gains are taxed at a lower rate than ordinary income. In addition to a lower tax rate, capital gains treatment allows an unlimited use of capital losses to offset capital gains; if being taxed at the ordinary income rate, there is a $3,000 limit for this type of offset. Last, timber holdings considered as business property are subject to self-employment tax on ordinary income from the business, but this tax is exempt under conditions of capital gains treatment (USDA Forest Service 2013). Capital gains treatment varies depending upon property classification and other factors such as ownership length and type of timber sold.

- *Reforestation amoritiztion and deductions*- Prior to October 23, 2004, tax provisions provided a 10 percent investment tax credit for reforestation costs. This provision was replaced with one that provides up to $10,000 of immediate deductions per qualified timber property for reforestation or afforestation expenditures. This tax deduction excludes trusts. In addition to deductions, qualified reforestation costs that are incurred in excess of those immediately deducted can be amoritized, or deducted over a set time period up to 8 tax years. Trusts are not excluded from amoritization; instead, they are

qualified to amoritize all eligible costs including all under the $10,000 limit set for other qualified timber property.

- *Operating expense and carrying charges deductions*- Expenses associated with day-to-day management of forestland can be large and accompanied also by regularly incurred and recurring expenses. Operating expenses are defined as those normally incurred by management activity, which can include fees for consulting foresters, cost of timber management activities, travel directly relevant to income gain on the property, and more. Carrying charges include property taxes, interest, or possible insurance payments. Operating expenses and carrying charges that are "ordinary and necessary" expenses for management of forestland may be fully or partially deducted each year as incurred. This deduction remains possible even without income generation, so long as timber growing activity is intended for profit and the expenditures are directly related to income potential. Deduction extent is dependent upon classification as it relates to ownership and operation of the forest property.

In addition to the above tax incentives specifically in place forestland owners, it is often possible for those receiving cost-share payments from Federal and State programs to exclude payments from their gross income claim. Generally, government cost-share payments must be claimed for taxes, but forest and other landowners are excluded from the requirement if they are receiving payments from government conservation, reclamation, or restoration programs that meet specific requirements. Many Federal and State government programs meet these requirements, including Conservation Reserve Program, Longleaf Pine Initiative, North Carolina Forestry Development Program, Virginia Reforestation of Timberlands Program, Mississippi Forest Resource Development Program, and a number of other programs listed in the following section on State fiscal incentives programs.

Conservation easements provide another avenue for tax deductions in the United States. Butler et al. (2012) states that in 2012, the Federal tax code allowed for a tax deduction of up to 50 percent of an easement owner's annual adjusted gross income (or 100 percent for land that has derived more than half of an owners income) for the qualified donation of a conservation easement. Unused amounts of the deduction can be carried forward for up to 15 years.

Estate tax.--Estate tax planning is important for sustainable management of forests, as highly valued forestland can impose significant tax burdens on the inheritor. Estate taxes may force landowners to harvest timber prematurely or even sell the property to pay the taxes, especially when coupled with division of family assets among heirs. A number of revisions have been made to Federal estate tax provisions, including in years 1997, 2001, and another in 2012. The

current maximum gift and estate tax rate is 40 percent, which has decreased from the high 55 and 50 percent rates in 2001 and 2002 respectively. The current estate tax exemption is $5.34 million, which has increased significantly since the low amount of $675 thousand in 2001 (Internal Revenue Service 2015). Federal estate tax rates continue to decline as exemption amounts increase, and the impact of Federal estate tax is usually much greater than State level estate or inheritance taxes (Butler et al. 2012).

According to Greene et al. (2014), there are a total of 10 Federal estate tax provisions beneficial to family forest owners, which include general provisions, targeted provisions, and advanced provisions. General provisions include: (1) effective exemption for estates, (2) annual exclusion for gifts, (3) use of a will, (4) step-up in basis, (5) effective exemption for gifts, (6) the marital deduction, and (7) disclaimer. Targeted provisions include special use valuation and exclusion for land in a conservation easement. Last, The advanced provision includes the use of trusts.

Effective exemption for estates.-- Estates can qualify for exemption, which is a credit against the estate tax that can partially or fully shield estates from the tax.

Annual exclusion for gifts.-- Individuals can make gifts to as many recipients as chosen and avoid the effective exemption for gifts amount, so long as gifts do not exceed the annual exclusion amount.

Use of will.-- A will allows individuals to distribute their estate amongst family members, ensure continuity of the family enterprise, and minimize tax and probate costs.

Step-up in basis.-- The basis for an inherited asset is its fair market value on the valuation date, which generally results in a "step-up" from basis in the decedent's hands.

Effective exemption for gifts.-- Exemption for gifts is a credit against the gift tax, which partially or fully shields gifts over the annual exclusion from tax.

Marital deduction.-- The value of all property passed from one spouse to another, either through lifetime gifts or at death, qualifies for unlimited deduction.

Disclaimer.-- A beneficiary's refusal to accept property passing to them, either through will or state law, will result in property passing to the next eligible beneficiary.

Special use valuation.-- An executor can value assets used for farming, forest land, and a business at their value in use for estate tax purposes instead of at their fair market value.

Conservation easement.-- An executor can exclude a calculated part of the land value in a qualified conservation easement from the taxable value of an estate.

Use of trusts.-- Property title can be transferred from an individual to the trustee to manage according to terms of the trust; the property can only be removed from the donor's estate with an irrevocable lifetime trust.

Financial assistance programs

Federal agencies administer financial and technical assistance programs to encourage investment in natural resource management and protection (Table 3). Federally administered programs provide assistance by reducing or offsetting large initial investments in natural resources related activity, including forestry sector protection, improvement, restoration, and sustainable management activities (Ellefson et. al, 2005). The USDA Natural Resources Conservation Service (NRCS), USDA Farm Service Agency (FSA), USDA Forest Service (FS), and USDI Fish and Wildlife Service (USFWS) each provide programs for conservation practices that are otherwise difficult to complete by the landowner. Cost-share assistance is the primary method in which agencies provide financial assistance to landowners. Although there are many Federal assistance programs for SFM, we focus on those primarily associated with forest regeneration and tree planting, forest management, and some timber production components.

Table 5 summarizes the principal federal financial assistance programs and their funding levels. These all provide conservation and market benefits for sustainable forest management as part of their focus. Generally, all of these program are part of the USDA Farm Bill, and are designated for conservation purposes, but contribute broadly to sustainable forest management and forest establishment, retention, and management. Some individual programs are described next.

Table 5. Federal Programs Providing Financial and Technical Assistance to Interests in Forests and Related Resources by Program, Agency, Resource Focus, Funding Obligations, Fiscal Year, and Assistance Type.

Program Name	Agency	Resource Focus	Funding Obligations		FY	Assistance Type
			Administration	Payments		
Agricultural Conservation Easement Program 1	USDA NRCS	Agricultural Lands & Wetlands	$ 115,046,000	$ 262,931,000	2014	Cooperative Agreement
Wetland Reserve Program 2	USDA NRCS	Wetlands	$ 16,244,000	$ 2,832,000	2014	Cooperative Agreement
Grassland Reserve Program 2	USDA NRCS	Grazing Lands	$ 553,000	$ 273,000	2014	Direct Payment
Farm and Ranch Lands Protection Program 2	USDA NRCS	Agricultural Lands & Soil	$ 1,672,000	$ 145,000	2014	Direct Payment
Environmental Quality Incentives Program 2	USDA NRCS	Soil & Water	$ 368,285,000	$ 981,715,000	2014	Direct Payment
Longleaf Pine Initiative	USDA NRCS	Forestland		$ 11,115,463	2013	Direct Payment
Wildlife Habitat Incentives Program 2	USDA NRCS	Wildlife	$ 2,543,000	$ 194,000	2014	Direct Payment
Regional Conservation Partnership Program 1	USDA NRCS	Soil, Water & Wildlife	$ 21,142,000	$ 74,538,000	2014	Cooperative Agreement
Agricultural Water Enhancement Program 2	USDA NRCS	Soil & Water	$ 10,740,000	$ 44,518,000	2013	Direct Payment
Chesapeake Bay Watershed Protection Program	USDA NRCS	Soil & Water	$ 5,556,000	$ 7,107,000	2014	Direct Payment
Conservation Security Program	USDA NRCS	Agricultural Lands, Soil & Water	$ 7,865,000	$ 116,915,000	2014	Direct Payment
Conservation Stewardship Program	USDA NRCS	Agricultural Lands, Soil & Water	$ 116,071,000	$ 962,871,000	2014	Cooperative Agreement
Healthy Forests Reserve Program	USDA NRCS	Wildlife & Carbon	$ 957,000	$ 5,491,000	2014	Direct Payment
Conservation Reserve Program	USDA FSA	Soil, Water & Wildlife		$ 2,025,222,640	2014	Direct Payment
Agricultural Management Assistance	USDA NRCS	Soil & Water	$ 1,439,000	$ 5,021,000	2014	Direct Payment
Emergency Conservation Program	USDA FSA	Soil & Water		$ 70,000,000	2014	Direct Payment
Emergency Watershed Protection Program	USDA NRCS	Watersheds	$ 85,653,500	$ 29,248,300	2014	Discretionary Grant
Forest Legacy Program	USDA FS	Forestland		$ 50,965,000	2014	Project Grant
Forest Stewardship Program	USDA FS	Forestland		$ 7,596,808	2014	Project Grant
Longleaf Stewardship Fund	NF&WF	Forestland		$ 3,380,000	2014	Project Grant

Source: Executive Office of the President CFDA, 2014

Note: **1**-New programs, **2**-Programs repealed and being phased out

Forest Legacy Program (FLP).--Through Federal and State partnership, the Forest Legacy Program directly supports forest land property acquisition and also promotes efforts to acquire donated conservation easements. FLP conservation easements have contributed to restricted development, sustainable forestry practices, and protection of other forest values. Only private forest landowners are eligible for participation; eligible participants are then required to develop a multiple resource management plan to obtain a conservation easement. Acquisition of a conservation easement grants participants up to 75 percent of project costs through the federal government, with at least 25 percent granted through State, private or local sources. More information on FLP can be found at:
http://www.fs.fed.us/cooperativeforestry/programs/loa/aboutflp.shtml

Healthy Forest Reserve Program (HFRP).--Under the 2014 Farm Bill, HFRP provides financial assistance and facilitates the formation of conservation easements on private or tribal owned forestlands. Goals of the HFRP include recovery of species classified endangered or threatened

species under the Endangered Species Act, improve plant and animal biodiversity, and enhance carbon sequestration. Forestland owners choose between a 10-year restoration cost-share agreement or a 30-year or permanent conservation easement for specific conservation activities. A 10-year agreement allows a landowner to receive up to 50 percent of the average cost for the specific conservation practices. The 30-year easement may pay a landowner up to 75 percent of the value of the enrolled land, plus up to 75 percent of the average cost for the specific conservation practices. Permanent easements may allow up to 100 percent pay for both the value of the land and the average cost of the conservation practices. Lands owned by Indian tribes under HFRP may be contracted on a 30-year basis. 13 states are currently supported by HFRP
More information on HFRP can be found at:
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/easements/forests/?cid=nrcs143_008410

Longleaf Pine Initiative (LPI).--In 2010, LPI was established by the NRCS to fulfill commitments to restore and enhance longleaf pine ecosystems in support of America's Longleaf Restoration Initiative. Objectives of the LPI are supported by the Wildlife Habitat Incentives Program. Participants of the LPI can qualify for up to 75 percent payment rates for practices such as forest stand improvement, prescribed burning, restoration and management of rare or declining habitats, and tree and shrub establishment. A total of 9 states are supported by the LPI. More information on LPI can be found at:
http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045845.pdf

Longleaf Stewardship Fund (LSF).--The National Fish and Wildlife Foundation administers LSF, which is a result of the public-private partnership between Department of Defense, U.S. Forest Service, Natural Resources Conservation Service, U.S. Fish and Wildlife Service, the Southern Company, International Paper, and Altria Group. LSF distributes payments to selected projects, which supports longleaf establishment, enhancement, and restoration while also encouraging recovery of species, increased technical assistance for private landowners, and strengthened organizational capacity. In 2014, LSF supported 15 projects, distributing approximately $3.8 million to projects throughout eight states.
More information on LSF can be found at:
http://www.nfwf.org/longleaf/Documents/2014-lsf-fact-sheet.pdf

Southern Pine Beetle Prevention Program (SPBP)-
In 2002, a Southern Pine Beetle outbreak caused what is estimated to be a $1.5 billion forest sector loss in states east of the Mississippi River. The SPBP was enacted to address losses in forest resources through cost-share assistance. A total of 13 states are supported by the

program. The Forest Service Forest Health Protection division of the Southern Region has worked with States to help develop cost-share programs, which has allowed Federal funding for Southern Pine Beetle prevention reach over 1000 landowners.
More information on SPBP can be found at:
http://www.fs.fed.us/r8/spb/docs/sgsf%20news%202007-04%20d3%20med%2010.pdf
http://www.fs.fed.us/r8/foresthealth/programs/spb_prevention/spb_prevention.shtml

The Federal programs described above and summarized in Table 3 are similar to data collected for Indicator 6.27 by others. Indicator 6.27 is focused on payments for environmental services, but since the Federal programs all have conservation purposes, they fall into the overlap between Indicator 6.27 and Indicator 7.47. Indicator 6.27 reported all payments for environmental services, which includes production and other forest conservation measures such as habitat improvement, water quality improvement, and carbon sequestration; these payments totaled just over two billion dollars in 2012 (Figure 2). The total we calculated for specific Federal SFM forest production programs (through FLP, HFRP, LPI, & LSF. Note: this does not include SPBP) summarized above is approximately $71 million. It is estimated that about one-third of Federal payments from all programs is administered for forest management and production practices, which amounts to approximately $2 billion (Cubbage et al. 2014). Overall, data suggests that Federal payments for environmental services and payments for forest management and production are about equal.

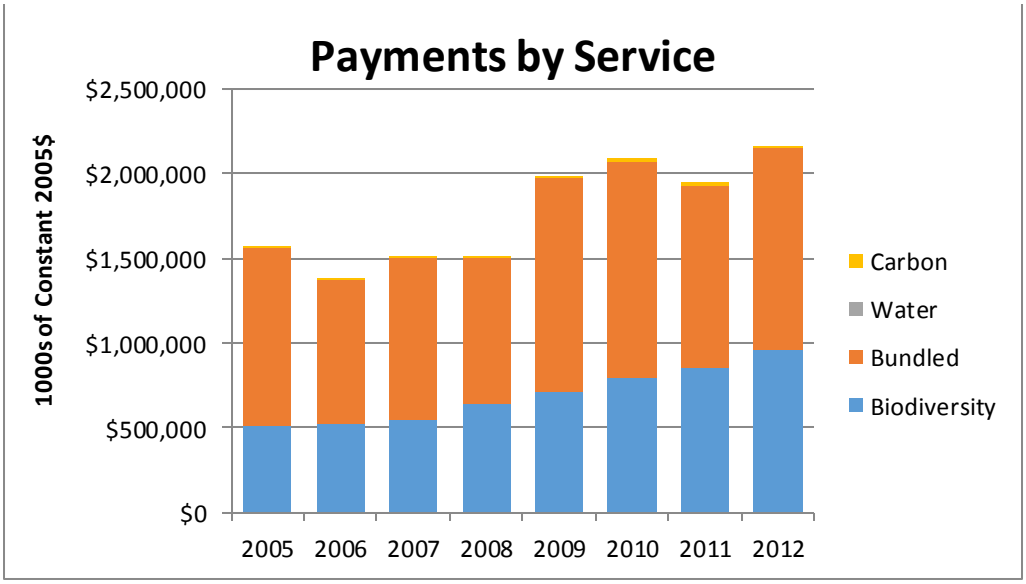

Figure 2. Indicator 6.27: Payments for Ecosystem Services, FY 2005-2012.

Source: Mercer et al., 2014

Note: Amounts reflect Constant 2005 U.S. Dollars, they are not adjusted to current dollars

State Government Capacity

State forest, agriculture, and land policy also has a substantial effect on SFM. This includes income taxes, which often follow the Federal lead, and inheritance taxes, which often do not. Property taxes also have a huge effects on SFM. In addition, States have various financial incentives, which include both conservation programs like the Federal model, and more timber production programs in order to encourage economic development.

Taxation Provisions

Income tax.--All but seven States have an income tax along with the Federal income tax (Table 6). States without an income tax include Alaska, Florida, Nevada, South Dakota, Texas, Washington, and Wyoming. Some States follow a flat tax provision, which includes Colorado, Illinois, Indiana, Massachusetts, Michigan, and North Carolina. Also, two States do not have a wage tax, but instead only apply taxes to dividend and interest; these States include Tennessee and New Hampshire. The overall highest maximum marginal income tax rate provision is in California at 13.3 percent, while the overall lowest minimum marginal tax rate provision is in Oklahoma at .5 percent.

Table 6. State Income Taxes, 2014.

State	Maximum Marginal Tax Rate	Minimum Marginal Tax Rate
Alabama	5%	2%
Alaska	Not Applicable; No State Income Tax	
Arizona	4.54%	2.59%
Arkansas	7%	1%
California	13.30%	1%
Colorado	4.63%	4.63%
Connecticut	6.70%	3%
Delaware	6.60%	2.20%
District of Colombia	8.95%	4%
Florida	Not Applicable; No State Income Tax	
Georgia	6%	1%
Hawaii	11%	1.40%
Idaho	7.40%	1.60%
Illinois	5%	5%
Indiana	3.40%	3.40%
Iowa	8.98%	0.36%
Kansas	4.90%	2.70%
Kentucky	6%	2%

Louisiana	6%	2%
Maine	7.95%	6.50%
Maryland	5.75%	2%
Massachusetts	5.25%	5.25%
Michigan	4.25%	4.25%
Minnesota	9.85%	5.35%
Mississippi	5%	3%
Missouri	6%	1.50%
Montana	6.90%	1%
Nebraska	6.84%	2.46%
Nevada	Not Applicable; No State Income Tax	
New Hampshire	5%	5%
New Jersey	8.97%	1.40%
New Mexico	4.90%	1.70%
New York	8.82%	4%
North Carolina	5.80%	5.80%
North Dakota	3.99%	1.51%
Ohio	5.39%	0.54%
Oklahoma	5.25%	0.50%
Oregon	9.90%	5%
Pennsylvania	3.70%	3.70%
Rhode Island	5.99%	3.75%
South Carolina	7%	0%
South Dakota	Not Applicable; No State Income Tax	
Tennessee	6%	6%
Texas	Not Applicable; No State Income Tax	
Utah	5%	5%
Vermont	8.95%	3.55%
Virginia	5.75%	2%
Washington	Not Applicable; No State Income Tax	
West Virginia	6.50%	3%
Wisconsin	7.65%	4%
Wyoming	Not Applicable; No State Income Tax	

Source: Tax-Rates.org, 2014.

Estate tax.--As of fiscal year 2015, a total of 16 States including District of Columbia have estate tax provisions; these states include Connecticut, Delaware, District of Colombia, Hawaii, Illinois, Maine, Maryland, Massachusetts, Minnesota, New Jersey, New York, Oregon, Rhode Island, Tennessee, Vermont, and Washington. The 2015 exemption amounts among states range from $675 thousand to $5.34 million. A total of 6 States have inheritance taxes, which include Nebraska, Iowa, Kentucky, Maryland, Nebraska, New Jersey, and Pennsylvania (Tax Foundation

2014). Figure 3 provides information on estate and inheritance tax rates and exemptions in 2014.

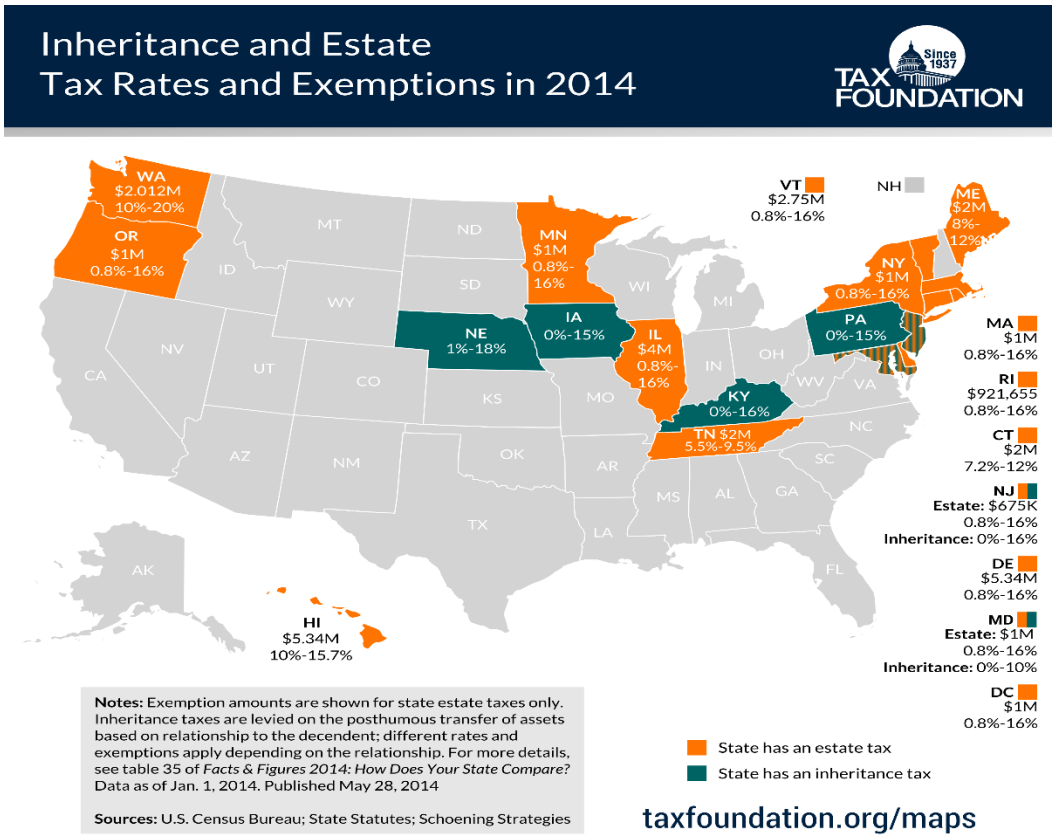

Figure 3. Inheritance and Estate Tax Rates and Exemptions in 2014.

Source: Tax Foundation, 2014

Property tax.--In the United States, forest property taxes are separated into four major categories: ad valorem (current use), flat, severance, and yield. The fifth tax mechanism is exemption. Each State implements at least one, but at times up to three of the five property tax mechanisms. Ad valorem property tax rates vary depending upon values of products, services, or the property itself. Current use tax laws are used as a mechanism to lower the burden of ad valorem tax rates; current use laws vary among States and measurements for productivity. Under the flat property tax system, collection per acre is not dependent upon value, but upon the set amount of money required per any acre of timberland. Severance tax is collected after timber harvest; amounts are flat and specific to units harvested, which can include board feet, cubic feet, tonnage, cords, and other. Yield tax is similar to severance in that it is collected after timber harvest, but is different in purpose; yield tax is collected on the basis of harvested timber value. Overall, all U.S. States implement ad valorem, 11 implement flat, 12 implement severance, and 11 implement yield, according to the National Timber Tax website. A summary of forest property taxation mechanisms in the United States is displayed in Table 7.

Table 7. Forest Property Taxation Systems in the United States.

State	Ad Valorem	Flat	Exemption	Severance Tax	Yield Tax
Alabama	X			X	
Alaska	X		X		
Arizona	X	X		X	
Arkansas	X			X	
California	X			X	
Colorado	X				
Connecticut	X[1]				
Delaware	X		X		
Florida	X				
Georgia	X			X	
Hawaii	X[2]				
Idaho	X				X
Illinois	X				X
Indiana	X	X			
Iowa	X		X		
Kansas	X[2]				
Kentucky	X				
Louisiana	X			X	
Maine	X[1]				
Maryland	X				
Massachusetts	X	X[4]			X
Michigan	X	X			X
Minnesota	X	X[3]			
Mississippi	X			X	
Missouri	X	X			X
Montana	X			X	
Nebraska	X				
Nevada	X				
New Hampshire	X	X			X
New Jersey	X				
New Mexico	X				X
New York	X	X[3]			X
N. Carolina	X			X	
N. Dakota	X	X			
Ohio	X	X[3]			
Oklahoma	X[2]				
Oregon	X[1]			X	X
Pennsylvania	X[1]				
Rhode Island	X		X		
S. Carolina	X				
S. Dakota	X[2]				
Tennessee	X				
Texas	X				

Utah	**X**				
Vermont	**X**				
Virginia	**X**[5]			**X**	
Washington	**X**[1]			**X**	
W. Virginia	**X**				**X**
Wisconsin	**X**	**X**			**X**
Wyoming	**X**				

Source: National Timber Tax Website, 2014.
[1]Current use based on forest productivity
[2]Current use based on agricultural productivity
[3]Reduction in Fair Market Value (FMV)
[4] Reduction in FMV for land classified as forestland or recreational lands; Flat tax for land classified as agricultural & horticultural land
[5]Current use based on site productivity

Private forestland owners are eligible for preferential property tax programs throughout the States, which allow qualified landowners to reduce their annual property tax burden. 38 States have preferential tax programs that require action or commitments by forest landowners; another 11 States have preferential tax policies that automatically assess and tax forestland without action or commitment by the owner. Some States have tax provisions that allow exemptions for forestland and timber. Overall, State preferential property tax administrators reported anywhere from over 75 percent to below 25 percent participation in their programs, which does not include forestland owners ineligible to participate (Butler et al. 2012).

Financial assistance programs

The list of State assistance programs is large, as most States offer natural resource driven assistance opportunities though their relevant agencies. The majority of State level programs are geared toward major natural resources such as soil and water quality and wildlife habitat conservation and protection. Most of these programs offer assistance through sustainable management practices, which can include practices specific to forest productivity. However, among all the financial assistance programs intended for natural resource stewardship, few are designed to specifically address forest productivity and health. Table 8 displays the collection of financial assistance programs throughout the United States that are delivered for SFM purposes.

Table 8. Principal State Financial Forest Incentive and Grant Program, 2014.

State Programs	Program Type	FY 2014	Funding Source/s
Alabama			
Agricultural & Conservation Development Commission Program	Cost-Share	$0	Alabama Ag & Cons. Development Comm.

California			
Forest Improvement Program	Cost-Share	No Info	Greenhouse Gas Reduction Fund
Delaware			
Forestry Cost-Share Program	Cost-Share	$3,257	Delaware Forest Service, Cropland Leases, Timber Sales Revenues
Florida			
Longleaf Pine Private Landowner Incentive Program Rural & Family Lands Protection Program	Grant/Loan Easement	No Info No Info	National Fish and Wildlife Foundation Florida Forest Service, Private Silviculture Operation
Illinois			
Forestry Development Act Program	Cost-Share	$75,413	Illinois Forestry Development Fund
Maryland			
Woodland Incentive Program	Cost-Share	$100,000	Woodlands Incentive Fund
Mississippi			
Forest Resource Development Program	Cost-Share	$2,000,000	Miss. Forestry Comm., Timber Severence Tax
Missouri			
Soil & Water Conservation Program	Cost-Share	$1,258	MDNR, Park, Soils & Water Sales Tax
North Carolina			
Forest Development Program	Cost-Share	$589,500 [1]	Legislative Appropriations, Forest Product Assessments
Oklahoma			
Forest Resource Development Program	Cost-Share	$22,720	Oklahoma Forestry Cost-Share Fund
South Carolina			
Forest Renewal Program	Cost-Share	$815,838	Roundwood Tax, State Appropriations
Virginia			
Pine Bark Beetle Prevention Program Reforestation of Timberlands	Cost-Share Cost-Share	$200,000 [2] $1,600,000 [2]	Virginia Department of Forestry Commonwealth of Virginia's General Fund
Wisconsin			
Weed Management Area Private Forest Grant Program	Cost-Share	$0	WDNR Forest Grant Program
Wisconsin		FY 2013	
County Forest Acreage Share Payments	Grant/Loan	$711,634	Wisconsin Forestry Fund
Louisiana			
Forest Productivity Program	Cost-Share	$1,800,000	Severance Tax
Iowa		FY 2012	
Resource Enhancement & Protection Program	Cost-Share	$1,200,000	Iowa Environment First Fund, NR License Plate Sales

Oregon		Collective Funding	
Forest Resource Trust	Grant/Loan	$1,500,000	Forest Resource Trust (initial deposit by Klamath Cogeneration Project)

Note: **1**- 2008 FY, **2**- 2013-2014 FY

Fiscal Years vary by State

State programs are funded through a variety of sources, which can include legislature declared funds, state appropriations, taxes on forest products, or profits from miscellaneous item sales (Table 6). Some programs may be backed by Federal agencies to provide additional support for assistance in administration.

Funding amounts vary depending on the State, budget constraints, funding preferences from the State and the participant, and the assistance program. For example, the Alabama Agricultural and Conservation Development Commission Program has not been funded for a number of years due to lack of funding; the State budget has excluded the program. Programs such as the Wisconsin Weed Management Area Private Forest Grant Program provide funding for activities that affect forest productivity, but funding dollars have not been used for this purpose yet. The Missouri Soil and Water Conservation Program is a similar example, as it does award money for practices associated with sustainable forestry, but landowners rarely request assistance for such practices. The Oregon Forest Resource Trust targets a different, more expensive management activity and forest product: this program incentivizes carbon sequestration. Given the nature and expense of carbon sequestration practices, the large fund is used to purchase rights to landowner property and carbon credits.

Alabama.--Agricultural & Conservation Development Commission Program

Alabama administers the Agricultural and Conservation Development Commission Program (ACDCP) to eligible landowners to provide financial assistance for sustainable forest practices on land used for agricultural or timber production. Eligible participants own farmland or a tract of land specifically devoted to timber growth, both in which must lay within a Conservation District. Eligible practices include soil conservation, water quality improvement, or reforestation and forest improvement practices. Forestry improvement practices, which pay up to 75% cost-share include: (1) Tree planting with site preparation, (2) Tree planting without site preparation, (3) Site preparation for natural regeneration, (5) cull tree removal, and (6) Pine plantation release. ACDCP has not been funded since 2012; Alabama State budgets have not allocated monies necessary to run this program.
More information can be found at: http://swcc.alabama.gov/pages/aacdc.aspx?sm=b_i

California.--Forest Improvement Program

The defined purpose of California Forest Improvement Program (CFIP) is to provide financial and technical assistance to forestland owners to encourage investment in forestlands and resources within California; public and private investments will ensure high quality timber supply, employment and other economic benefits, and protection, enhancement, and maintenance of the forest resource for present and future benefit. Funding for eligible applicants may be provided through California's Forest Resource Improvement Fund, the Federal Forest Stewardship Program (FSP), and the Federal Forest Health Management Program (FHMP). Funding through FSP and FHMP cost-share programs is provided only when funds are available, and may also require that the property's forestland be covered by the California Cooperative Management Plan. CFIP may grant up to a total of 75 percent of the total cost of the proposed project, and the requirement for maintenance of funded work is 10 years. Eligibility is dependent upon acreage; eligible participants must own at least 20 acres but not more than 5,000 acres of forestland in the state of California.
More information can be found at:
http://calfire.ca.gov/resource_mgt/downloads/CFIP/CFIP_UsersGuide_2012Version_031212_FINAL.pdf
http://calfire.ca.gov/resource_mgt/resource_mgt_forestryassistance_cfip.php

Delaware.--Delaware Forestry Cost Share Program

The General Assembly of Delaware established the Forestry Cost Share Program in 2006, with funds generated by the Delaware Forest Service from cropland leases and timber sales revenues. Eligible participants are awarded 50 percent cost share assistance though reimbursement for forest management practices such as tree planting and timber stand improvement.
More information can be found at: http://delawaretrees.com/dfs_fy14_annualreport.pdf

Florida.--Longleaf Pine Private Landowner Incentive Program
Administered by the Florida Department of Agriculture and Consumer Services Florida Forest Service, the Longleaf Legacy Landowner Incentive Program (LLLIP) provides financial and technical assistance to non-industrial private forestland (NIPF) owners through grants and support from various federal sources. The program is intended to encourage landowners to implement approved longleaf restoration activities, including control of invasive exotic plant competition, reducing competition, planting native understory vegetation under existing longleaf pine forests, and planting longleaf pine on appropriate sites. Eligibility for this program is dependent upon status of NIPF ownership, which is limited to 5,000 acres but must exceed 9

acres of ownership in the state of Florida. Also, NIPF owners are only eligible within a total of 37 Florida counties. Acreage enrolled in the Federal Conservation Reserve Program are not eligible for payments. The maximum payments per landowner will not exceed $10,000 per fiscal year. Management practices approved for payment under LLLIP include: (1) invasive exotic plant control, paying $100 per acre, (2) timber stand improvement, paying $50 per acre, (3) prescribed burning, paying $15 per acre, (4) longleaf understory native vegetation establishment, paying $300 per acre, (5) mechanical underbrush treatment, paying $25 per acre, and (6) longleaf seedling establishment, paying various amounts for site preparation ($50 per acre), planting ($40 per acre), and seedlings (up to $100 per 1000 seedlings); participants may receive payments for up to four of the approved practices.
More information can be found at:
http://www.freshfromflorida.com/content/download/36405/839699/LLP_LIP_guidelines2014.pdf
http://www.freshfromflorida.com/Divisions-Offices/Florida-Forest-Service/For-Landowners/Programs/Longleaf-Pine-Private-Landowner-Incentive-Program

Rural and Family Lands Protection Program

The Rural and Family Lands Protection Program (RFLPP) was enacted by the Florida Department of Agriculture and Consumer Services Florida Forest Service to ensure protection of valuable agricultural lands in the State. RFLPP provides financial assistance for landowners in the form of permanent agricultural land conservation easements; by entering into an easement, landowners can protect natural resources while also ensuring acquisition of economic values associated with agricultural production.

Illinois.--Forestry Development Act Program

The Illinois Department of Natural Resources Forest Resources Division provides reimbursement cost-share assistance to landowners operating at least 5 acres of land on which timber is produced. If a home or buildings are established on the property, the minimum property requirement is 6 acres. Landowners primary interest must be timber production and the property must have a forest management or tree planting plan that has been approved by a District Forester. Practices cannot be repeated on the same land within a 10 year period and must be effective for at least 10 years.
More information can be found at:
http://www.dnr.state.il.us/conservation/forestry/IFDA/
http://www.dnr.illinois.gov/adrules/documents/17-1536.pdf

Iowa.--Resource Enhancement and Protection Program

Iowa's Resource Enhancement and Protection (REAP) program provides grants for a variety of projects, including city parks and open space, county conservation, private and public open space acquisition, conservation education, historical resource development, roadside vegetation, and soil and water enhancement. 20 percent of REAP funds are allocated to soil and water enhancement, which promote sustainable forest management practices in the form of reforestation and woodland protection and enhancement. As of fiscal year 2012, 645 soil and water enhancement practices were installed, totaling about $1.2 million dollars of cost-share assistance added onto funds leveraged from other sources. A portion of these funds directly impact forest market production.
More information can be found at:
http://www.iowadnr.gov/Environment/REAP/ProjectsbyCounty.aspx

Louisiana.--Forestry Productivity Program

The Louisiana Forestry Productivity Program (FPP) provides eligible landowners with cost-share assistance for establishing and improving a crop of trees. Up to 50% cost-share can be provided to landowners depending on which practice or practices are implemented to produce a timber crop. Up to $10,000 may be provided per landowner per fiscal year. To be eligible, the landowner must own a minimum of 5 contiguous acres suitable for producing a commercially valuable timber species. The Louisiana Department of Agriculture and Forestry requires a minimum of 10 years maintenance commitment by the participant; commitments are binding even if land comes under new ownership. In fiscal year 2013, FPP provided about $1.8 million for reforestation activities, totaling 21,767 acres of funded land.
More information can be found at:
http://www.ldaf.state.la.us/forestry/management/forest-productivity-program/

Maryland.--Woodland Incentive Program

The Maryland Department of Natural Resources Forest Service provides cost-share assistance for private, non-industrial woodland owners through the Woodland Incentive Program. Eligible landowners own 5 to 1,000 acres of woodland, and must commit to 15 years of the selected forestry practice. Funds are distributed through commitment to the following practices: reforestation, timber stand improvement practices, and preparation of Forest Stewardship Plans. Up to 65 percent of funds needed to perform forestry practices may be distributed to woodland owners through this program. Per each fiscal year, a total of about $100,000 is distributed to fund 1,500 to 2,000 acres.

More information can be found at:
http://www.dnr.state.md.us/forests/programapps/wood.html

Mississippi.--Forest Resource Development Program

Cost-share funding is provided for tree planting and forest improvement practices to participants of the Forest Resource Development Program. The Mississippi Forestry Commission distributes funds for this program to eligible private forest landowners with the purpose of encouraging long-term timber production. A total of 31 practices are eligible for cost-share assistance; flat rates for cost-share assistance are established for each individual practice. Cost-share cannot exceed 75 percent of actual cost, and the maximum funding per landowner cannot exceed $7,000. Participating landowners must commit to protection of their forestland property for a minimum of 10 years. About $2 million each fiscal year is distributed through this program; at the end of fiscal year 2012, over $84.5 million has been distributed to participants.
More information can be found at: http://www.mfc.ms.gov/redevelopment.php

Missouri.--Soil and Water Conservation Program

The Soil and Water Conservation Program offers cost-share assistance for a number of practices under seven categories, including: (1)Sheet/Rill and Gully Erosion, (2) Grazing Management, (3) Irrigation Management, (4) Animal Waste Management, (5) Nutrient ad Pest Management, (6) Sensitive Areas, and (7) Woodland Erosion. Cost-share assistance varies depending upon cost-share practice. Assistance for practices directly relative to forest market commodities is small through this program, as participants most often request assistance for other practices.
More information can be found at:
http://dnr.mo.gov/pubs/pub2348.pdf
http://dnr.mo.gov/env/swcp/service/swcp_cs.htm

North Carolina.--Forest Development Program

Through the North Carolina Forest Development Program, eligible North Carolina landowners are provided cost-share assistance for reforestation, afforestation, and forest stand improvement. The North Carolina Forest Service (NCFS) administers this program to promote timber production and other benefits associated with forest management practices. To be eligible, landowners must create a forest management plan to be approved by the NCFS and own at least 5 acres of land suitable for growing commercial timber. Qualification standards are dependent upon tree species type. The following practices are eligible for partial

reimbursement: site preparation, seedling purchases, tree planting, release of desirable seedlings from competition, and any other work needed for new forest establishment. Participants may receive up to 100 acres of cost-share annually.
More information can be found at:
http://ncforestservice.gov/Managing_your_forest/pdf/FDPReview_Appendix.pdf
http://ncforestservice.gov/Managing_your_forest/fdp.htm

Oklahoma.--Forest Resource Development Program

Through the Forest Resource Development Program (FRDP), landowners are provided with the financial assistance needed for the establishment, maintenance, management, enhancement, and restoration of forests on NIPF land. Oklahoma Forestry Services has administered this program since 1996 to encourage good land management practices and proper silviculture. As of 2011, FRDP has only provided forest production assistance in the form of southern pine beetle prevention; funding for invasives control has been administered, but this practice is not designed to increase or aid in forest production. Overall, a total of $69,630 has been made to participants of the FRDP since fiscal year 2011.

Oregon.--Oregon Forest Resource Trust

Established in 1993, the Oregon Forest Resource Trust (FRT) provides non-forestland owners with the monetary assistance needed to establish stands on lands conducive to tree growth. The program is intended to promote carbon sequestration and sustainable forest management. Eligible participants own between 10 and 5,000 or 10 and 15,000 acres of non-forested land, with acreage requirements dependent upon low-site status. The Trust may provide up to 100 percent of stand establishment and seedling protection costs; landowners freely decide if and when to harvest, and if no harvest is completed after 200 years, the contract becomes void. In exchange for establishment support, the landowner enters a long-term contract with the State forester in which all rights to carbon dioxide emissions reductions offsets are released to the State forester. The option to buyout of the contract is available to the landowner at any time, so long as the participant repays trust costs plus 4 percent interest. Overall, FRT has allocated a total of $1.5 million for projects, which does not include administrative costs.
More information can be found at:
http://www.oregon.gov/ODF/privateforests/pages/incentivesfrt.aspx
http://www.oregon.gov/odf/privateforests/docs/frtfactsheet.pdf

South Carolina.--Forest Renewal Program

Intended to encourage tree planting and adequate timber supply, the Forest Renewal Program (FRP) provides cost-share assistance to eligible private landowners in South Carolina. Landowners are not eligible if engaged in production of wood products such as sawmills, pulp and paper mills, plywood plants, and oleoresin plants. Funds are distributed for two management practices: site preparation and tree planting and timber stand improvement. Landowner acreage requirements are set to a minimum of 10, but maximum funds allocated is limited to monetary requirements needed to complete approved practices on 100 acres of land. Funded landowners must complete practices within a period of 20 months and maintain lands in forest condition for 10 years or until commercial harvest.
Since fiscal year 2009, the FRP has allocated a total of $1 million each year; the total amount of money obligated to the landowner for the cost-share of forestry practices varied each year, with an average of $821,714.
More information can be found at: http://www.state.sc.us/forest/frpbrochure.pdf

Virginia.--Pine Bark Beetle Prevention Program

Virginia's Pine Bark Beetle Prevention Program (PBBPP) is administered through the Virginia Department of Forestry and provides cost share assistance to approved landowners. To qualify for the program, landowners must own at least 5 acres of land that contain loblolly, shortleaf, longleaf, pond, Virginia, pitch, or white pine. Pines may be no older than 15 years while predetermined dbh and density requirements also apply. Participants receive up to 60 percent of direct project costs for pre-commercial thinning, which cannot exceed $105 per acre or $10,000 in a federal fiscal year. Through this program is also the Logger Incentive Program for First Commercial Thinnings; funds for this program are currently unavailable.
More information can be found at: http://www.dof.virginia.gov/costshare/health/pbbp.htm

Reforestation of Timberlands Program

The Virginia Department of Forestry provides funds through the Reforestation of Timberlands Program (RoTP) to encourage pine stand establishment. RoTP provides reimbursement payments for a number of approved projects and practices including: planting loblolly or Virginia pine ($25 per acre), planting shortleaf, white, pitch-loblolly, or longleaf pine ($48 per acre), mechanical site preparation ($60 per acre), herbicide site preparation ($70 per acre), prescribed burn site preparation ($35 per acre), aerial herbicide release application for all pines except white ($22 per acre), herbicide release application for white pine ($45 per acre), and ground release application ($45 per acre). Overall, cost share rates will not exceed 75 percent of total project costs and the program is limited to a total of 150 acres per landowner per fiscal year.

More information can be found at: http://www.dof.virginia.gov/costshare/rt.htm

Wisconsin.--County Forest Acreage Share Payments

Under the County Forest Acreage Share Payments Program, towns in counties with lands enrolled in the County Forest Law (CFL) may receive payments from the Wisconsin Department of Natural Resources. Towns receive an annual $.30 payment per acre enrolled in the CFL; once received, funding can be used at the discretion of the Town.
More information can be found at: http://dnr.wi.gov/topic/CountyForests/

Weed Management Area Private Forest Grant Program

The Wisconsin Department of Natural Resources administers the Weed Management Area Program (WMAP) to reimburse a weed management group for practices addressing invasive plants on NIPF lands. To be eligible, the weed management group must consist of at least 3 members, one which must be a "person participating" who owns 500 acres or less of NIPF land. Participants may receive up to 75% of eligible costs of eligible practices associated with practices and a 25% match is required. The following practices are eligible under this program: (1) Education, information and outreach, (2) Coordinating a weed management group, (3) Invasive species inventory, (4) Invasive species control on NIPF land, (5) Monitoring, (6) Miscellaneous practices to manage invasives that impact forests, and (7) Development of long term invasives management plan.

Since it's 2012 inception, the WMAP has funded a total of 12 weed management groups; overall awards since 2013 total $237,000. Although grant funding can be used for miscellaneous practices to manage invasives that impact forests (such as reforestation, afforestation, and forest improvement), allocated monies have not been used for this purpose by any awarded party through WMAP.
More information can be found at: http://dnr.wi.gov/Aid/WMA.html

Wisconsin Forest Landowner Grant Program
The Wisconsin Forest Landowner Grant Program (WFLGP) was established by the Wisconsin Department of Natural Resources to promote management of lands that benefits forest resources and the community. Private landowners qualify for WFLGP if they own at least 10, but no more than 500 acres of contiguous non-industrial forestland in Wisconsin. Participants must also have or plan to have a forest stewardship plan in place on their land. Only non-commercial practices are eligible for payment. Once approved, forest landowners may receive up to 50% of eligible costs of eligible practices through reimbursement.

More information can be found at: http://dnr.wi.gov/topic/ForestLandowners/financial.html

State Summary

Table 9 summarizes the number of state financial programs. Financial assistance programs are most often administered throughout Northern and Southern States, with a couple administered in Pacific Coast States and none in Rocky Mountain States. Programs are offered through relevant government bodies and funded by various sources. Similar to Federal financial assistance, State programs offer payment through cost-share, grant or loan, or conservation easement procurement. A total of 19 State programs provide payment to landowners for investment in SFM.

Table 9. Number of States in Region with Financial Assistance for Forest Market Practices .

	HI, AK & Pacific Coast	Rocky Mountain	North	South
Financial Assistance	2	0	6	7

Note: Regional groupings of States are Pacific Coast: Washington, Oregon, California; Rocky Mountain: Idaho, Nebraska, Arizona, Utah, Montana, Wyoming, Colorado, New Mexico, Kansas, Nevada, South Dakota, North Dakota; North: Minnesota, Iowa, Missouri, Wisconsin, Illinois, Indiana, Michigan, Ohio, West Virginia, Pennsylvania, Maryland, D.C., Delaware, New Jersey, New York, Rhode Island, Connecticut, Massachusetts, Vermont, Maine, New Hampshire; South: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia

Summary of Conditions

Long-term investments in sustainable forest management practices in the United States are both encouraged and discouraged through the use of tax policies and financial assistance programs. Taxes and incentives are administered through various Federal and State agencies, which contribute to the legal and institutional capacity to encourage investment in sustainable forestry practices (Ellefson et al. 2005). Economic strategies are designed to provide incentives to forest landowners to encourage practices that ensure long-term viability of the benefits associated with forests. Conditions and observations of economic strategies that affect sustainable forest management in the United States are as follows:

- Federal and State tax provisions, including income, estate, and property taxes, affect private forestland owners at varying scales. Larger tracts of forestland are more likely to incur larger costs as a result of tax provisions, but are also eligible for exemptions and lower tax rates as a result of managing for and selling timber, reforestation, and

easement procurement. Forestland owners that do not invest in stewardship practices or harvest timber for profit do not benefit from Federal or State income and property tax provisions to the extent that active sustainable forest managers do.

- Estate taxes can negatively affect inheritors of forestland, which often makes estate tax planning important for large forestland estates. Estates are taxable at the Federal and State level, and estate tax rates and exemptions vary across States. Taxes on inheritors can discourage sustainable forestry investment, as taxes will decrease monetary capital needed to perform stewardship actions and may even result in a loss of the estate if taxes cannot be paid.

- Several elements of Federal income tax provisions are designed to specifically address forest practices, which include capital gains treatment, reforestation amoritization and deductions, and operating expense and carrying charge deductions. Tax incentives are also available for easement procurement. State preferential property tax provisions provide the opportunity for reducing property tax burdens to private forestland owners. Other State property tax provisions allow exemptions for forestland and timber.

- Federal and State financial assistance programs are often centered around foci such as soil and water quality and habitat conservation; few programs are specifically designed to address forest resources and market commodities. At the Federal level, the Forest Legacy Program, Forest Stewardship Program, Longleaf Stewardship Fund, and Healthy Forests Reserve Program are directly focused on forest practices. A total of 15 States offer programs to promote sustainable forestry investment. Often, Federal and State programs can be combined to provide extra incentives for forest landowners.

- Assistance programs are broken down into three main categories, which include cost-share payments, grants and loans, and easement procurement. Monetary incentives are either obtained through direct payment, project or discretionary grant, or cooperative agreement. Cost-share payments are the primary tool used amongst financial assistance programs, and although rare, can pay up to 100 percent of the capital needed to invest in sustainable practices. Eligible participants can receive direct payment prior to performing practices or can be reimbursed after management actions occur. Cost-share participants usually must commit to an agreement to perform a practice for a number of years, which varies among programs. Grant and loan and easement programs are also available, but to a much smaller degree than cost-share programs.

Information Adequacy

Economic conditions that affect long-term investment in sustainable forestry practices can be studied using numerous variables. Market conditions, taxation and investment policies, trade policies, financial assistance for forestland owners, and regulatory conditions on management and use of private forest resources are variables that collectively influence sustainable management investments (Ellefson et al. 2005). Federal and State data suggest that information on tax policies and financial assistance is available, but little research has been done to effectively assess the effects of these policies and programs on investment decisions for the private forestland owner.

At the Federal level, the effect of income taxes are most well-known and considered most potentially influential on investment decisions. Little information is available for assessing the effect of the estate tax on private forest landowners (Greene et al. 2014). Research has been conducted to study the effect of income and estate taxation on private forest owners. Research on State income and property tax rates indicates substantial effects on landowners (Butler et al. 2012), suggesting that information is available to assess the effect of income tax provisions on forest landowners. Information on State estate tax provisions is available, but little research and information is available for their effects on private landowners. To assess taxation policies and their effects on private forest landowners, data are often obtained through surveys and focus groups, which allow landowners to reveal the implications of tax provisions on their decisions. State program administrators have also been surveyed to determine their perceptions of program effectiveness.

Issues, Trends & Recommendations

Taxation provisions

Both Federal and State tax provisions have experienced repeal or revisions since 2005. Federal income tax brackets and estate tax exemptions are subject to change, which creates an unpredictable tax environment for forestland owners. Investment decisions may be influenced by tax provisions, as income tax rates affect profit on timber sales and tax deductions. Estate planning and investment decisions can also be affected by estate tax provisions, as an unpredictable tax environment can lead to unexpected inheritor expenses. Over time, income tax brackets and rates for higher income have expanded while estate tax exemption amounts have increased.

Butler et al. (2012) found that income taxes have the largest impact on landowners most financially motivated to harvest. However, it is estimated that only 27 percent of private forestland owners in the United States have commercially harvested trees and harvest is infrequent for the majority of these landowners. Estate taxes are a small concern for the majority of forest landowners, as estate transfer is infrequent and most estates are not large enough to be affected by estate taxes. Property taxes cause the most concern from forestland owners, but modified property tax laws are often considered ineffective as knowledge of property tax programs is low among owners. Also, eligibility restrictions affect landowner participation in preferential property tax programs. Overall, holding size will have the largest effect on sustainable forest investment; owners of larger tracts of forestland are more likely to have an interest in property, income, and estate tax programs.

The main challenge for taxation provisions is simplicity, adequacy, stability, and visibility, which are four of the six qualities of a good tax policy as determined by Ellefson et al. (2005). Current tax policies are creating an environment of low awareness, confusion, and misinformation for forest landowners. Accordingly, tax policies are not reaching their potential because information is not readily available to landowners, the information is too complex to understand, and the costs associated with requirements outweigh the perceived benefits of the program (Butler et al. 2012). Current tax policies should be redesigned so that landowners understand the policy and so the costs associated with requirements of the program are minimized to encourage participation.

Financial assistance programs

The 2014 Farm Bill led to consolidation and phasing out of previous Federal financial assistance programs; some programs were created, while a number of others were not re-authorized. Trends suggest a shift from specific resource foci to a more encompassing program focus, as most emerging and current programs are designed to address soil, water, and lands in totality. Few federally administered programs fund management practices specific to forest production. State financial assistance programs focused on forest stewardship are few compared to the large number of financial assistance programs delivered for soil, water, habitat, and wildlife practices. States most likely to implement forest market focused programs are on the eastern half of the United States. Since 2005, there has not been a major change in State assistance programs.

According to the 2010 Report on Sustainable Forests in the United States (USDA 2010), one of the major trends affecting forestland is the lack of substantial forest production to match the consumption of forest products. It is important that production by forest landowners

increases, otherwise sustainable forestry cannot be reached in the United States. Private, family forestland owners most often perceive aesthetics and beauty to be much more important than managing for timber production (USDA 2008).

Kilgore et al. (2015) noted that only about one-fourth of a surveyed number of forest landowners were had timber management as a primary objective, which was significantly less than the number managing for aesthetics and recreation. However, the survey found that landowners are much more likely to harvest timber commercially if they are assisted through cost-share and have a forest management plan on their property. This being true, Federal and State financial assistance programs should focus on providing cost-share assistance in addition to helping in the forest management plan promulgation process. Overall, forest production can be increased if financial assistance programs that focus on forest productivity coupled with cost-share and forest management plan incentives.

Information and assessment capacity

Overall, the lack of information on the effects of taxation and financial assistance should be approached by continued and ongoing research. Variables that are used to assess investment influence should be clearly defined so that research can be replicated periodically. Prior recommendations suggest comprehensive periodic reviews that conducted by a responsible unit (such as the USDA Forest Service, a specific University, or a non-profit organization such as the National Association of State Foresters) and are provided sufficient resources to conduct reviews (Ellefson et al. 2005). By conducting periodic reviews with well-defined variables, the responsible unit should have the capacity to provide updated information on investment influence, which can be used to conduct research on the effects of taxation and financial assistance on sustainable forest management. The responsible unit should also perform surveys on the effects of taxation and financial assistance to the largest extent possible; current data provides investment information for a relatively small sample size of private forest landowners.

Indicator Appropriateness

Indicator Definition

Indicator 7.47 is a revision of indicator 7.58 which read as: Extent to which the economic framework (economic policies and measures) supports the conservation and sustainable management of forests through investment and taxation policies and a regulatory environment which recognize the long-term nature of investments and permit the flow of capital in and out of the forest sector in response to market signals, nonmarket economic valuations, and public

policy decisions in order to meet long-term demands for forest products and services. Suggestions to modify this indicator were made due to the need for specificity and clarification. Also, inclusion of "regulatory environment" was perplexing, as another indicator was designed to address this variable. Indicator 58 also ignored the distinction between public and private investment. Overall, recommendations included better focus and reduced or modified wording (Ellefson et al. 2005).

Since revision of the set of indicators existing in 2005, the taxation and economic strategies indicator wording has been reduced, which channels focus on subsidies, incentives, tax policies, and the area of forestland affected by these economic strategies in the United States. Also, the "regulatory environment" has been removed from discussion within this indicator. Issues still remain surrounding the distinction between public and private investment; taxation and financial assistance programs are primarily used to encourage investments by private forestland owners, which ignores the portion of forestland in the United States that is not privately owned. This indicator can still benefit from a revision that reveals the importance of public and private investment distinctions for sustainable forest management.

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