



# Climate-Smart Forestry: Research on Programs and Incentives

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*\*The opinions in this presentation are those of the author and should not be construed to represent any official USDA or U.S. Government determination or policy*

Stephanie Chizmar, Ph.D.

Research Economist

US Forest Service, Southern Research  
Station

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# Agenda

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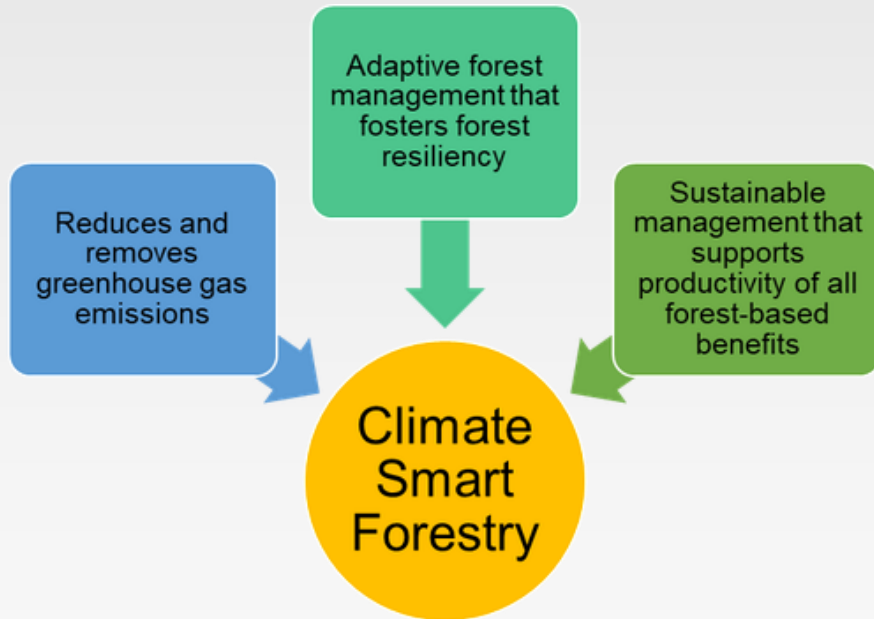
- Take-Aways
- Background on Landowner Assistance
- Research Informing this Presentation
- Recent Initiatives for Climate-Smart Forestry
- Challenges and Opportunities from the Literature

# Take-Aways

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- There are a suite of incentives and programs available to forest landowners
  - Financial and technical assistance
  - Public and non-public providers, market opportunities
  - Many support climate-smart agriculture and forestry
  - Research on past and current programs may provide insights
  - Recent initiatives emphasize climate

# Climate-Smart Forestry and Incentives and Programs



- Climate-Smart Forestry Practices
  - Thinning and harvesting operations
  - Prescribed fire applications
  - Site preparation practices such as bedding and herbicide prescriptions
  - Planting diverse mixture of species or genetic traits

# Background on Landowner Assistance

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What are landowner assistance programs?

Who are assistance providers?

Why are there financial assistance programs for climate-smart forestry?

What are some challenges and opportunities relating to assistance?

# Landowner Assistance Programs

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## Two broad categories

### Financial assistance

- Tax provisions (income, property, etc.)
- Direct payments (cost-share, payments for ecosystem services, easements rental payments, etc.)

### Technical assistance

- Knowledge exchange
- Extension programming
- Connect with professional forester and/or natural resources professional

# Financial Assistance Programs

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## Public

- Federal – Farm Bill Programs, Emergency Forest Restoration Program
- State – State cost-share programs, Preferential Property Tax Programs
- Local - Easements

## Non-public

- Private – Cost-share programs
- Non-governmental organization – Direct payments

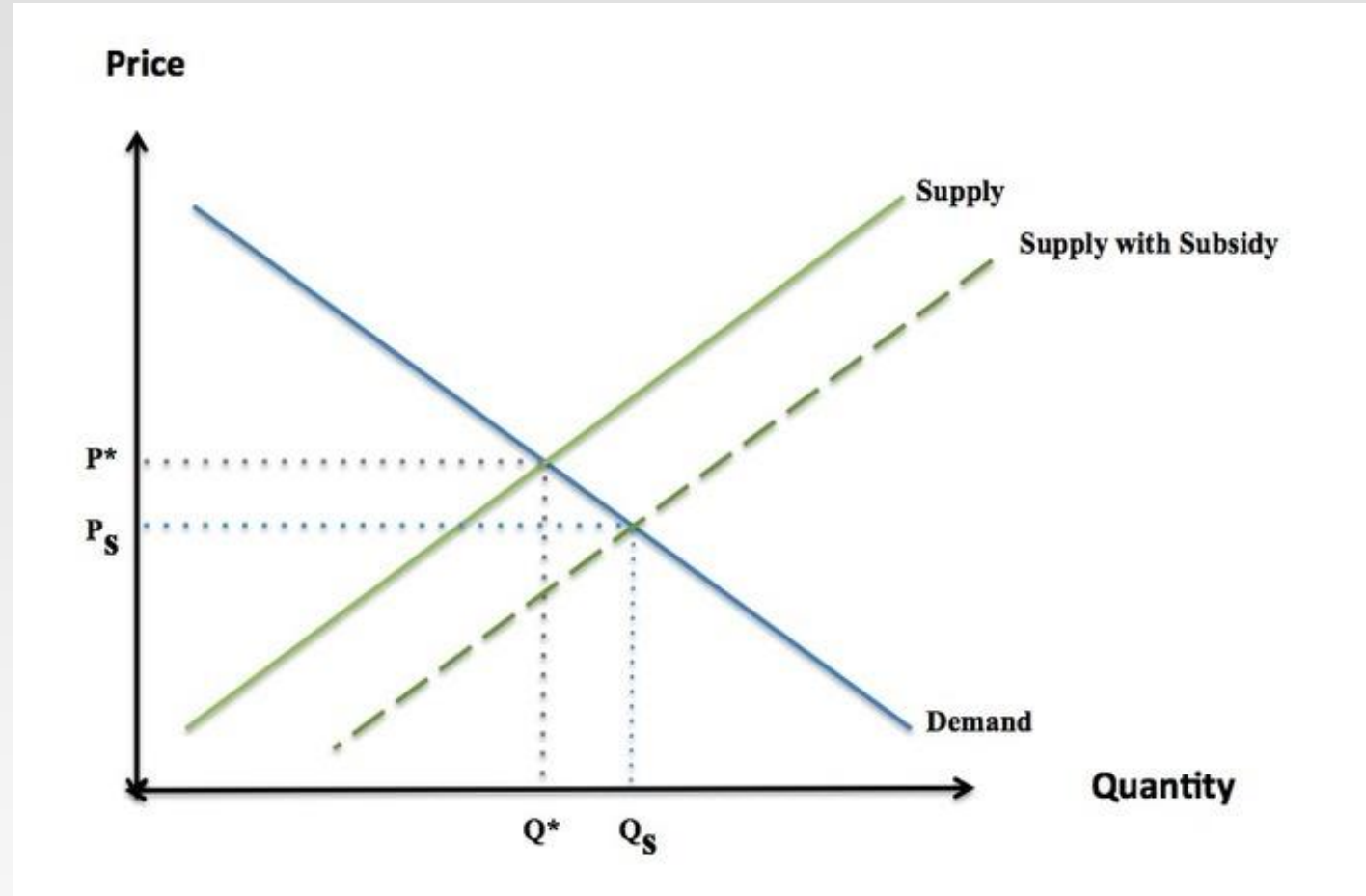
Forests create public goods and services

Landowner bears the costs while benefits are experienced by landowner + society

If a landowner self-optimizes, then they will not produce these goods and services at optimal levels for society

Financial assistance lowers costs or increases revenue to encourage landowners to produce these goods and services at socially optimal levels

# Why Financial Assistance?



Penn State University



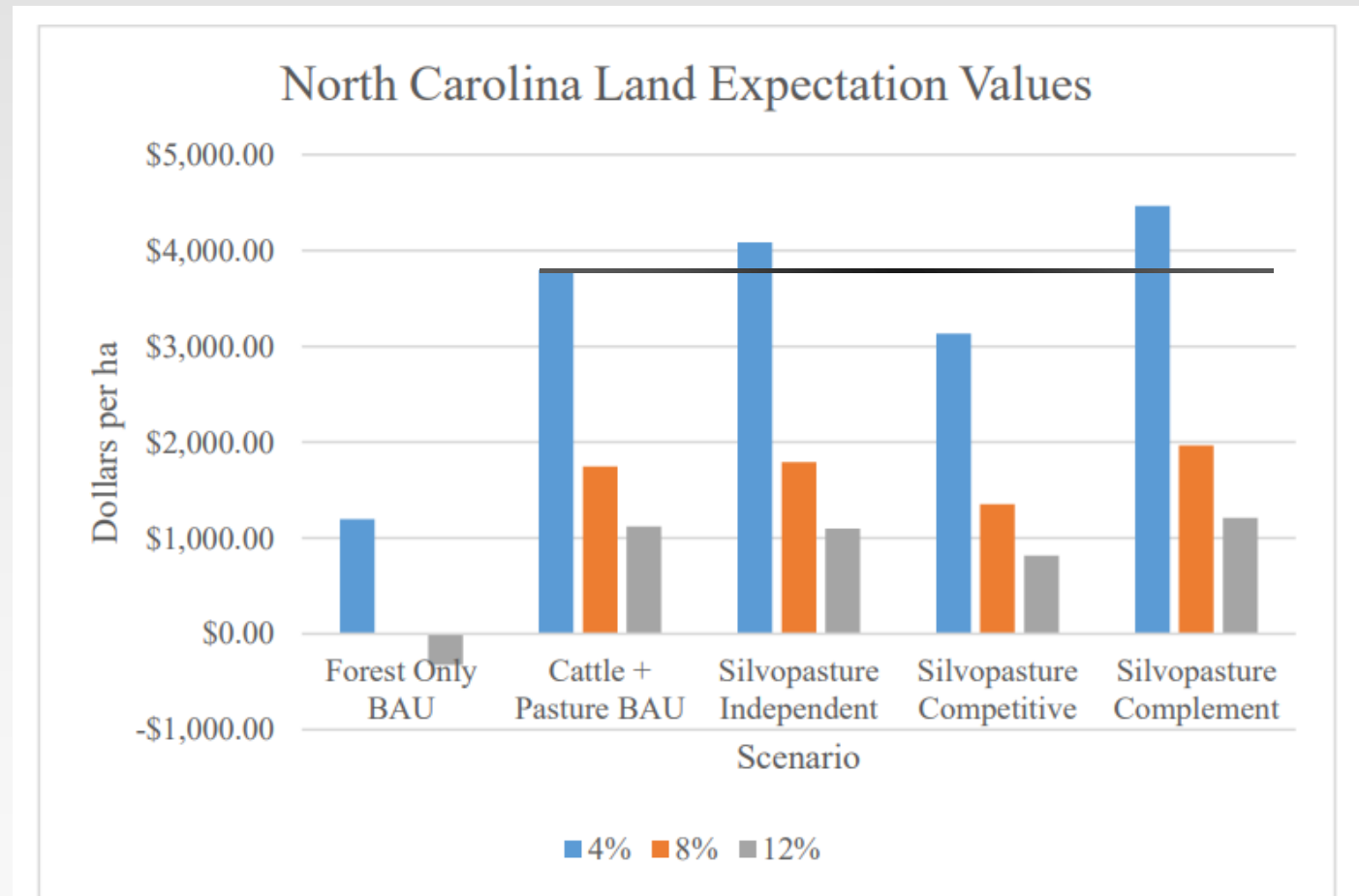
# Research Informing this Presentation

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- Past research studies
  - Evaluate and review various incentive programs for landowners
- Review of publicly available information for
  - Extension Factsheets
  - Presentations and webinars

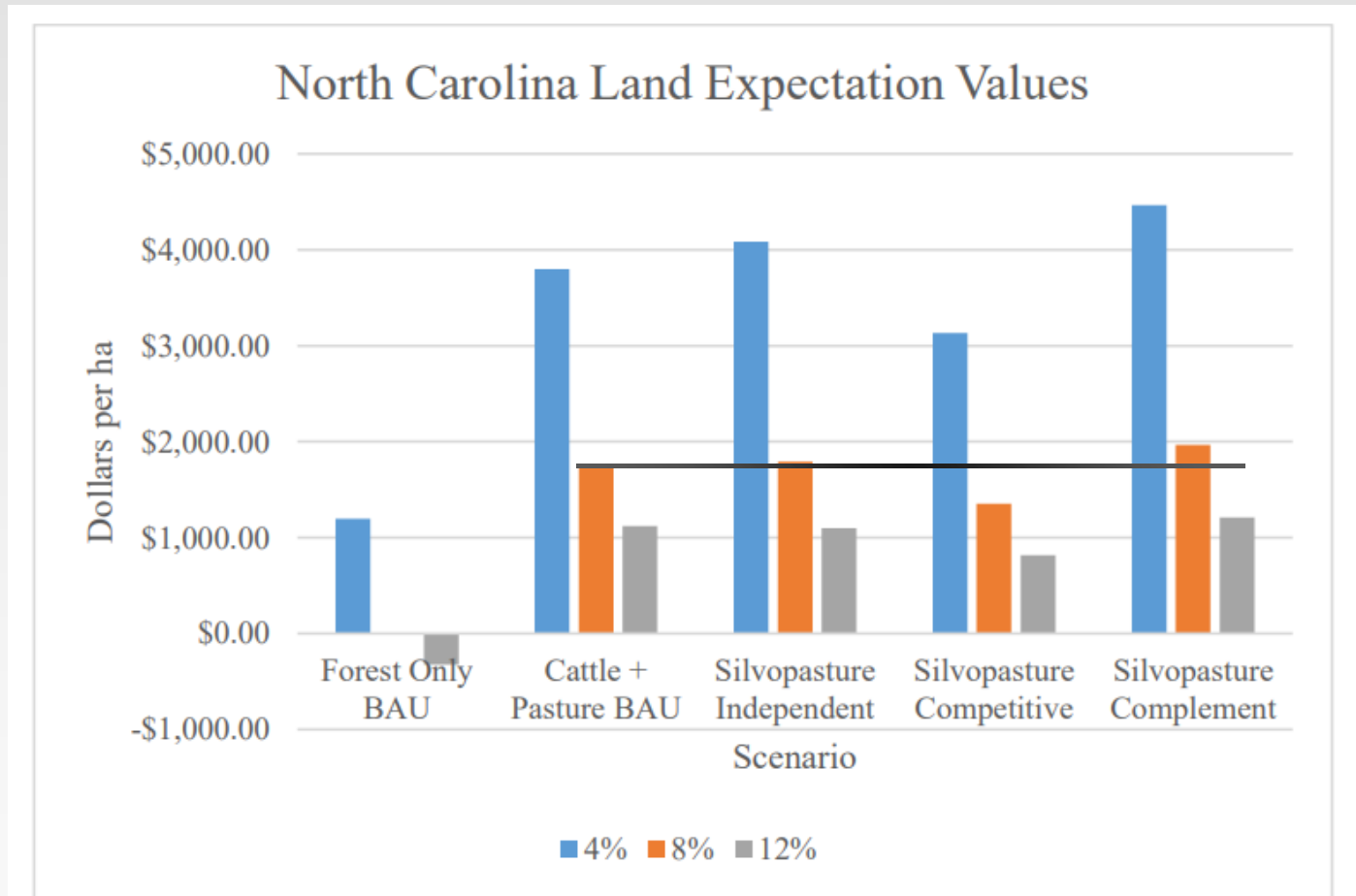
# Research on Incentives and Programs

- Chizmar et al. (2019) "An Economic Assessment of Silvopasture Systems in the Coastal Plain of North Carolina"



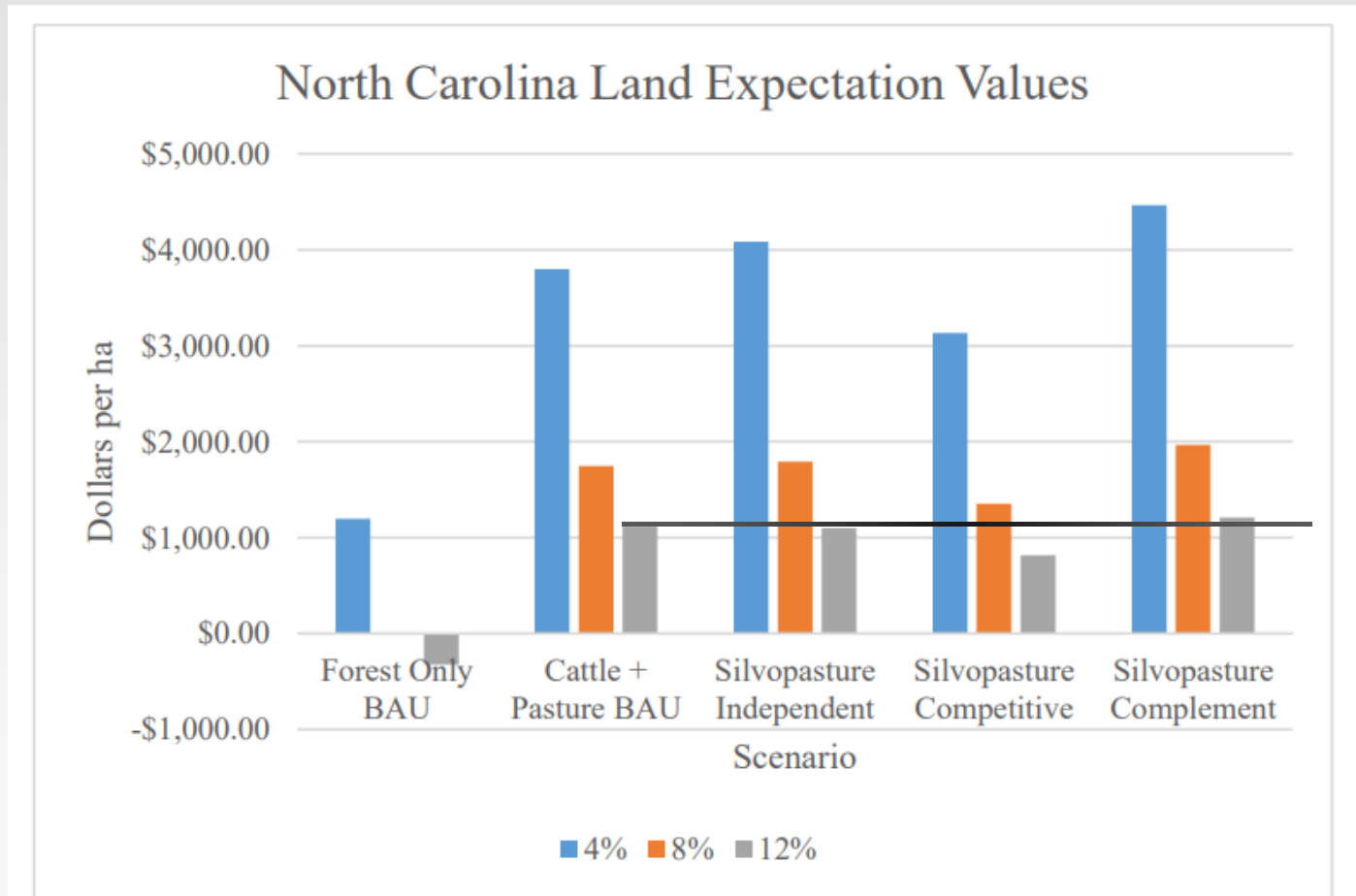
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# Research on Incentives and Programs

- Chizmar et al. (2021). State Cost-Share Programs for Forest Landowners in the Southern United States: A Review

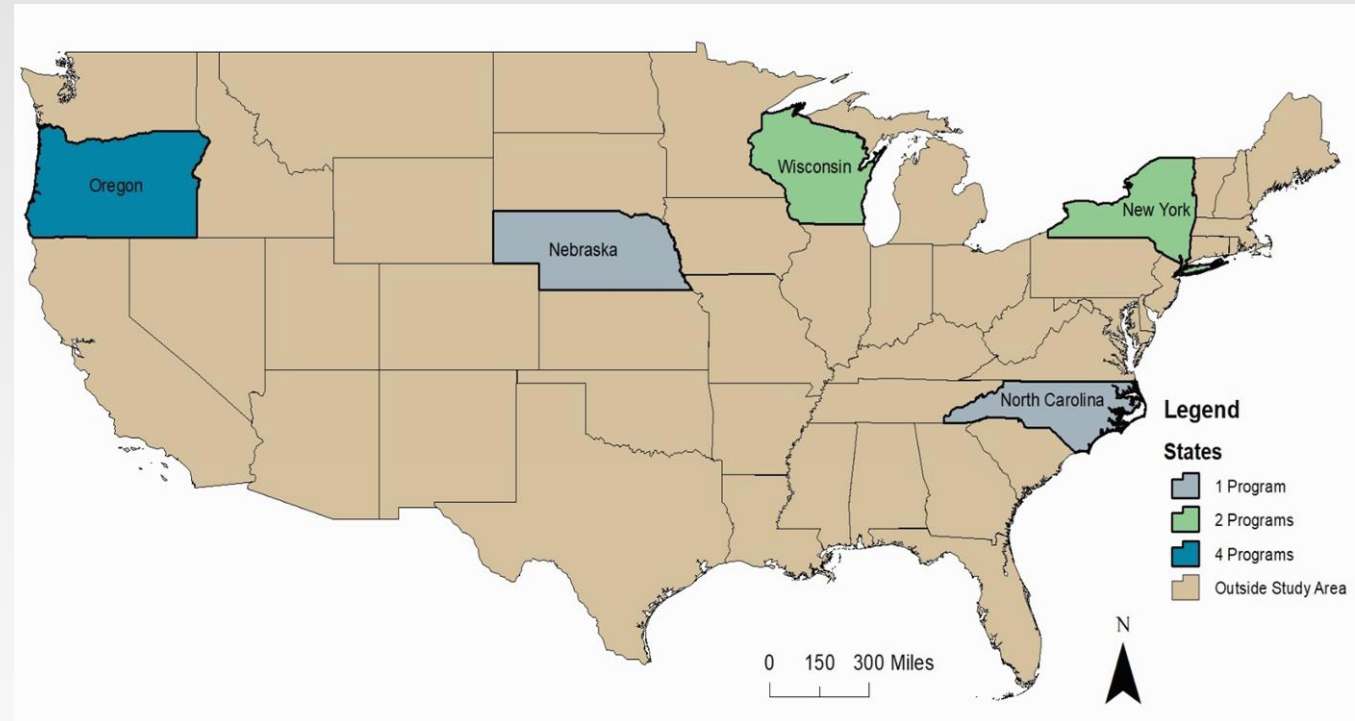
**Table 2.** Counts of state cost-share program topics explored in the literature sample, categorized by the literature findings.\*

Literature Topics (Count)	Relationship to State Cost-Share Programs*			Total
	Pos.	Pos. and Neg.	Neg.	
Literature subtopics				
Economic/market (19)				
Reforestation investment	8		1	9
Capital substitution		2	3	5
Net benefits	4			4
Timber production	1			1
Environmental/nonmarket (5)				
Sustainable forest management	3			3
Ecosystem services	1			1
Wildlife habitat improvement	1			1
Landowners' perceptions and knowledge (15)				
Program participation	1	1	5	7
Compatibility with other policies	1	1	1	3
Landowner awareness	1	1		2
Landowner objectives	1	1		2
Landowner trust			1	1
<b>Total</b>	<b>22</b>	<b>6</b>	<b>11</b>	<b>39</b>

\*Whether positively (Pos.), negatively (Neg.), or both positively and negatively correlated to state cost-share programs.

# Research on Incentives and Programs

- Chizmar et al. (2022). Challenges and opportunities for agroforestry practitioners to participate in state preferential property tax programs for agriculture and forestry



# Research on Incentives and Programs

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- Chizmar et al. (working paper). Forest Management Incentives and Landowner Behavior: A Synthesis to Inform Discussions on Policies and Programs for Carbon

Participation in programs remains low

Compensation increases participation but depends on other attributes

Landowner behavior impacts vary by type of incentive

Perceptions and perceived impacts vary by respondent group

# Research on Incentives and Programs





# **Recent Initiatives for Climate-Smart Forestry**

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# Inflation Reduction Act (IRA)

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**\$19.5 billion  
over 5 years**

\$8.45 billion for Environmental  
Quality Incentives Program

\$4.95 billion for the Regional  
Conservation Partnership Program

\$3.25 billion for the Conservation  
Stewardship Program

\$1.4 billion for the Agricultural  
Conservation Easement Program

\$1 billion for Conservation Technical  
Assistance

# Inflation Reduction Act (IRA)

“For EQIP-IRA, NRCS may only use IRA funds for contracts that **include at least one core Climate Smart Agriculture and Forestry (CSAF) conservation practice** or activity identified by national headquarters (NHQ) that directly improve soil carbon, reduce nitrogen losses, or reduce, capture, avoid, or sequester carbon dioxide, methane, or nitrous oxide emissions associated with agricultural production.”

# **Climate-Smart Agriculture and Forestry Mitigation Activities**

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- Forest Farming
- Forest Stand Improvement
- Tree/Shrub Establishment
- Windbreak/Shelterbelt Establishment and Renovation
- Riparian Forest Buffer
- Silvopasture

# Recent Initiatives for Climate-Smart Forestry

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- Regional Conservation Partnership Program Projects
  - Western Oregon Cascades Recovery Effort Climate-Smart Reforestation and Recovery Assistance
  - Financing Climate Smart Agriculture in Ohio's Miami Valley
  - Iowa Climate Smart Switchgrass Cropping System Transition
  - Working Forests for Wildlife and Climate in Western Maine

# Inflation Reduction Act (IRA)

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- IRA provides the US Forest Service \$450 million (Section 23002)

**Provision 1:** \$150 million for competitive grant program for providing cost-share for climate mitigation or forest resilience practices (underserved forest landowner)

**Provision 2:** \$150 million for competitive grant program for providing grants to support participation of underserved forest landowners in emerging private markets for climate mitigation or forest resilience

# Inflation Reduction Act (IRA)

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- IRA provides the US Forest Service \$450 million (Section 23002)

**Provision 3:** \$100 million for the competitive grant program for providing grants to support participation of landowners with less than 2,500 acres in emerging private markets for climate mitigation or forest resilience

**Provision 4:** \$50 million for the competitive grant program to provide grants to states and other eligible entities to provide payments to private forest landowners for practices that increase carbon sequestration

# Landowner Support Program

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- Notice of Funding Opportunity #1: “Supporting Underserved and Small-Acreage Forest Landowner Participation in Emerging Private Markets”\*
  - IRA Section 23002, Provision 2
  - IRA Section 23002, Provision 3
- Track B (proposals less than \$2 million) reviewed quarterly

\*Not directly available to Landowners





## PARTNERSHIPS FOR CLIMATE-SMART COMMODITIES BY THE NUMBERS

The U.S. Department of Agriculture is investing over **\$3.1 billion** in **141 selected** projects under the Partnerships for Climate-Smart Commodities.

### PROJECTS BY COMMODITY



### PROPOSAL INVESTMENTS

Proposals for the  
**141** tentatively selected projects include plans to match  
An average of  
**50%** of the federal investment with non-federal funds.

### PROJECTS BY AWARD SIZE\*

**71** Under \$5M  
22 \$5-20M  
25 \$25M-45M  
09 \$50M-65M  
14 \$70M-95M

**~100** universities, including more than 30 **minority-serving institutions**, engaged & helping advance projects.  
**20+** **tribes and tribal groups** engaged and leading on many projects across a wide geography.

**60,000** farms reached, encompassing **25M** acres of working land engaged in climate-smart production practices.

**Hundreds of expanded markets** and revenue streams for producers and commodities across agriculture ranging from **traditional crops** to **specialty crops**.

More than **60 million metric tons** of carbon dioxide equivalent sequestered over the lives of the projects. This is equivalent to removing more than **12 million gasoline-powered** passenger vehicles from the road for one year.

# Partnerships for Climate-Smart Commodities

- \$3.1 billion for 141 projects that last 1-5 years
- “Support the production and marketing of climate-smart commodities”
- Forestry and agroforestry practices included
- Public Dashboard of Active Projects (updated periodically)

# Recent Initiatives for Climate-Smart Forestry

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- Forest carbon offset markets
  - Voluntary or compliance
  - Compensate landowners for forest management activities that increase carbon sequestration and storage
- Avoided Conversion
- Improved Forest Management
- Afforestation/Reforestation

# Activities Supported by Carbon Markets

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- “Improved Forest Management”
  - Extended rotation age of forests (delaying harvest)
  - Increased forest stocking
  - Removal of diseased trees
  - Reduced impact logging activities
  - Other IFM practices
- “Avoided Conversion”
  - Maintain forest cover
- “Afforestation/Reforestation”
  - Planting or natural regeneration on previously forested lands
  - Planting on non-forested lands

# **(Recent) Initiatives for Climate-Smart Forestry**

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- Forest Certification
  - Voluntary programs that verify forests and forest products are managed sustainably
  - Independent, third-party evaluation against a standard
  - Recommended practices
- Sustainable Forestry Initiative Climate Smart Forestry Objective

# Challenges to Assistance

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- Landowners not all profit-motivated
  - Financial assistance is not always attractive
- Landowners may not want to work with assistance providers (loss of autonomy over private land, history of distrust, etc.)
- Landowners may need clear title, written management plan, upfront capital to participate
  - Awareness of programs and opportunities is limited

# Challenges to Assistance

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- Most existing programs (federal and state): Demand for funds is greater than available supply
  - Some programs do not have permanent/renewing funding source
- Limited capacity for field forester to visit with landowner

# Opportunities for Assistance

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- Partnering financial and technical benefits
  - “Gateway programs”
- Inflation Reduction Act
- Partnerships for Climate-Smart Commodities

# Thank you

# Questions?

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Stephanie Chizmar

[Stephanie.Chizmar@usda.gov](mailto:Stephanie.Chizmar@usda.gov)