



Forest Owner Cultural Values and Willingness to Accept Compensation for Protecting Imperiled Species on Private Lands in Florida

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Presented at the ACES 2016 Conference in Jacksonville, FL



Family Forests in Florida



Factors that Impact the Forest Estate

Government

- ◇ Environmental Regulations
- ◇ Taxes
- ◇ Technical/financial Assistance
- ◇ Best-Management Practices
- ◇ Market-based schemes

Markets

- ◇ Real estate
- ◇ Timber
- ◇ Non-timber products
- ◇ Ecosystem Services

Environment

- ◇ Parcel fragmentation
- ◇ Climate change
- ◇ Disturbance
 - ◇ Disease
 - ◇ Wildfire
 - ◇ Weather/storms

Cultural Values

- ◇ Identity (expressed through land use objectives)
- ◇ Ideologies about individualism/self-determination
- ◇ A sense of duty (towards the rules or society)
- ◇ Skepticism about state control

Question

How do the intrinsic motivations of forest landowners (e.g., personal and cultural values) influence landowner response to the extrinsic factors that impact the forest estate?

Can government interventions on private forest lands be improved by being more sensitive to the cultural values of landowners?

Imperiled Wildlife Species in Florida

- ◆ 65 federal and 42 state protected wildlife species
- ◆ Over 20 state and federal acts and statutes that protect wildlife have been passed since 1900's
- ◆ Number of wildlife species continues to decline due to loss of habitat and land use conversion

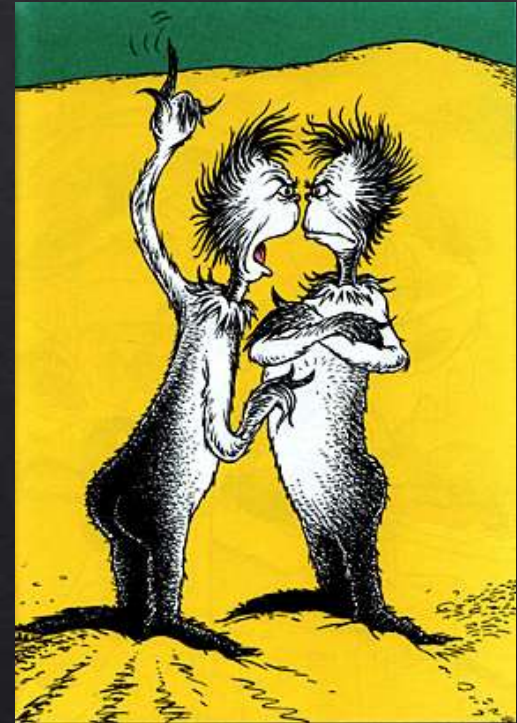


Limits of a Strict Regulatory Approach

Endangered Species Act

Safe Harbor Agreement

- ◆ Successful in preventing further species loss
- ◆ Insufficient to ensure species recovery
- ◆ “Shoot, shovel and shut up”



Appeal of Voluntary Approaches

Silviculture Best Management Practices

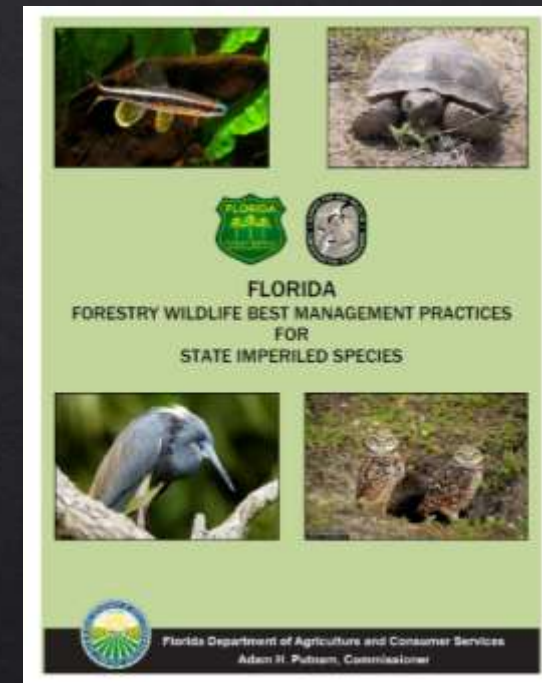
Technical and financial assistance

- ◆ Integrated into the forestry sector and community
- ◆ Well received by landowners



Florida Wildlife Best Management Practices (WBMPs)

- ◆ Recognize habitat services provided by private forest lands
- ◆ Minimize the impact of silvicultural activities on 16 state listed wildlife species
- ◆ Provide participants with a regulatory assurance



Research Objective and Approach

- ◆ Examine family forest owner response to the Florida WBMP program
 - ◆ Recommended practices
 - ◆ Regulatory assurance
 - ◆ Landowner costs
 - ◆ Attitudes (forest management, government interventions)

Data Collection and Analysis

◆ Self-completion survey

- ◆ 37 questions
- ◆ Multiple choice, Likert scale, choice experiment
- ◆ Distributed to 1,457 landowners by mail and email
- ◆ Response rate 22.44%, 200 surveys considered useable for CE

◆ Data-analysis

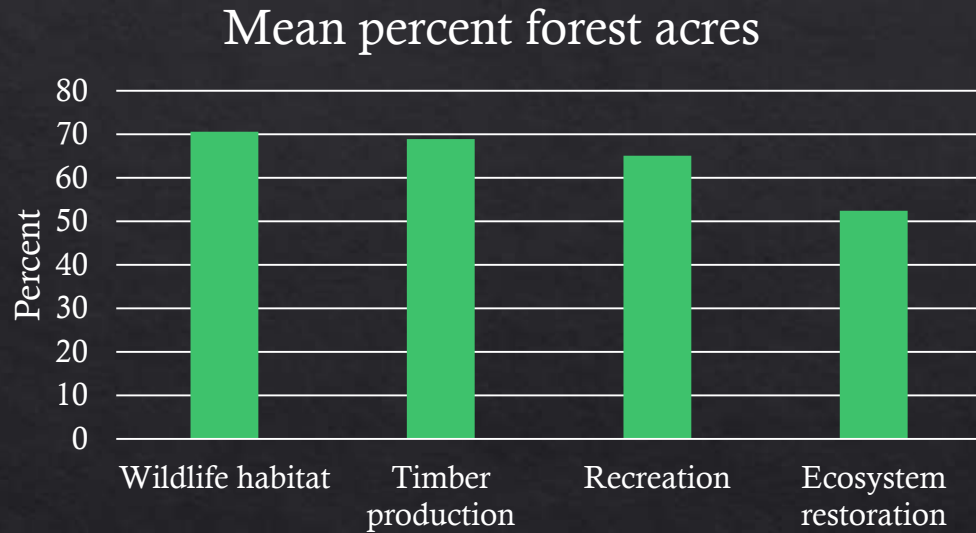
- ◆ Random parameter logit model- odds of WBMP adoption
- ◆ Respondent characteristics and attitudes also included as covariates
- ◆ Model selection- Iterative and AIC procedures

Respondent Characteristics

- ◆ Over 80% of respondents
 - ◆ White/male
 - ◆ Over 50 years in age
 - ◆ Annual household income 100- 150K
 - ◆ Individually own less than 1,000 forest acres
 - ◆ In North Florida
- ◆ Mean percent income from timber 12.77% (SD 17.09%)
- ◆ ~ 50% are familiar with landowner assistance program(s)
- ◆ ~ 30% manage for both timber and other agricultural crops



Land Management Activities



◇ Silvicultural Best Management Practices (SBMPs)

- ◇ 59.20% and 53.83% avoid harvest in wetland and riparian SMZs
- ◇ Less than 1.64% considered SMZs cost prohibitive

- ◇ Over 90% reported state imperiled wildlife species use their lands
- ◇ 0% reported applying for an incidental take permit in the past

Attitudes about Forest Management

Table 1. Percent respondents that agree with statements about forest management.

Statement	Strongly disagree	Neutral			Strongly agree
	1	2	3	4	5
My forest should be managed for multiple benefits .	2.75	2.10	8.33	24.20	62.62
I am very concerned about the health and condition of forest ecosystems on my lands.	4.13	3.15	10.23	26.36	56.13
Forest ecosystem functions are not significantly impacted by timber production .	13.57	19.21	28.98	23.41	14.82
My forest is often threatened by social and environmental factors outside of the forestry sector	11.15	11.74	33.70	20.33	23.08
I am strongly concerned about government regulations that restrict my private land use decisions.	6.49	6.82	9.38	15.87	61.44
I think of forest landownership as primarily a financial investment .	30.62	23.28	22.43	17.70	5.97
The prosperity of humans is more important than maintaining the health of private forest ecosystems.	35.02	24.92	26.36	9.90	3.80

Attitudes towards Government Interventions

Table 2. Percent respondents that approve of government interventions on private lands.

Statement	Strongly disapprove	Neutral			Strongly approve
	1	2	3	4	5
Regulations that protect environmental benefits for the public by restricting management activities or certain land uses on private lands.	29.05	26.16	17.57	14.56	12.66
Education and technical assistance programs that promote implementation of voluntary best management practices	1.51	1.57	10.23	19.25	57.44
Financial incentives for landowners to encourage compliance with voluntary best management practices.	2.75	3.28	12.92	30.16	50.89

Odds of WBMP Adoption

Table 3. Impact of attitudes and program attributes on odds of non-industrial forest (NIPF) landowners adopting wildlife best management practices (WBMPs).

<i>Intrinsic Factors</i>	
Believe forest functions are NOT significantly impacted by timber production.	42% **
Support programs that provide landowners with financial assistance.	59% ***
Support government regulations to protect environmental benefits.	44% ***
Manage for both timber and other agricultural crops	-52% *
<i>Program Features</i>	
Comply with 100% applicable SBMPs	44% ***
Avoid concentrated heavy equipment use around nests and burrows.	39% ***
Offered technical assistance.	18% **
Offered financial assistance.	-13% *
Provided an assurance that further mitigation will not be required in the future.	---

*, **, *** specify $p < 0.10$, $p < 0.05$ and $p < 0.001$ respectively of select variables. Total number of individuals 200 and observations 1,525.

Conclusions

- ◆ Family forest owners:
 - ◆ Are environmentally concerned -- responsible land stewards
 - ◆ Mixed attitudes -- regulatory and voluntary policy approaches
 - ◆ Traditional attitudes towards forest management -- adopt WBMPs
 - ◆ Motivated to assume the costs of protecting imperiled wildlife species
- ◆ Regulatory assurance as an incentive:
 - ◆ Not meaningful to those who identify with being a good land steward

Conclusions

Can government interventions on private forest lands be improved by being sensitive to the cultural values of landowners?

- ◆ Yes!
- ◆ Voluntary WBMPs are a step in the right direction
- ◆ Still a need to identify meaningful forms of support for family forests



Thank You

- ◆ Nancy Peterson
- ◆ Tony Fedler
- ◆ Xue Mo Zhang
- ◆ Holly Ober
- ◆ Florida Forestry Association
- ◆ Florida Forest Service
- ◆ Florida Fish and Wildlife Conservation Commission