



## FLA Urges USFS Not to Overlook Core Forest Landowners in Critical Survey

Are core forest landowners falling in the gap among USFS NWOS surveys focused on small wood lot owners, urban tree owners and large-scale corporations?

Although the NWOS, released regularly since 1993, is the government's most thorough assessment of family forest ownership in the United States, FLA believes the methodology and summary reporting inaccurately portray family forest landowners and forests. As a result, skewed information is disseminated to the media, NGOs, and policy makers, all of which accept it at face value.

The NWOS survey has driven both administrative decisions and conservation policy, and as a result has shaped public perception of family owned forests in America. FLA is concerned that the survey and its results are not an accurate depiction of forest landowners; rather it is a representation of small woodland owners.

To provide an unbiased review of the NWOS, the Forest Landowner Foundation hired Responsive Management Services and Chase Statistics to produce a technical review, assessing the methodology and reporting of the NWOS. The result of the assessment is a 40-page report detailing the findings and recommendations for future reporting on family forest landowners in America.

This report is a follow-up to "Narrative Gone Wrong," diving deeper into how the statistics of family forest landowners generated from the NWOS are misleading in terms of what constitutes a forests, reasons for ownership, and management of the resource.

In addition, FLA recently completed its own survey of nearly 600 private forest landowners that more accurately portrays core family forest landowners, their management and reasons for ownership.

In February, 2019 FLA's board of directors met in Washington with U.S. Forest Service Chief Vicki Christiansen and Jim Hubbard, USDA Under Secretary of Environment and Natural Resources, to advocate for better representation of core family forest landowners in surveys and statistics released by the NWOS.

Recommendations presented for improving the methodology and representation of family forest landowners at various acreage levels was well received and is under consideration by the USFS. FLA will continue to work with the USFS at all levels to ensure that fair representations of core family forest ownerships is presented in data and reports.

### **Why the National Woodland Owners Survey (NWOS) is important to core forest landowners**

The objectives of the NWOS are to address questions related to:

- Who owns America’s forests and woodlands?
- Why do they own these lands?
- What have they done with these lands in the past?
- What do they plan to do with these lands in the future?
- How have characteristics, attitudes, and behaviors changed over time?

The goal is to obtain statistically reliable estimates of population parameters that answer these questions for the nation and all U.S. states, territories, and protectorates.

### Highlights of the assessment on the NWOS survey, methodology and report.

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#### THE TERM FOREST WAS INTENTIONALLY NOT USED IN THE NWOS SURVEY

While the NWOS bills itself as the “official family forests census,” the survey questionnaire intentionally chose to use the term “wooded land” instead of “forest” to describe the land owned and managed by the survey respondents.

#### General Questions about Your Wooded Land

3. Wooded land covers 70% of Alabama.  
Wooded land includes:
  - ✓ Woods, woodlots, timberland, and forests
  - ✓ Land at least 1 acre in size, 120 feet wide, and has at least 10 trees per acre
  - ✓ Land at least 1 acre in size, where trees were removed and trees will grow again
 Wooded land does *not* include:
  - ✓ Christmas tree farms, orchards, or nurseries
  - ✓ Land that is mowed for lawn
  - a. How many total acres of land do you currently own in Alabama?  

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 Acres of land in Alabama
  - b. How many acres of wooded land do you currently own in Alabama?  

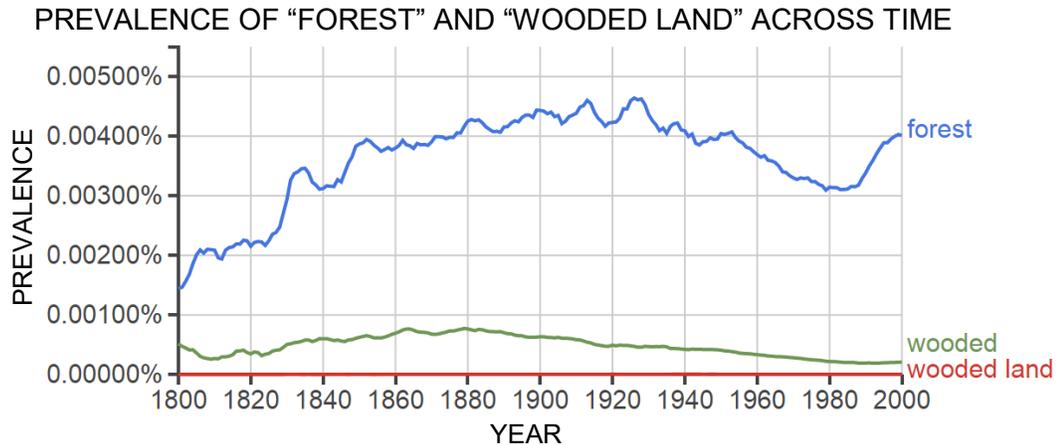
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 Acres of wooded land in Alabama

Excerpt from the USDA Forest Service National Woodland Owner Survey, 2011-2013: Design, Implementation, and Estimation Methods

“Pretesting via focus groups was used to develop questions that elicited accurate information. In writing the questions, the goal was to use language that someone with the equivalent of an eighth-grade education could easily understand. In addition, **efforts were made to use words common to private forest owners** rather than technical, forestry terms. **For example, the term forest was not used in the survey instrument because it has a different connotation to owners and forestry professionals. Instead the phrase “wooded land” was used throughout the survey.**”

This is puzzling as the term “forest” is easily understood at the eighth-grade level and is not “technical jargon.” Moreover, according to Google Labs Ngram viewer, a data analysis center that evaluates the prevalence of various terms, “forest” is 1,915 times more common than “wooded land” in the corpus of the English language.



While the NWOS authors choose not to use the word “forest” due to connotation of meaning, the survey included terms “green certification” and “timber harvesting.” Terms much less common and having various connotations of meaning to the average person at the eighth-grade level.

Perhaps it is likely the average individual would not consider an acre of land with 10 trees a forest, as is defined by the NWOS. Therefore “wooded land” might have been used to increase response rates for people who would normally return the survey marked “Not Applicable” to them. Regardless of the reason, consciously choosing to use the term “wooded land” instead of forest warrants reexamination as does the definition used to define “forests” in the context of the NWOS.

#### FOCUS GROUPS IN HAWAII AND NEW MEXICO INFLUENCED WORD CHOICE, QUESTIONS AND SURVEY DESIGN.

As is common with surveys, focus groups were conducted to determine word choice, questions, and design of the survey. Of the 6 states NWOS conducted focus groups 4 of them fall into the bottom half of states in terms of family forest acres and ownerships. Yet these focus groups dictated the terms and questions used in the survey. Two of the states, Hawaii and New Mexico had such a low response rate to the NWOS survey (42 and 33 responses respectively) that the data was not statistically reliable to produce state level summaries. Why would the NWOS choose such states to conduct focus groups to influence the terminology and design of the survey at the expense of the taxpayer?

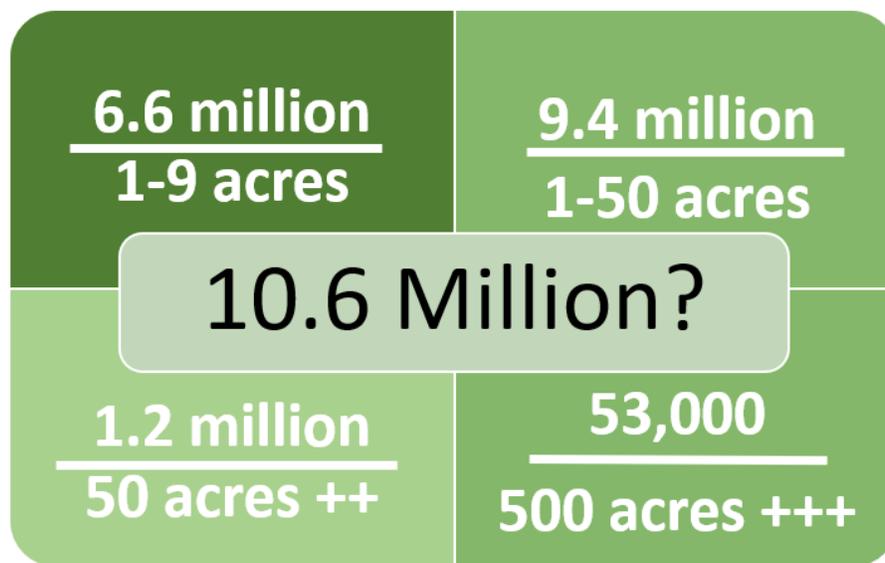
State	Acres of Forestland*	Est. # of forest owners 10 acres +	NWOS Survey Respondents
Hawaii	566,000	6,000	42
New Mexico	6.3 million	46,000	33

\*Acre count only includes acres of ownership 10 acres and above.

THE NWOS FOCUSES ON THE WRONG OWNERS. WE KNOW THE LEAST ABOUT THOSE WHO ARE STEWARDS OF THE MOST FOREST ACREAGE.

NWOS lumps all owners in the overall results, treating those “who have a bit of ‘woods behind your house where the kids play and you cut firewood’ the same as those who own a ‘forest’ that earns your family income.” By including owners of one acre of land with 10 trees, or 10 percent tree cover, the estimate of 10.6 million forest landowners is an exaggeration and misrepresentation of family forest landowners in America.

NWOS reports an inaccurate assessment of *REAL* forest landowners in America



**Of the 10.6 million “forest” owners estimated by the USFS**

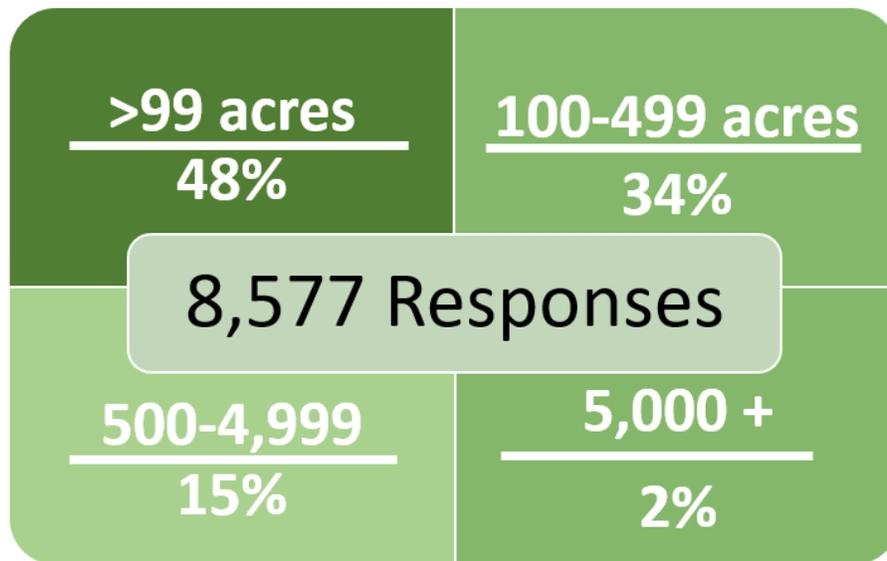
- 62% (6.6 million) only own 1-9 acres, with a qualification of 10 trees per acre.
  - This largest segment of “forest” owners only represents only 7% of family forest land, which is most likely “wooded lots.”
- 89% (9.4 million) own less than 50 acres and account for only 28% of family forest land.
- 11% (1.2 million) own more than 50 acres and account for 72% of family forest land
- 0.5% (53,500) own more than 500 acres and account for 26% of family forest land

This creates a scenario wherein the least amount of information is known about the largest acreage of private forest (and presumably the greatest conservation and wood supply impact).

When these 6.6 million under 10 acre “forest landowners” are included in queries from the NWOS data it produces misleading facts and statements that are in reality false and harmful to the real forest landowners that are contributing the lion’s share to the wood markets and ecological benefits to society.

This is especially important when forest organizations advocating certification programs often will note that “nationally, fewer than 10 percent of family lands in the U.S. are certified, and only approximately 1 percent of the family landowners.”

### NWOS Survey Responses Driving the Narrative



The survey responses and thus the overall data is far outweighed by representation of landowners owning less than 100 acres (48 percent of respondents) than those owning 500 to 4,999 acres (15 percent of respondents), while families owning 10,000 acres or more only had a 1 percent representation. The scenario this creates is that overall responses are lumped together and then considered in driving policy related to the sustainability and management of forest and wood supply. Landowners, owning less than 500 are only able to contribute to the wood supply in a meaningful way every 20 to 30 years at best.

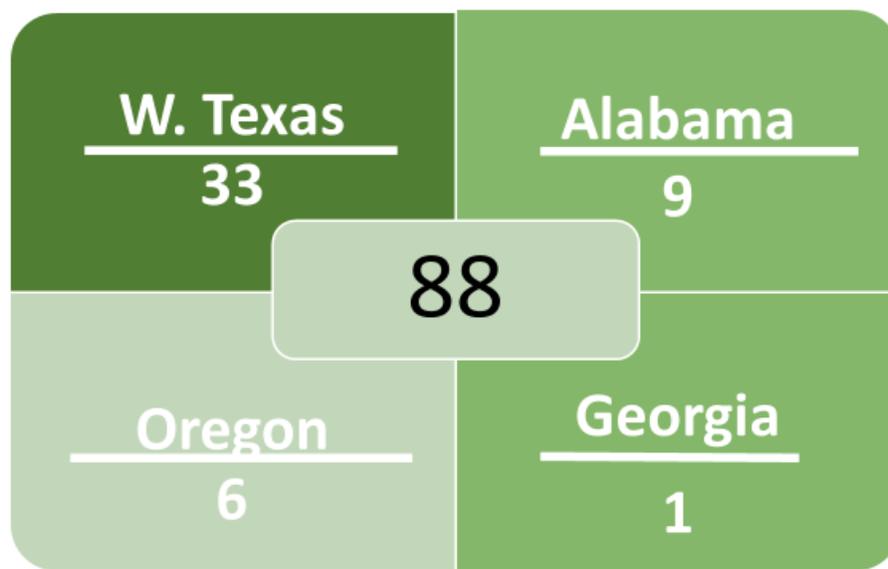
Future NWOS studies should strongly consider oversampling owners of larger acreages so that estimates reflecting the largest acreage of private forest are more precise. The purpose of this oversampling is not to discount the conservation contribution of smaller acreages, but to acknowledge that the attitudes and behaviors of large acreage owners impact wood supply, markets and conservation at a larger scale.

RANGELAND IS INCLUDED IN NWOS SURVEY RESULTS. LANDOWNER RESPONSES TREATED AS FOREST LANDOWNERS.

Further misrepresentation of the core forest landowner is added by the inclusion of rangeland and their owners' responses being treated the same as a forestland owner. The inclusion of rangeland is particularly influential in the 10,000 acres or more category of ownership.

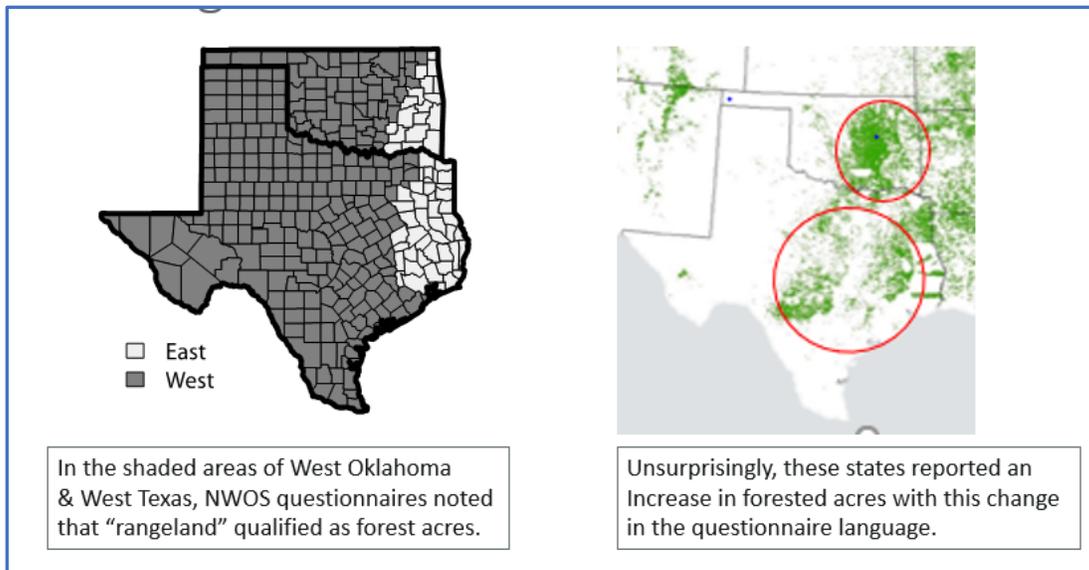
In the 2013 NWOS, there were only 88 responses of 10,000+ acre ownerships. Thirty-three of them were from West Texas (compared to 9, 6, 5 and 1 owners in Alabama, Oregon, California, and Georgia respectively). This places 38% of the responses for 10,000+ acreages in a geographic location that USFS maps indicate there are no forests.

### 10,000+ acre landowners = 1% of responses



Therefore, the attitudes, concerns, and management practices of these landowners likely represent rangeland stewardship practices rather than forestry stewardship practices, and thus skew the results of owners of 10,000 acres or more. Similarly, for the category of 5,000 – 9,999 acres, West Texas has a disproportionately high response rate of 20 landowners compared to other major forestry states with large forest landowners.

Coupled with West Oklahoma's responses of 4 landowners, where again USFS maps indicate there are no forests, for this size category (5,000 – 9,999 acres) of "forest land" owners, 20% of the results are dictated by landowners who do not own forestland. Overall, 15% of the data available on family forest landowners of 1,000+ acre parcels is derived from West Oklahoma and West Texas.



West Texas had the ninth most survey responses (259) among all states. Meaning these landowners, where rangeland dominates, had more influence in the survey results than the majority of the states with the most family owned forest acres.

Responses from West Texas, even outnumbered responses from East Texas (189) where forests actually exist, and timber is an economy driver. Other top forest states that had equal or fewer survey responses than West Texas were Oregon (115), California (117), Florida (147), and Louisiana (149).

Again, the NWOS results are skewed by allowing rangeland owners where no meaningful forestland or timber exist to have more influence in the data and results than forest landowners of top-ranking forest and timber states. Resources could be better applied in garnering responses from true forest land states and owners.

The inclusion of rangeland in the 2013 NWOS should be better justified, particularly when the NWOS is billed to be “the official census of forest owners” and the stated aim of the NWOS is to increase “understanding of woodland owners who are the critical link between forests and society.”

The survey seems to have an identity problem in that it is actually a survey of wood lot owners, but includes the characteristics, concerns and management of rangeland owners and then bills itself as the official census of forest owners.

*STATES FOREST ACREAGE AMOUNT DOES NOT CORRESPOND TO STATE SAMPLE SIZE.  
HIGHEST SAMPLE SIZES COME FROM MAINE AND VERMONT*

In addition to the problems of high survey responses included from West Texas, the NWOS allowed state intensification of less populated states with fewer forest acres to have more

influence in the survey results. The result is an inflated sample size of smaller landowners. States with the highest forest acreage should have highest sample sizes, yet highest sample sizes come from Vermont, Maryland, and Connecticut – outside the “wood basket” states of the Southeast.

States with highest # of respondents		Wood basket states # of respondents	
Vermont	485	Alabama	283
Maryland	387	Arkansas	229
Connecticut	331	Florida	166
Delaware	246	Georgia	249
Massachusetts	229	Louisiana	155
New Jersey	193	Mississippi	220
Texas (West)	265	North Carolina	215
Texas (East)	189	South Carolina	227

Hence, of the little data that exists on core forest owners, most of it comes from outside the area of the country where most privately owned, timber-producing forests exist – further skewing the data on this crucial group of landowners. Oversampling of states outside the wood basket must be corrected in the next

administration of the NWOS.

It is unclear if and how the NWOS adjusted the weightings in the states with intensified sampling, as it is not documented in technical documents or the statistical syntax (the written log of all data manipulation and statistical analysis).

#### THE NWOS FINDINGS AT THE STATE LEVEL PROVIDE AN INCOMPLETE AND INACCURATE ASSESSMENT

Numerous states have insufficient data to analyze the prominent trends and characteristics of larger landowners.

Often during surveys and polling of presidential races or ballot measures it is acceptable to have a 3% margin of error, which allows a researcher to survey just 1,068 people, so long as those people are representative. If a statistical report on a ballot initiative indicates it will pass at 64% ( $\pm 3\%$ ), there is a great likelihood the initiative will pass with between 61% and 67% approval.

However, there is so much uncertainty in the NWOS responses that in most states meaningful estimates for reporting statistical findings do not exist, and in no state can you meaningfully discuss large acreage owners (500 or more acres) with any reasonable level of precision. Except for Texas, all states have a margin of error of 10% or higher for data on ownerships of 500 acres or more. In more than half the states the margin of error for ownerships of 500 or more acres is well above 20% with many states margin of error in the 30% range.

Yet, NWOS produces state fact sheets used by state forestry departments to tell the narrative of forest landowners in these states. **FLA is strongly advocating that the next iteration of the NWOS data and summary reports segment results based on acre ownership categories and report the number of response and margin of error.**

State	1-9 ac	10-19 ac	20-49 ac	50-99 ac	100-199 ac	200-499 ac	500-999 ac	1000-4999 ac	5000-9999 ac	10000+ ac	Total	MOE State	MOE 500+	MOE-1000+	MOE-5000+
AL	10	13	39	31	42	51	27	51	10	9	283	5.83%	9.95%	11.71%	22.48%
AR	5	11	36	33	43	42	24	29	4	2	229	6.48%	12.76%	16.57%	40.01%
CA	11	7	15	16	12	23	12	25	2	5	128	8.66%	14.77%	17.32%	37.04%
FL	19	21	15	11	23	24	21	21	9	2	166	7.61%	13.46%	17.32%	29.55%
GA	15	6	26	26	34	52	35	49	5	1	249	6.21%	10.33%	13.21%	40.01%
LA	6	10	27	18	18	31	19	19	4	3	155	7.87%	14.61%	19.22%	37.04%
MA	64	23	56	32	26	19	6	3	0	0	229	6.48%	32.67%	56.58%	
MI	22	31	71	60	54	39	7	5	4	0	293	5.73%	24.50%	32.67%	49.00%
MN	26	27	98	79	70	60	14	3	0	0	377	5.05%	23.77%	56.58%	
MO	24	32	58	76	75	61	18	17	1	0	362	5.15%	16.33%	23.10%	98.00%
MS	7	12	17	35	35	57	25	29	1	2	220	6.61%	12.98%	17.32%	56.58%
NC	23	17	30	41	37	31	16	16	2	2	215	6.68%	16.33%	21.91%	49.00%
NH	19	12	26	28	31	30	10	9	0	0	165	7.63%	22.48%	32.67%	
OK	12	13	51	34	40	49	26	34	4	2	265	6.02%	12.06%	15.50%	40.01%
OR	10	7	18	12	16	19	11	22	4	6	125	8.77%	14.94%	17.32%	30.99%
PA	36	22	58	48	36	30	10	7	3	0	250	6.20%	21.91%	30.99%	56.58%
SC	11	10	25	28	38	50	23	38	3	1	227	6.50%	12.16%	15.12%	49.00%
TN	31	19	40	46	51	57	15	9	3	1	272	5.94%	18.52%	27.18%	49.00%
TX	10	19	48	52	55	74	60	81	20	35	454	4.60%	7.00%	8.40%	13.21%
VA	24	19	42	48	52	38	18	19	4	1	265	6.02%	15.12%	20.00%	43.83%
WA	16	11	18	15	6	14	11	10	0	1	102	9.70%	20.89%	29.55%	98.00%
WI	30	25	94	90	83	45	14	3	0	0	384	5.00%	23.77%	56.58%	
WV	14	15	45	47	67	47	15	11	0	2	263	6.04%	18.52%	27.18%	69.30%

This table shows the survey responses per state/acre ownership and the margin of error (MOE) at the state level for all ownership categories (MOE State) as well as for ownership categories above 500 acres where the MOE is so high the results are unreliable.

### FAMILY FOREST LANDOWNERS OF SIGNIFICANCE FALL BETWEEN THE GAPS

Based on FLA research and findings, the NWOS is overlooking core forest landowners, resulting in misguided results, conclusions, and policies. Considering the growing reliance on core forests to solve landscape level environmental issues and fuel the rural economy of many of these states, accurate data is needed on this constituency.

The largest family forests are among the most important economically and environmentally. These ownerships are large, uninterrupted tracts of contiguous forests – quite apart from the fragmented wooded lots on the fringe of urban and suburban areas.

This matters because a 10-acre plot cannot sustain the recovery of an endangered red-cockaded woodpecker, nor meaningfully contribute to the restoration of longleaf pine across

the Southeast, nor have the capacity of trees to contribute to the forest economy, the same way that a single owner of 500, 1,000, 5,000 and 10,000 acres can. To solve landscape-level problems, policy, federal funding, NGO, and corporate initiatives would be better focused on forests that have the scale to meaningfully contribute to America's economic and environmental well-being.

Policymakers, NGOs and corporations are using NWOS data to draw conclusions about large landowners, management of family forests and the sustainability of the resource, but because the NWOS focuses on the small landowners, it cannot serve as an accurate guide for shaping policies that affect core forest owners.

While the NWOS research focuses on family forest owners, whose average landholdings are approximately 67 acres, new research is needed with a focus on forest owners at the 500 acre and above ownership category.

Lack of resources is often cited as the reason for the USFS NWOS not being able to collect more data on core family forest owners. This is unacceptable, especially given that the NWOS has recently undertaken two new survey programs: NWOS Urban and NWOS Corporate. Neither of which captures collection data of this key constituency.

**Urban NWOS** is a national effort to examine the social dimensions of the urban forest, i.e. the private landowners who manage the urban forest (i.e. between 1 and 10 trees in their yard) and other urban green space. Urban NWOS was pilot tested in Austin, Texas and across multiple cities in Wisconsin. It is currently being implemented in Baltimore, Maryland. Target cities for 2019 are New York City, Houston, Denver, Portland, Illinois, St. Louis and for 2020 target cities are Washington DC, Philadelphia, and San Juan. It is very likely that soon the USFS will know more about urban tree owners than family landowners whose forests have the highest economical and environmental impact on America's natural resources.

**Corporate NWOS** was first implemented in 2018 with a target audience of large corporate forest landowners. According to the NWOS website, "The large (defined as owning 45,000 acres of more forestland) corporate owners are different in terms of behaviors, attitudes, and structures than the owners contacted in the Rural and Urban NWOS and are therefore the focus of a separate NWOS module."

However, the NWOS Rural does not include responses of family forest owners who incorporate their holdings into an LLC or other corporate tax status favorable to generational transfer. For FLA this is a large portion of our membership who are 3<sup>rd</sup>, 4<sup>th</sup> and even 5<sup>th</sup> generation family forest landowners who have been able to pass their forest legacy to the next generation because of being tax savvy. This exclusion of a family forest owners because of a tax status is at odds with the number one and three top concerns of the NWOS findings of taxes and legacy respectively.

## MOVING FORWARD

FLA is encouraged by recent meetings with the USFS to discuss how to improve the methodology of the NWOS and need for segmentation and more reliable data on larger forest landowners. The following represents initial recommendations based on the Technical Review of the USFS National Woodland Owners Survey commissioned by the Forest Landowner Foundation and conducted by Responsive Management and Chase and Chase Consulting.

### Fair and Accurate Representation in Future NWOS Reports and Data

- ✓ Do not portray findings based on 10+ acres plus as a fair representation of forest
- ✓ Fair representation of forest landowners based on ownership acre segments in future NWOS data collection and survey summaries
- ✓ Produce a report specifically on large acreages [500+] with a sufficient sample size
- ✓ Include tables depicting number of responses for all acreage categories and margin of error in all related reports
- ✓ Disallow for rangeland to be counted as wooded or forest land and responses to be included in NWOS results
- ✓ Clearly state the definition of forest used to categorize the ownership of land in all electronic and printed material.
- ✓ Clearly state the survey is based on wooded land owners as well as forestland owners

<b>Future NWOS survey efforts of family forest landowners</b>
Correct the over-sampling of smaller forest landowners so that a more accurate assessment of America's forest landowners can be achieved, especially when solving for sustainability of forests related to markets, and landscape level issues
Correct the under-sampling of larger, core forest owners so that a better understanding can be achieved of these high value, high impact forestlands
Revise the definitions of forest landowners to reach a more accurate understanding of private forestland in America
Disallow for rangeland to be counted as wooded land and included in NWOS results
Include all family forests owners' responses regardless of tax status
State sample size of responses should correspond with state's private forest acres
Invest the resources to receive sample size of larger acre family forest landowners that result in acceptable margin of error
Produce findings and reports in categories of wood landowners (smaller acreage size) and forest landowners (larger acreage size)
Conduct a more robust nonresponse bias check
Further minimize the coverage error by conducting more quality assurance of the remote sensing
Conduct analyses on continuous data where possible to maintain explanatory power rather than artificially categorizing the concepts
Because state information is of interest, a sufficient sample should be obtained to provide state-level estimates with acceptable levels of uncertainty

## Administration of the NWOS Recommendations

- ✓ Develop an advisory committee with representatives of core forest landowners, academia and stakeholders to provide input and engagement in future iterations of NWOS.
- ✓ Address needed changes to the methodology to improve accuracy based on American Association for Public Opinion Research guidelines, and recommendations contained in the technical review of the NWOS by Responsive Management and Chase and Chase Consulting.
- ✓ Seek USFS internal assessment of NRS conducting NWOS; advocate for reevaluation of NWOS being conducted by NRS and the Family Forest Research Center.