Assessing Differences in Ownership Objectives, Attitudes, and Management Behavior of Private Forest Owners

The Role of Multi-Generational Ownership

DONALD G. HODGES AND NEELAM C. POUDYAL UNIVERSITY OF TENNESSEE DEPARTMENT OF FORESTRY, WILDLIFE AND FISHERIES KNOXVILLE, TN, USA

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Inheritors vs Non-Inheritors

Purchase vs Inheritance

- Nationally: 65% of private forest area was purchased; 35% inherited or gifted 77% of owners purchased their forests; 23% inherited/gifted
- Tennessee: 68% of private forest area was purchased; 32% inherited or gifted 82% of owners purchased their forests; 18% inherited/gifted
- Associate Changes in Management Objectives and Activities with Changes in Ownership

Sources: Butler et al., 2016, Oswalt et al. 2014, U.S. Forest Service, 2015

Inheritors vs Non-Inheritors

- To date, however little information regarding these changes OR differences among first generation owners and multi-generation (legacy) owners
- Mujamdar et al. reviewed studies in which inheritance was used as explanatory variable AND analyzed national woodland owner dataset
 - Findings:
 - Inheritors more active managers timber and non-timber
 - Inheritors more likely to plan future management/harvests
 - Legacy/Pass on to Children bigger Driver for Inheritors
- However, no consideration for those who might be multi-generation owners but purchased land

Why Purchase if Multi-Generational?

Multiple heirs

- Consolidation of property
 - Inherit portion, purchase other
- Indirect lineage (e.g., Niece, Nephew)



 CUMBERLAND PLATEAU IS AN AREA OF SIGNIFICANT CONTROVERSY, ALTHOUGH RECESSION REDUCED DEVELOPMENBT PRESSURE

• 2004 NRDC REPORT ON BIODIVERSITY

- SECOND/RETIREMENT HOME DEVELOPMENT
- FOREST INDUSTRY LAND SALES
- INTEREST HAS GENERATED INVOLVEMENT OF STATE AGENCIES, US FOREST SERVICE, NUMEROUS STATE AND NATIONAL ENVIRONMENTAL ORGANIZATIONS, AND FOREST INDUSTRY

• ~25% OF TENNESSEE'S ANNUAL TIMBER HARVEST FROM REGION



Sample Data

- 1,700 landowners surveyed
- ▶ 1,454 final population
- 528 usable surveys (36%)
- ► 350 purchased; 170 inherited
- 319 provided generation data

Generation	Purchase	Inherit	Total
First	98	0	98
Second	34	47	81
Third	23	62	85
Fourth	10	24	34
Fifth+	8	13	21
Total	173	146	319

Comparing First-Generation and Legacy Owners - Demographics

	Representative Category Values	First Generation (N = 108)	Legacy (N = 210)	Significance Level
Birth Year		1948	1944	0.006
Gender	1 = Male	1.29	1.27	0.623
Education	4 = College Graduate	3.70	3.42	0.121
Income	3 = \$50,000 - \$75,000	3.07	2.82	0.136

	First Generation (N = 108)	Second Generation (N = 81)	Third Generation (N = 84)	Fourth Generation (N = 31)	Fifth + Generation (N = 14)	Significance Level
Birth Year	1948	1944	1945	1948	1939	0.142
Gender	1.29	1.22	1.30	1.21	1.53	0.156
Education	3.70	3.47	3.40	3.41	4.06	0.687
Income	3.07	2.81	2.80	2.80	3.00	0.380

Comparing First-Generation and Legacy Owners – Owner Objectives

	First Generation (N = 108)	Legacy (N = 210)	Significance Level
Privacy	4.09	3.57	.001
Preserve Nature	4.09	3.82	.031
Financial Investment	3.20	2.80	.013
Other Recreation	3.12	2.66	.003
Wildlife Management	3.39	2.99	.012
Timber Production	2.35	2.77	.009
Enjoy Scenery	4.25	3.87	.004
Connect to Nature	3.81	3.52	.045
Peacefulness	4.16	3.86	.028
Connect to Past	2.86	3.93	.000

1 = Not Important; 2 = Slightly Important; 3 = Moderately Important; 4 = Very Important; 5 = Extremely Important

Comparing First-Generation and Legacy Owners – Owner Objectives

	First Generation (N = 108)	Second Generation (N = 81)	Third Generation (N = 84)	Fourth Generation (N = 31)	Fifth + Generation (N = 14)	Significance Level
Privacy	4.09	3.76	3.22	4.09	3.45	.001
Preserve Nature	4.09	3.84	3.78	4.00	3.20	.469
Financial Investment	3.20	2.91	2.69	2.91	2.36	.039
Other Recreation	3.12	2.71	2.49	3.07	2.45	.042
Wildlife Management	3.39	2.94	3.03	3.21	2.54	.177
Timber Production	2.35	2.54	2.93	2.87	3.18	.031
Enjoy Scenery	4.25	3.87	3.85	4.06	3.50	.086
Connect to Nature	3.81	3.49	3.51	3.77	3.09	.161
Peacefulness	4.16	3.90	3.77	4.03	3.80	.463
Connect to Past	2.86	3.65	4.10	4.12	4.00	.000



Comparing First-Generation and Legacy Owners - Management

	Representative Category Values	First Generation (N = 108)	Legacy (N = 210)	Significance Level
Number of Forested Acres	3 = 20.6-40.5 ha	2.92	3.16	.230
Converted Forest Land	2 = converted to pine	1.24	1.12	.102
Sold/Harvested Timber	0 = no; 1 = yes	0.37	0.56	.001
Plan to Harvest in Future	0 = no; 1 = yes	0.29	0.36	.217
Participated in Cost-Share Program	0 = no; 1 = yes	0.11	0.05	.033
Enhance Wildlife Habitat	1 = no interest	2.73	2.49	.083
Protect Water Quality	2 = slight interest	3.49	3.38	.245
Protect Rare Species	3 = some interest	3.16	2.97	.100
Enhancing Bird Habitat	4 = high interest	3.33	3.07	.016
Perception of Harvest Levels	3 = appropriate; 4 = high	3.74	3.52	.077

Comparing First-Generation and Legacy Owners – Management

	First Generation (N = 108)	Second Generation (N = 81)	Third Generation (N = 84)	Fourth Generation (N = 31)	Fifth + Generation (N = 14)	Significance Level
Number of Forested Acres	2.92	3.40	2.96	3.03	3.32	.068
Converted Forest Land	1.24	1.09	1.16	1.14	1.00	.448
Sold/Harvested Timber	0.37	0.56	0.52	0.57	0.66	.023
Plan to Harvest in Future	0.29	0.31	0.40	0.35	0.72	.383
Participated in Cost- Share Program	0.11	0.03	0.07	0.06	0.00	.031
Enhance Wildlife Habitat	2.73	2.46	2.64	2.40	2.00	.327
Protect Water Quality	3.49	3.37	3.40	3.47	3.17	.728
Protect Rare Species	3.16	2.90	3.10	3.03	2.58	.201
Enhancing Bird Habitat	3.33	3.03	3.18	2.97	2.91	.196

Binomial Logit – Probability of Past

Harvest

Variable	β	S.E.	Sign. Level	Exp (β)
Number of Generations	.310	.108	.004	1.364
Timber Production	.451	.104	.000	1.571
Peacefulness	268	.116	.021	.765
Reside on Forest	.782	.285	.006	2.186
Received Advice	1.135	.341	.001	3.110
Education	202	.093	.030	.817
More than 100 Acres	.337	.331	.308	1.401
Constant	923	.691	.181	.397

PREDICTED

		NO	YES	PERCENT CORRECT					
KVED	NO	108	44	71.1%					
OBSE	YES	47	102	68.5%					

Hosmer – Lemeshow Goodness of Fit Sign. Level = 0.042

Discussion

Differences in Objectives, Attitudes, Behavior

- Legacy Owners more likely to be timber-oriented Objectives/Past Harvests
- First Generation Owners more focused on non-timber
 - Objectives: Nature, Financial, Scenery, Wildlife, Peacefulness
 - Ecosystem Service Management Wildlife/Avian Habitat, Rare Species
- Some Differences among Length of 'Legacy' (number of generations)
 - Some differences noted
 - Further research needed
- Few Demographic Differences other than Age
- Few 'Attitudinal' Differences harvest levels

Discussion

Management and Policy Implications

- In the Study Region, will continue to see a trend toward first generation
 - As economy improves, probability of second home development will increase
 - Need management approaches to address needs of these owners
- Legacy Landowners should not be ignored
 - Will continue to be important segment in the region
 - More timber oriented, but this may change with subsequent generations

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