

LANDOWNERS: A KEY COMPONENT OF OAK FOREST RESILIENCY



**Fern Graves, RI DEM,
Div. of Forest Environment**

**Christopher Riely,
Sweet Birch Consulting, LLC**

3-YEAR USDA FOREST SERVICE GRANT

GOALS

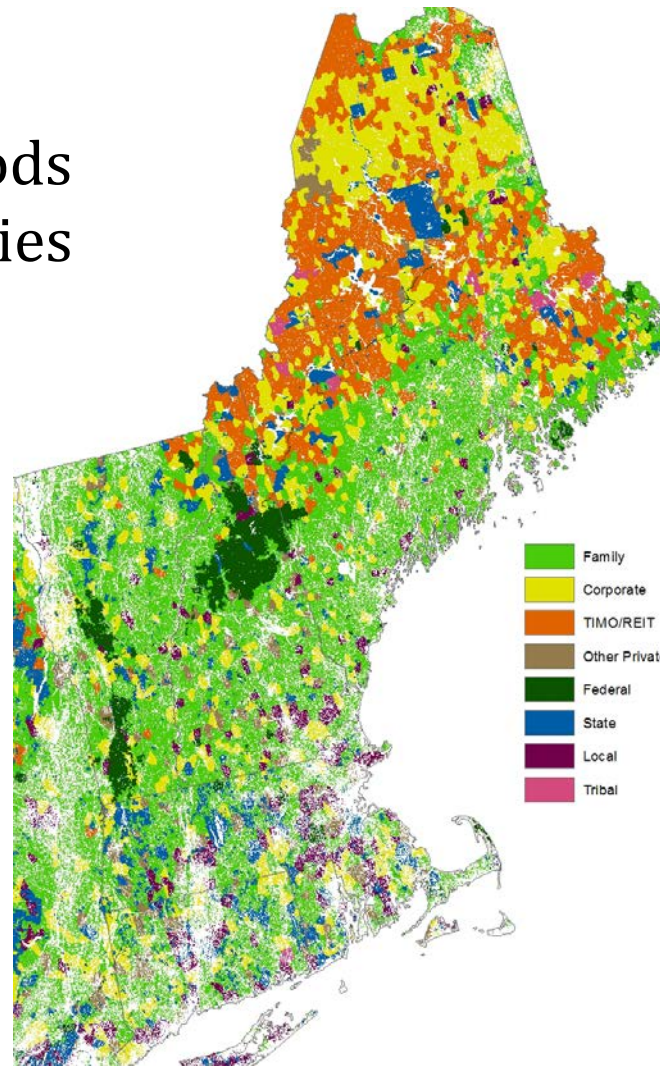
- Increase stewardship activities that build and enhance oak forest resilience
- Help professionals update tools and methods for assessing oak forest health
- Increase landowner awareness of challenges and involvement in developing solutions
- Foster communication among southern New England states (CT, MA, RI) and agencies

National Woodland Owner Survey Preliminary New England summaries



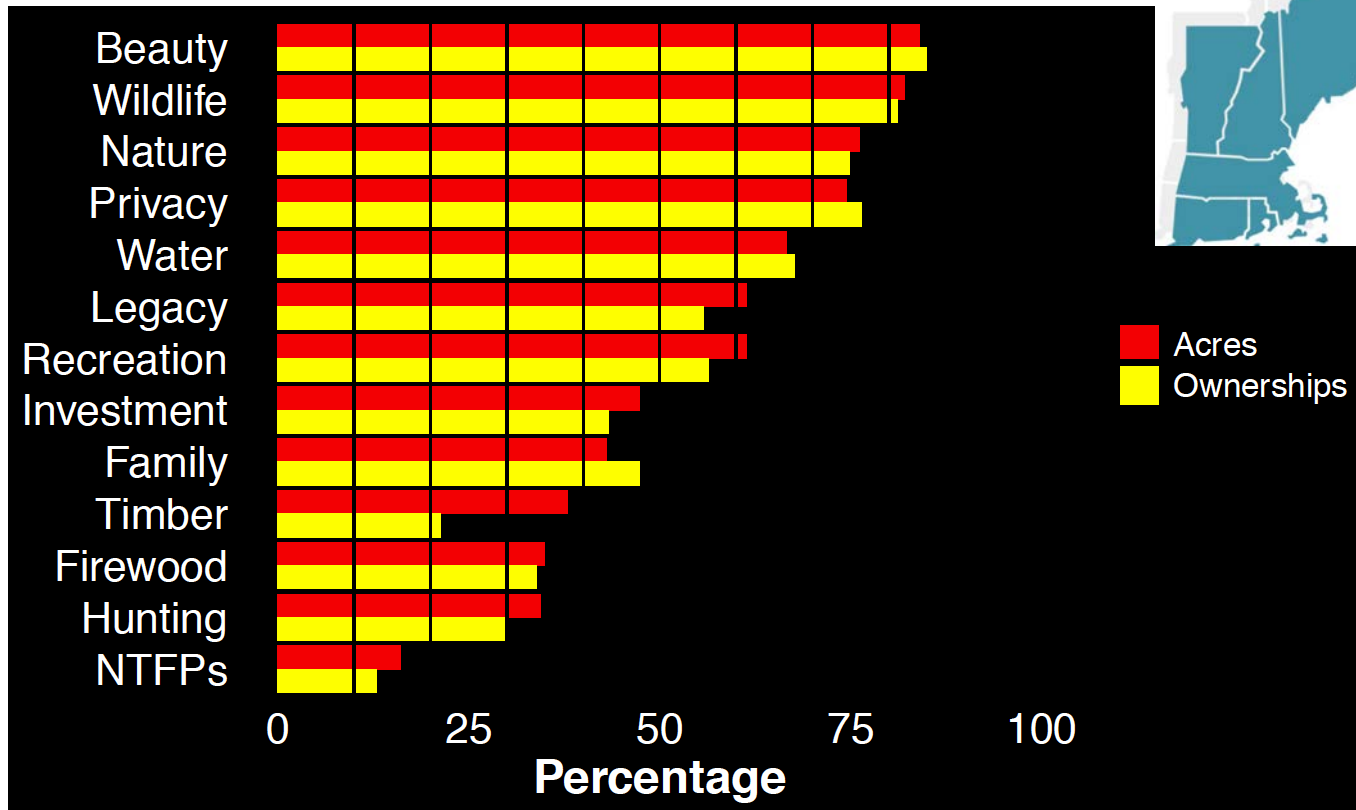
Courtesy of Family Forest Research Center
University of Massachusetts

New England's woods
are owned by families



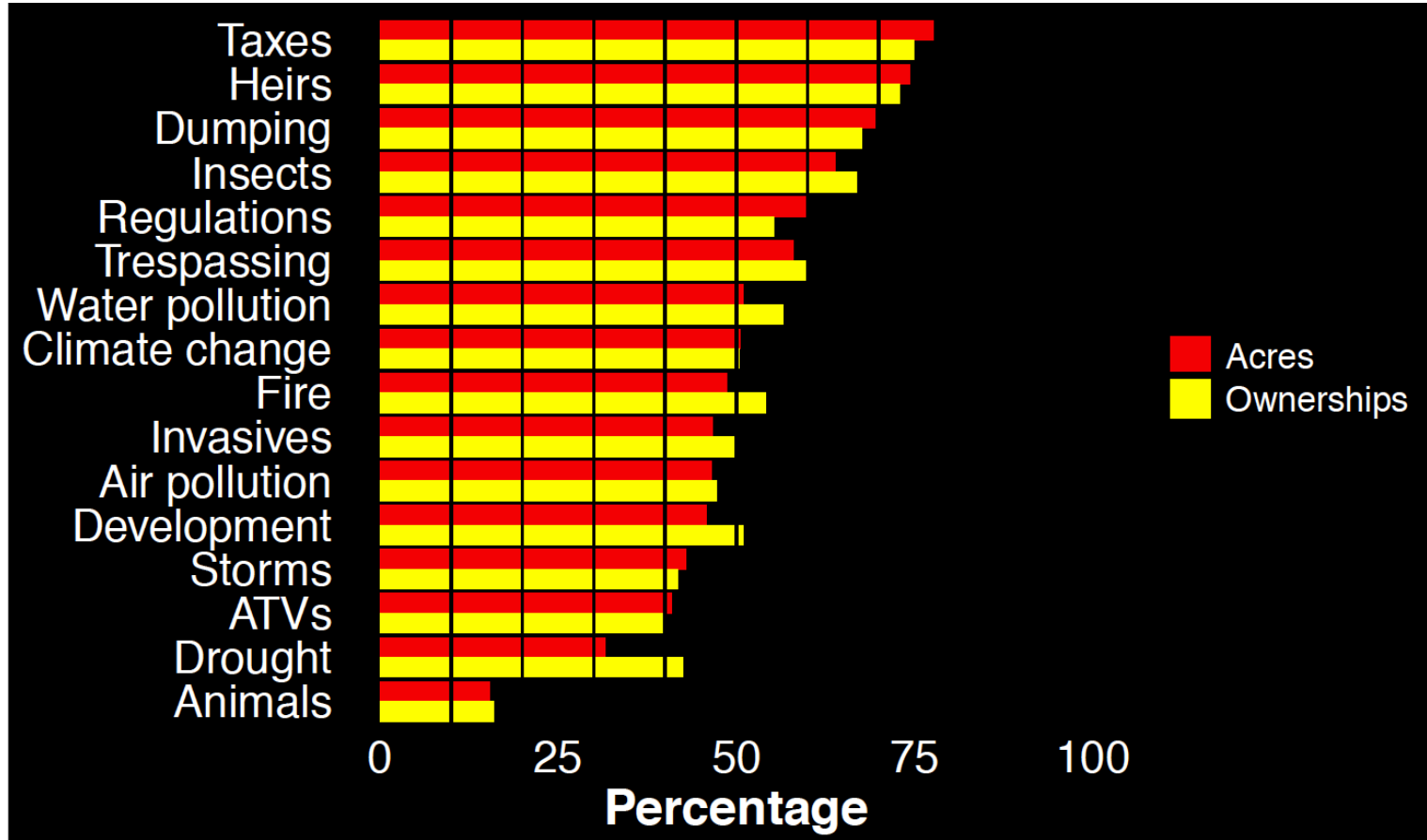
Especially in
CT, MA, and RI

Why do you own your wooded land?

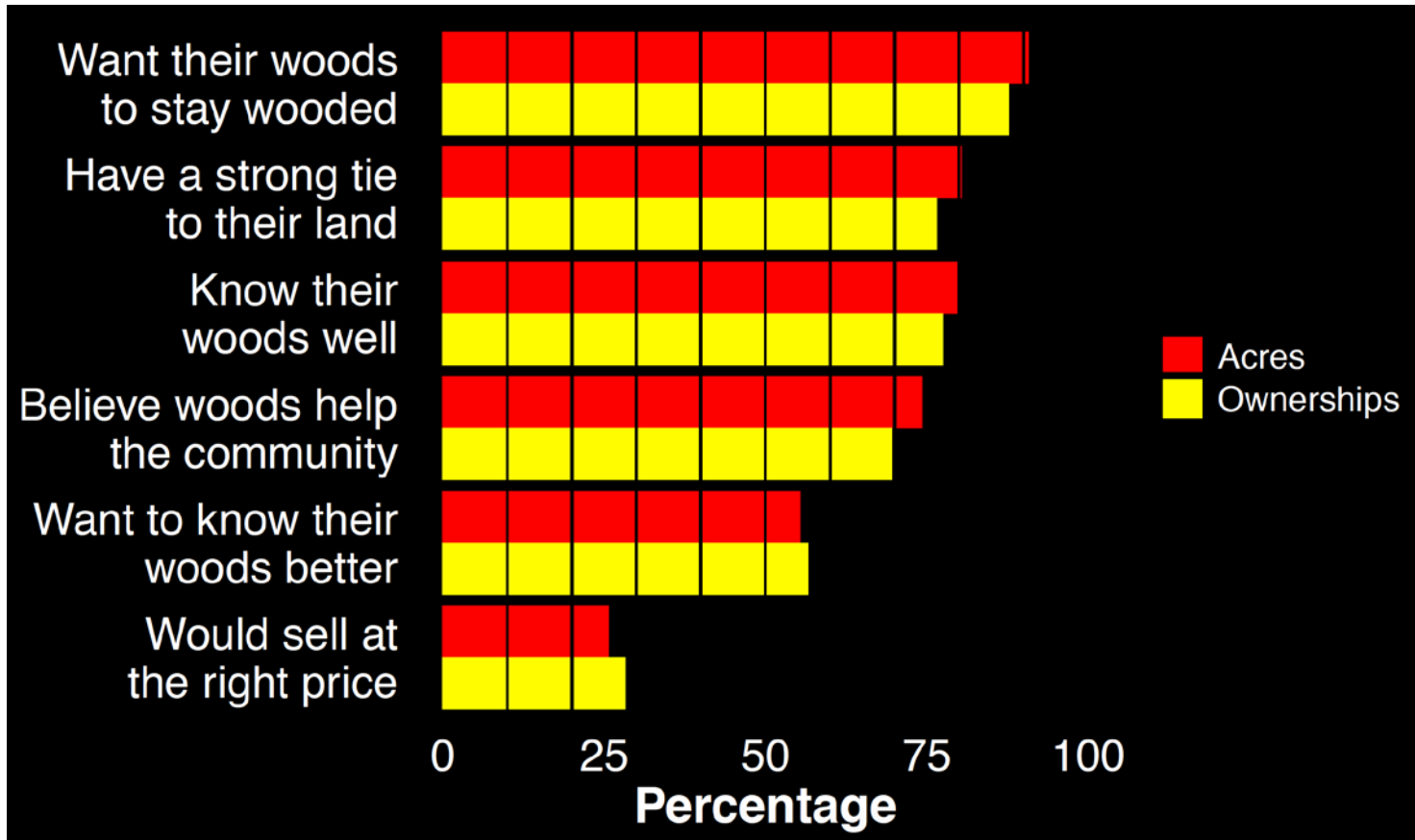


Butler et al. *In Review*

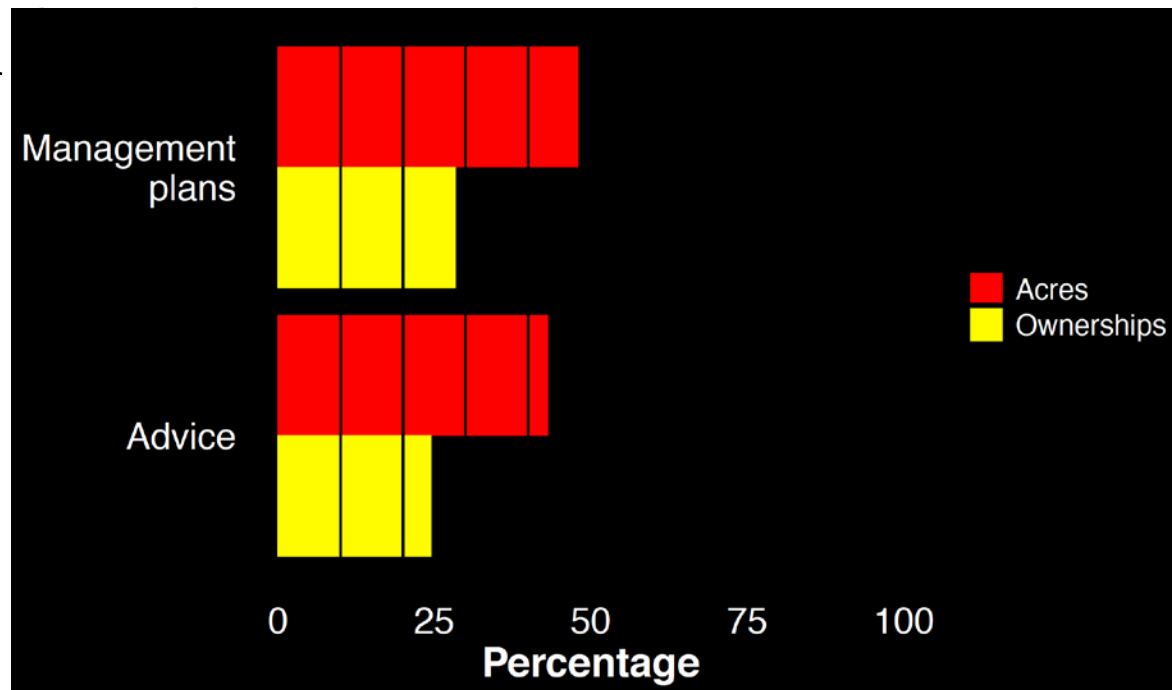
What concerns do you have about your land?



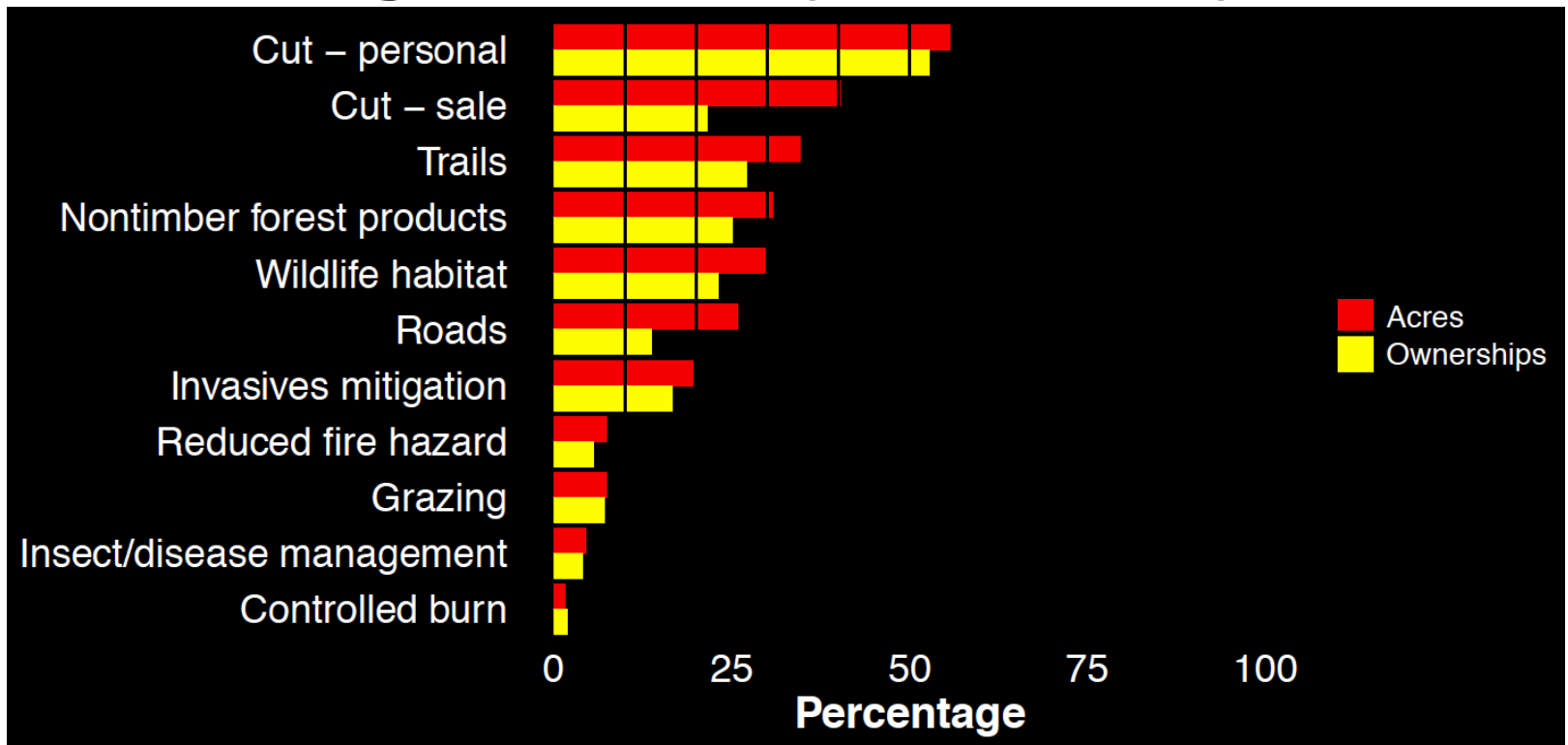
How do you feel about your land?



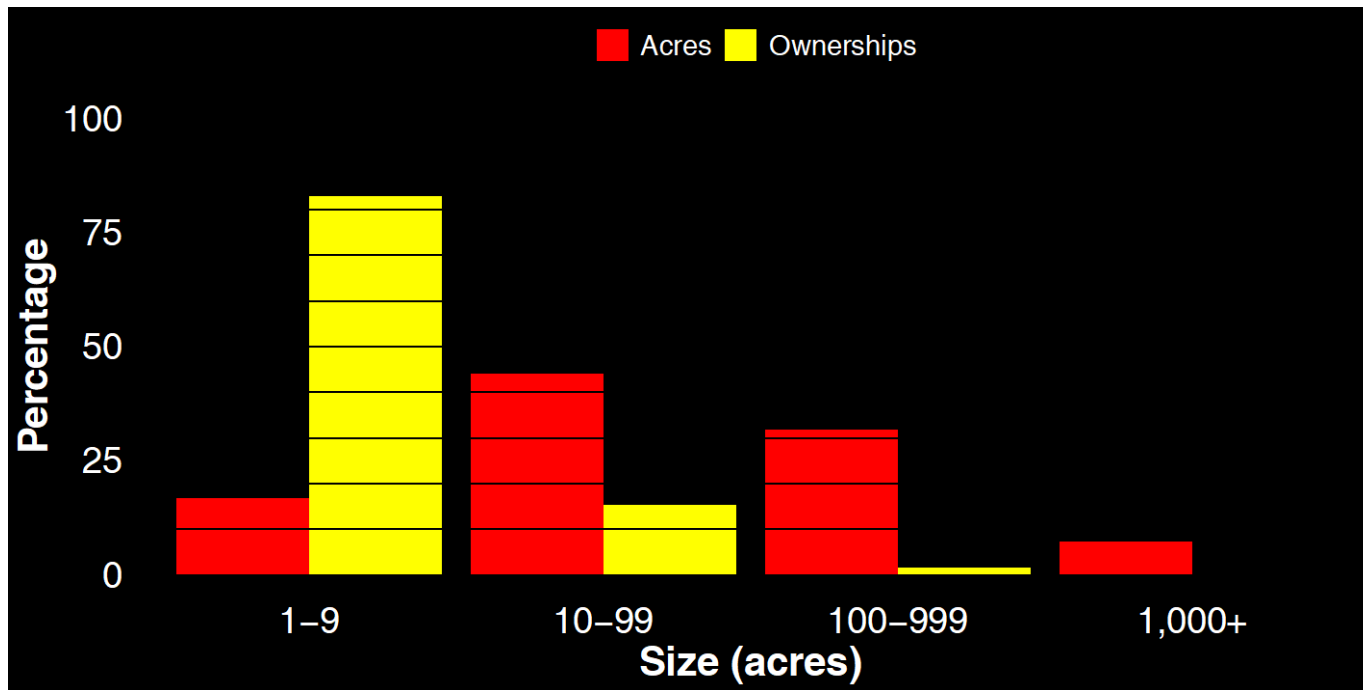
Do you have a management plan? Have you received advice about your wooded



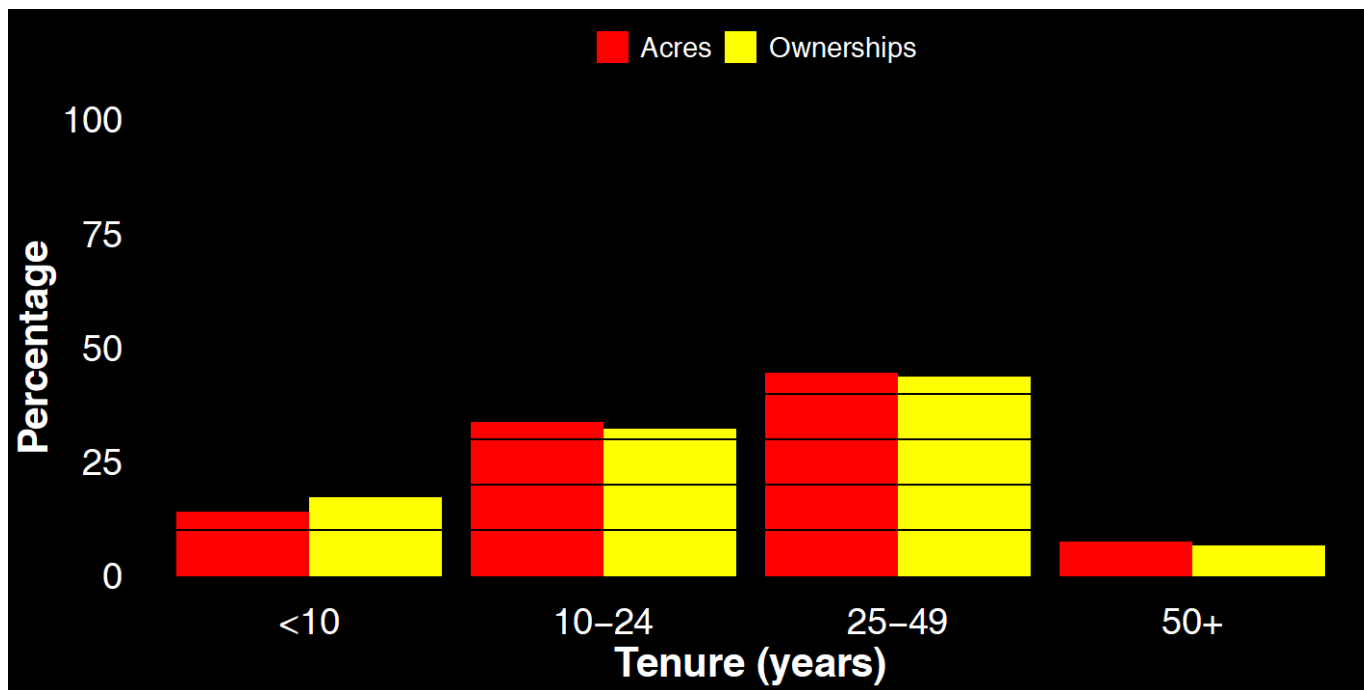
What management do you do on your land?



What size is your wooded land?



How long have you owned your land for?



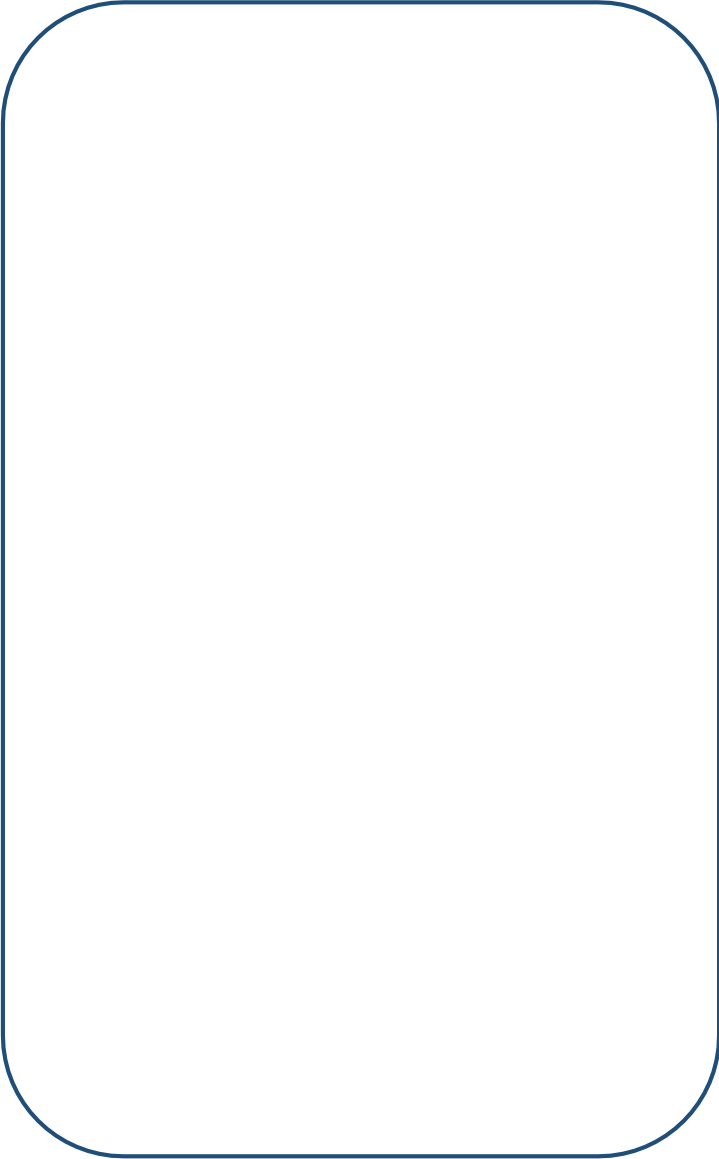
A photograph of a forest landscape during sunset or sunrise. The sky is a warm, golden yellow, and the sun is low on the horizon, creating a strong backlighting effect on the trees. The foreground is filled with tall, thin trees, likely pines or firs, with their dark silhouettes against the bright sky. In the middle ground, a body of water is visible, reflecting the golden light. The overall mood is serene and contemplative. A semi-transparent blue box with a thin blue border is centered horizontally across the middle of the image, containing the text "Why do you own your land?".

Why do you own your land?

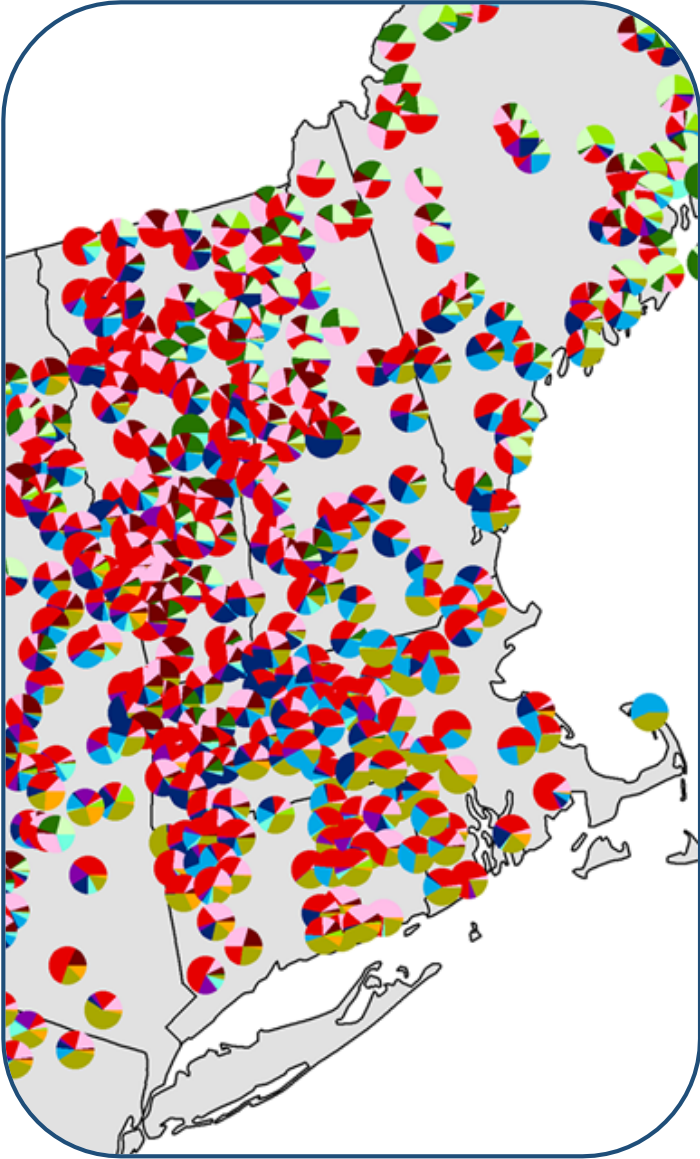
A photograph of a forest landscape during the golden hour of sunset or sunrise. Tall, thin trees are silhouetted against a bright, yellow-orange sky. In the background, a body of water reflects the light. A person wearing a hat is visible in the lower center of the frame, looking towards the water. A semi-transparent blue box with a white border is overlaid on the image, containing the text.

What are your land management challenges?

Historic Forest



Modern Forest



Oak Ecology & Silvics

Silvics: ecological characteristics of tree species

Shade Tolerance

Fire Response

Site condition



Oak Ecology & Silvics

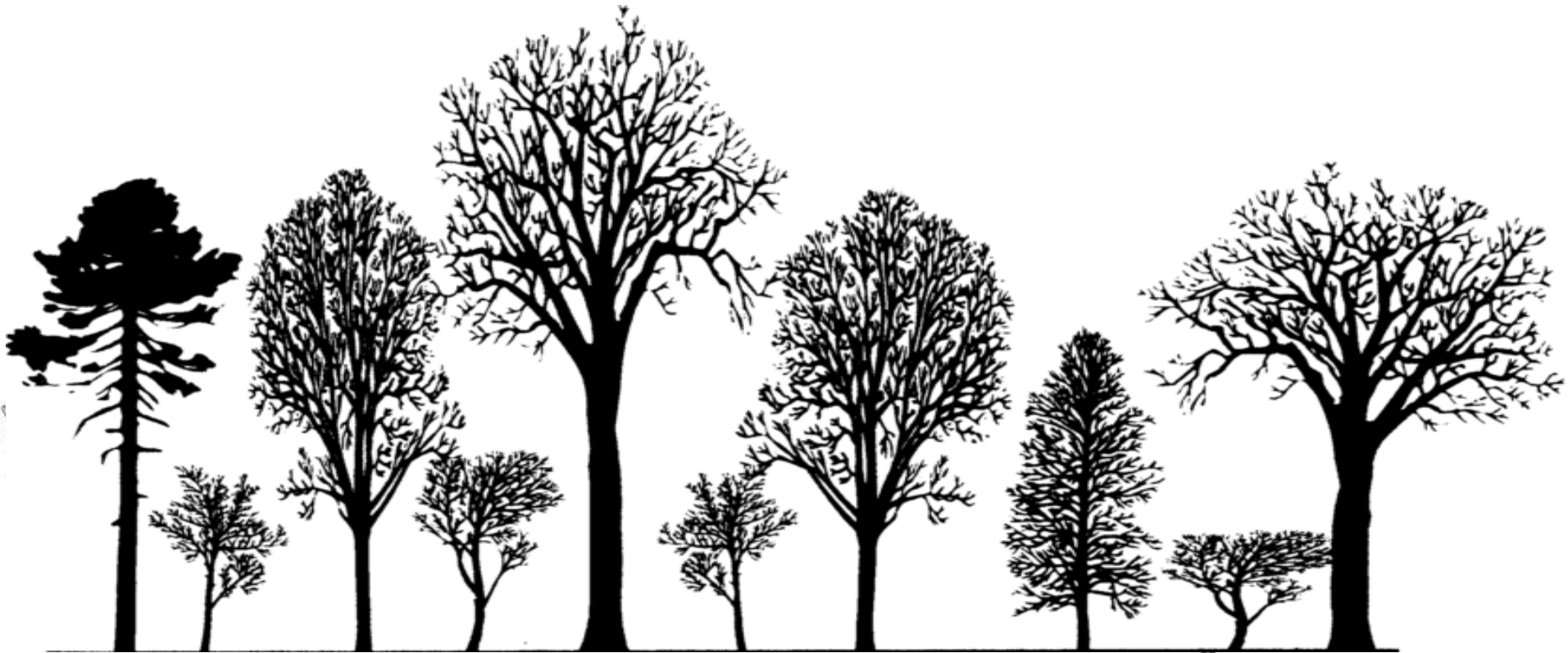
	white oaks		red oaks		
	white oak	chestnut oak	northern red	scarlet oak	black oak
fire	moderate	moderate	less tolerant	low	moderate
shade	moderate	moderate	moderate	moderate	moderate
soil	deeper: moderate	shallower: poorer	shallower: richer	shallower: poorer	variable
moisture	moderate to well-drained	well-drained to dry	moderate to well-drained	well-drained to dry	well-drained
slope	low-moderate	steep	low-moderate	steep	steep
sites	rich uplands, moist bottomland	ridges	valleys, lower-mid slope	ridges, uplands	variable



Oak Ecology

- Moderate shade tolerance
- Moderate fire tolerance + sprouting response

Translation:



Oak Timber Values

SPECIES	EAST OF CT RIVER			WEST OF CT RIVER		
	no. of reports	median	Range	no. of reports	median	Range
Red oak	11	200	100-310	15	200	140-425
White oak	4	125	100-175	7	200	50-270
Other oaks	7	125	100-175	2	127.5	125-130
Ash	8	125	60-180	13	100	50-250
Cherry	1	100	100-100	7	100	50-300
Sugar maple	2	137.5	200-275	10	225	100-350
Red maple	10	75	20-150	11	45	20-100
Tulip poplar	2	75	50-100	2	25	20-30
Yellow birch	5	80	80-150	10	50	40-200
Black birch	8	80	40-200	13	50	40-200
Paper birch	1	100	100-100	4	37.5	25-60
Beech	3	25	20-75	5	20	20-50





Wildlife Utilization of Northern Red Oak Forest Stands

For Whom are they a preferred host and why?

Compiled by Douglas Hutcheson, Massachusetts DCR

Notes from *New England Wildlife* (Degraaf and Yamasaki, 2001) and *Bringing Wildlife Home* (Douglas Tallamy, 2013)

Northern Red Oak Forest Type

- NRO is dominant tree
- Associates include black, scarlet, and chestnut oak, hickory, and red maple on poorer sites-thin, rocky soils on ridgetops, north facing slopes
- Black cherry, sugar maple, white ash, beech on better sites-loamy, silty-loamy soils

Northern Redbelly Snake



- Breeding
- Woody debris, bark, and rotting wood

Jefferson Salamander Marbled Salamander

- Breeding
- Vernal pools, forested wetlands





Cooper's Hawk

- Breeding shelter
- Breeding feeding
- Winter shelter
- Winter feeding
- Mature, deciduous woodlands



Wild Turkey

- Winter shelter
- Winter feeding
- Mast producing woodlands

Whip-poor-will

- Breeding
- Breeding feeding
- Dry, open woodlands in early successional (sapling-pole)
- Near openings





Ruby throated hummingbird

- Breeding
- Breeding feeding
- Seeks red tubular nectar bearing flowers-Honeysuckle, Trumpet Vine



Pileated Woodpecker

- Breeding
- Breeding feeding
- Winter shelter
- Winter feeding
- Mature trees 20' DBH
- Decaying wood

Blue Jay

- Breeding
- Sapling-pole stage
- Stockpiles acorns



Ovenbird

- Breeding
- Breeding feeding
- Open, mature woodlands
- Dry (mesic) forest





Canada Warbler

- Breeding
- Breeding Feeding
- Dense deciduous understory along water



Eastern Towhee

- Breeding
- Breeding Feeding
- Dense, brushy understory
- Well-drained soils

Rose-breasted Grosbeak

- Breeding
- Breeding Feeding
- Forest edge
- Dense hardwood thickets
- Sapling stands
- Brushy fields



Gray squirrel

- Breeding
- Breeding feeding
- Winter shelter
- Winter feeding
- Seeks mast producing trees
- Tall trees for dens/nests



Southern Flying Squirrel



- Breeding
- Breeding feeding
- Winter shelter
- Winter feeding
- Mature woodlands
- Cavity trees with 1.5-2 inch openings size

White-footed Mouse



- Breeding
- Breeding feeding
- Winter shelter
- Winter feeding
- Downed logs, rotting stumps, tree cavities

Southern Red-backed Vole



- Breeding
- Breeding feeding
- Winter shelter
- Winter feeding
- Woody debris for cover

Red Fox

- Breeding
- Breeding feeding
- Winter shelter
- Winter feeding
- Dry den sites
- Hunts in open, semi-open woodlands



Black Bear

- Breeding
- Breeding feeding
- Breeding-large sawtimber stage
- Breeding feeding- seedling, sawtimber, large sawtimber stages
- Den in fallen, hollow trees
- Acorns-food source





White tailed Deer

- Winter feeding
- Winter browse
- Summer, mast and herbaceous forage



LEPIDOPTERA

Moths and butterflies

- Lay eggs on & under bark
- Caterpillars feed on leaves
- Moths hide on underside of leaves
- Major food source for birds, mice, small mammals



THANK YOU

fern.graves@dem.ri.gov

christopher@sweetbirchconsulting.com