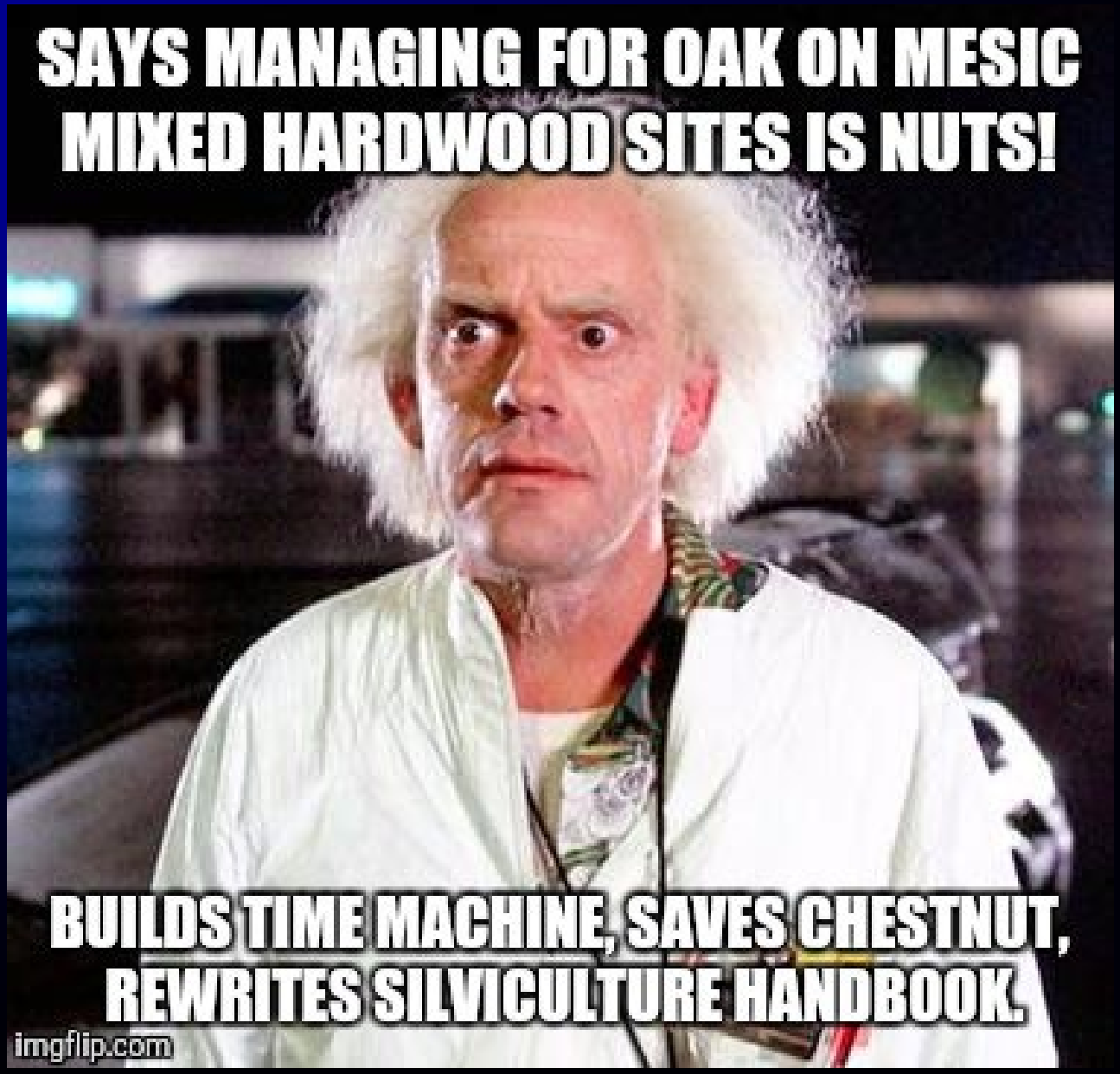
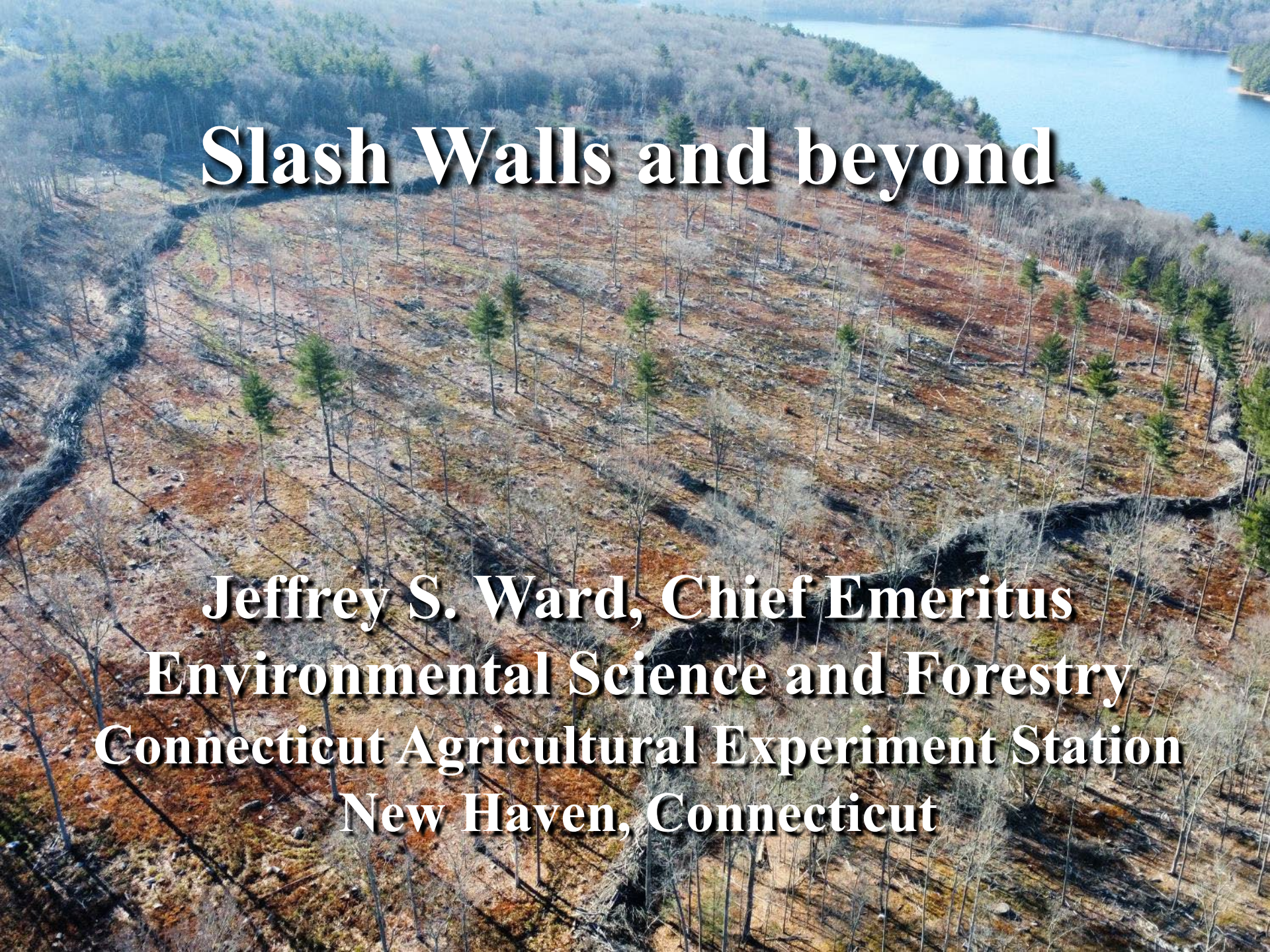

SAYS MANAGING FOR OAK ON MESIC MIXED HARDWOOD SITES IS NUTS!
BUILDS TIME MACHINE, SAVES CHESTNUT, REWRITES SILVICULTURE HANDBOOK.
imgflip.com



Slash Walls and beyond

Jeffrey S. Ward, Chief Emeritus
Environmental Science and Forestry
Connecticut Agricultural Experiment Station
New Haven, Connecticut

USDA Forest Service - GRANT 19-DG-11420000-177
Increasing Resiliency in Southern New England Oak Forests

J.P. Barsky

Anna Welch
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Casey Cordes, Josh Tracy
MDC – Andy Hubbard
MA DCR – Herm Eck, Ken Canfield

Jessica Shanley
Rachael Harris

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The Challenge

Oak regeneration is often hampered by taller red maple, birch and less valuable species,

especially where browse intensity is high and after thinning and "selection" harvests.

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15-yr-old shelterwood

For quality regeneration

Ralph Nyland

In this order …

1. **Shoot the deer**
2. **Poison the beech**
3. **Manage the light**

In this order …

1. **Reduce browse intensity**
2. **Control competition**
3. **Let the sun shine in**

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Browsing stunts height growth

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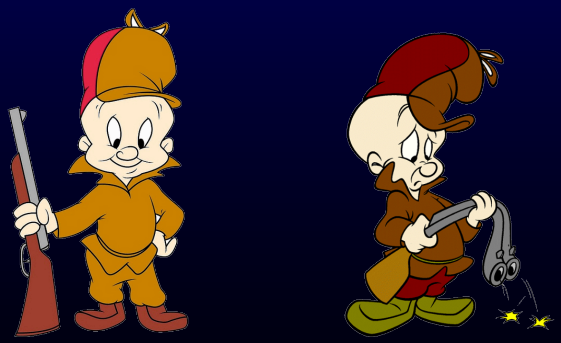
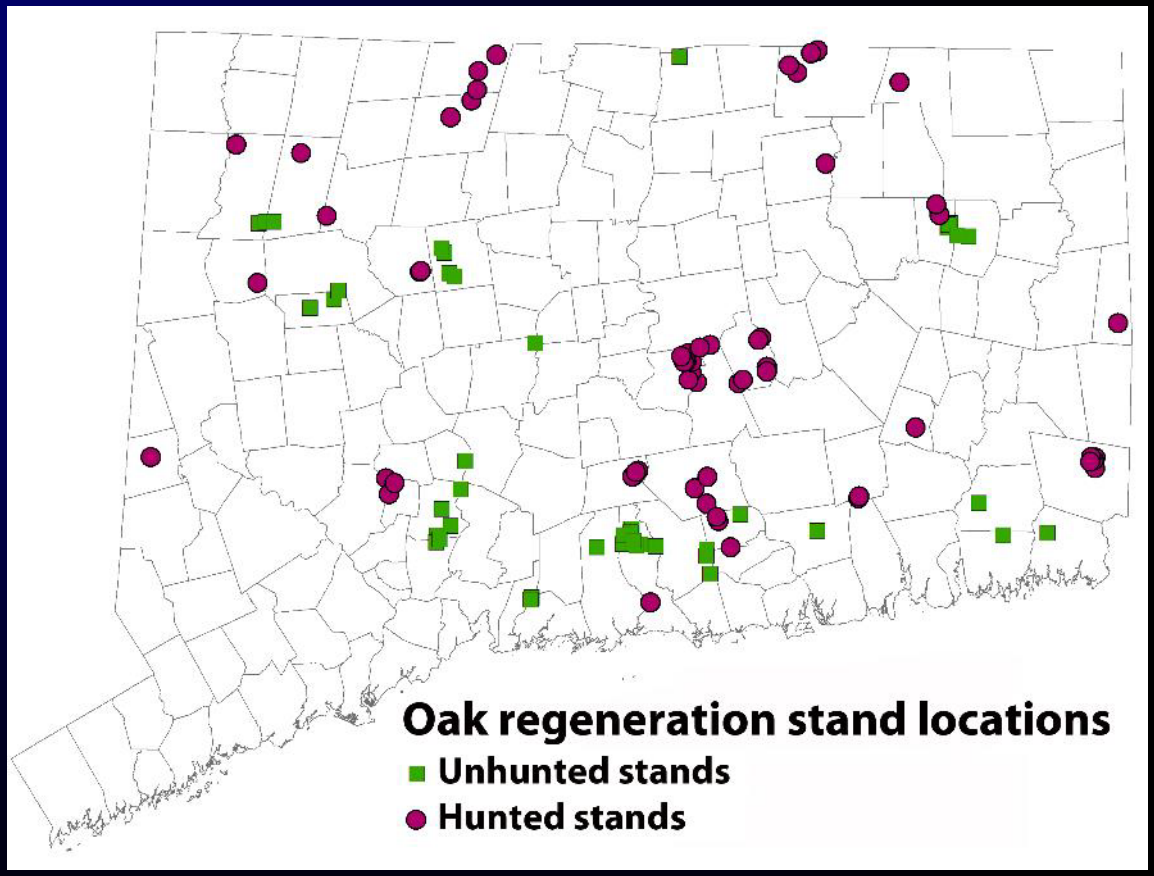
Oak Regeneration Study

108 stands
2210 points
4484 acres
~ 2.0 ac/point





Ward, J.S., and S.C. Williams. 2020. Influence of deer hunting and residual stand structure on tree regeneration in deciduous forests. Wildlife Society Bulletin 1-12; DOI:10.1002/wsb.1120.

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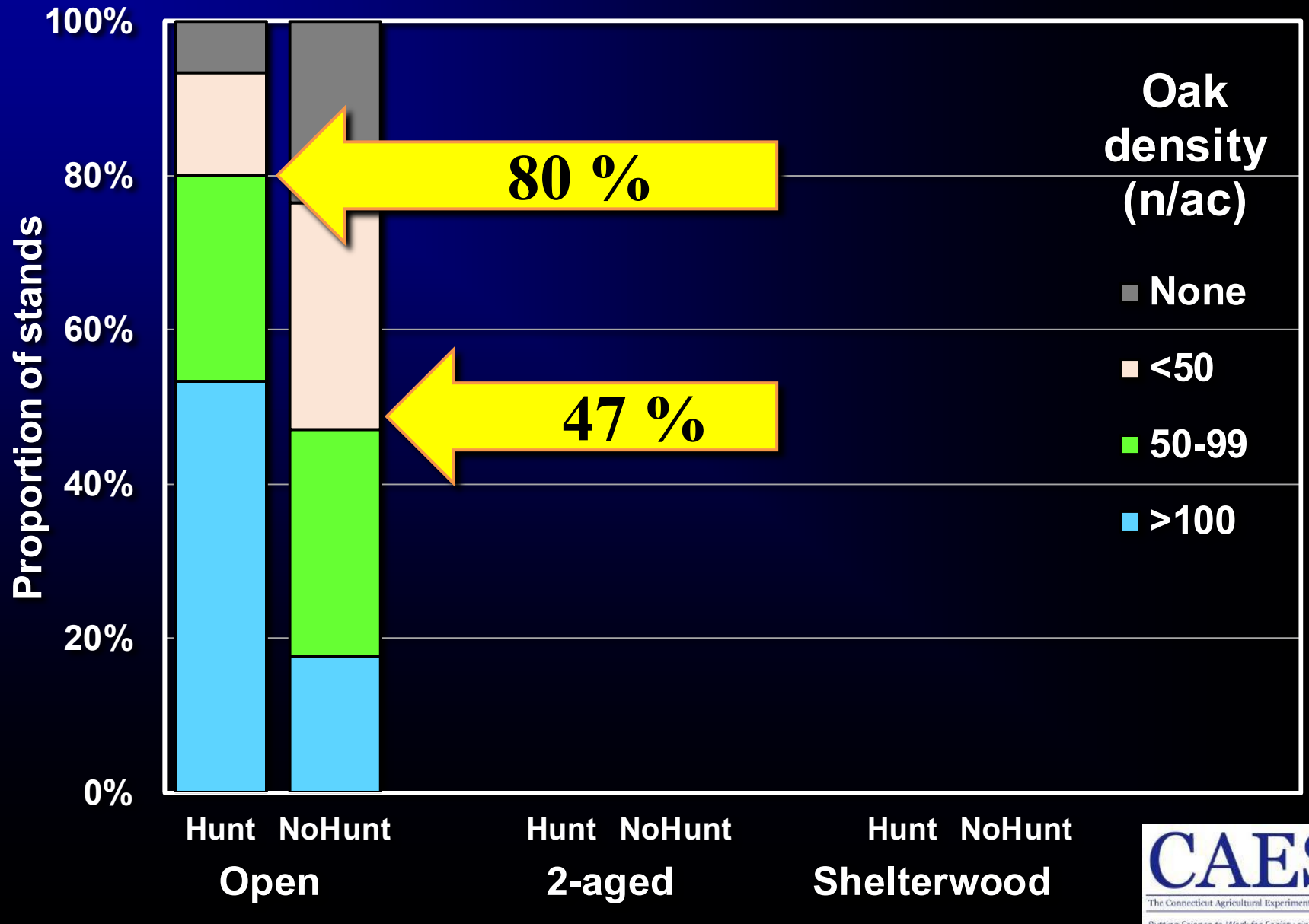
Hunting increases oak



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Caged stump study

1-yr-old

4-yr-old, 12 ft tall

4 sites
50 stumps/site
½ caged

Ward, J.S., and S.C. Williams. 2018. Effect of tree diameter, canopy position, age, and browsing on stump sprouting in southern New England. Forest Science 64(4): 452-460. doi: 10.1093/forsci/fxx023

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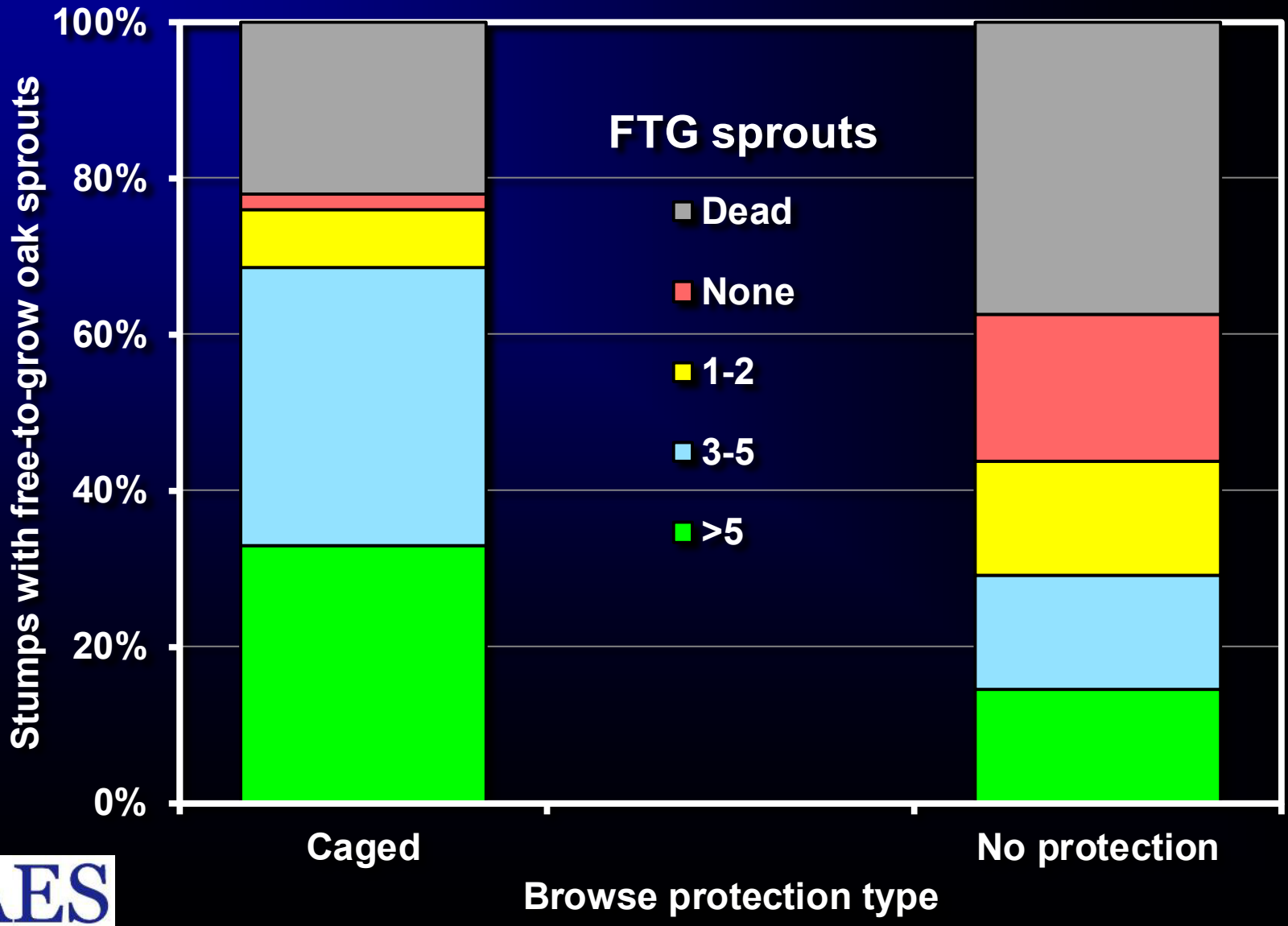
A little browse damage …



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Alternatives

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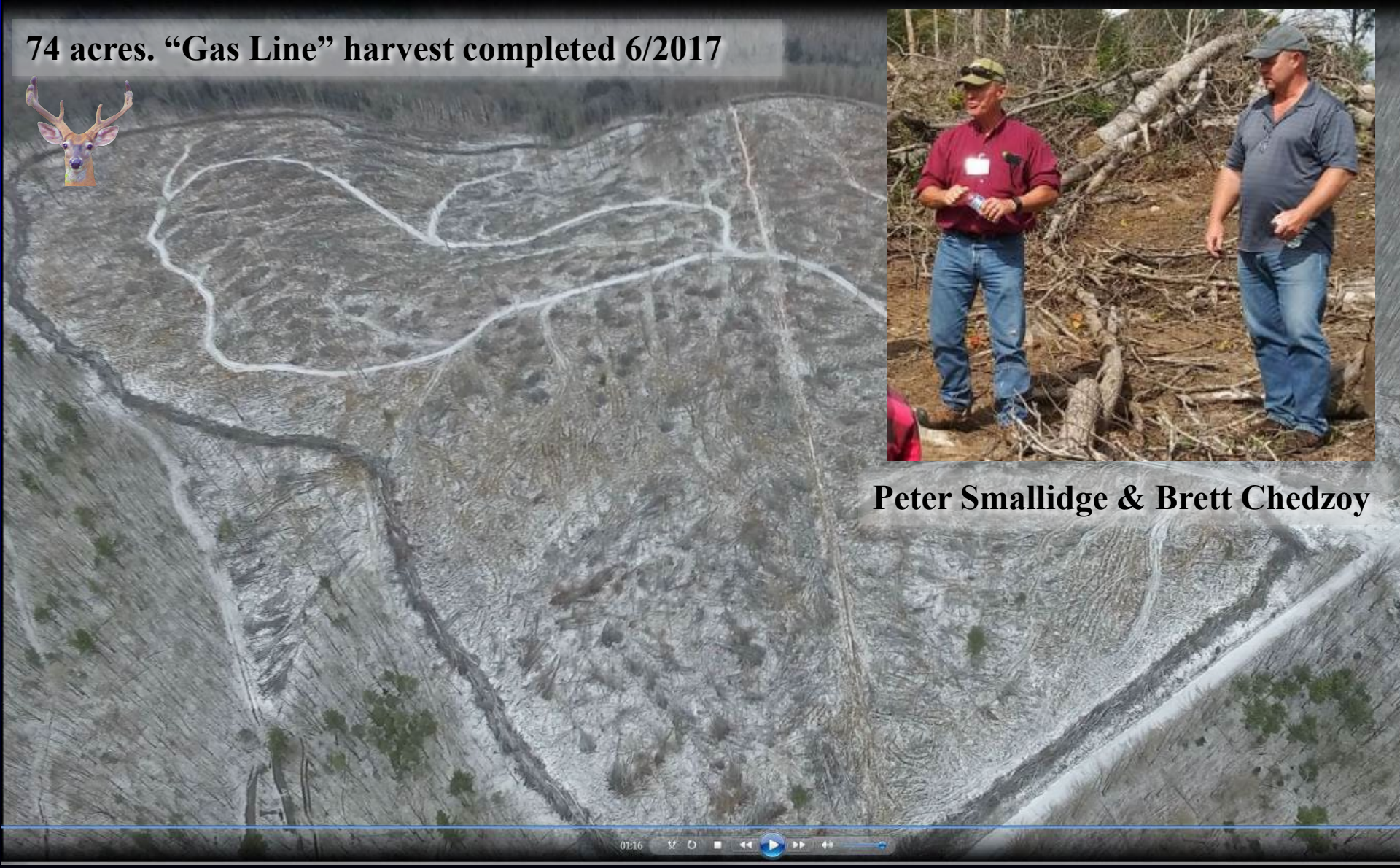
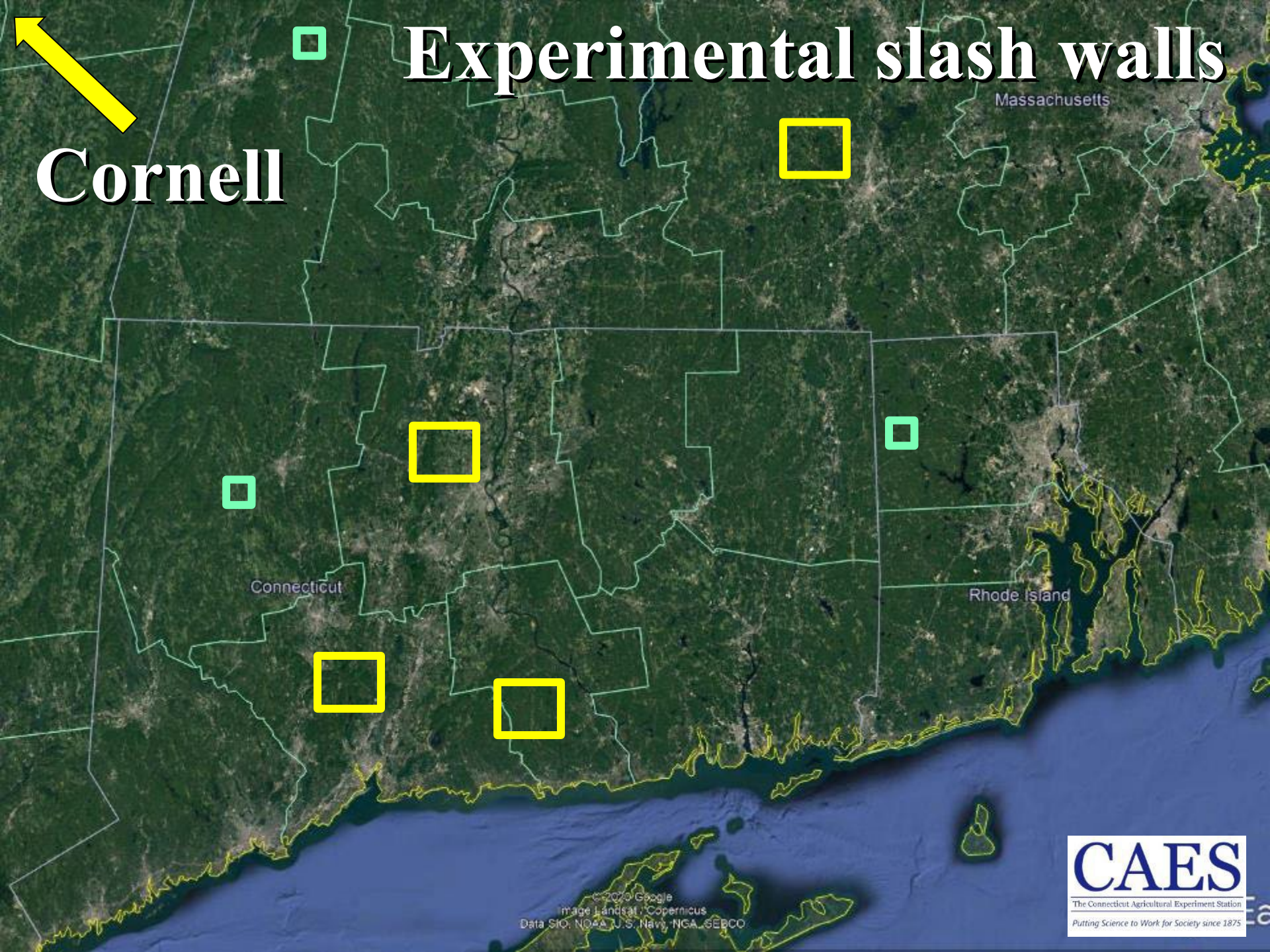
74 acres. “Gas Line” harvest completed 6/2017



Peter Smallidge & Brett Chedzoy

Cornell University
College of Agriculture and Life Sciences
Department of Natural Resources

Smallidge, P.J., B. Chedzoy, et al. 2021. Evaluating the construction and effectiveness of slash walls at the perimeter of regeneration harvests to exclude deer. Forest Ecol. Manage. https://doi.org/10.1016/j.foreco.2021.119529


Experimental slash walls
Cornell
Massachusetts
Connecticut
Rhode Island
© 2020 Google
Image Landsat / Copernicus
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
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Hotsaw

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Observed sprout heights

Upland oaks			
1st year height (ft)	Inside	Outside	Combined
OAKHAM	1.8	1.3	1.7
NEPAUG	2.5	1.0	2.2
NMAD	4.3	1.3	3.5
SEYMOUR	3.2	0.8	2.5
Tree average	3.1	1.0	2.6
Plot average	3.0	1.1	2.5

Red maple			
1st year height (ft)	Inside	Outside	Combined
OAKHAM	1.9	1.7	1.8
NEPAUG	3.7	2.5	3.3
NMAD	4.6	1.5	3.4
SEYMOUR	3.3	0.7	2.6
Tree Average	3.7	1.8	2.9
Plot Average	3.4	1.6	2.8

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Observed sprouting

Upland oaks					
% stumps w/ sprouts	Inside	Outside	Combined	p-value	n
OAKHAM	39%	15%	28%	**0.000001**	112
NEPAUG	25%	15%	21%	**0.000000**	191
NMAD	34%	25%	31%	**0.000333**	168
SEYMOUR	47%	33%	42%	**0.000022**	152
Tree average	35%	22%	30%	**0.000000**	623
Plot average	36%	22%	31%		

Other species					
% stumps w/ sprouts	Inside	Outside	Combined	p-value	n
Red maple	76%	76%	76%	**0.172866**	442
Yellow poplar	84%	90%	85%	**0.037361**	75
Hickory	73%	47%	65%	**0.004588**	211

Bad advice if you want oak and diversity

Leave the trees

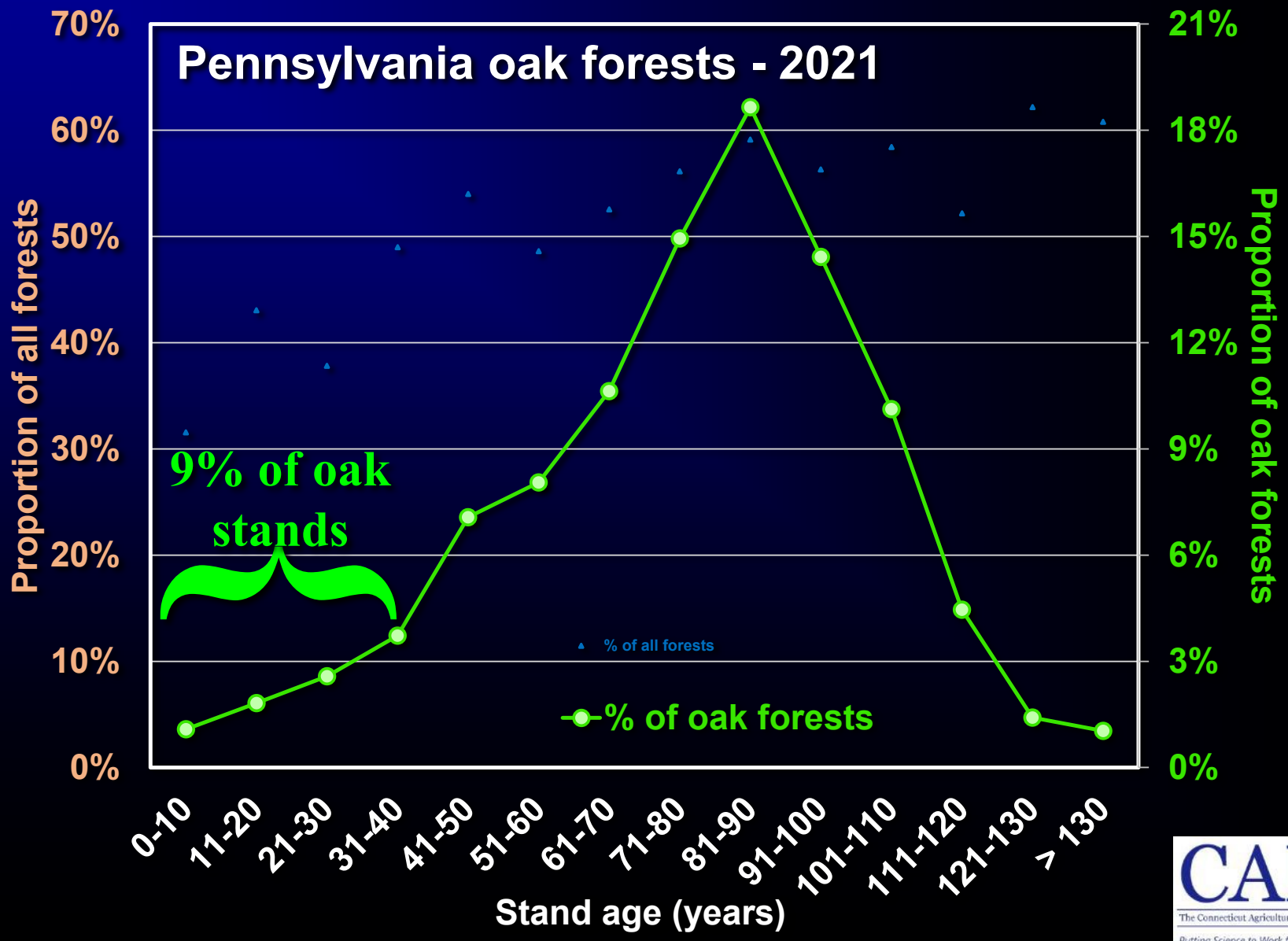
Hug an alien

Encourage wildlife

Ward, J.S. 2015. Improving competitive status of oak regeneration using stand management and prescribed fires. Journal of Sustainable Forestry 34: 105-124.

Jeffrey S. Ward
(203) 974-8495
jeffrey.ward@ct.gov

Unbalanced age structure



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4-yr-old sprout