



OAKS & WILDLIFE

California Black oak & Oregon white oak woodland ecology and management – Eureka CA 12 Nov 2015



University of California

Agriculture and Natural Resources

■ Research and Extension Center System



Presented by Bob Keiffer

**UC ANR Hopland Research &
Extension Center - retired**



WEEDS!!!!



Oaks - #1 Woody Plant for Wildlife



Martin, Zim, and Nelson

Wildlife Plants Ranked According to Their Value

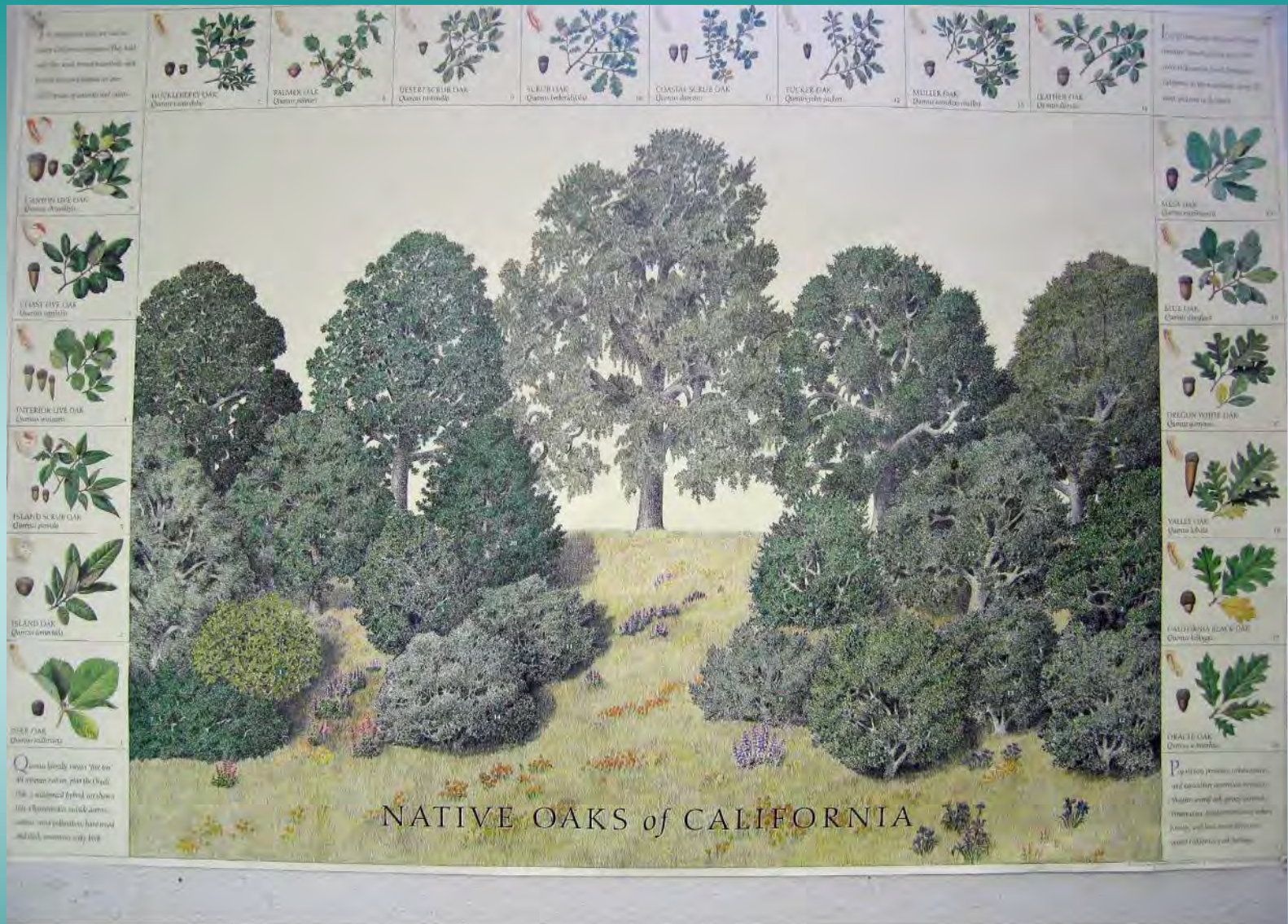
FOOD-HABITS DATA on more than 300 species of birds and mammals have made it possible to determine approximately the extent to which about 250 different genera of plants have been used by wildlife. This food-use information, though far from perfect, can aid in planning wildlife habitat developments on farms, forests, marshlands, grazing ranges, wildlife refuges, and residential areas. To this end, two listings are presented below. The first is nationwide and includes only those plants which total 25 stars or more by the star-user basis described on page 40. The second, much longer listing makes available more detailed indication of the extent to which particular kinds of plants in different regions have been utilized by each of seven wildlife categories.

In addition to statistical limitations previously acknowledged, there may be possible fallibility in the star-user ratings in one other regard: the fact that extent of use of a plant for food is not always an accurate gauge of its value in wildlife management. In some seasons or places, certain plants have been utilized considerably not so much because they are excellent, good, or even fair food sources but because better ones were not readily available. However, such instances are probably somewhat exceptional and, until knowledge advances much further, actual use of foods will remain the principal criterion of value to wildlife.

National Listing by Plant Groups

(Including only plants totaling 25 or more stars)

| WOODY PLANTS | | | | | |
|------------------|---------|-------------------|--------|-----------------------|--------|
| Oak..... | 263*/96 | Birch..... | 52*/25 | Alder..... | 36*/16 |
| Pine..... | 234*/82 | Mesquite..... | 52*/24 | Mulberry..... | 35*/38 |
| Blackberry..... | 118*/97 | Elderberry..... | 51*/79 | Snowberry..... | 32*/27 |
| Wild Cherry..... | 104*/81 | Serviceberry..... | 46*/58 | Gooseberry..... | 31*/32 |
| Dogwood..... | 75*/64 | Sumac..... | 46*/50 | Douglasfir..... | 30*/20 |
| Grape..... | 69*/75 | Aspen..... | 46*/28 | Saltbush..... | 29*/22 |
| Poison-ivy..... | 66*/61 | Fir..... | 40*/23 | Persimmon..... | 28*/19 |
| Cedar..... | 66*/44 | Sagebrush..... | 40*/22 | Greenbrier..... | 27*/33 |
| Pricklypear..... | 62*/44 | Beech..... | 38*/31 | Blackgum..... | 26*/33 |
| Maple..... | 61*/33 | Willow..... | 37*/25 | Virginia-creeper..... | 26*/30 |
| Blueberry..... | 57*/63 | Spruce..... | 36*/22 | Holly..... | 25*/36 |
| Hackberry..... | 54*/48 | Manzanita..... | 36*/19 | | |



NATIVE OAKS of CALIFORNIA

California has 19 (20) species of oaks – 9 can be tree size



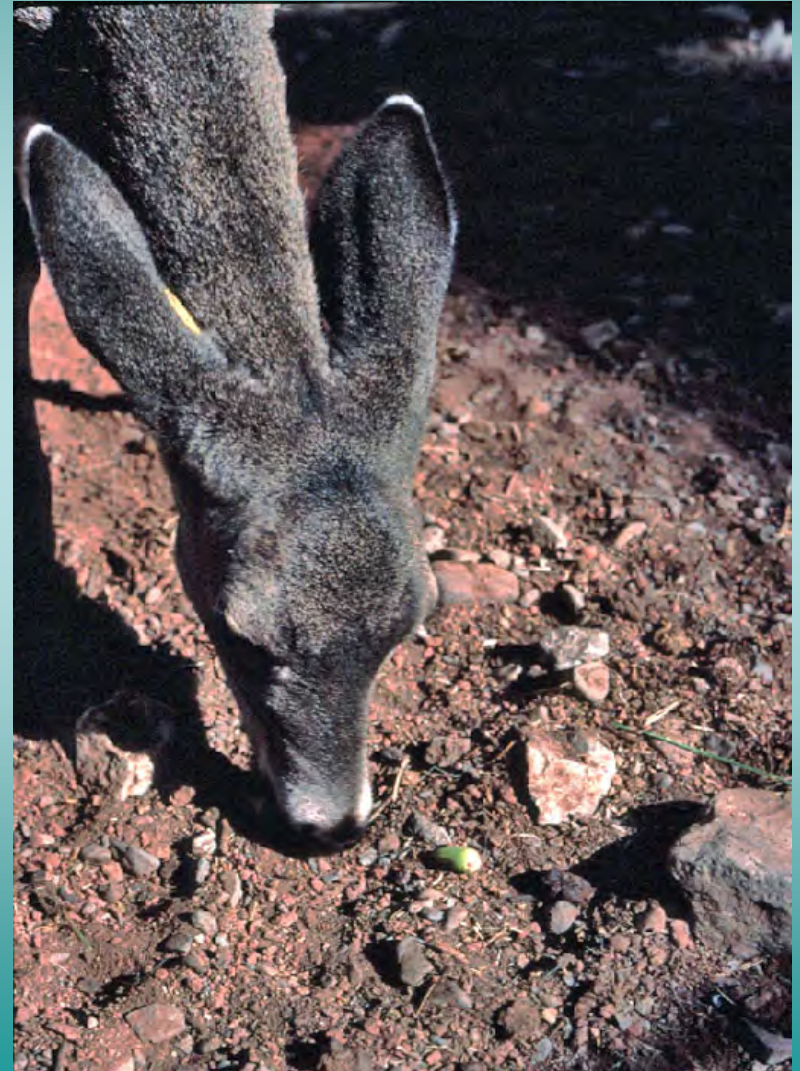
Oregon White Oak



California Black Oak



Acorns – Protein Source









Wild Turkeys are reliant upon mast crops including acorns





Acorn Woodpecker - Unique



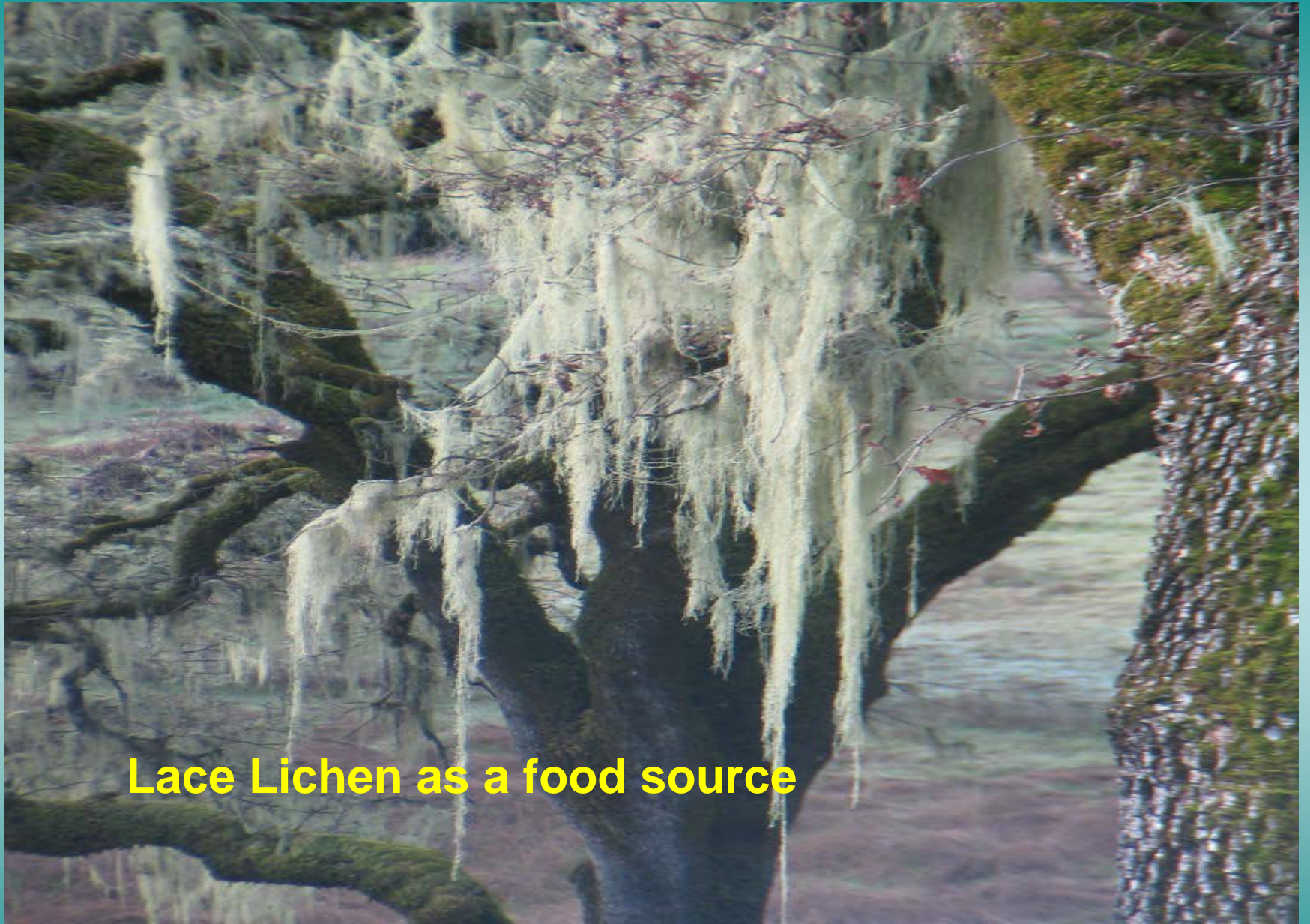


Acorn Woodpeckers in Granary Oak Snag

7000 Acorns in 5 Weeks







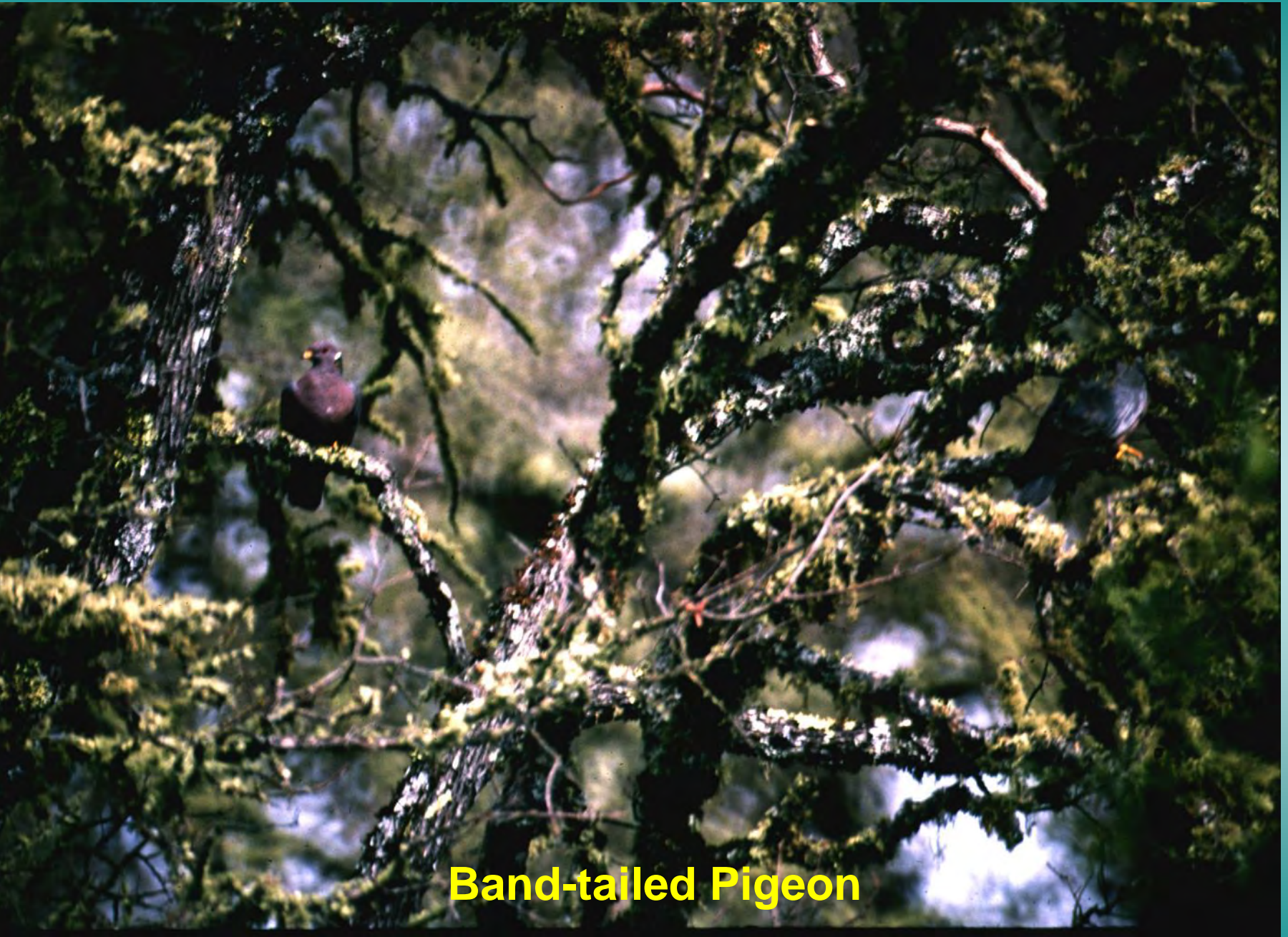
Lace Lichen as a food source





Buds and Flowers - FOOD





Band-tailed Pigeon

Mistletoe – Food & Shelter





Cedar Waxwings

White-tailed Kite





Gleaners of the Oaks



Hutton's Vireo





MIGRATION CORRIDORS



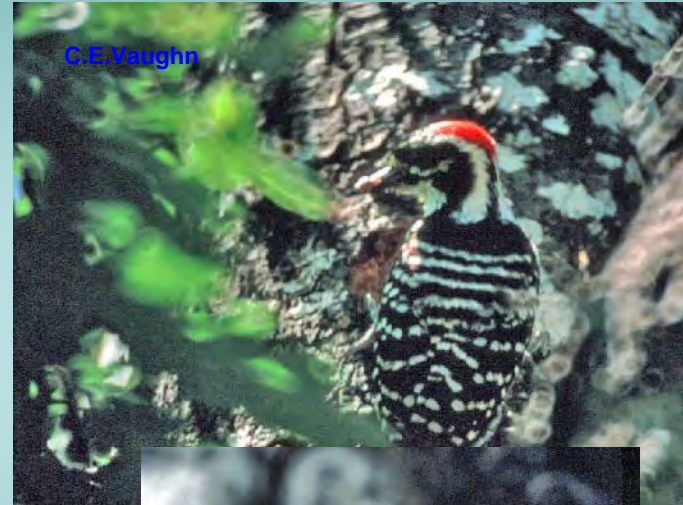


Red-eyed Vireo (vagrant) and expected migrant/breeder Warbling Vireo

Look Ma ... No Cavities



Woodpeckers – Cavity Makers



Oak Cavity Nesters

Ash-throated Flycatcher



Tree Swallow



Oak Cavity Nesters

Western Bluebird



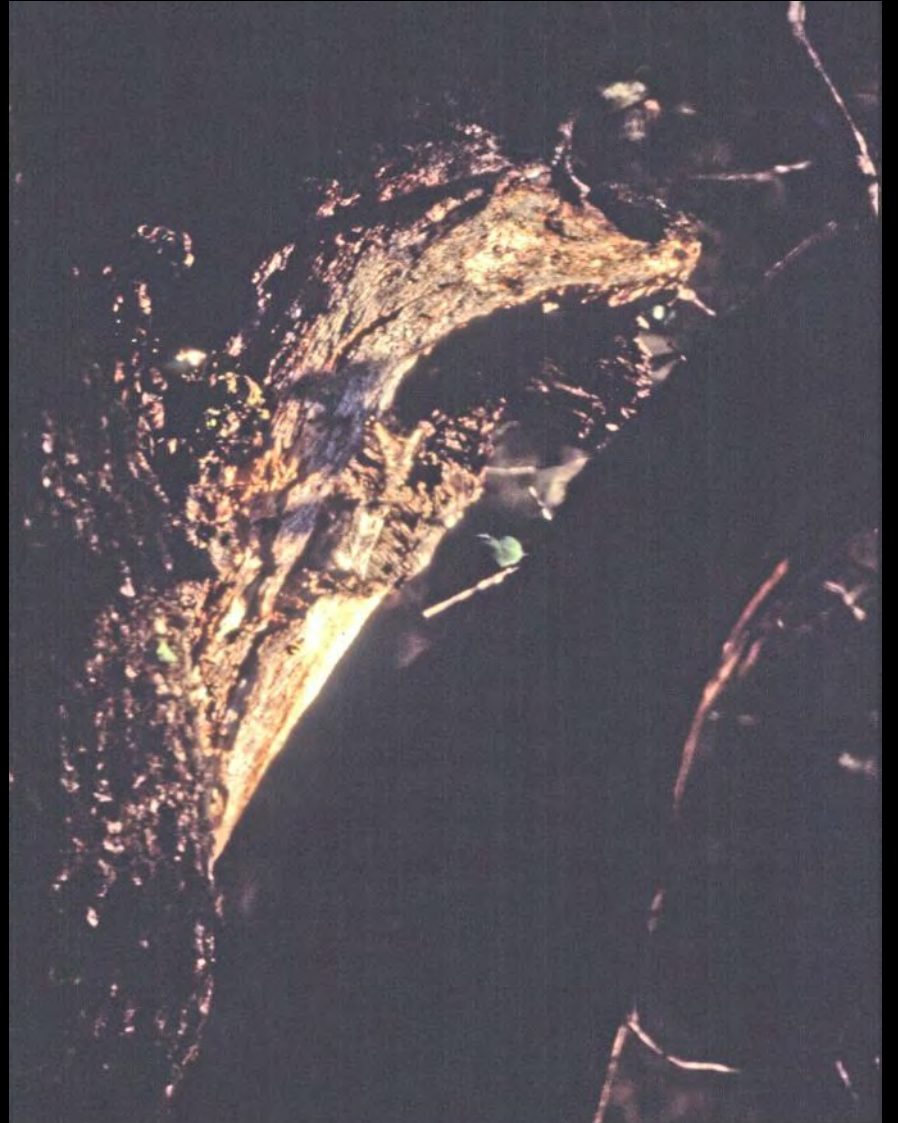
White-breasted Nuthatch



**Nest Box study at UC-HREC
13 of 25 nest boxes used by WEBL
simultaneously in a 100' spaced grid**



W. Screech Owl – Roost & Nest





Wood Ducks need cavities



Photo from Internet



Cavities provide a multitude of wildlife uses – denning, nesting, resting, food caching, hibernation



Large Cavities - Homes for Many



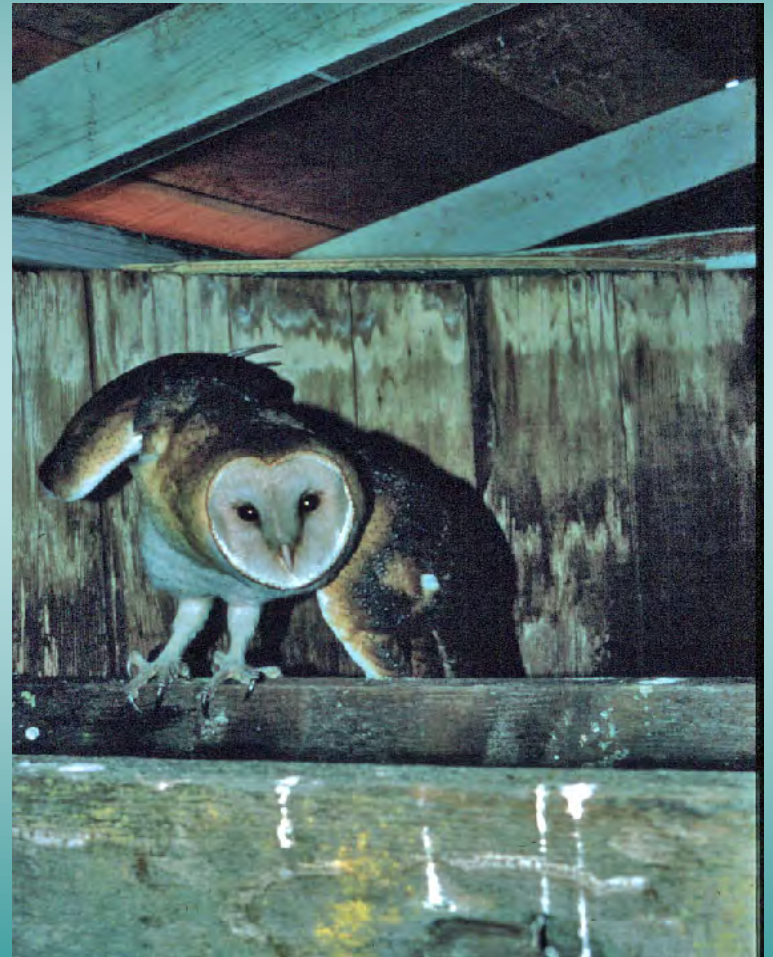
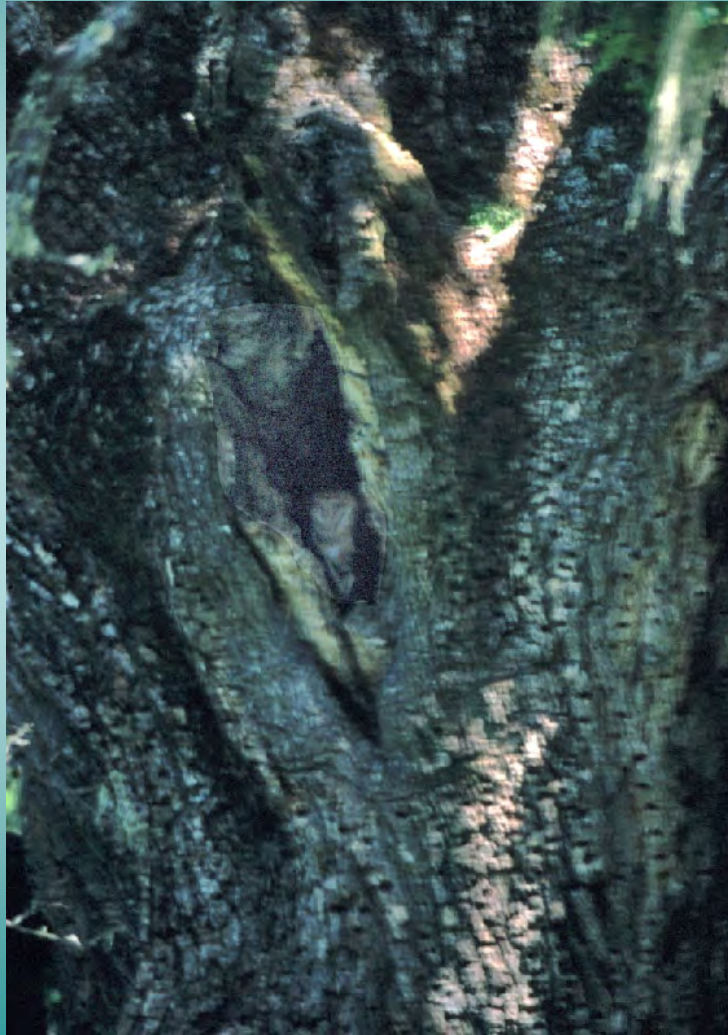


Large Cavity Dwellers





Barn Owls – Barns or Oaks?



Habitat Needs: Insulated cavity (barn or tree) for roost/nest & rodents



Townsend's Big-eared Bat





Bushnell

05-03-2013 11:50:38



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Nest Tree Selection by Turkey Vultures (*Cathartes aura*) in Oak Woodlands

Greg Giusti, Shane
Feirer, Bob Keiffer,
Ryan Keiffer
UCCE and Hopland
REC



©RJKeiffer2010



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4 August 2010 - S3 Pasture - HREC



© RJKeiffer2010

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What % of oaks are suitable?



Trees with suitable nesting elements

$n=7$ ($N=416$)



- 36" blue oak
- 67" interior live oak
- 59" Oregon white oak
- 31" black oak
- 81" Oregon white oak
- 49" Oregon white oak
- 72" valley oak

– $\bar{X} = 50''$

– Rng = 31-81''

What are they telling us about the trees they select?

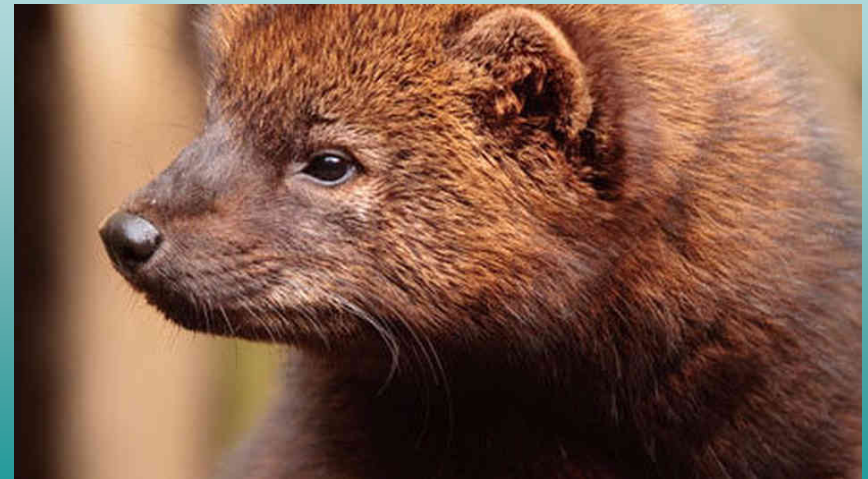
| Tree number | DBH | Length | Radius | Volume (ft ³) | Volume (m ³) |
|-------------|-------|--------|--------|---------------------------|--------------------------|
| 66 | 38" | 10'11" | 12.5" | 37.03 | 1.06 |
| 67 | 44" | 13' | 14" | 54.9 | 1.5 |
| 68 | 42" | 4'10" | 16.5" | 28.5 | .79 |
| 69 | 65" | 6'3" | 18" | 44.7 | 1.26 |
| 68-A | 36 | 7' | 17" | 49.5 | 1.34 |
| Mean | 45" | | | 42.7 | 1.04 |
| Range | 36-65 | | | 28-54 | .79-1.5 |

Tree cavities tend to be vertical and essentially go "to the ground"

Pacific Fisher



- 43% of historic range presently has zero or rare occurrence of fishers
- Cavities are needed for denning and resting
- Multiple cavities are necessary within a females home range for kit rearing
- One study found 54% of denning cavities in Black Oaks



Large Oaks Have Large Limbs



Big Limbs for Big Cats



Photo by Craig Coolahan

Raptors – Oaks for Perching



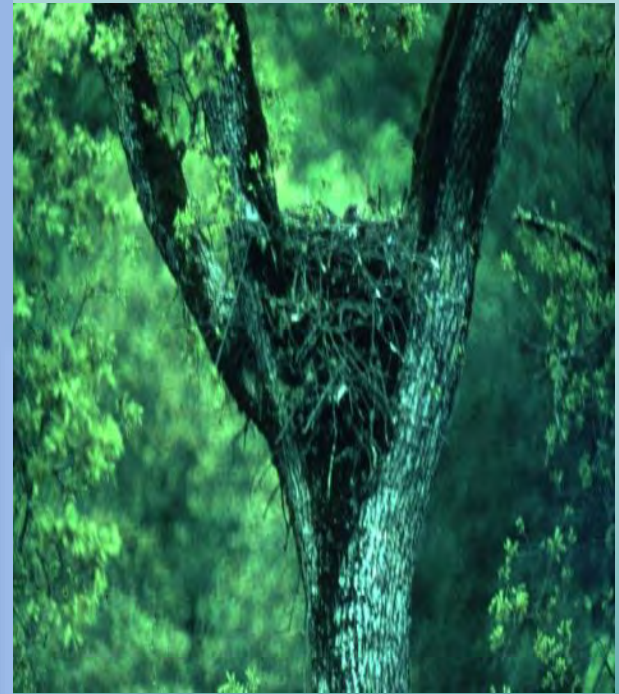
Limb Structure for Nesting



Golden Eagle – Oaks for Nests



Red-tailed Hawk - Nesting





Small Limb Structure - Nesting





Long-eared Owl on nest



Orioles Build in Hanging Branches



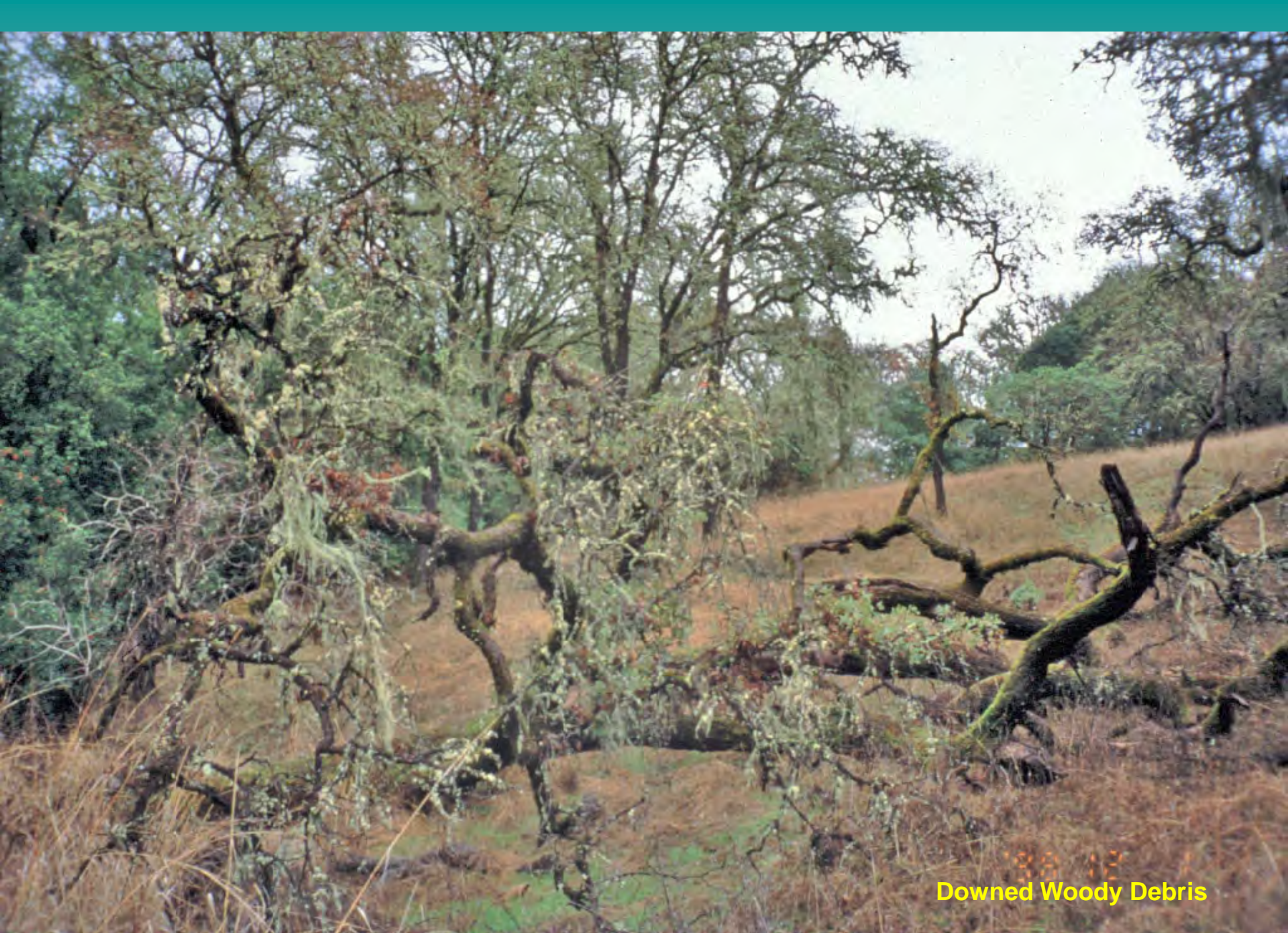
Oak Limbs for Roosting







Loose Bark for Nesting Cavities



188 12 11
Downed Woody Debris

Oak Debris – Ground Nesters



Rufous-crowned Sparrow





Herptiles of the Oak Floor



Herptiles of the Oak Floor



More Herptiles of the Oak Floor



Oak woodlands & Insects





STEWARDSHIP OF THE LAND – PLANTING OAKS



The End – Thank You!