Wildlife Research in Western Oregon

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West Region
Wildlife Research Supervisor
August 2019

WILDLIFE RESEARCH FUNDING SOURCE

Federal Aid in Wildlife Restoration Act -75%
Oregon Dept. of Fish & Wildlife - 25%

Various Grants – BLM / Forest Service

WESTERN OREGON WILDLIFE RESEARCH PROJECTS

1. **BLACK-TAILED DEER**:
   A. Biological parameters – 6 WMUs
   B. Population estimates – fecal DNA – 6 WMUs
   C. Fawn survival – Dixon and Applegate WMUs
   D. Adult doe survival and habitat use (OSU)

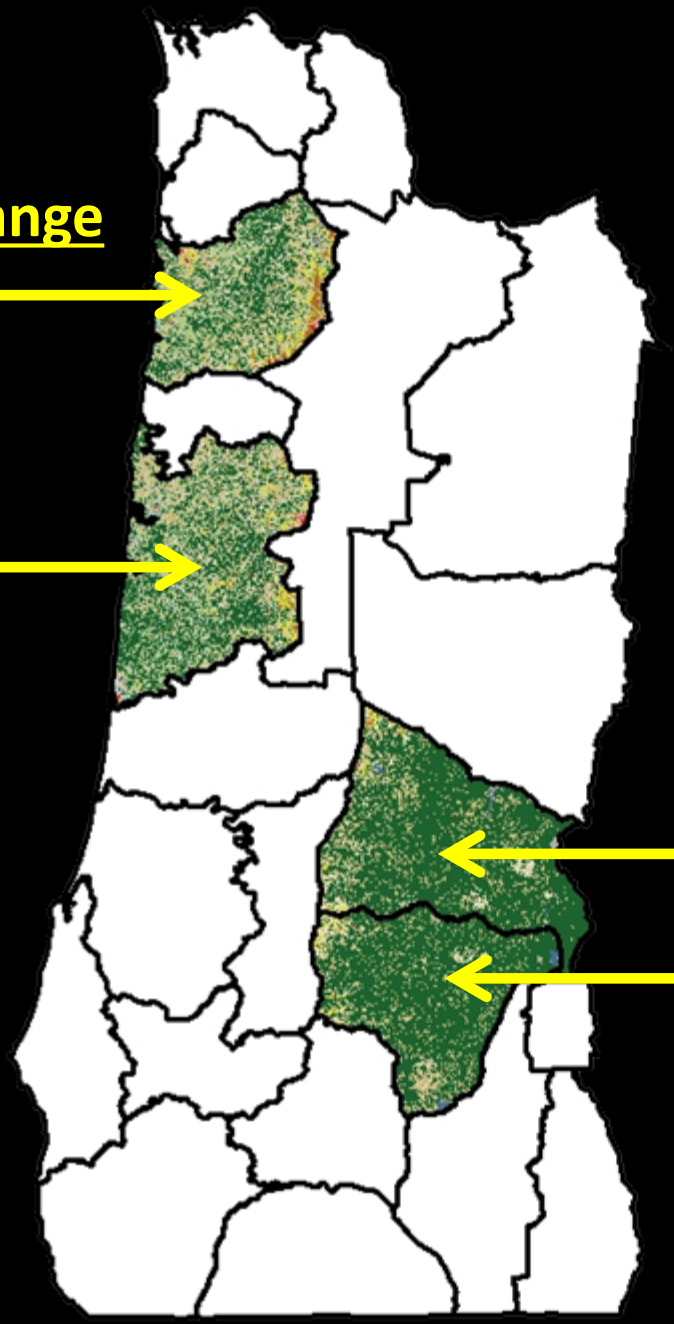
2. **ROOSEVELT ELK**:
   A. Cow survival and habitat use – Tioga and McKenzie WMUs
   B. Population estimates using fecal DNA (OSU) – Tioga and McKenzie WMUs

3. **FISHER OCCUPANCY:** Applegate WMU

Black-tailed Deer in Western Oregon
Project 1A

STUDY AREA

4 WMUs



2 Coast Range

Trask

Alsea

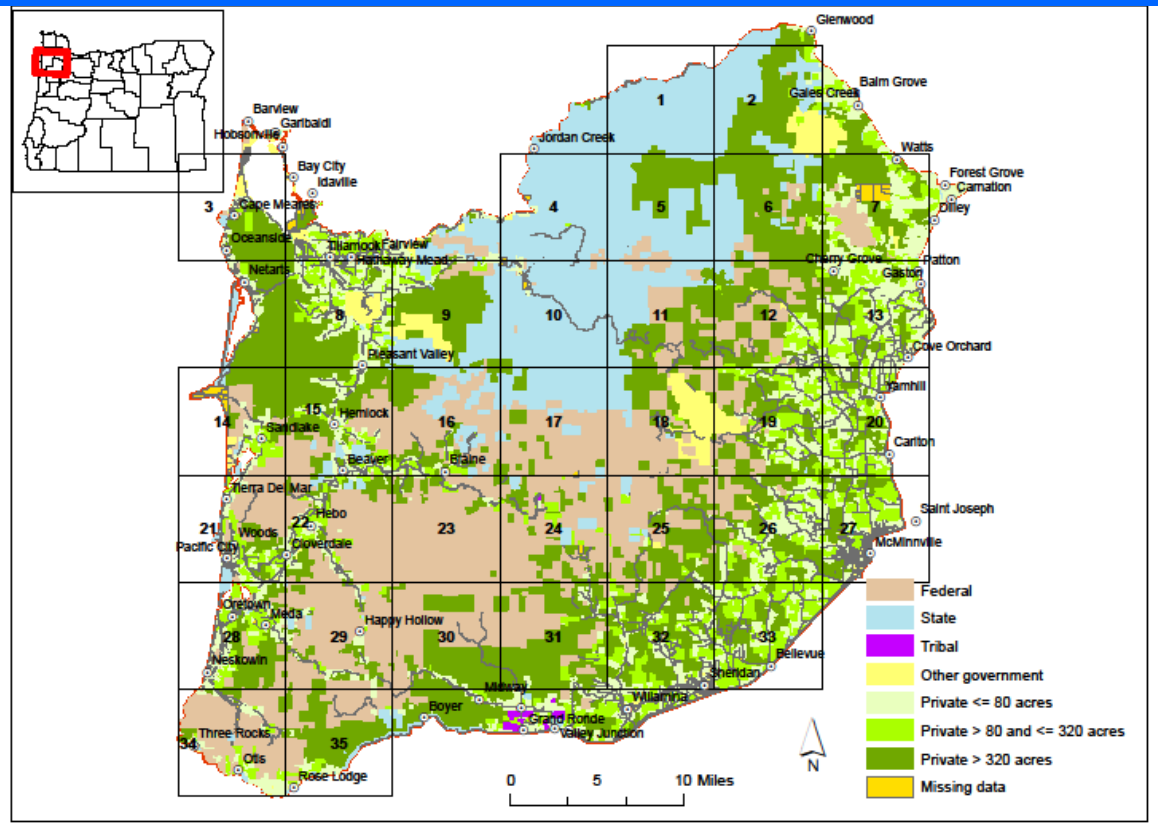
2 Cascade Range

Indigo

Dixon

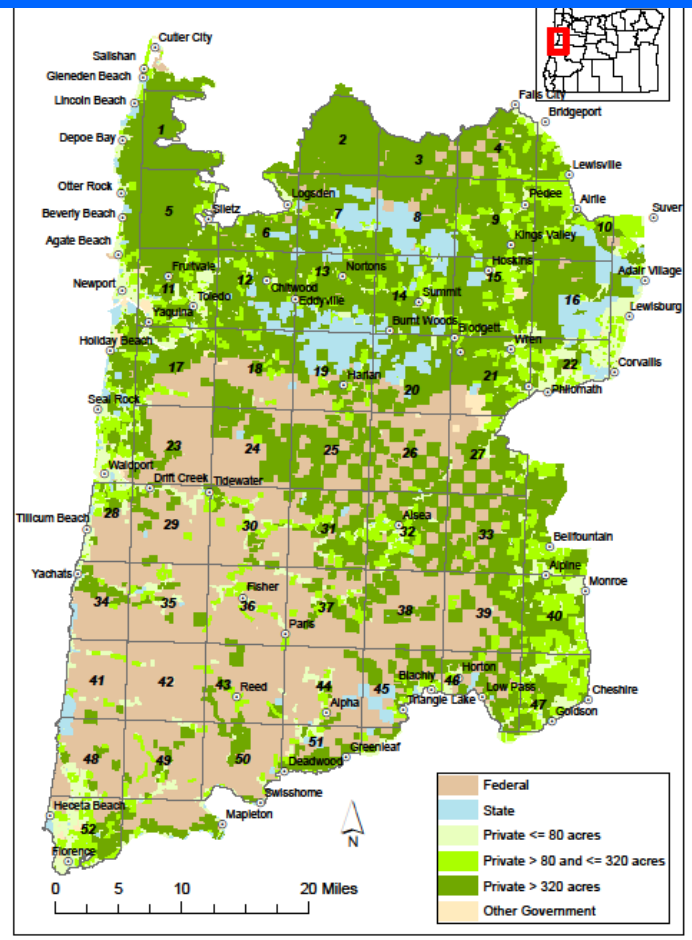
Coast Range WMUs

Trask WMU



ODFW GIS; Dec 29, 2011; Based on county taxlot data

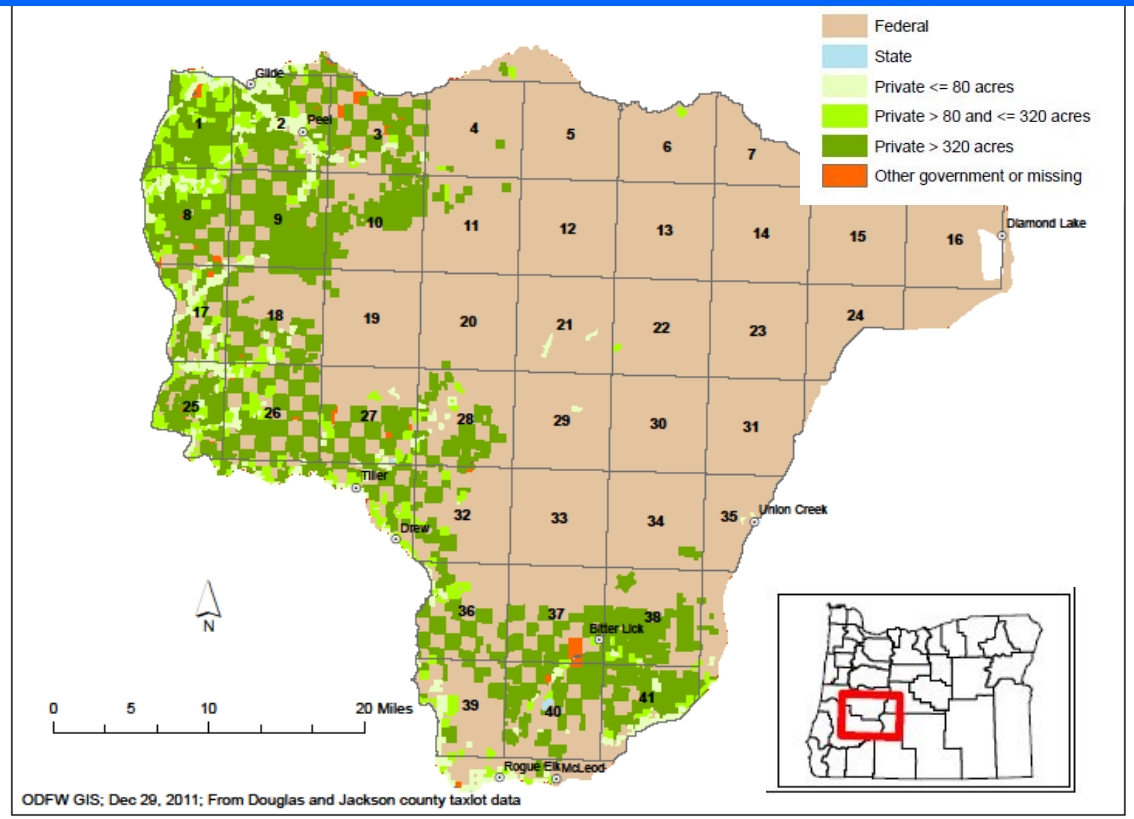
Alsea WMU



ODFW GIS; Dec 29, 2011

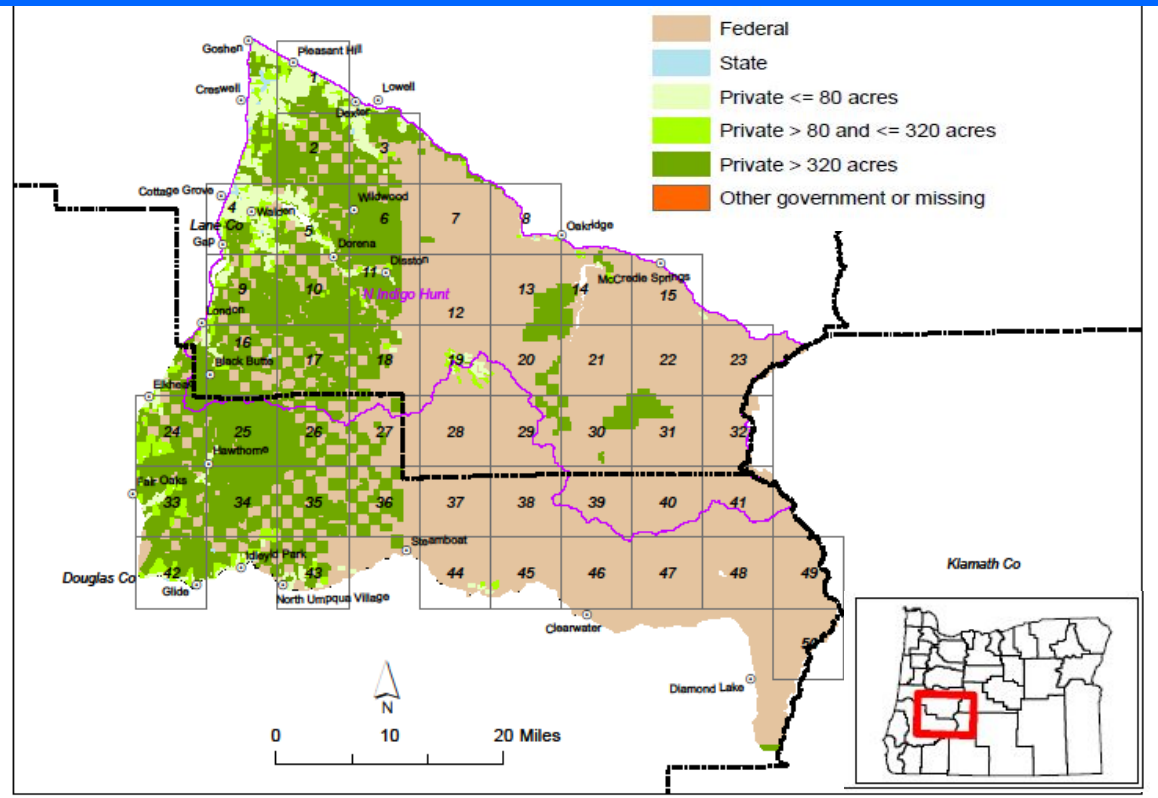
Cascade Range WMUs

Dixon WMU



ODFW GIS; Dec 29, 2011; From Douglas and Jackson county taxlot data

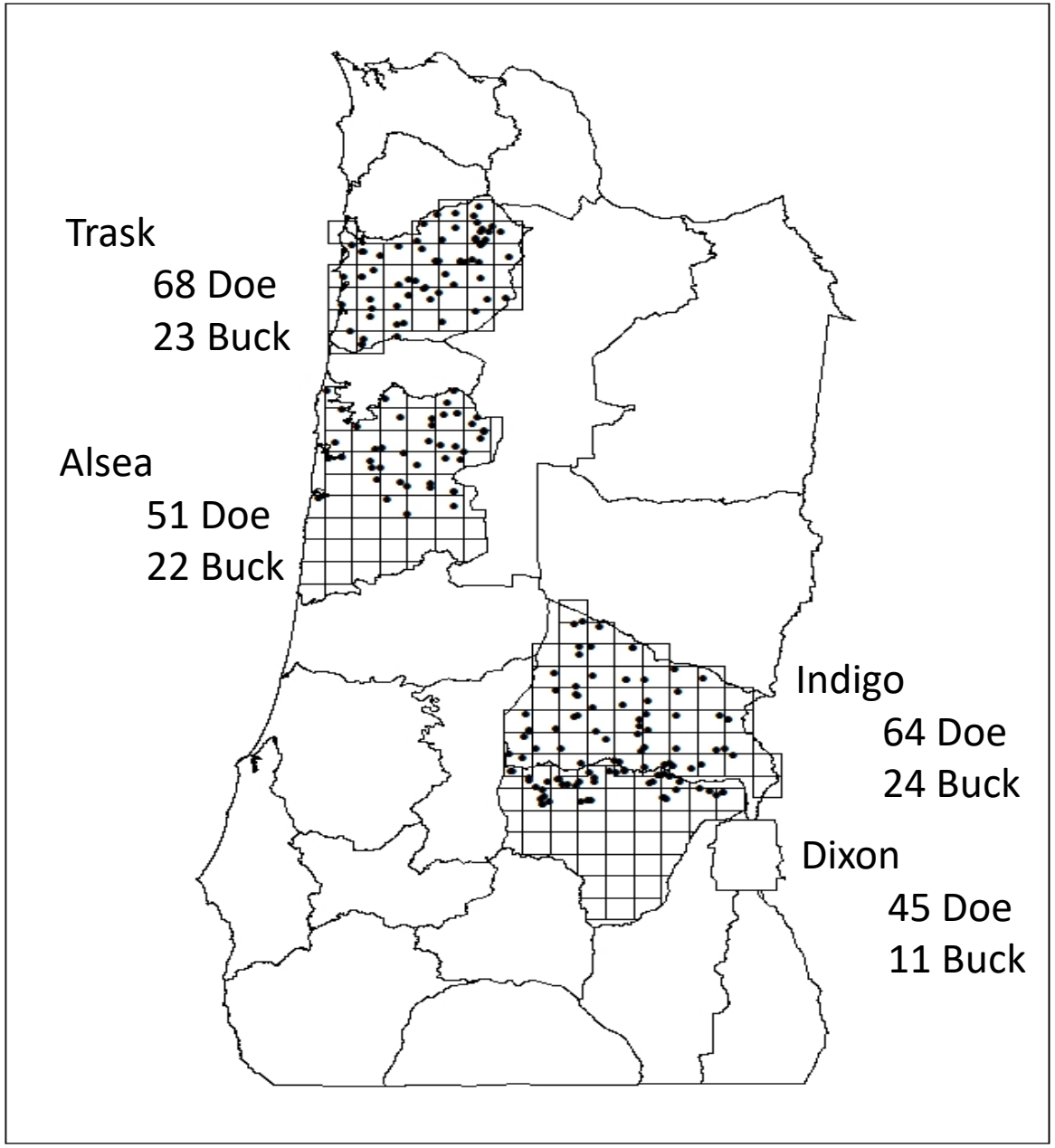
Indigo WMU



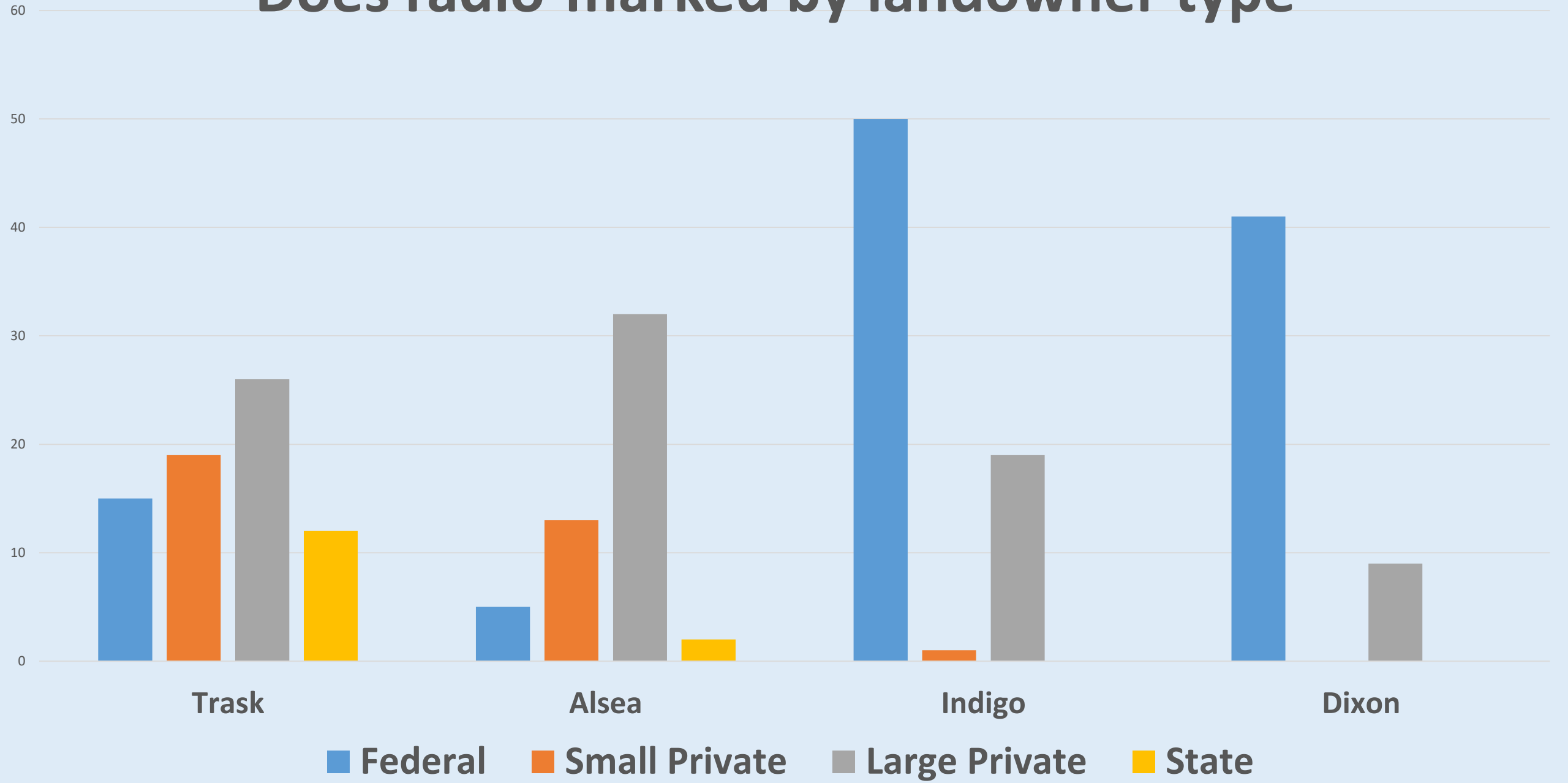
ODFW GIS; January 5, 2012: Data from taxlots for Douglas and Lane Counties

SUMMARY
308 Radio-marked BTD

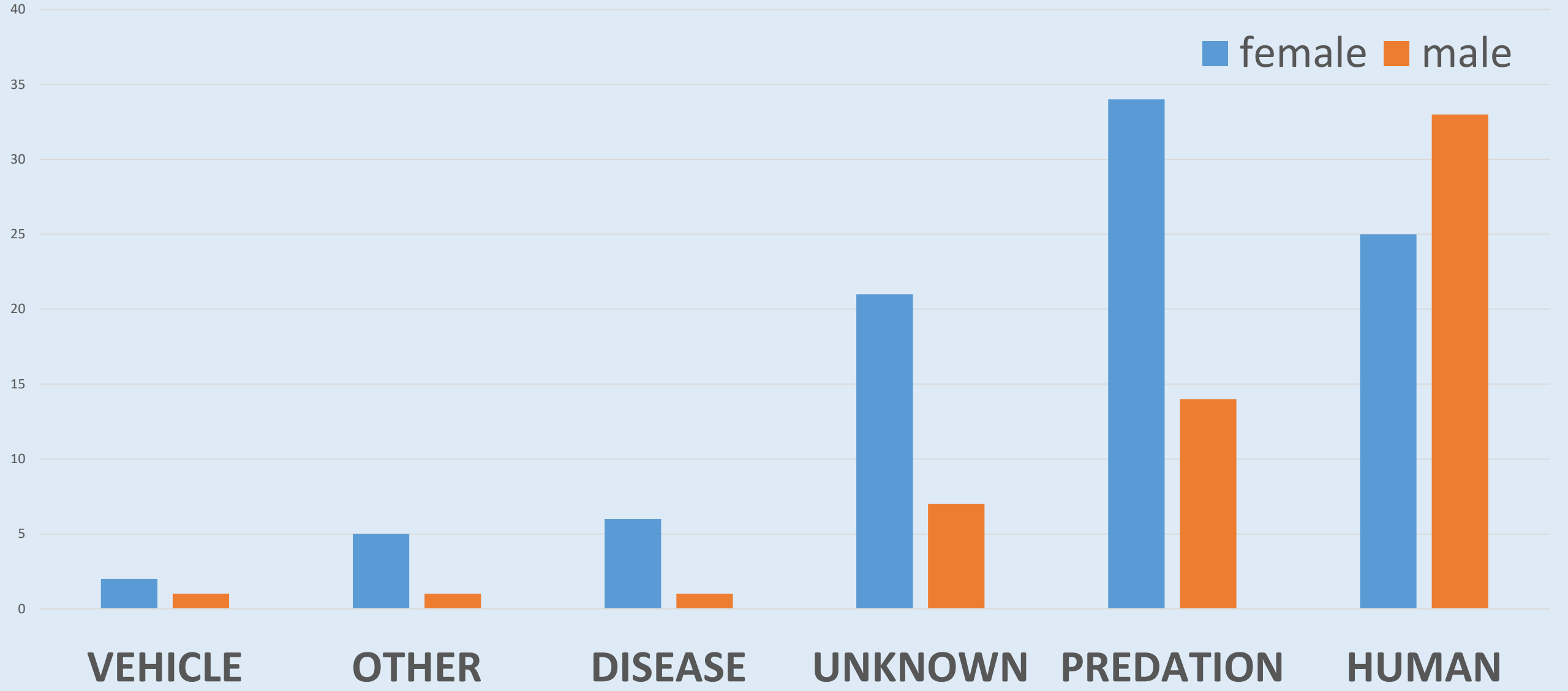
228 Doe
80 Buck



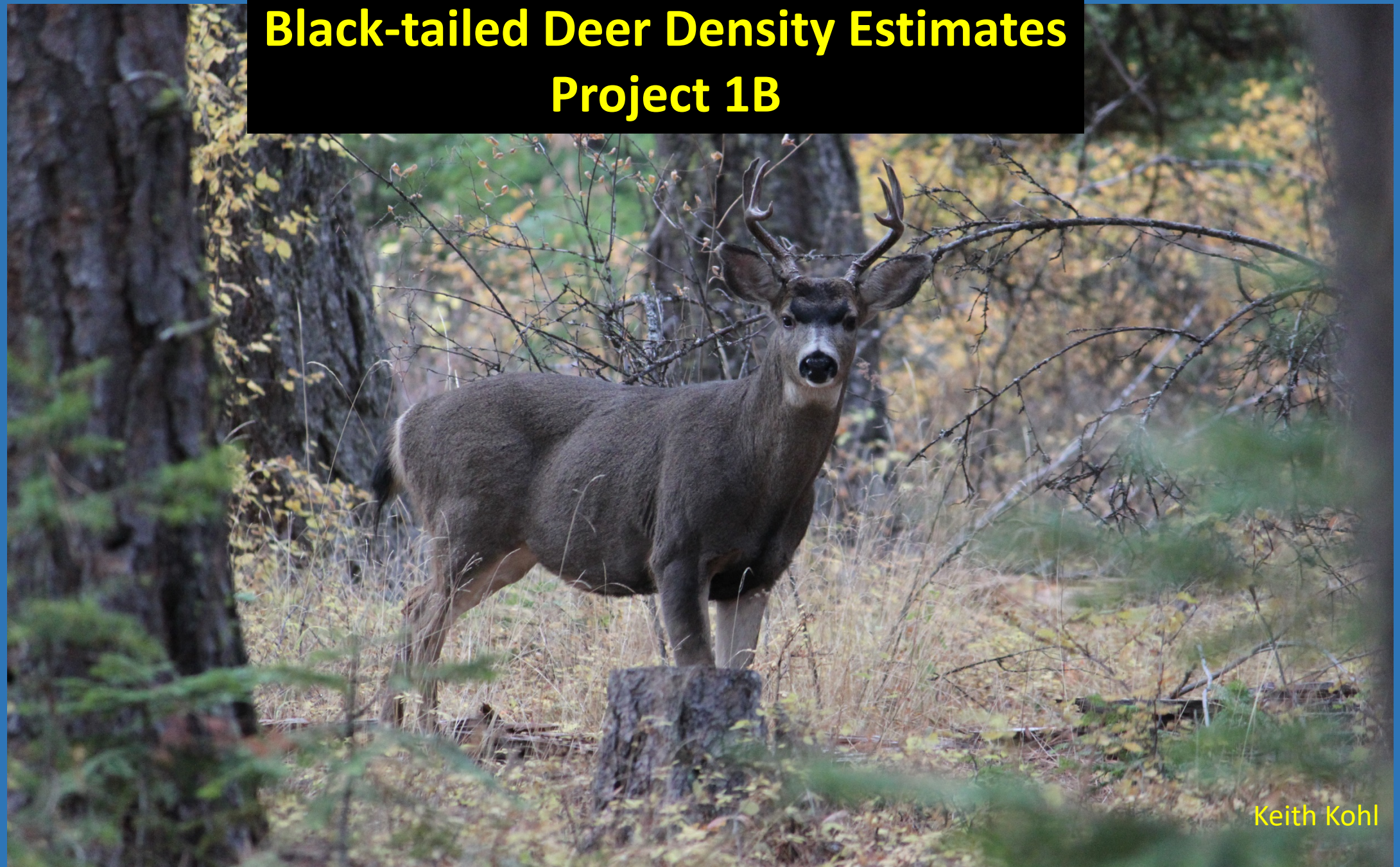
Does radio-marked by landowner type



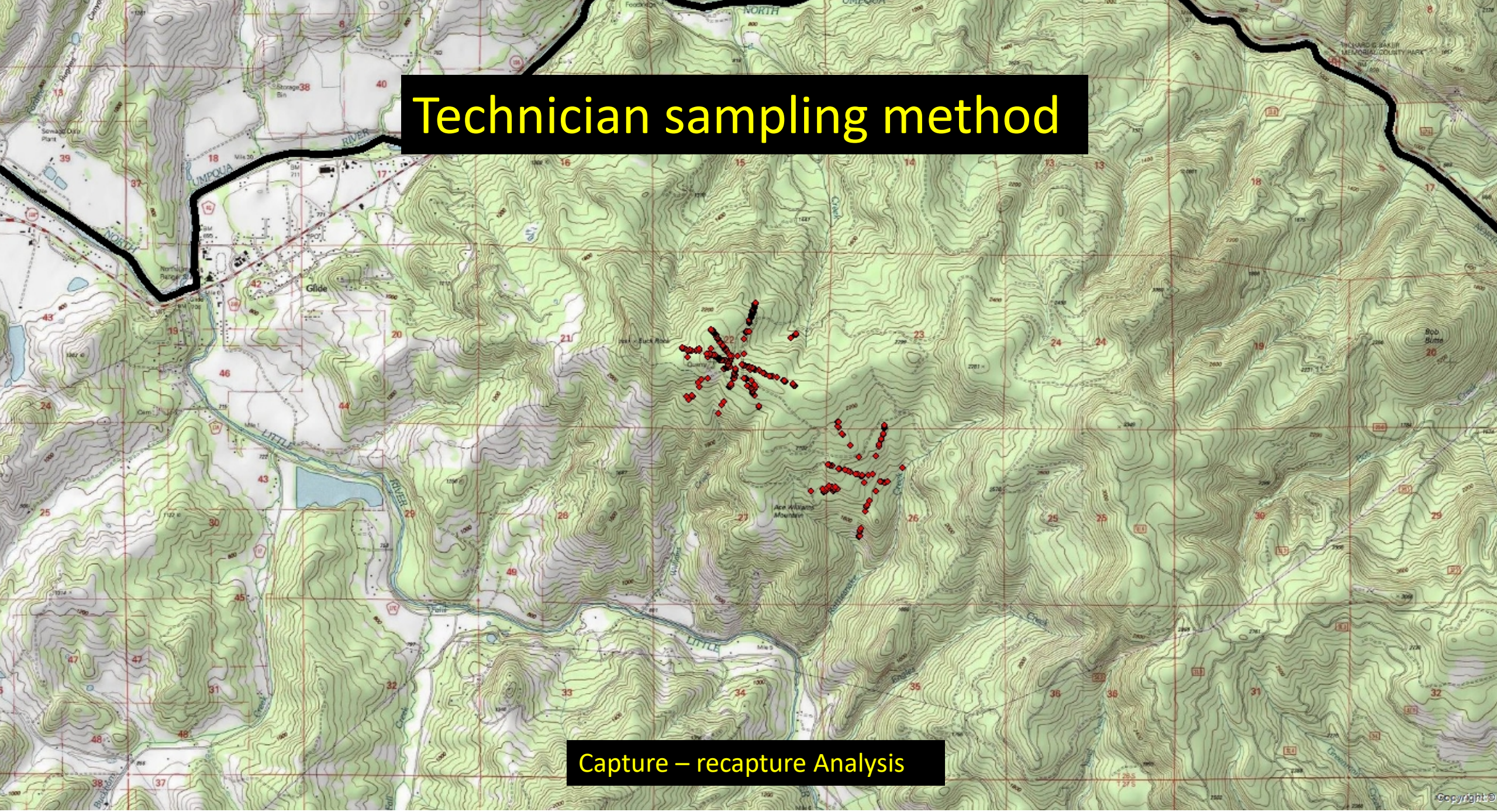
Mortality of Radio-marked BTD



Black-tailed Deer Density Estimates
Project 1B



Technician sampling method

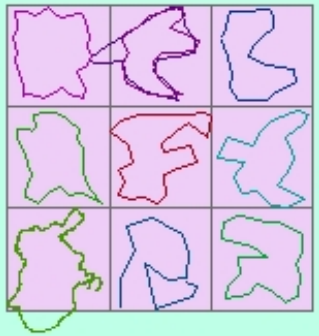


Capture – recapture Analysis

Conservation Dog Sampling Method

100 KM^2 GRID

9 KM^2 GRID



Spatially Explicit Capture – recapture Analysis

BTD Fecal Sampling in 4 Western Oregon WMUs
2012-2016

Landowner	NODES	SAMPLES
Federal	38%	33%
Large Private	32%	42%
Small Private	17%	10%
State	13%	15%

>22,000 Fecal Samples Collected

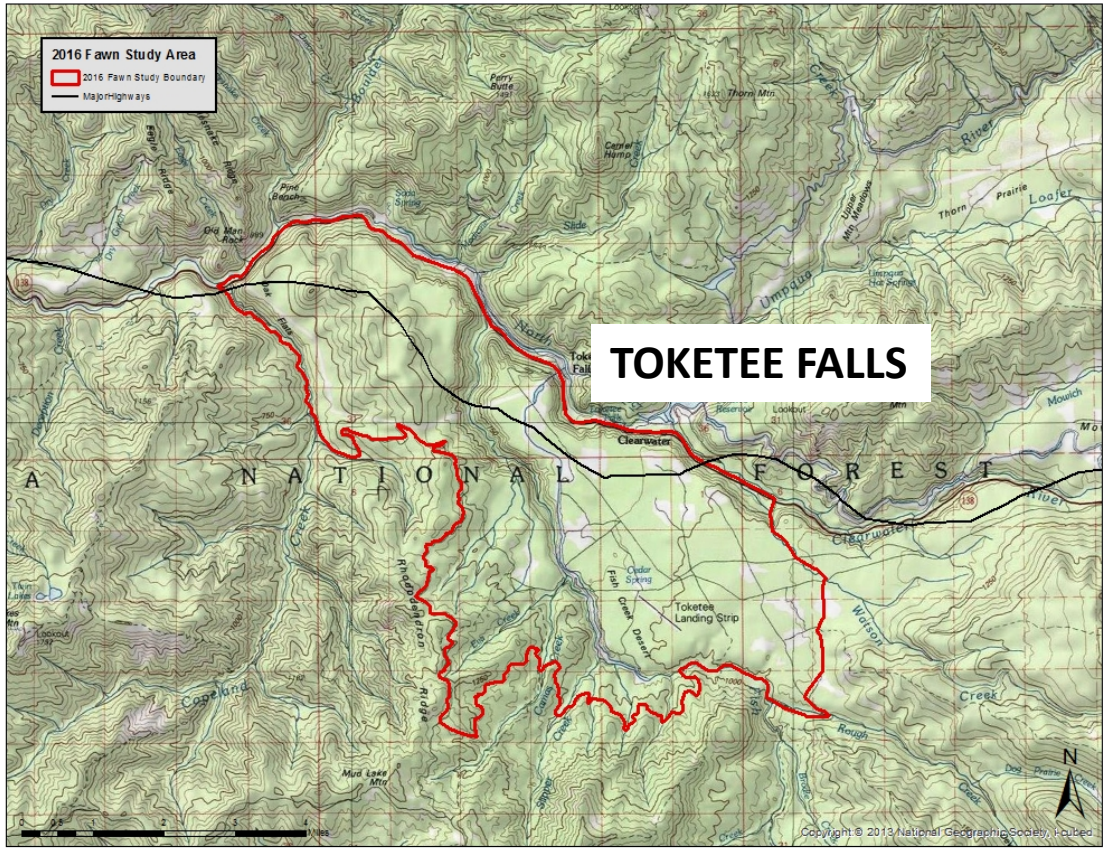
Naïve Density Estimates by Landowner Type Based on Fecal DNA Sampling - Preliminary

LANDOWNER	DEER/KM^2
Federal	3.9
Large mixed	5.2
State	7.2
Small private	9.0
Large private	10.9

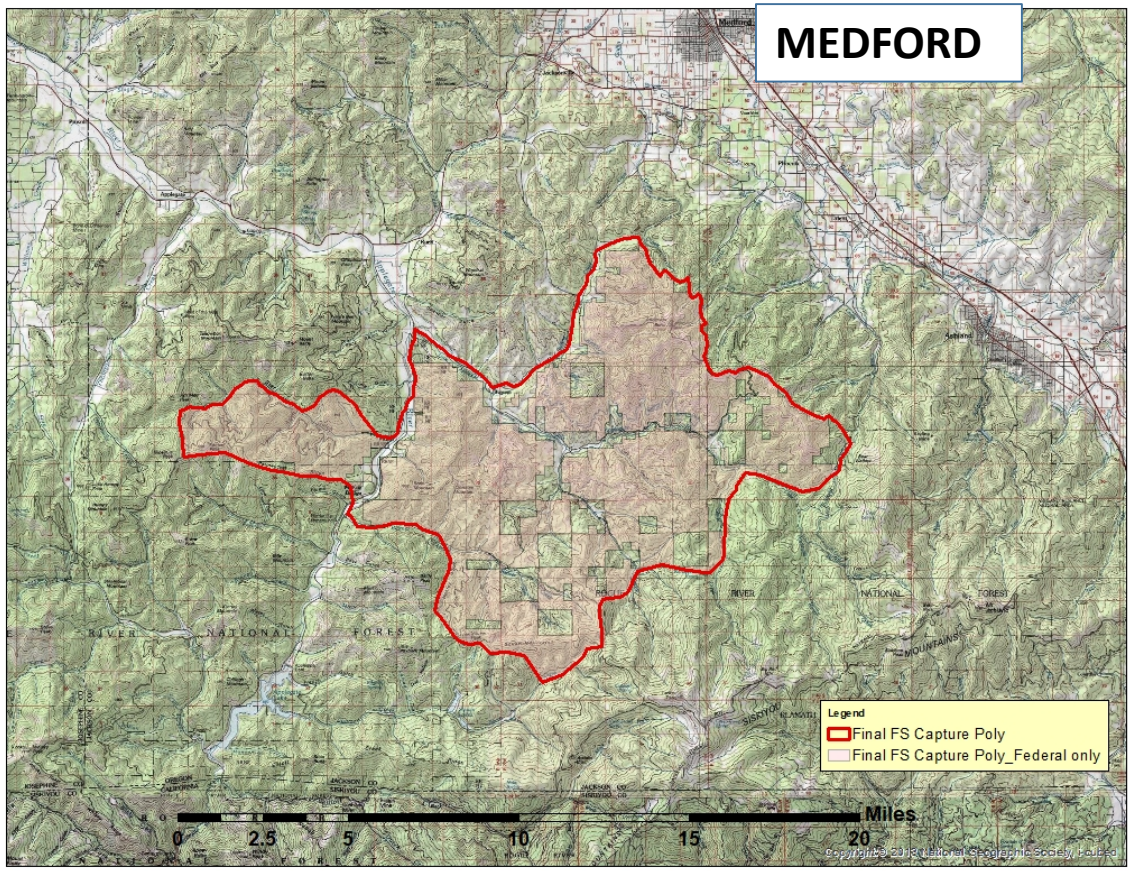
Project 1C – Fawn Survival
Dixon & Applegate WMUs

FAWN STUDY AREAS

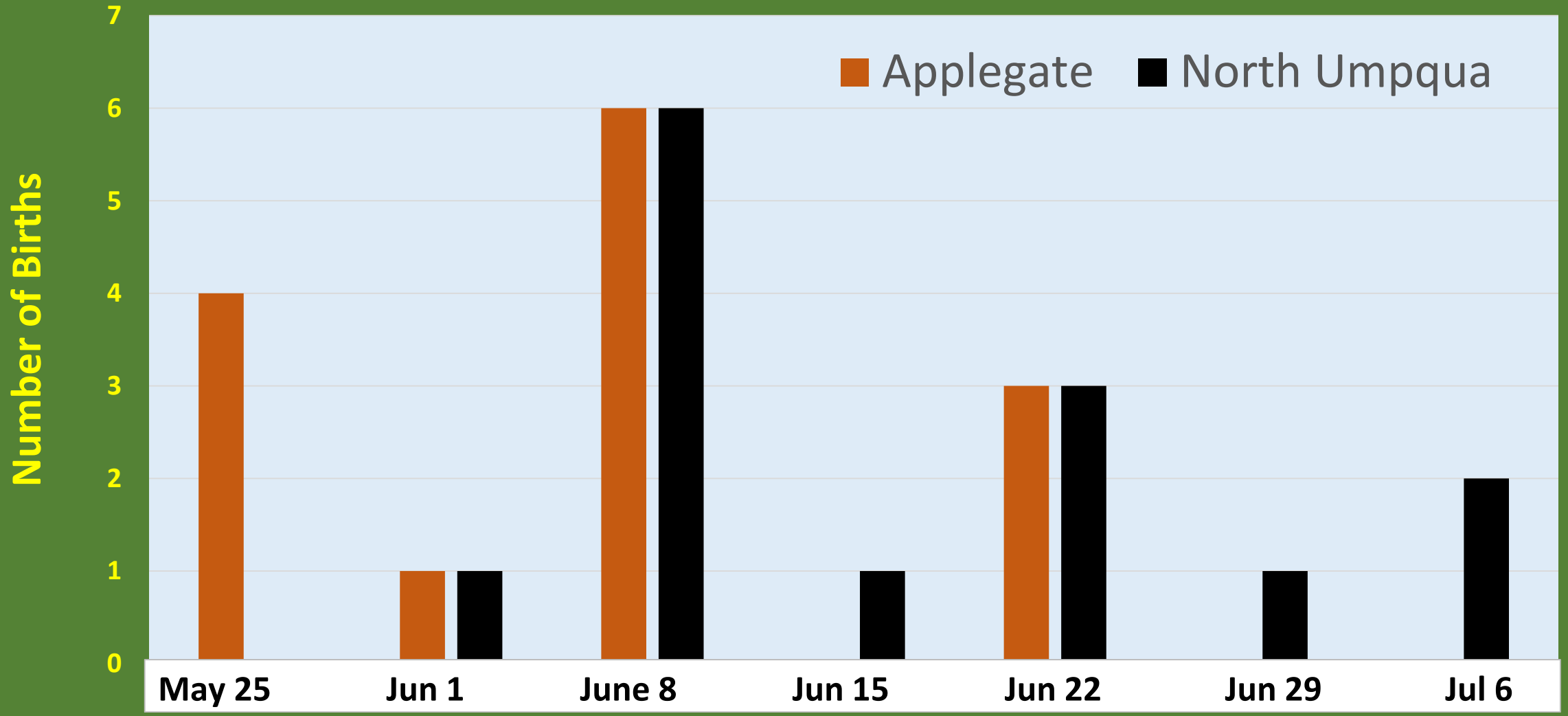
NORTH – DIXON WMU



SOUTH – APPLEGATE WMU



FAWN BIRTH DATES - 2018

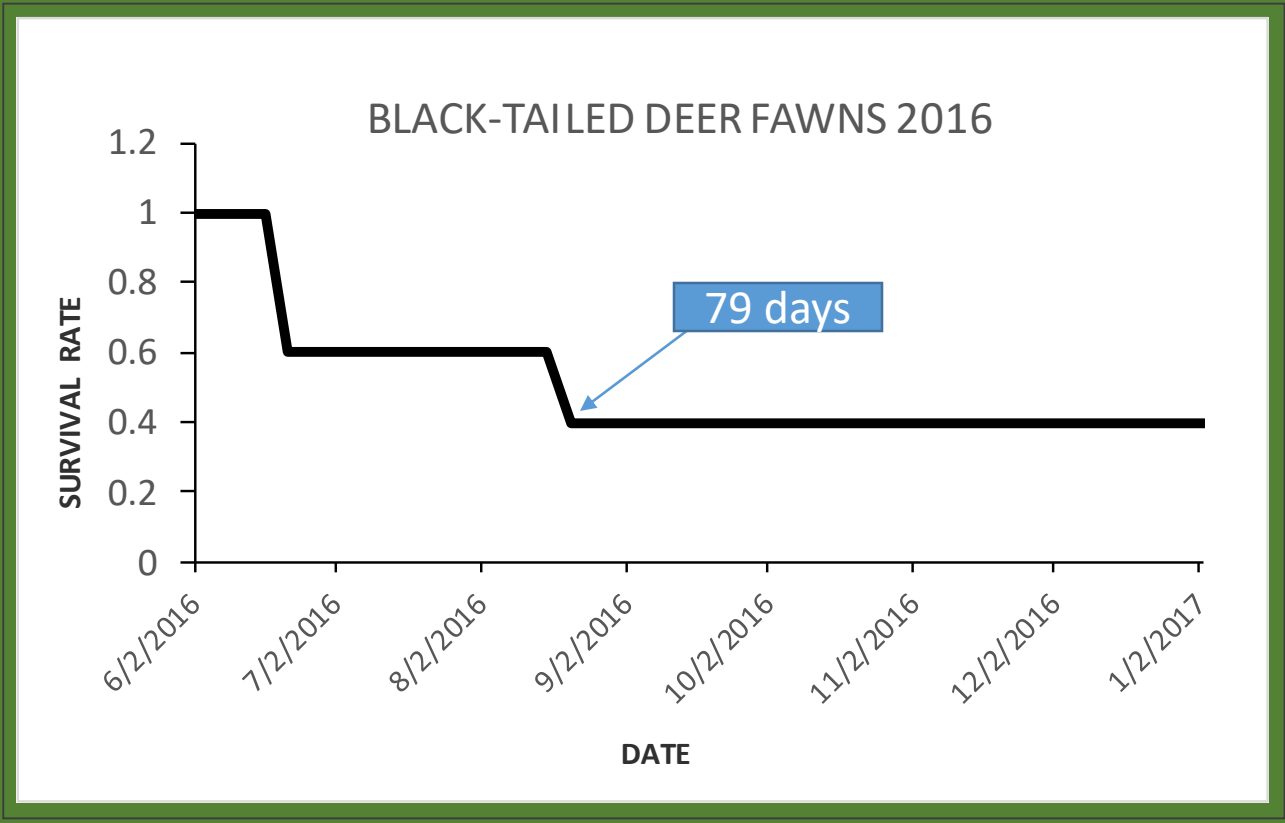


2016-18 DIXON WMU FAWN FATES

54% MORTALITY

FATE	SPECIES	NUMBER
MORTALITY	BOBCAT	6
	BEAR	2
	COUGAR	1
	COYOTE	1
	NATURAL	1
	UNK	4
DROP COLLAR		10
ALIVE		3

Fawn Survival Rate -- Dixon WMU



- **0.40 ± 0.22 through first 7 months**
- **Survival stabilized at 79 days**
- **Documented survival rate is a minimum to maintain herd size**

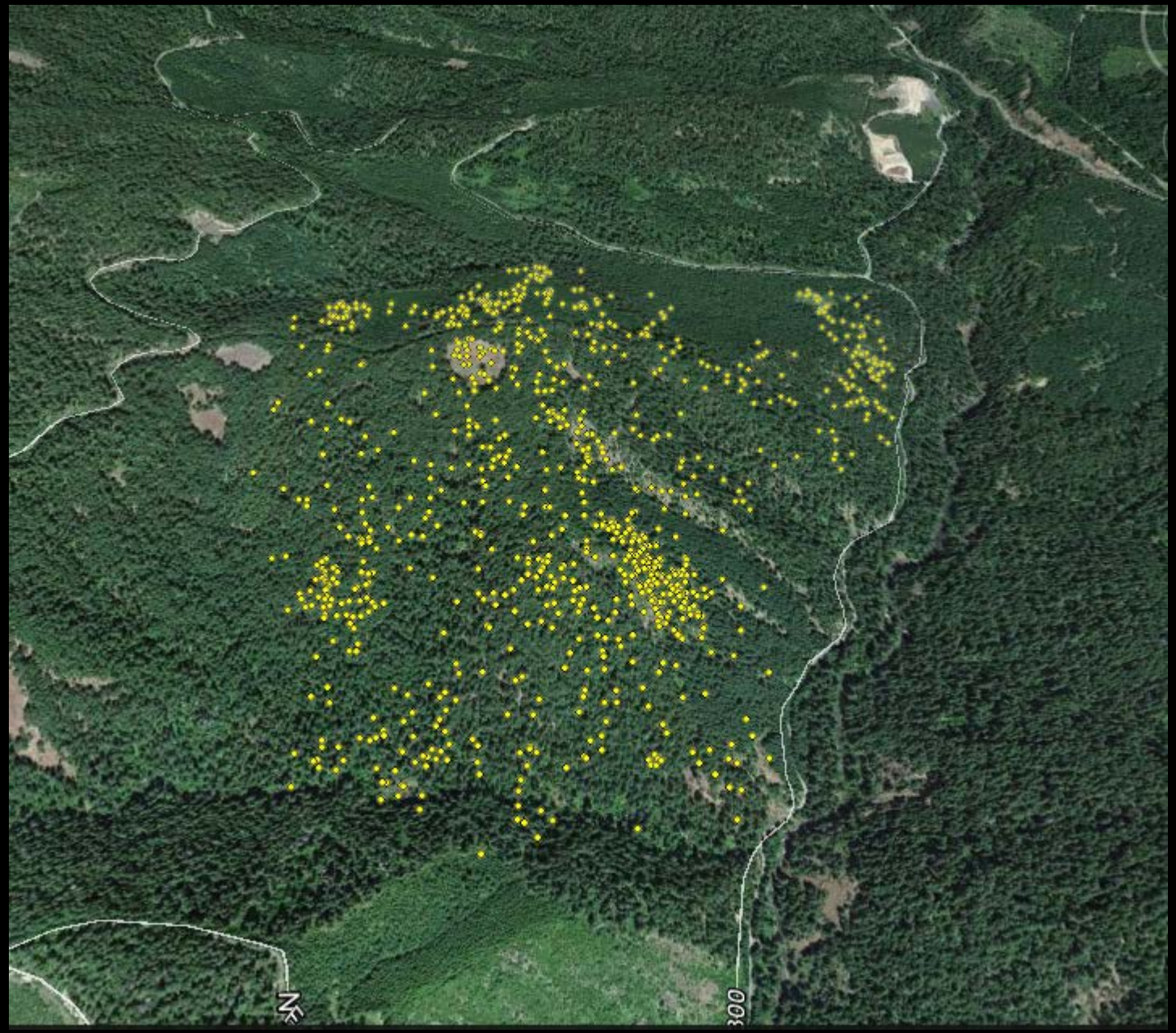
2018 APPLEGATE WMU FAWN FATES

71% MORTALITY

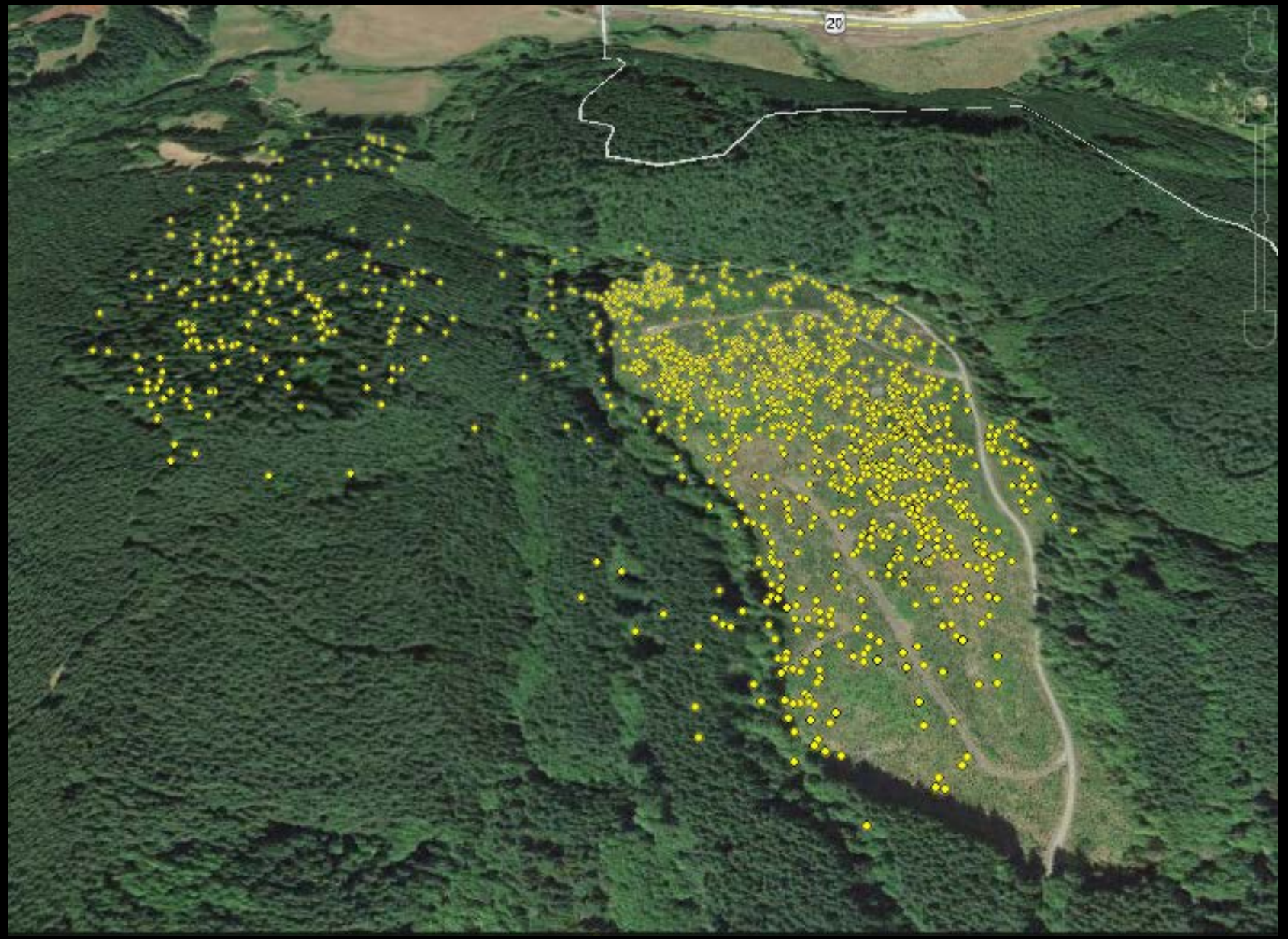
FATE	SPECIES	NUMBER
MORTALITY	BEAR	4
	BOBCAT	1
	COUGAR	1
	COYOTE	1
	NATURAL	1
	UNK	2
DROP COLLAR		2
ALIVE		2

Black-tailed Deer Habitat Use Project 1D

FEDERAL HABITAT USE

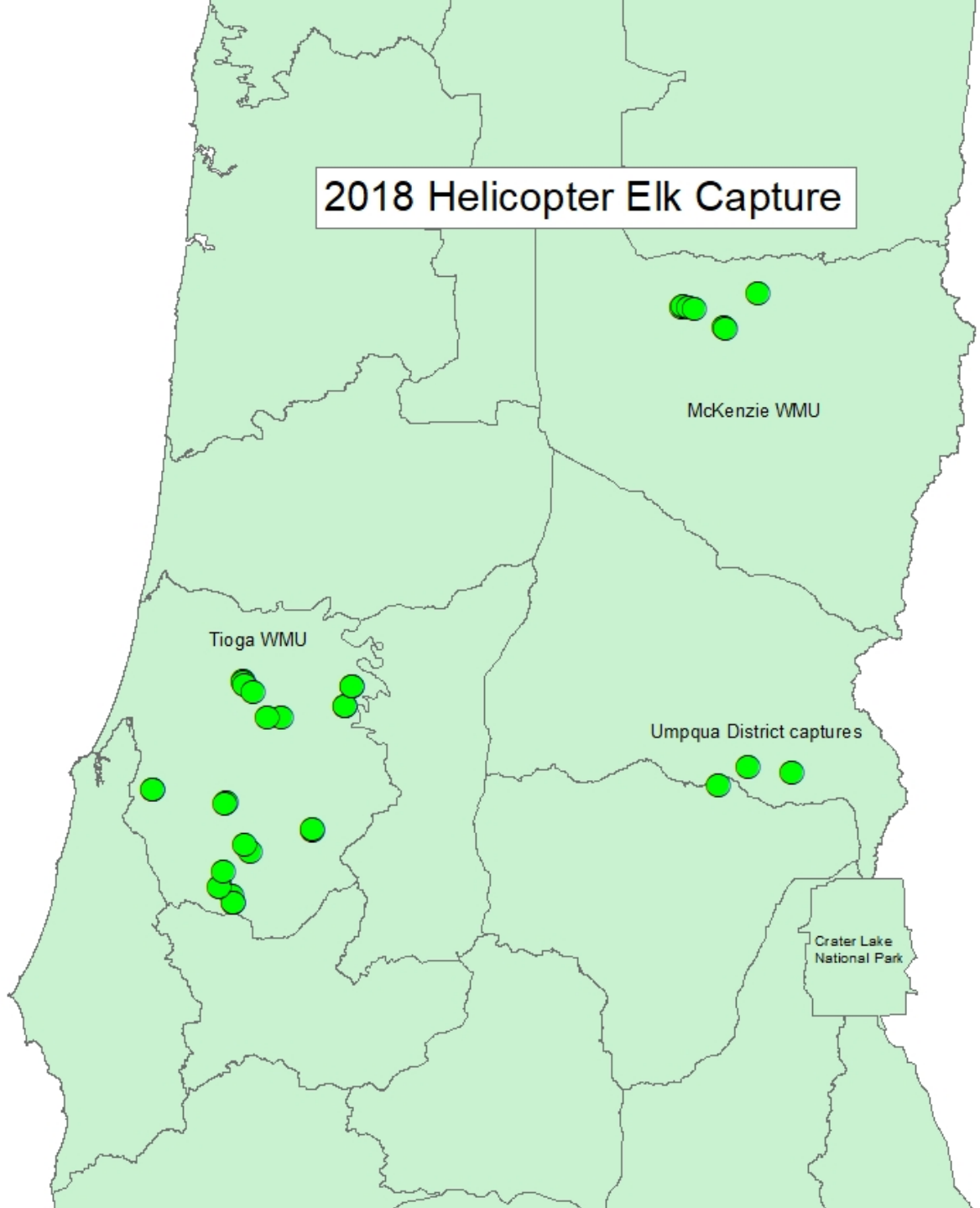


LARGE PRIVATE HABITAT USE



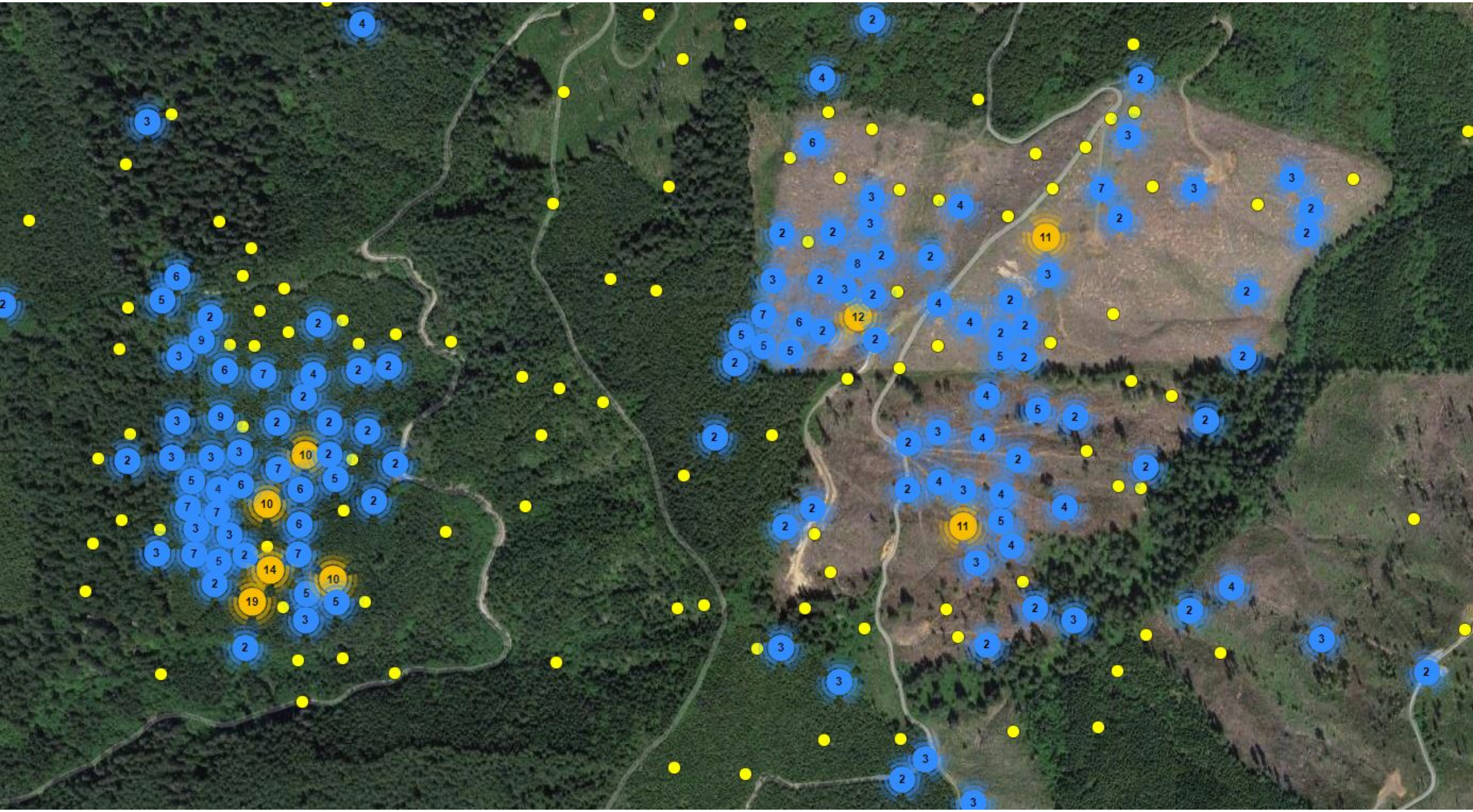
SMALL PRIVATE HABITAT USE

ROOSEVELT COW ELK SURVIVAL AND HABITAT USE PROJECT #2A


2018 Helicopter Elk Capture
McKenzie WMU
Tioga WMU
Umpqua District captures
Crater Lake
National Park

Current Status of Radio-marked Elk

WMU	Functioning	Malfunction	Mortality	TOTAL
McKenzie	4	3	1	8
Tioga	14	10	1	25
TOTAL	18	13	2	33

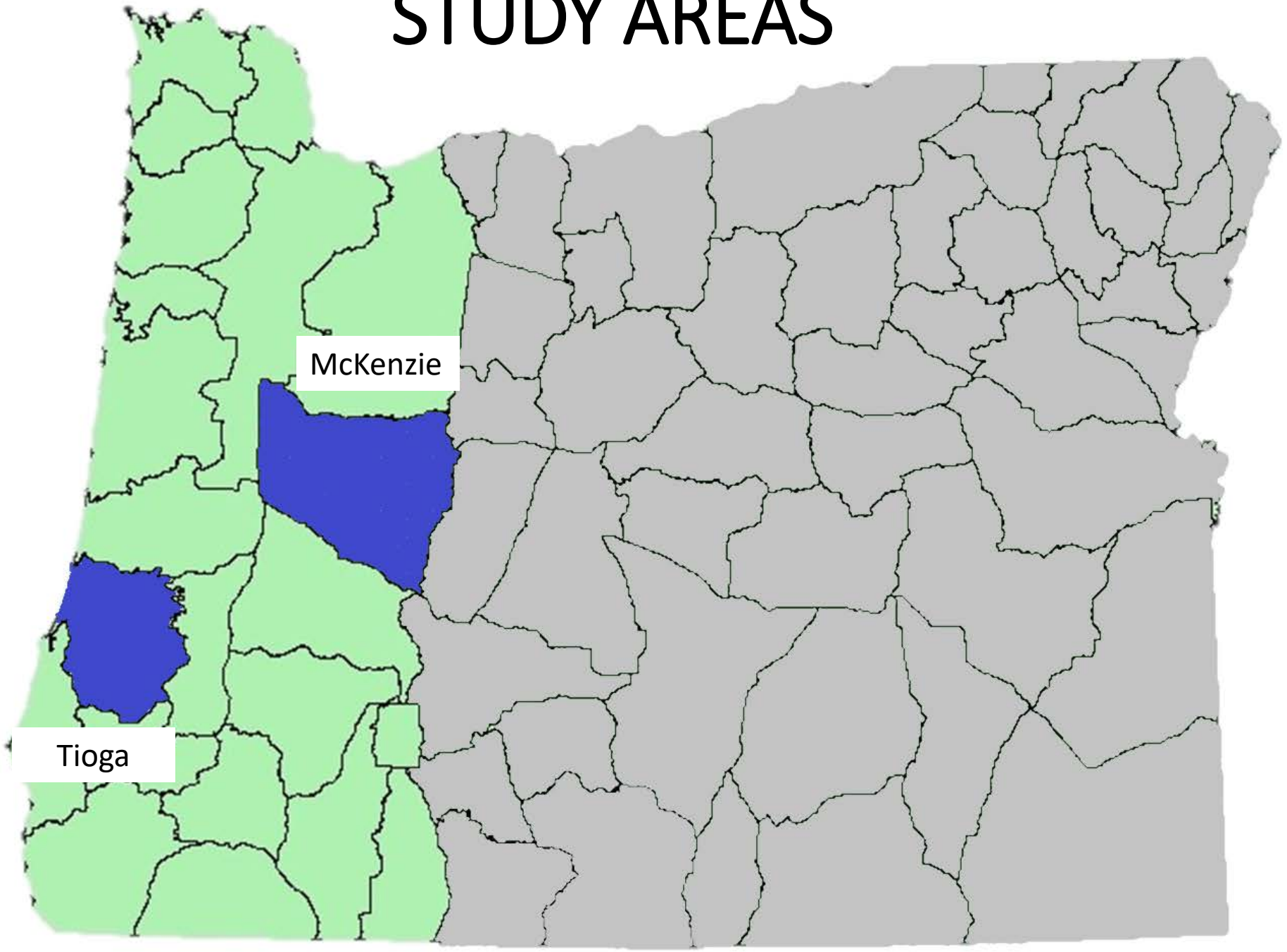


Using fecal DNA and spatial capture-recapture models to estimate Roosevelt elk

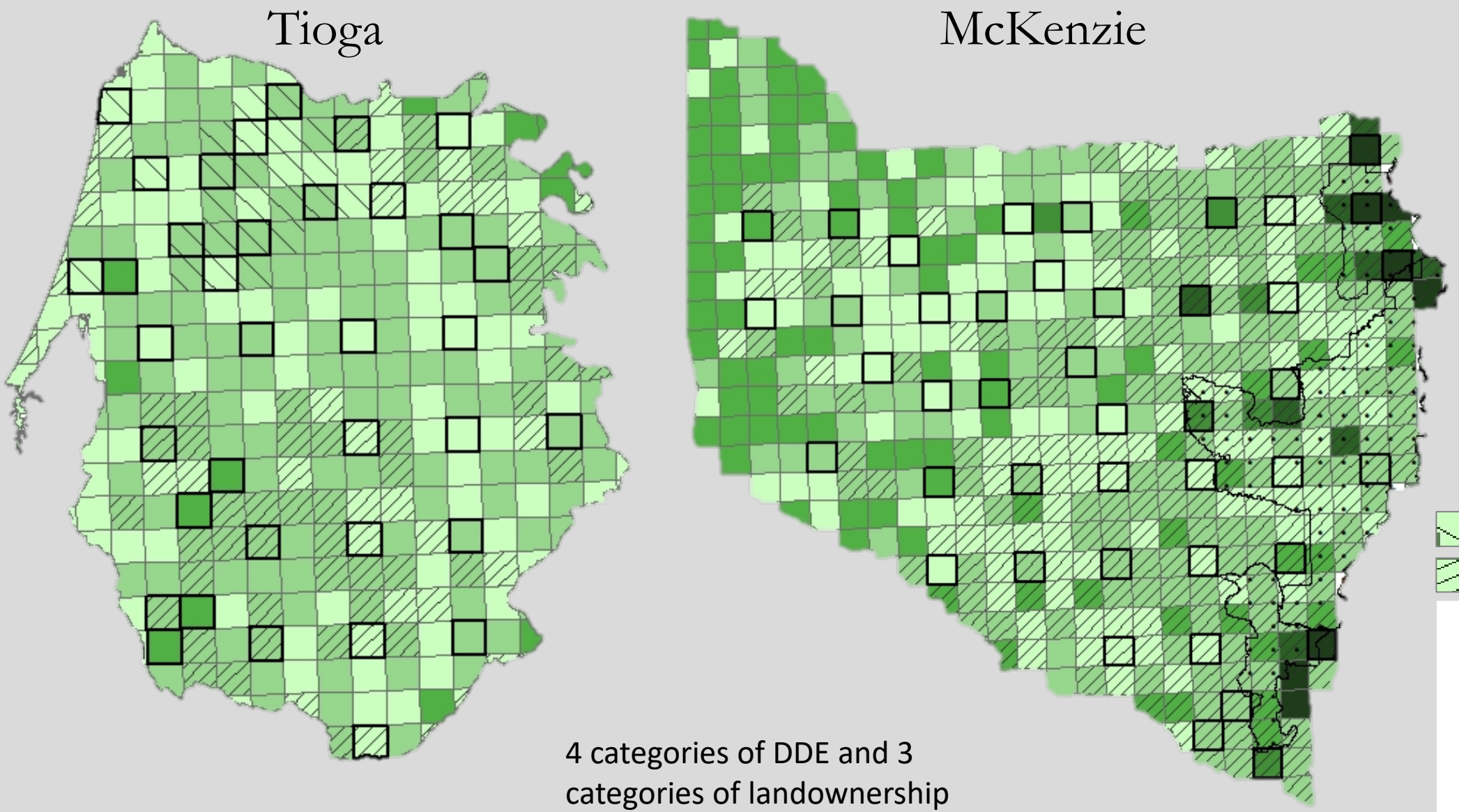
PROJECT #2B

Jennifer Nelson (OSU MS candidate)
Clint Epps OSU
DeWaine Jackson ODFW
Don Whittaker ODFW

STUDY AREAS



Sampling Design



4 categories of DDE and 3 categories of landownership

Preliminary Results – Genotyping Success Rate

Tioga 2018

Surveyed 36 cells: 10 Federal, 16 private, 10 state

Samples collected: 542

- 122 unique individuals detected →
- 41 (33.6%) individuals recaptured →

	Males	Females	Unknown
Unique IDs	27	81	14
Recaptures	12	28	1

USGS

Preliminary Results – Genotyping Success Rate

McKenzie 2018

Surveyed 43 cells: 23 Federal, 20 private

Samples collected: 82

- 24 unique individuals detected ⟶
- 8 (33%) individuals recaptured ⟶

	Males	Females	Unknown
Unique IDs	11	11	2
Recaptures	6	2	0

USGS

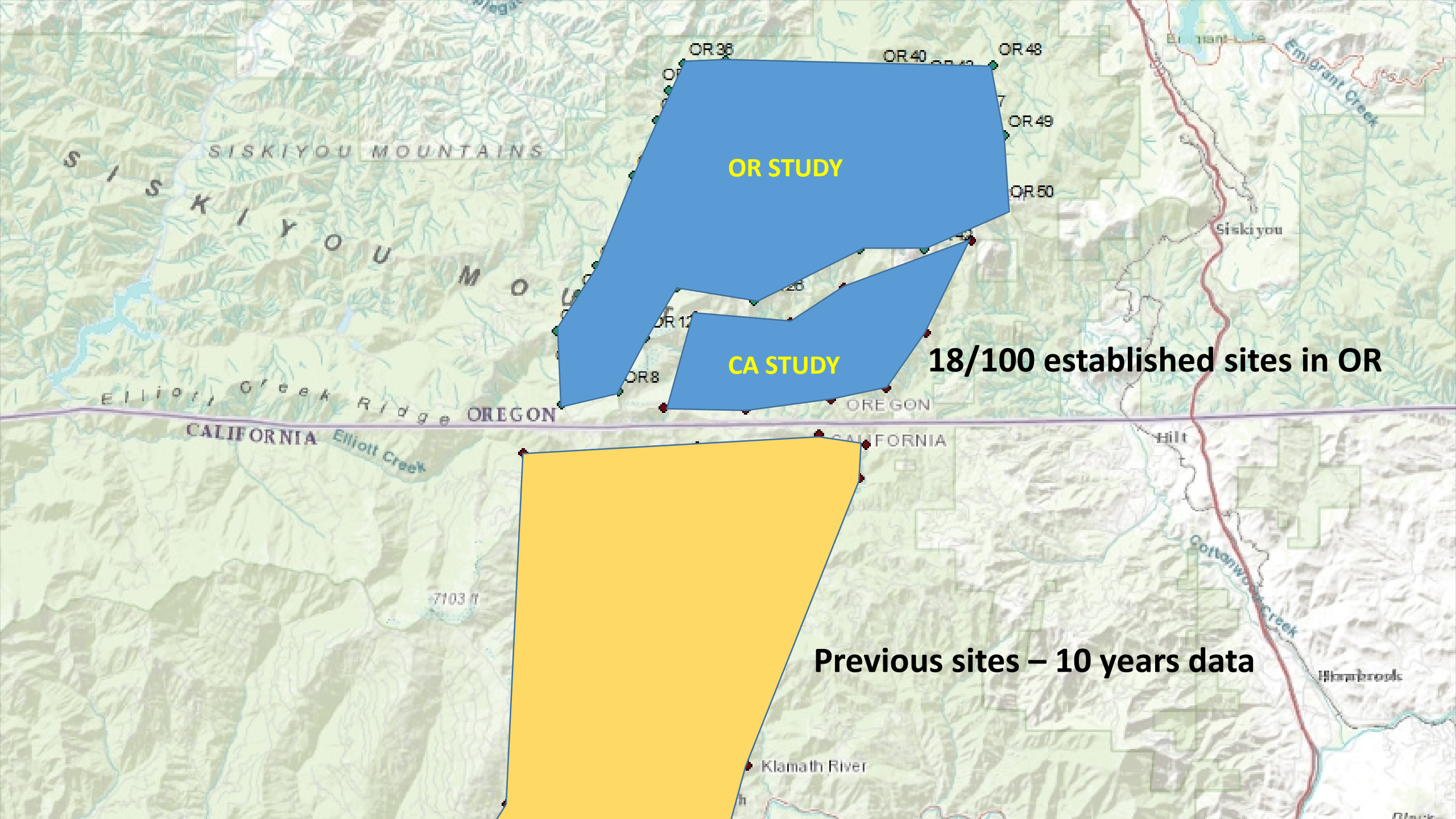
2018 TIOGA RESULTS – “Habitat”

- 542 samples collected:

Habitat Type Group (qualitative)	
1. “Open forest”	269
2. Clear cut	103
3. Road associated	93
4. “Mid-age forest”	77

FISHER IN THE APPLEGATE WMU Study #3

A cooperative study with OSU Institute for Natural Resources


OR STUDY
CA STUDY
18/100 established sites in OR
Previous sites – 10 years data
SISKIYOU MOUNTAINS
Elliott Creek Ridge
OREGON
CALIFORNIA
Elliott Creek
Klamath River
Siskiyou
Hilt
Emigrant Creek
OR 36
OR 40
OR 48
OR 49
OR 50
OR 8

“Cubby” with hair collection glue strip

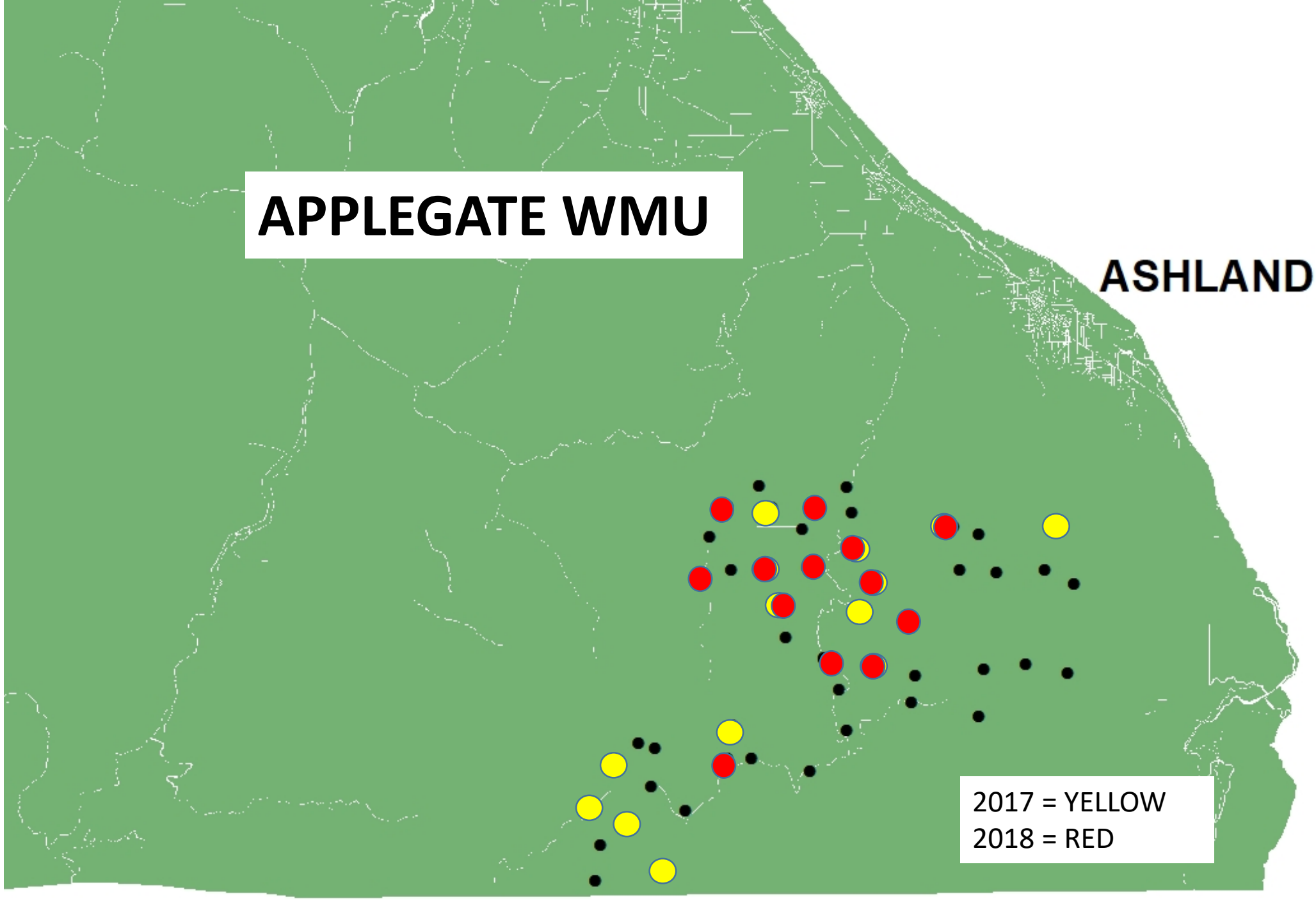
Summary results – 2017 & 2018

Species	Samples 2017	Samples 2018
Fisher	38	24
Black bear	4	5
Gray fox	31	76
Bushy-tailed woodrat	1	13
Golden-mantled ground squirrel	5	4
Spotted skunk	-	3
Raccoon	3	-
Flying squirrel	2	1
Opossum	2	-
Long-tailed weasel	-	2
Douglas squirrel	-	1
Ringtail	1	-
Deer	-	1
Striped skunk	-	4

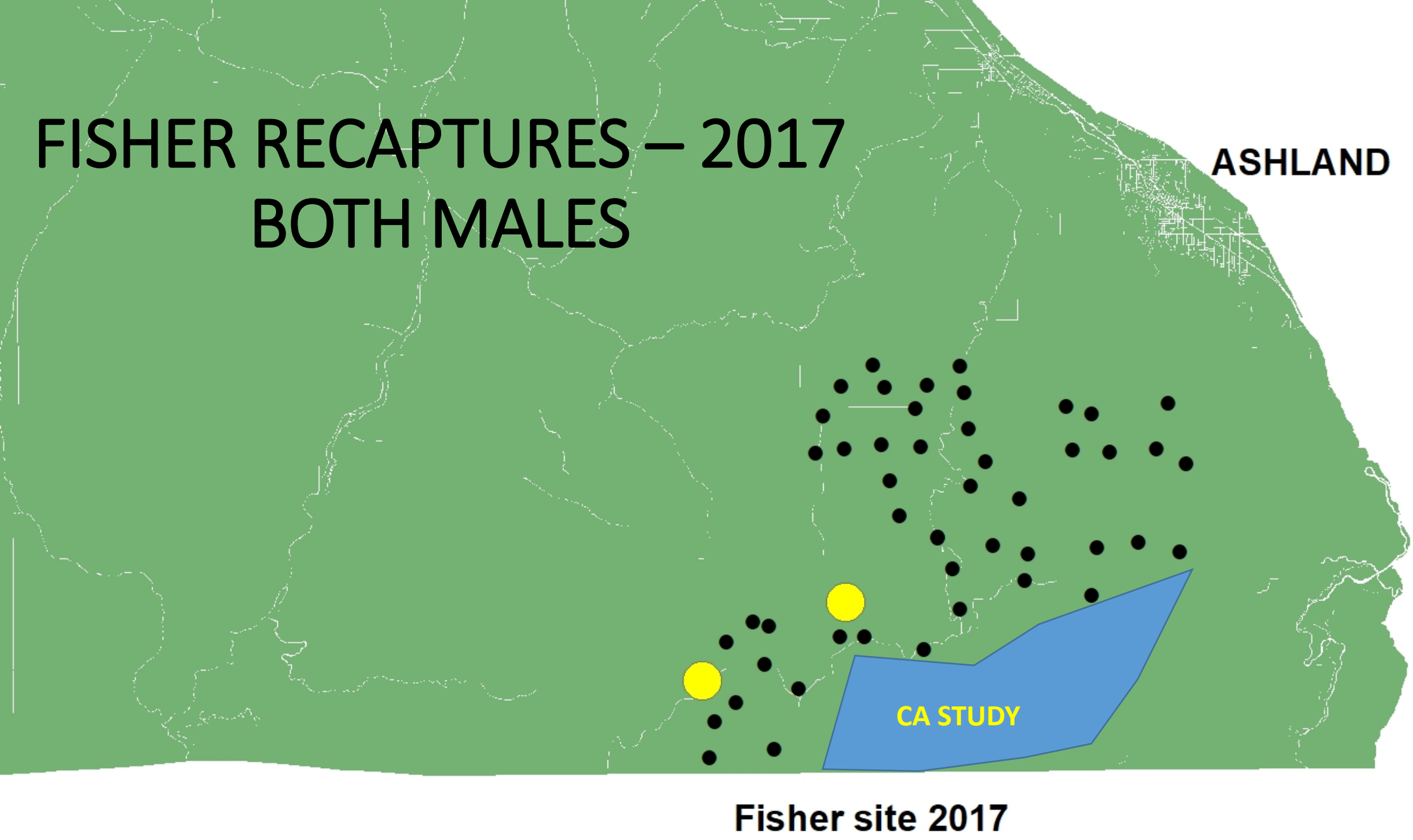
Preliminary Fisher Results - Applegate WMU 2017 & 2018

Year	Fisher Samples	DNA Amplified	Recaptures	Unique IDs	Males	Females
2017	38	34	20	14	10	4
2018	24	19	8	11	7	4

	OREGON TOTAL	Male	Female
Total Population	27	12	15
Density	12 / 100 KM^2	5 / 100 KM^2	7 / 100 KM^2
Area	222KM^2		


APPLEGATE WMU
ASHLAND
2017 = YELLOW
2018 = RED

FISHER RECAPTURES – 2017
BOTH MALES




Wow – this chicken is great !
MOULTRIE
24.70 inHg - 22°F 11/18/2017 01:27PM MOULTRIECAM


QUESTIONS ?