Baker Sage-grouse Threat Reduction

Baker Local Implementation Team

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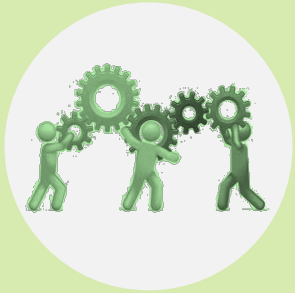
Overview

Purpose and goals

- Increase quantity & quality of sage-grouse habitat and ultimately sage-grouse population.



Step-wise approach

- Guiding principals
- Inventory of threats and past efforts
- Prioritize future work

Benefits

- Common road map, centralized information
- Facilitated collaboration
- Attractive for funding requests

Baker LIT TRP: Purpose

- Identify local threats and past/ongoing efforts in a spatially-explicit manner with the goal of applying conservation measures with a high degree of coordination.
- Be comprehensive
  - All land ownership
  - All potential threats
- Use data to prioritize threats, where to work and what actions to take
- Coordinate all stakeholders

Approach

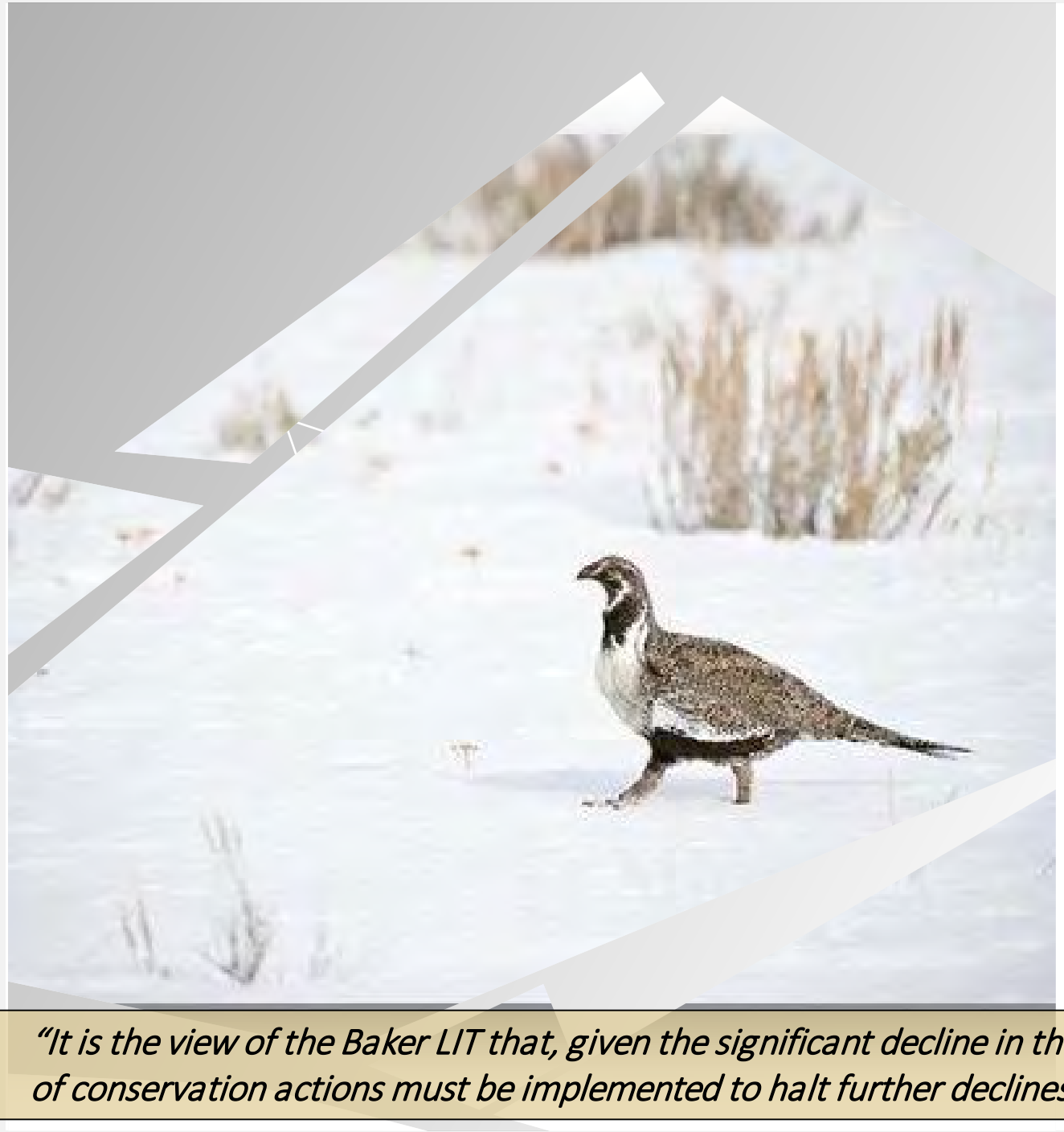
Baker LIT Work Plan

"Living document"

- Will adapt with the emergence of new information, shifts in ecological condition, new techniques, and funding opportunities.
- Will be updated as efforts are implemented & threats are resolved.

Address **all threats likely or definitively impacting** the Baker population that meet **2 criteria**:

- Must be within immediate control of stakeholders
- Strategic conservation actions are likely to have a positive impact



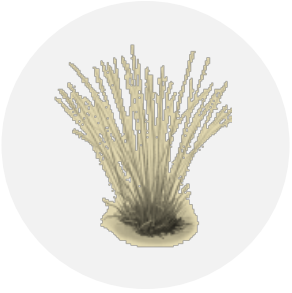
Approach: Three Categories of Action

Result in immediate and lasting reduction and/or elimination of the threat and require minimal follow-up

- conifer removal
- marking fences
- installing escape ramps in water troughs

Result in immediate threat reduction to provide short-term, but not necessarily enduring results

- Predator reduction



Provide lasting impacts, but require long-term and ongoing investments to ensure success

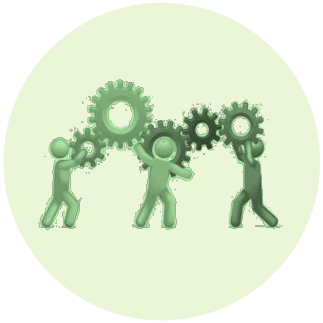
- Invasive annual grass treatment
- Re-establishment of desirable perennial bunchgrasses

"It is the view of the Baker LIT that, given the significant decline in the sage-grouse population in the Baker PAC, all three categories of conservation actions must be implemented to halt further declines and promote long-term population growth ."

Four Broad Steps

Gather & analyse spatial data of threats

- List all possible threats
- Consider all available data:
  - Remotely-sensed & modeled data
  - Historical records
  - Local knowledge
  - Recently-collected data (e.g. AIM, raven density, weed inventories)
- Data-driven assessment



Assemble spatial data of prior efforts

- Spatial data is best
- Collate & document prior efforts in one place
- Useful for planning future treatments
- Demonstrate partnership capacity

Identify & prioritize opportunities

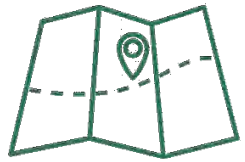
- Identify sage-grouse priority areas to further target efforts
  - Focus: greatest sage-grouse benefit
- Spatial data of agency planned near-term treatments
  - Capitalize on prior efforts
  - Avoid random acts of conservation
  - Plan contiguous and/or follow-up treatments across ownerships
- Incorporate into detailed work plan

Identify information gaps

- Threats suspected are at play, but lack data to inform action
- E.g. West Nile virus, mesic habitat, raven subsidies, understory condition

All Threats Considered:
Baker LIT Comprehensive Threat Reduction Plan

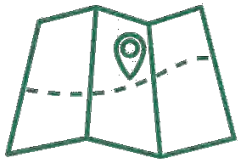
Threat	Included in Baker LIT Plan	Priority Ranking
Juniper encroachment	Yes	Low
Invasive annual grasses	Yes	High
Wildfire/altered fire regimes	Yes	High
Native forbs & grasses	Yes	High
Sagebrush cover	Yes	Low
Crested wheatgrass seedings	Yes	Mid
Development/infrastructure	Yes	High
Sagebrush elimination/ag conversion	No	Low
Fragmentation	Yes	High
Improper grazing management	Yes	High
Recreation	Yes	High



Gather & analyse spatial data of threats

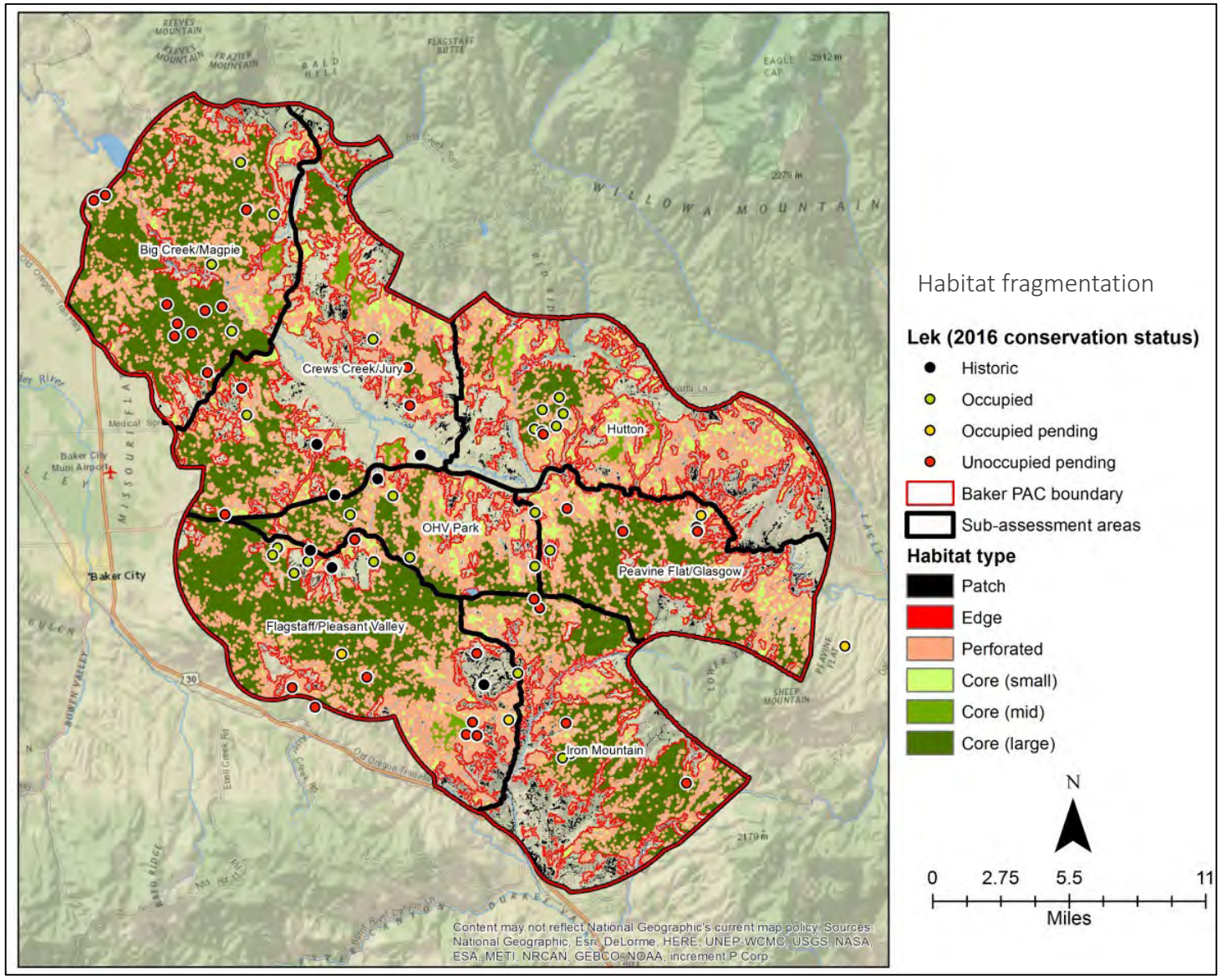
All Threats Considered:
Baker LIT Comprehensive Threat Reduction Plan

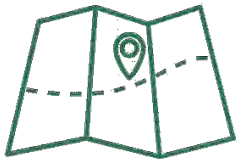
Threat	Included in Baker LIT Plan	Priority Ranking
Fences	Yes	Low
Isolated/small population size	Yes	TBD
Free-roaming equids	No	NA
Climate change	No	--
Drought	Yes	Mid
West Nile virus	Yes	Mid
Excessive flooding	No	NA
Predation	Yes	High
Excessive harvest	No	NA
Insecticides	Yes	TBD
Sagebrush defoliator moth	No	NA
Other noxious weeds	Yes	High



Gather & analyse spatial data of threats

Data-driven planning

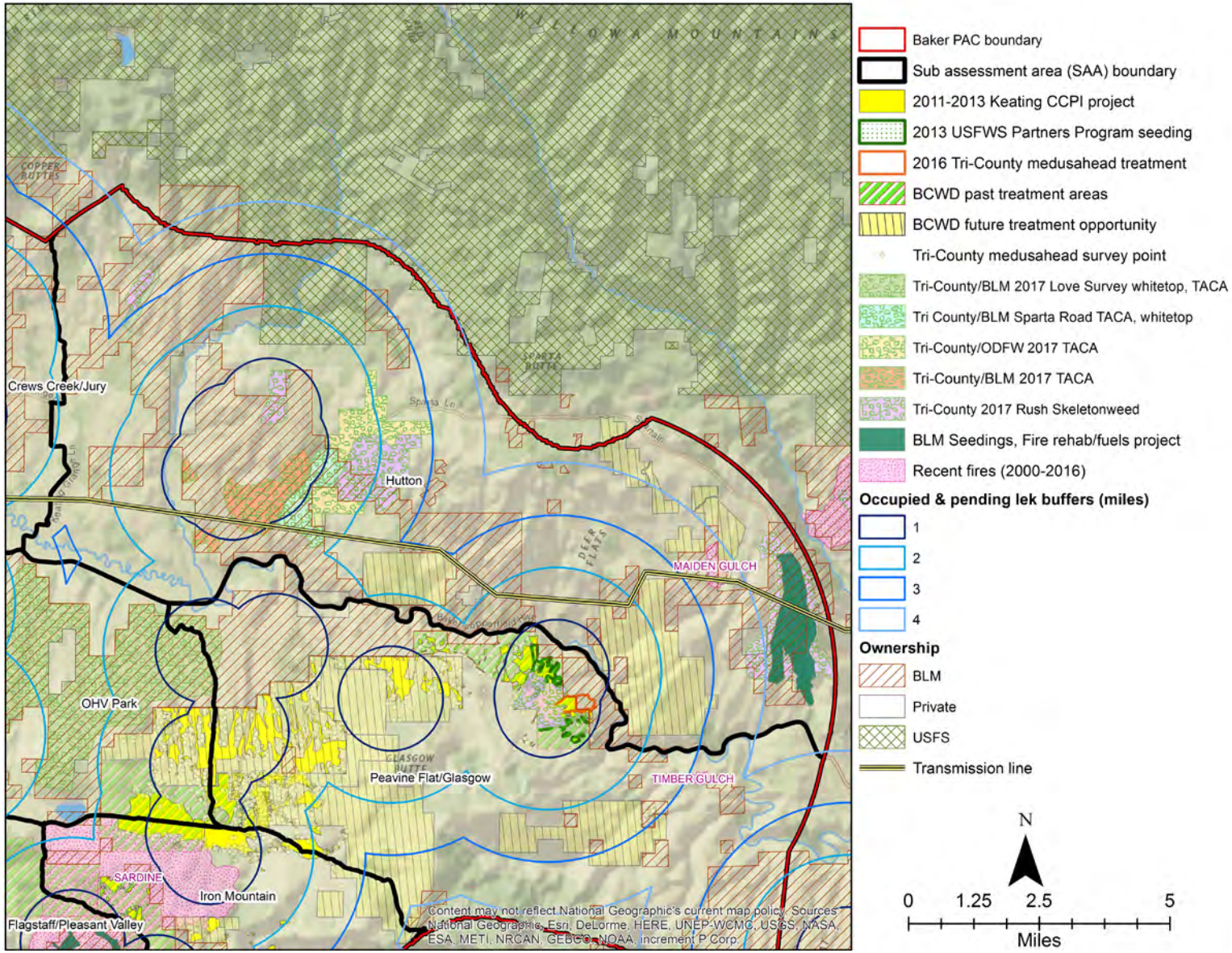




Gather & analyse spatial data of threats

- **Remotely-sensed data**
  - Conifer cover
  - Invasive annual grass
  - Perennial grass
- **Models and other GIS layers**
  - Seasonal probability of use (INR)
  - Habitat fragmentation
  - Development footprints
  - Aerial imagery
  - Lek data
- **Local knowledge & historical records**
  - Insecticide application records (ODA)
  - Historic BLM treatments (e.g. AGCR seedings)
  - Wildfire perimeters
  - BLM –weeds inventory (NISIMS)
  - Prior treatments (NRCS, BLM, USFWS Partners, ODFW, Tri-County, Baker County Weed Dept.)
  - 2012 Keating Breeding Habitat Survey (BLM)
  - Grazing allotment ratings/land health assessments (BLM)
  - Recreational use records (BLM)
  - WNv surveillance
- **Recently collected data**
  - AIM data
  - Raven density
  - Tri-County CWMA & BLM IAG & other weed inventories

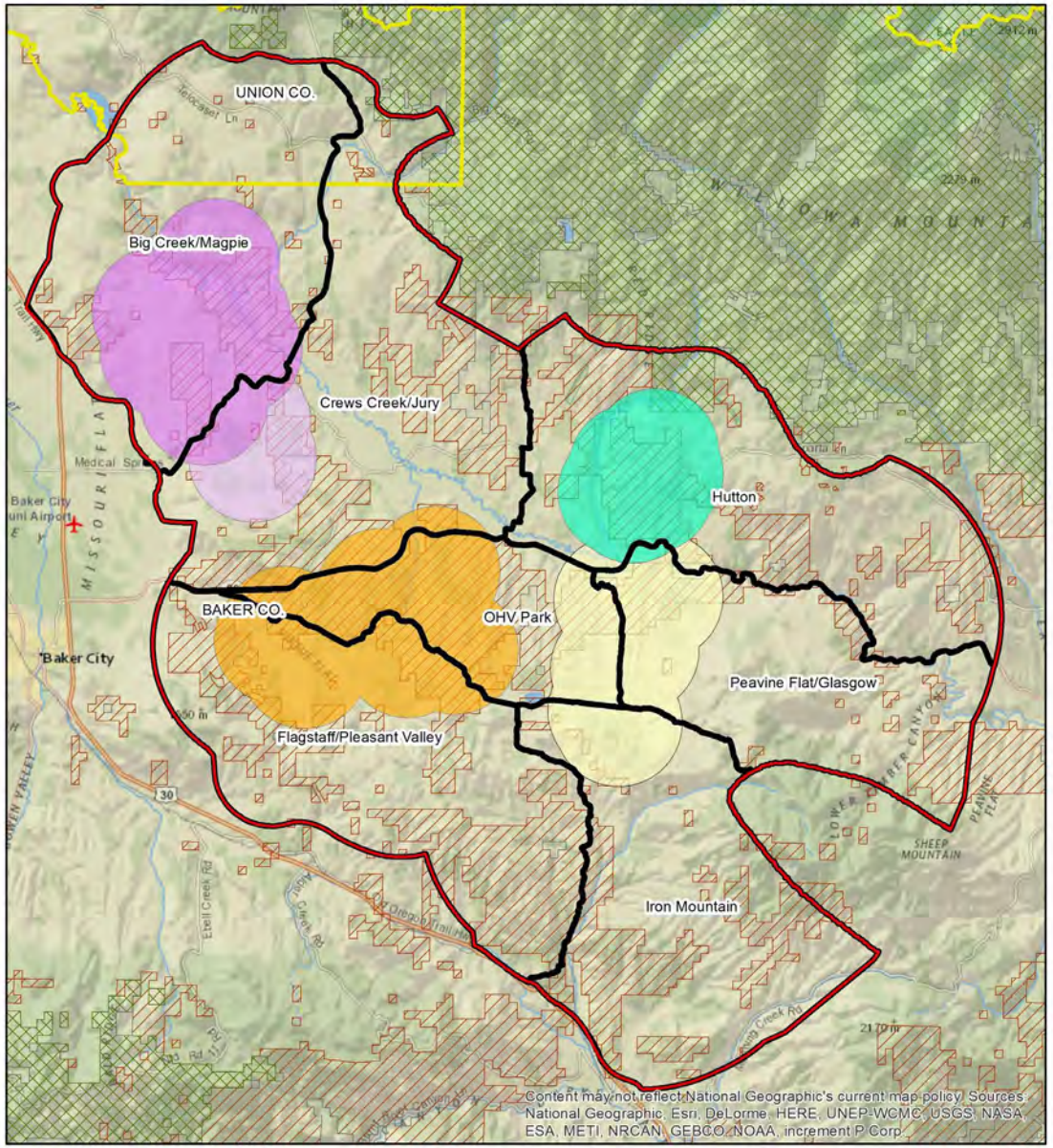
Prior conservation efforts



Assemble spatial data of prior efforts

Prioritized leks

Identify & prioritize opportunities



Baker PAC boundary

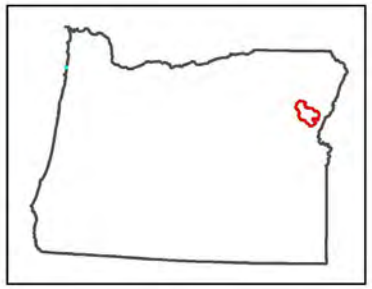
Sub assessment area (SAA) boundary

Priority leks (2 mile buffer)

- Magpie Creek & Guzzler complexes
- Fenceline & Crews Creek leks
- Virtue and Water Trough complexes
- Widman complex
- Hutton complex
- County boundary

Ownership

- BLM
- Private
- USFS



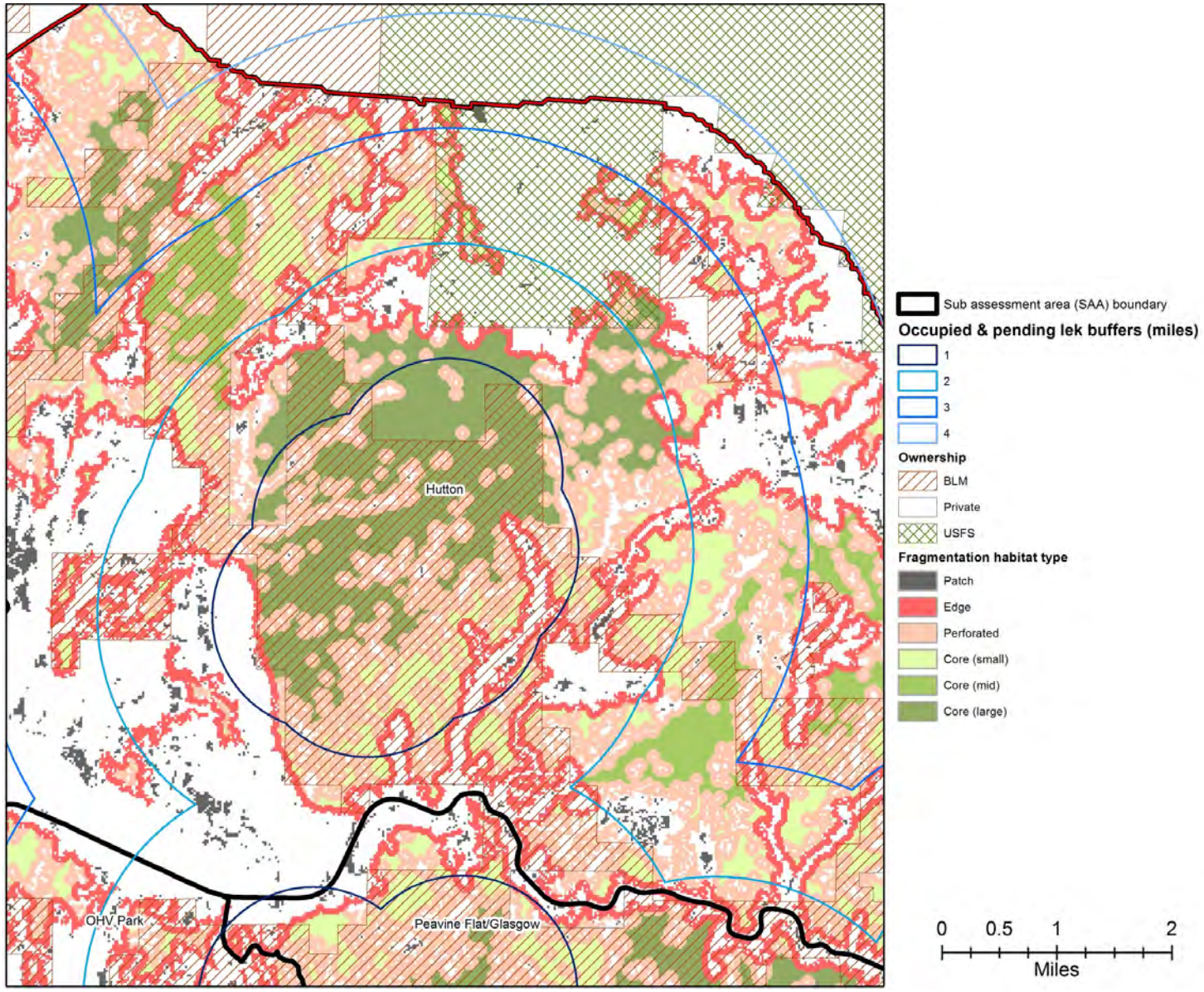
N

0 2.5 5 10

Miles

Fragmentation threats near prioritized leks

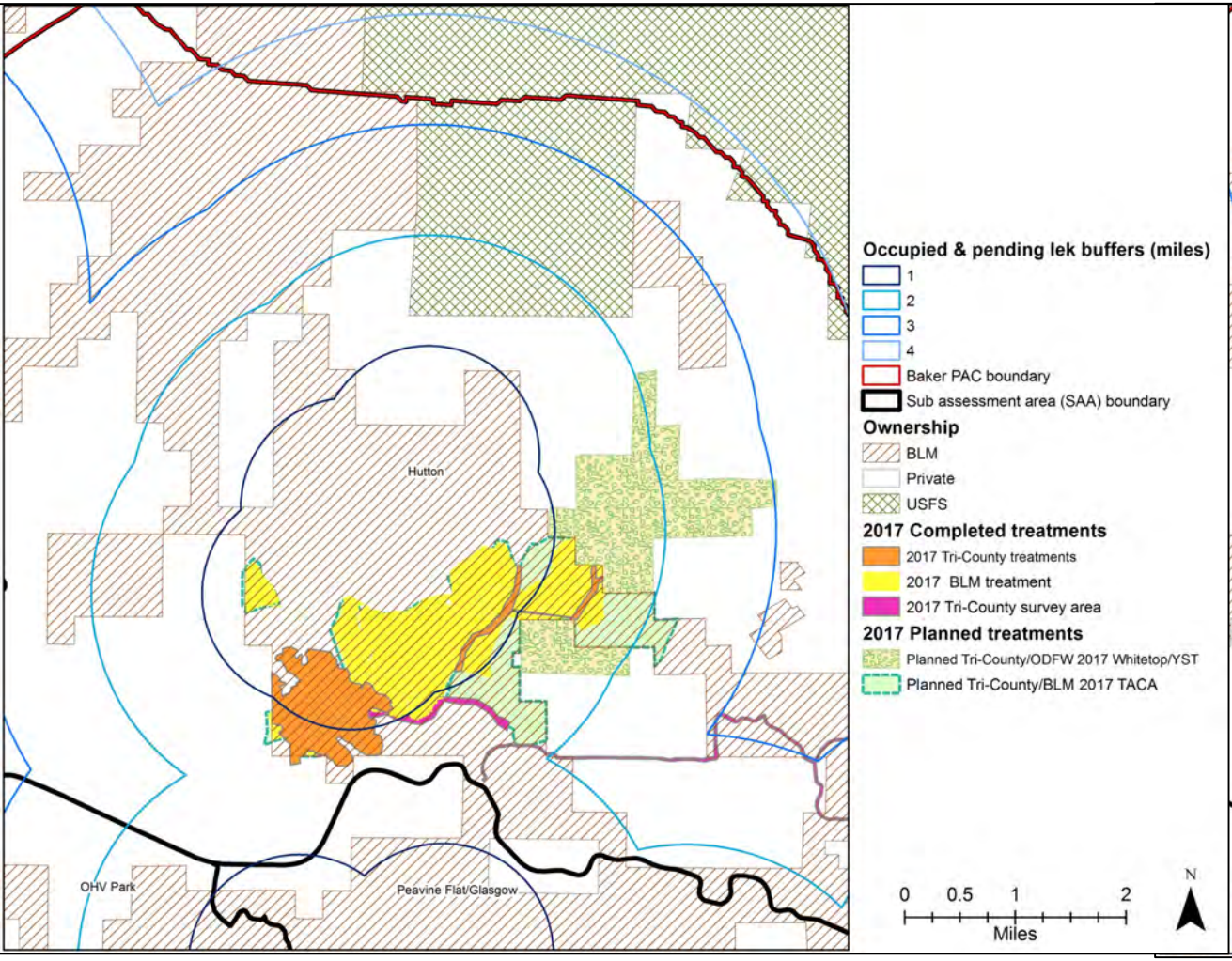
Identify & prioritize opportunities



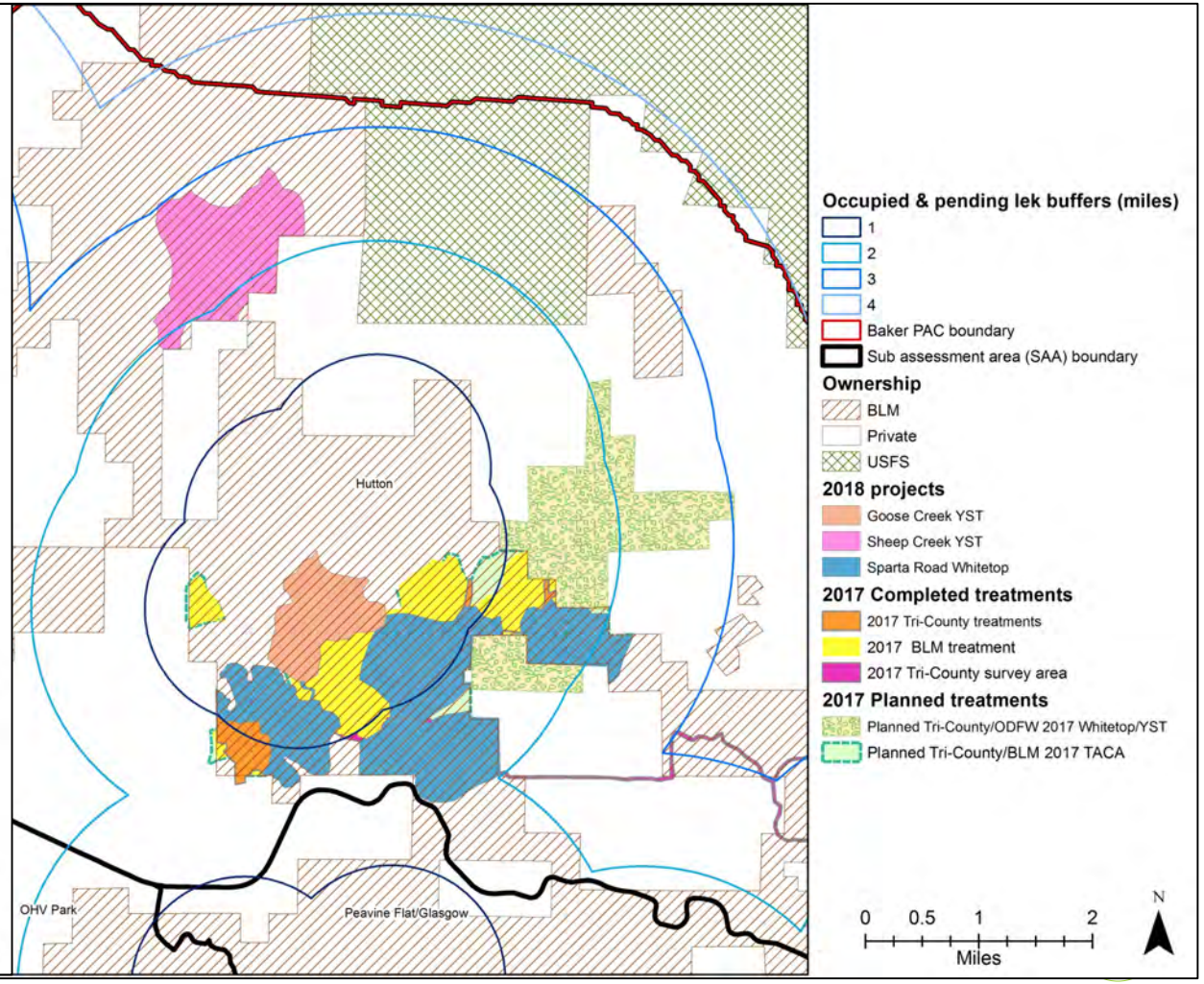
Near future planned efforts

Identify & prioritize opportunities

2017 planned & completed treatment areas



2018 planned treatment areas



Sample work plan: Hutton SAA

Hutton Sub-assessment Area Conservation Opportunities				
Opportunity/Action	**Objectives/Tasks**	**Timeline**	**Responsible Parties**	**Funding**
PRIVATE LANDOWNER OUTREACH				
1. Conduct outreach with private landowners located within the Hutton and Widman priority lek complex zones for participation in CCAA and SGI.[27]	a. Contact each private landowner at least once to provide information about private land conservation opportunities.	By December 2017.	NRCS SWCD	a. NRCS SGI and RCPP funds for annual grass [$400,000 (2018) and $200,000 (2019)] and conifer removal ($4 million, 2018 & 2019). b. RCPP funds prioritized for landowners enrolled (or with LOI) in CCAA ($2 million, 2018). c. Potential future funding for CCAA implementation: OWEB Focused Investment Partnership
JUNIPER REMOVAL				
2. Remove Phase I-II juniper located within 1 mile buffers of occupied leks in the SSA, prioritizing sites within the Hutton priority lek complex zone.	a. Ground-verify the accuracy of the remotely-sensed data in these areas and determine if removal is warranted given other environmental conditions (e.g. topography and current understory).	Complete ground verification by September 2017. If required, complete NEPA and pre-project planning by January 2018. If required, remove juniper	NRCS BLM SWCD	a. NRCS RCPP funds ($4 million, 2018 & 2019) are available for conifer treatment on private lands. b. BLM

Sample work plan: Hutton SAA

Identify & prioritize opportunities

Hutton Sub-assessment Area Conservation Opportunities				
Opportunity/Action	**Objectives/Tasks**	**Timeline**	**Responsible Parties**	**Funding**
	b. If removal is warranted, complete juniper removal activities.	(including required slash treatments) by January 2019.		
INVASIVE ANNUAL GRASS TREATMENT				
3. Address invasive annual grasses located within Phase I-II juniper located within 1 mile buffers of occupied leks in the SSA, prioritizing sites within the Hutton priority lek complex zone	a. Complete 880 acre Sparta Road medusahead treatment (herbicide and seeding) on BLM-managed lands (BLM contract to Tri-County CMWA) b. Complete 1,291 acre Sparta Road medusahead treatment (herbicide and seeding) on private lands) (ODFW contract to Tri-County CWMA). c. Complete approximately 1,000 acres of treatment on BLM adjacent to 880 acre Sparta Road project. d. Identify and complete project planning for FY18 and FY19 invasive annual treatments within the Hutton priority lek complex zone.	Complete 881acre BLM Sparta Road and adjacent 1,000 acre herbicide treatment by Fall 2017; seed by Fall 2018. Complete 1,291 acre private Sparta Road herbicide treatment by Fall 2017; seed by Fall 2018. Complete FY18 and FY19 project planning and initiate identified projects by Fall 2018.	Tri-County CWMA BLM NRCS	a. BLM funding secured for 880 acre Sparta Road treatment; contracted through Tri-County CWMA. b. ODFW MDI funding secured for 1,291 acre Sparta Road treatment, contracted through Tri-County CWMA. c. USFWS Partners Program funds are available for FY18; max project awards are ~$25,000. d. The NRCS has $400,000 (2018) and $200,000 (2019) to treat annual grasses. e. Mule Deer Initiative funds are available through ODFW. f. NRCS RCPP funds ($2 million, 2018) to address all threats; funds limited to landowners with a CCAA Letter of Intent or

Benefits of TRP

Spatial threat data + past effort data = better prioritization & clear goals

Helpful to identify gaps (information and treatment needs).

Centralized information makes it easier to identify opportunities to collaborate.

A targeted work plan is attractive to funders.

Demonstrating past capacity gives funders confidence in future efficacy.

Questions?

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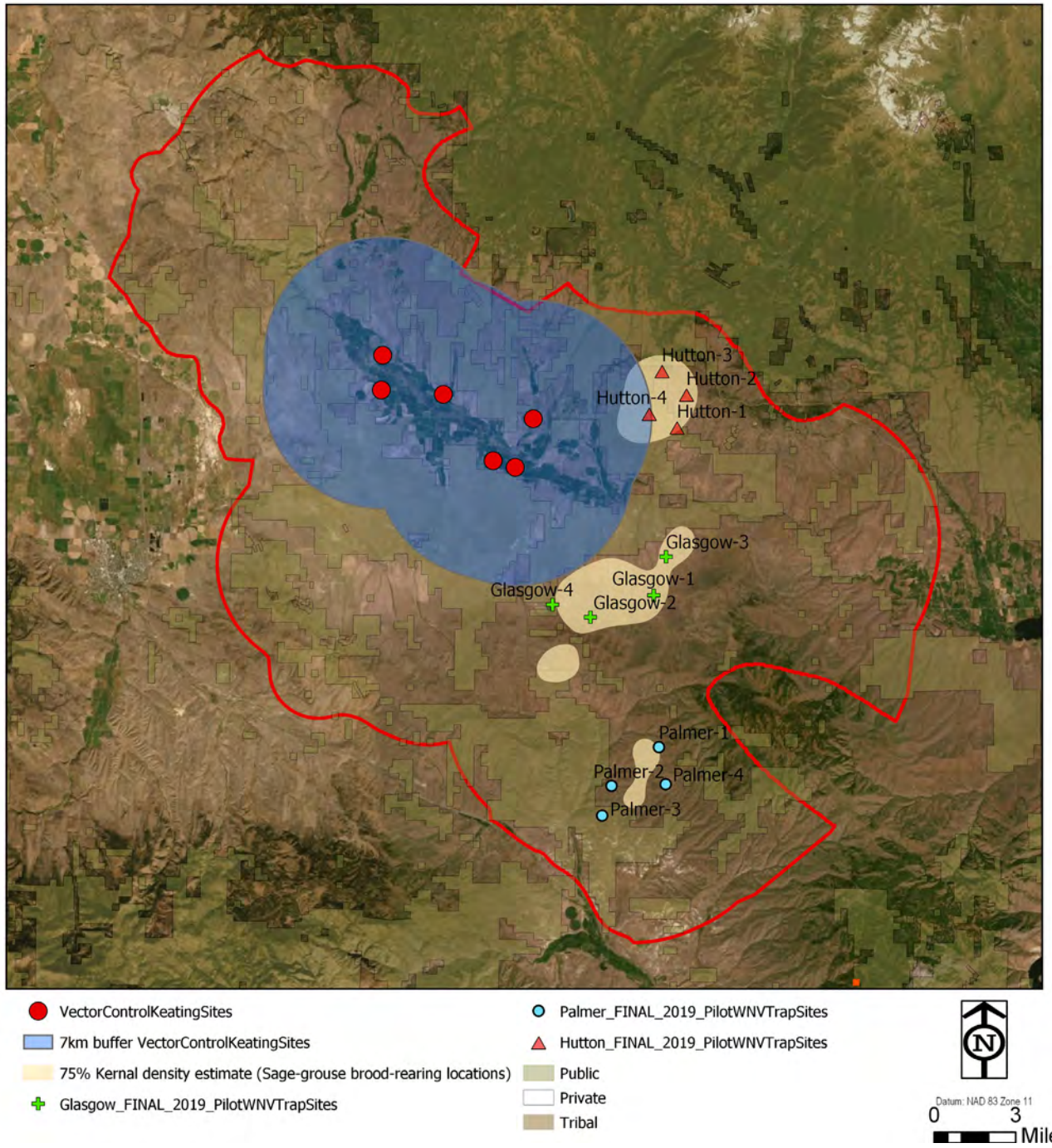
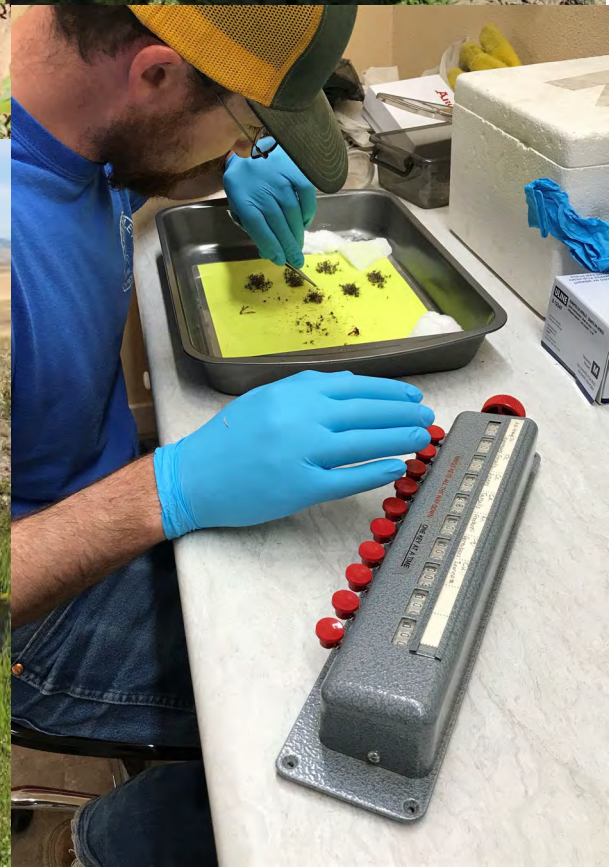


Baker WNv surveillance

2019 Pilot Season

- Goal:
  - Assess WNv risk within sage-grouse brood-rearing habitat
  - Expand beyond Baker Valley Vector Control (BVVC) routine agricultural-based trapping areas in the Keating Valley
- Methods:
  - Randomly selected water resources > 7 km buffer of BVVC sites and < 1.5 km of 75% KDE of recent sage-grouse brood-rearing locations
  - 4 traps per each of 3 sage-grouse "zones"
  - Verified potential trap locations for suitability
  - Trapped weekly at each site July 21 – Sept 6, 2019
  - BG-Sentinel Traps set < 6 hrs before sunset and collected < 6 hrs after sunrise
  - Sorted mosquitos; sent only *Culex spp.* to Oregon Veterinary Diagnostic Laboratory
- Results:
  - Only 1 mosquito pool tested positive for WNv (Palmer 1), collection date = Aug 16, 2019
  - 4 pools from at BVVC Keating sites tested positive over the course of the summer



Baker WNv surveillance
2019 Pilot Season

- Lessons Learned:
  - Better understanding of time commitment to implement
  - Enhance site selection to ensure water present throughout season
- Next Steps:
  - Repeat survey effort 2020-2022
  - FWS Directorate Fellowship secured for 2020 season
  - Develop WNv risk map (heat map/"hot spots")
  - Implement best practice WNv reduction strategies in hot spots
- Special Thanks:
  - Emily Weidner – FWS, Bend Field Office
  - Matt Huttchinson, Baker Valley Vector Control
  - Brian Ratliff, Justin Primus, et al., ODFW – Baker District
  - Marisa Meyer, Mark Penninger, FWS, La Grande Field Office