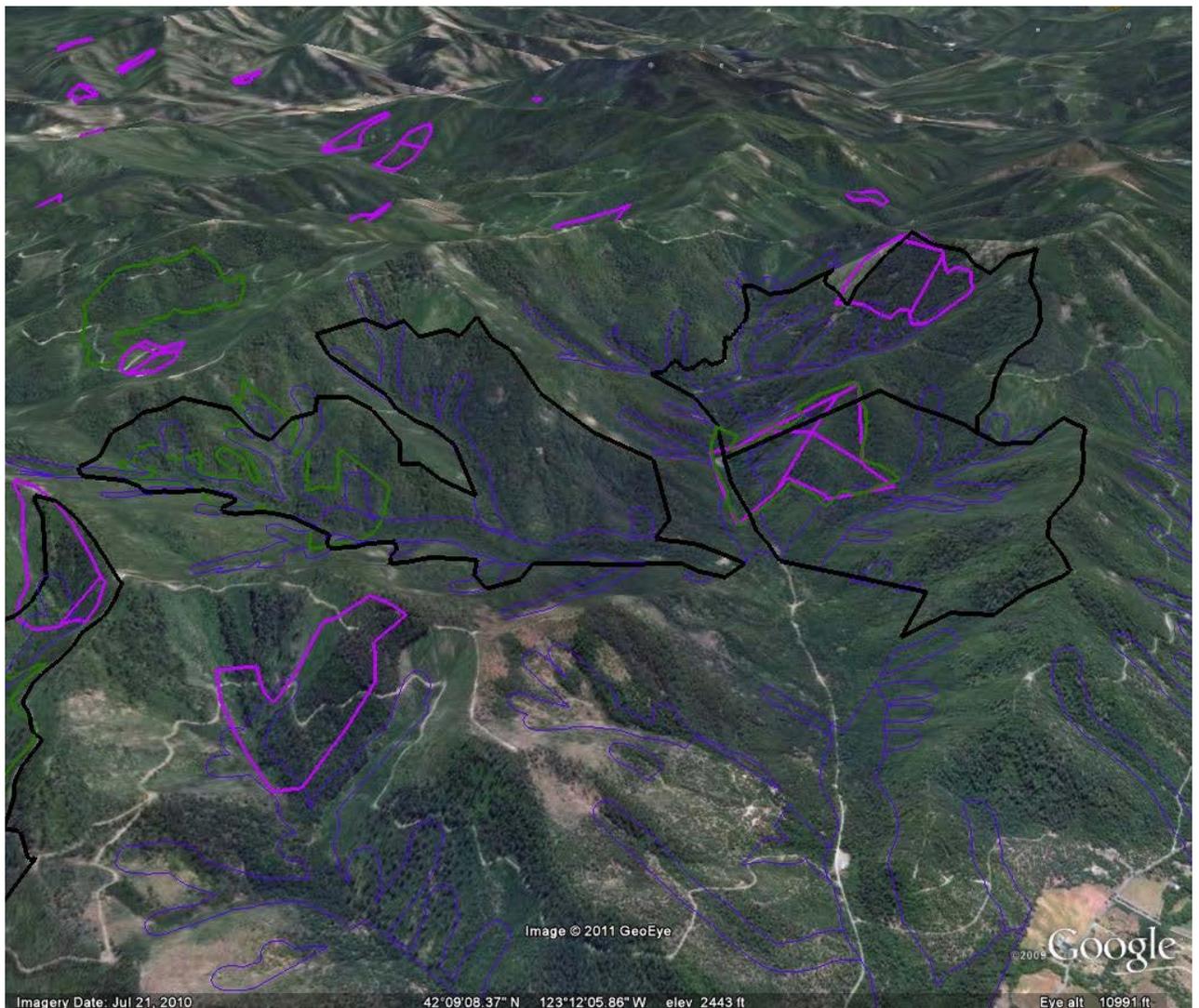


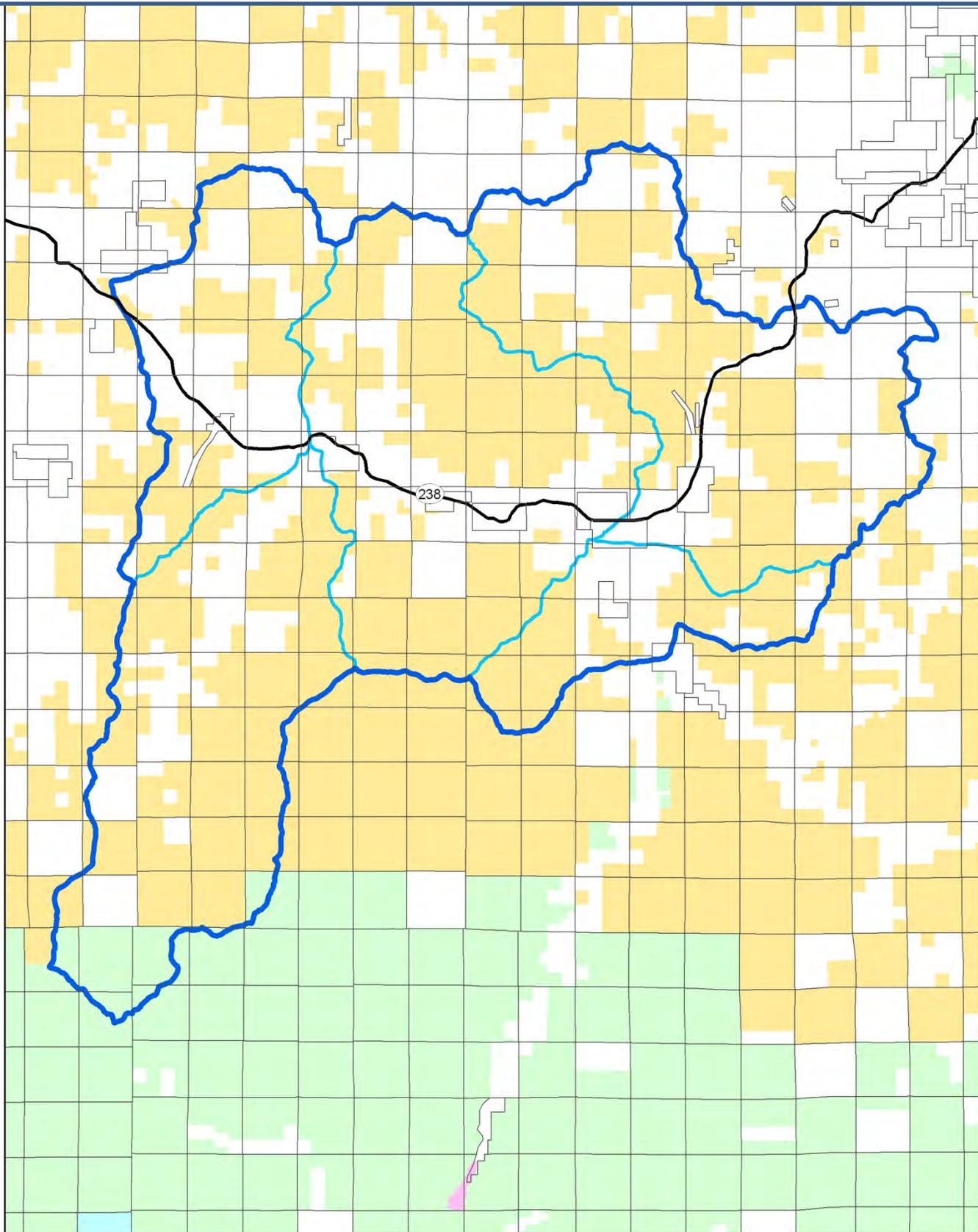
Methodology and Development of the Late Successional Emphasis Areas within the Pilot Thompson Planning Area

January 2012

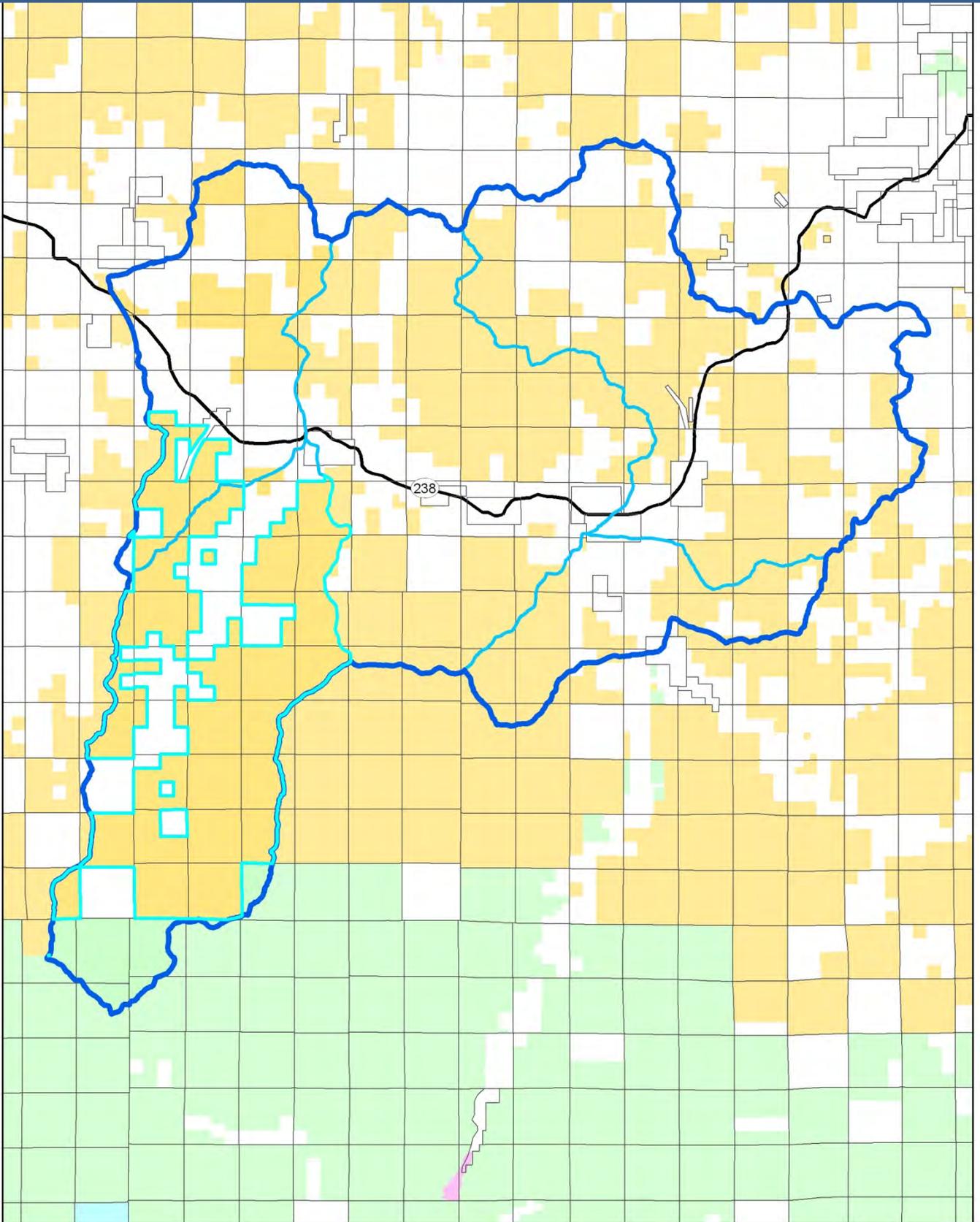


Planning Area Overview

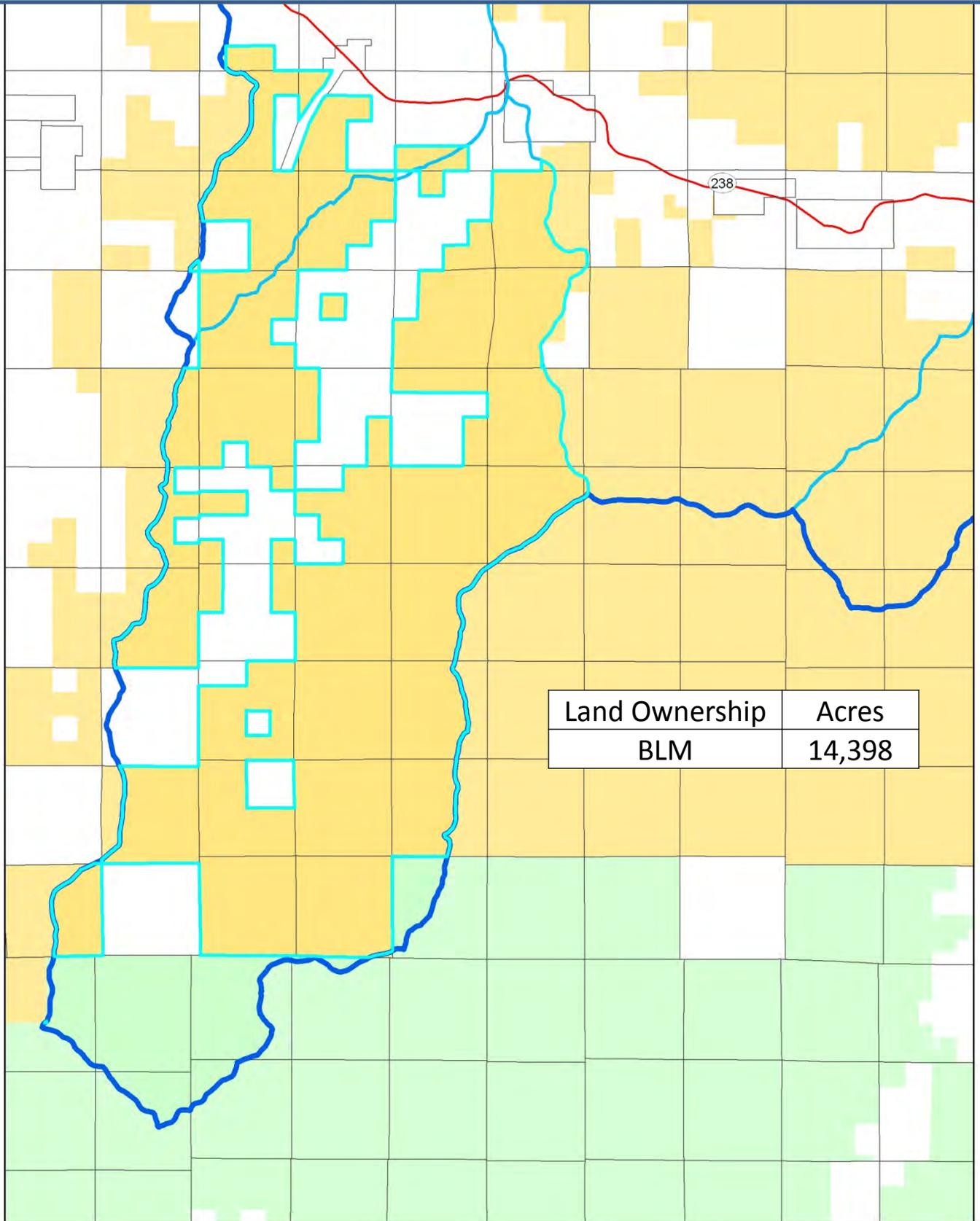
Middle Applegate Pilot Project Overview



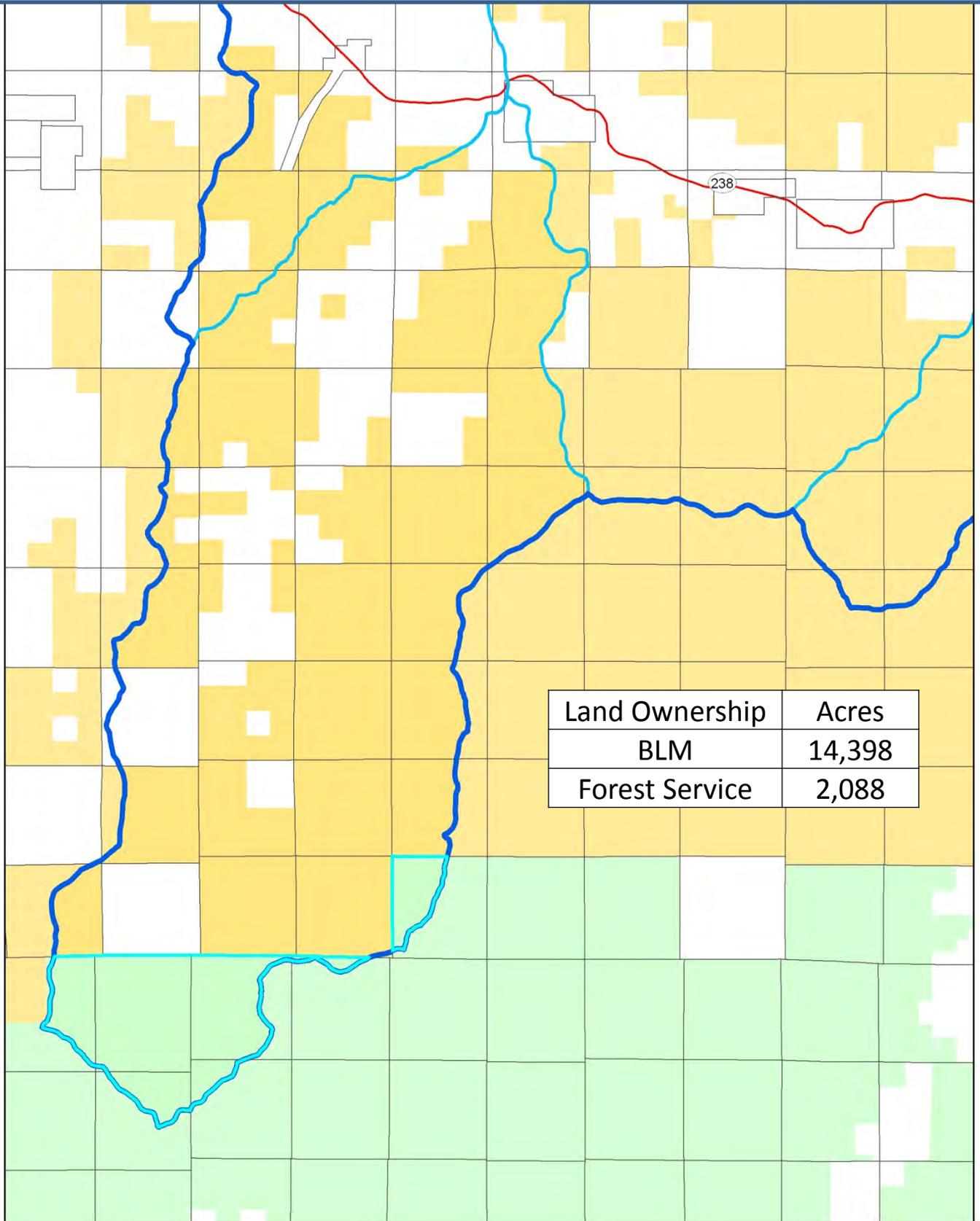
Phase 2 Planning Area – “Pilot Thompson”



Phase 2 Planning Area – Land Ownership



Phase 2 Planning Area – Land Ownership



Late-Successional Emphasis Area Delineation Process

What are Late-successional Emphasis Areas?

- An important component of the Franklin and Johnson Dry Forest Restoration Principles calls for the retention of denser forest patches needed to provide important habitat for many organisms, such as the NSO and some of its prey species; these dense, multi-layer patches are best maintained by embedding them in a forest matrix that resists, rather than facilitates, the spread of insect epidemics and stand-replacement wildfire.
- As part of the landscape planning process, the planning area was examined and evaluated in an effort to delineate a proportion of the landscape that would serve as areas of dense, closed-canopy contiguous forests, within which minimal to no treatments would be proposed. These areas, which are called Late-Successional Emphasis Areas (LSEAs) are designed to provide larger blocks (300-500 acres) of dense forest conditions where succession continues largely uninterrupted by active management, and provide fairly contiguous blocks of mature and late-successional habitat to support those species that rely on and are associated with these forest habitats, such as the NSO and the pacific fisher.
- The identification of the LSEAs required the planning team to delineate areas that 1) currently contain high concentrations of high quality mature and late-successional habitat and 2) select locations across the landscape where these habitats would be expected to persist longer than similar habitat situated in more fire-prone landscape positions. In order to determine the best locations for these LSEAs, several data layers were used to inform the delineation process.

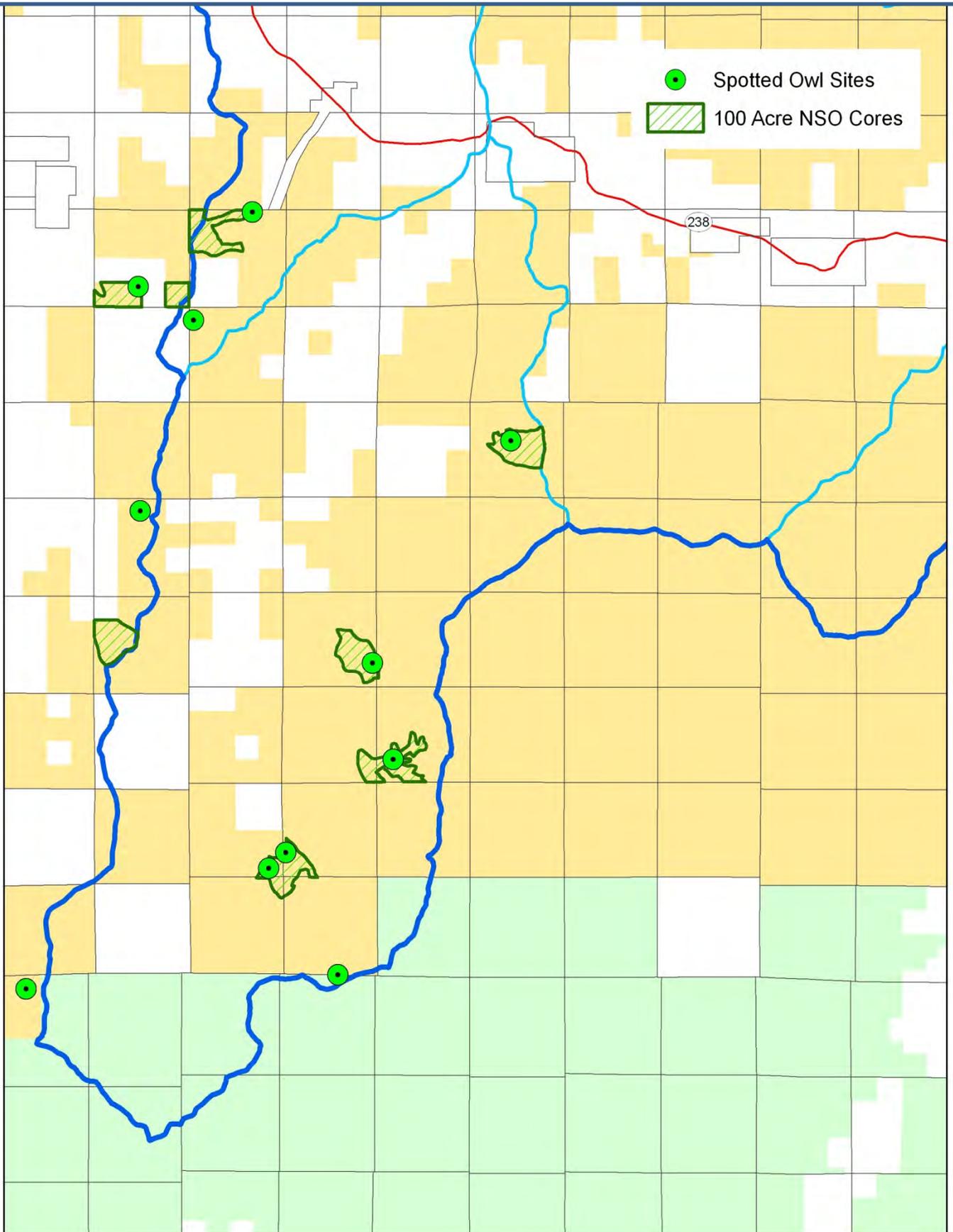
Data Layers used in LSEA delineation

- Spotted Owl Survey Records
- Existing Conservation Areas
- Habitat Maps
- Fire Probability
- NSO Recovery Plan – Relative Habitat Suitability Layer

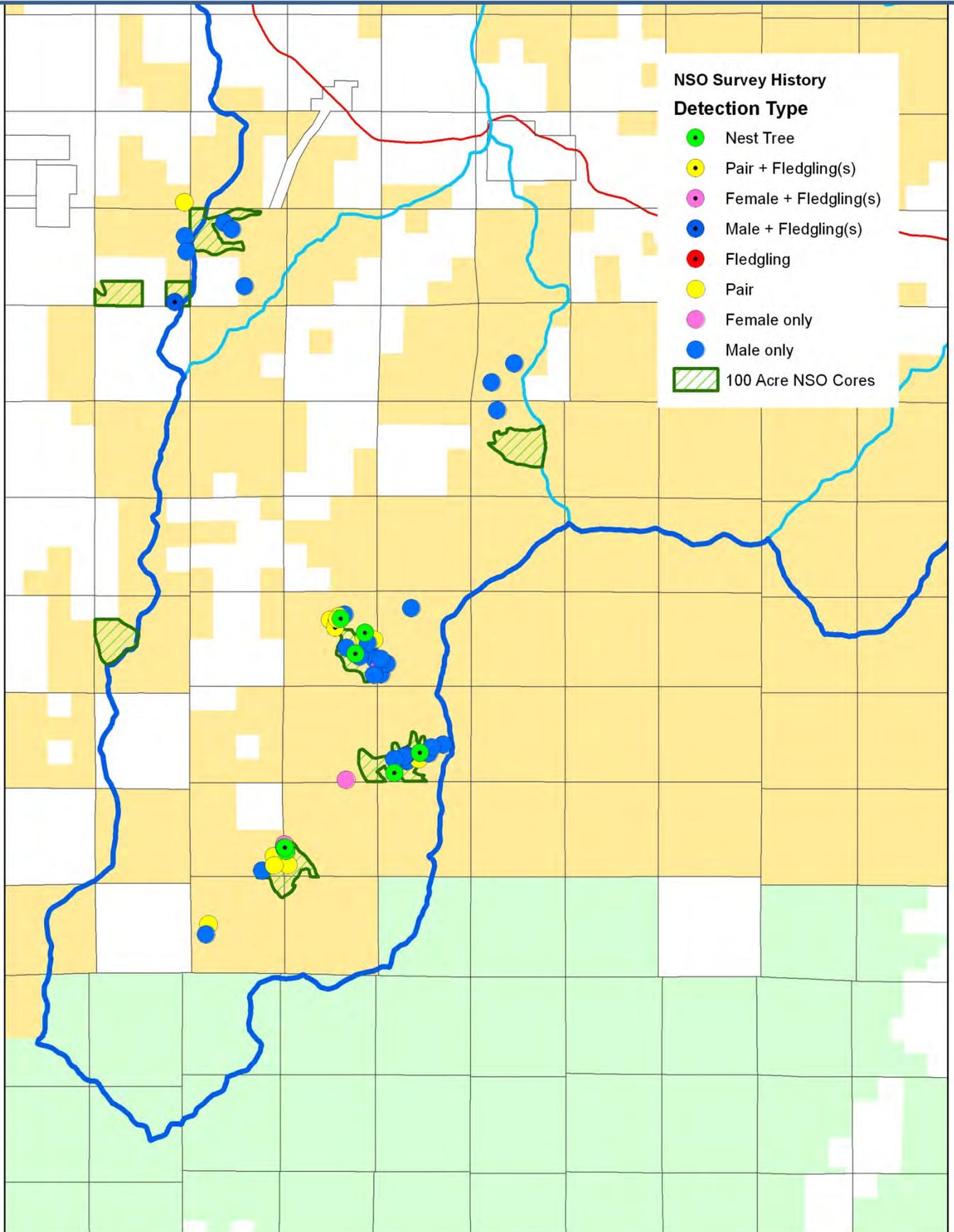
Data Layers used in LSEA delineation

- **Spotted Owl Survey Records**
- Existing Conservation Areas
- Habitat Maps
- Fire Probability
- NSO Recovery Plan – Relative Habitat Suitability Layer

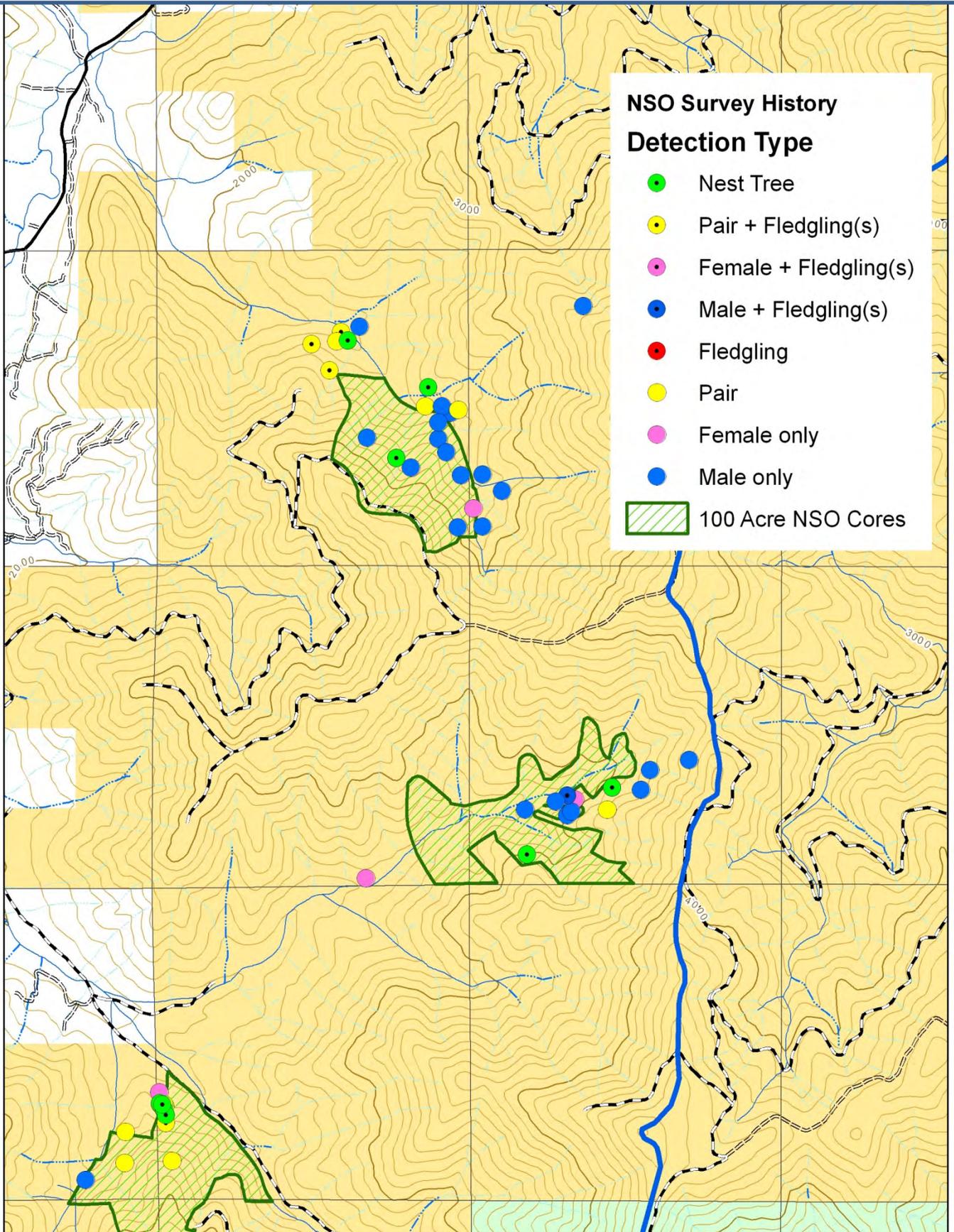
Phase 2 Planning Area LSEA Delineation – NSO Sites



Phase 2 Planning Area LSEA Delineation – NSO Sites



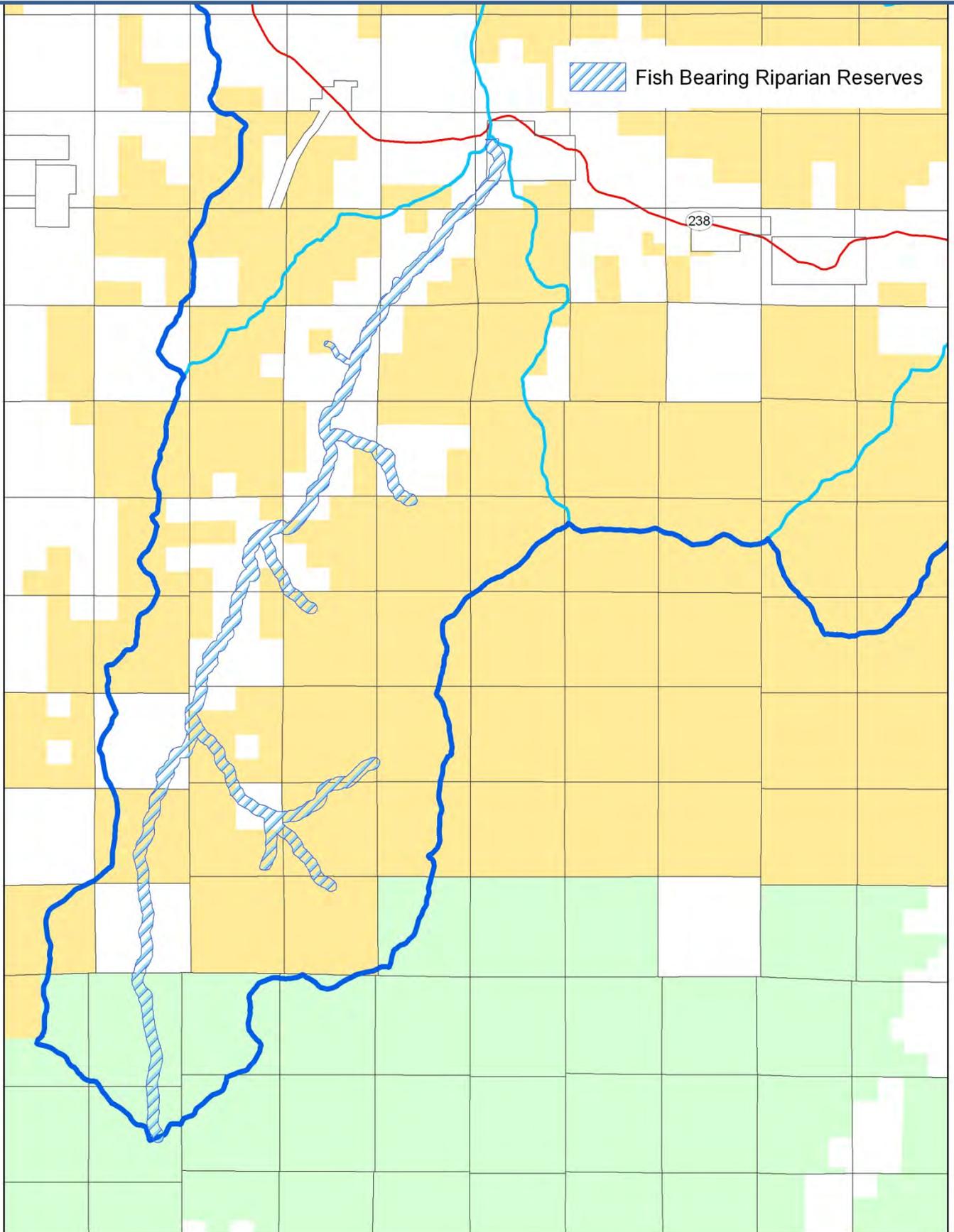
Phase 2 Planning Area LSEA Delineation – NSO Sites



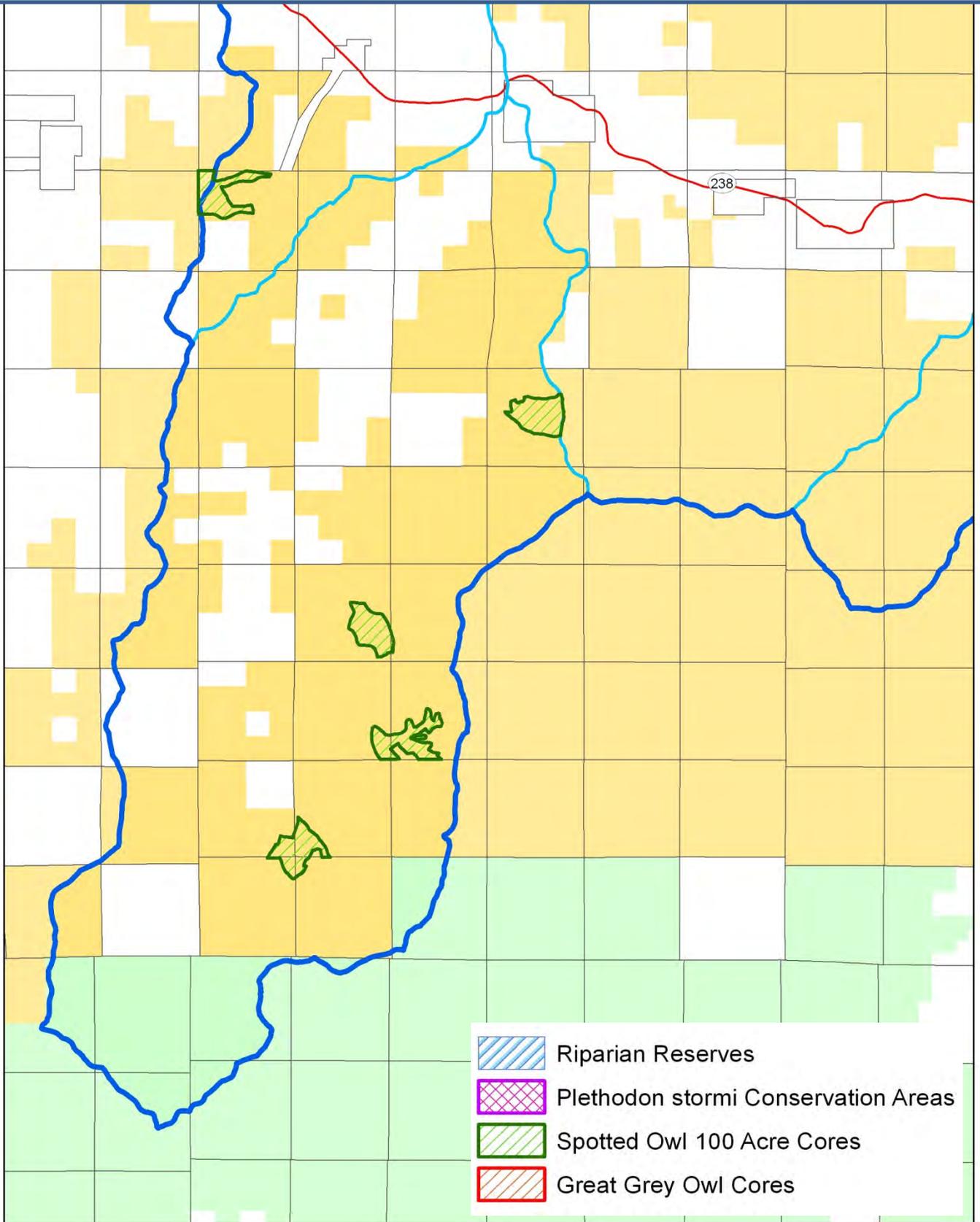
Data Layers used in LSEA delineation

- Spotted Owl Survey Records
- **Existing Conservation Areas**
- Habitat Maps
- Fire Probability
- NSO Recovery Plan – Relative Habitat Suitability Layer

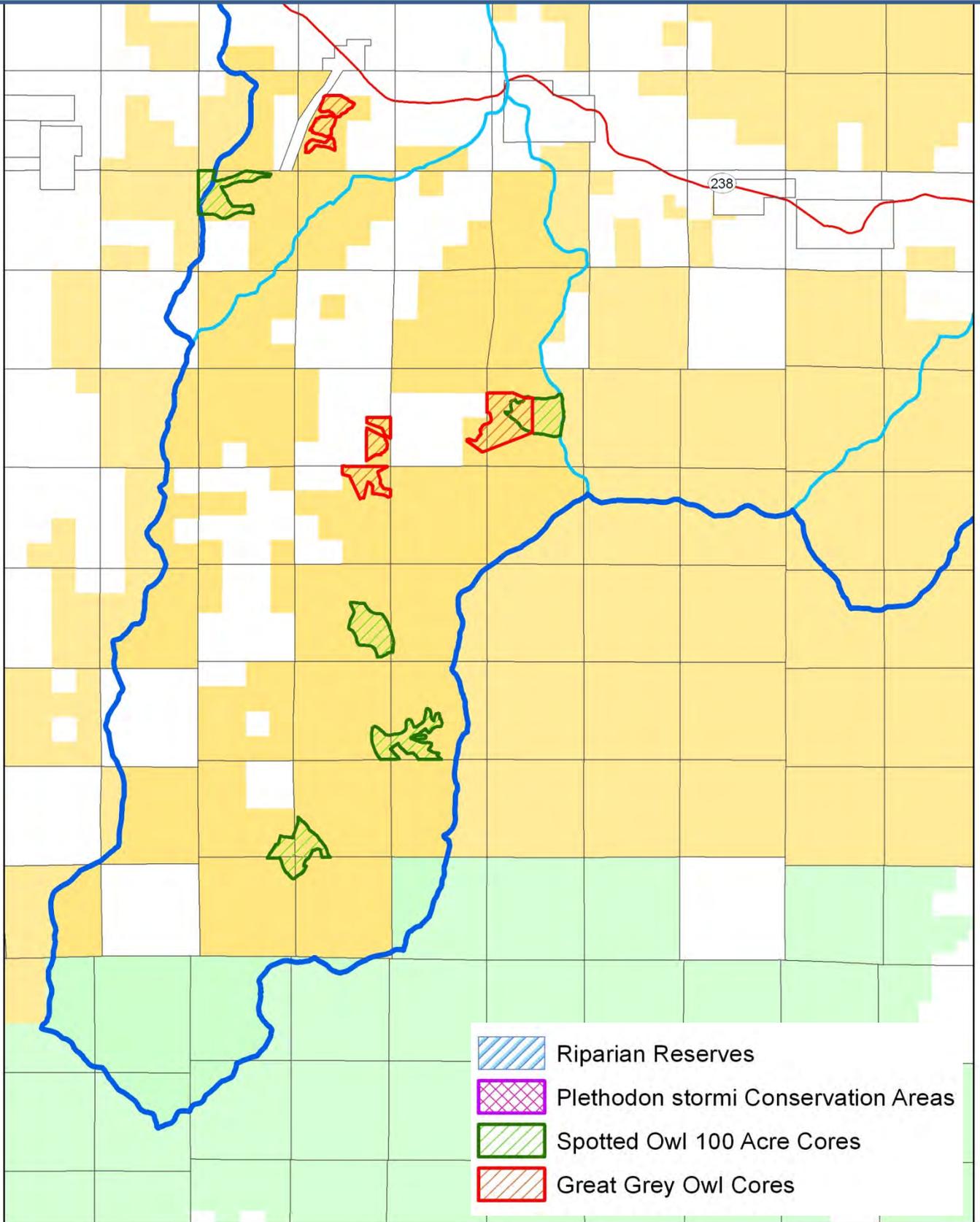
Phase 2 Planning Area LSEA Delineation – Conservation Areas



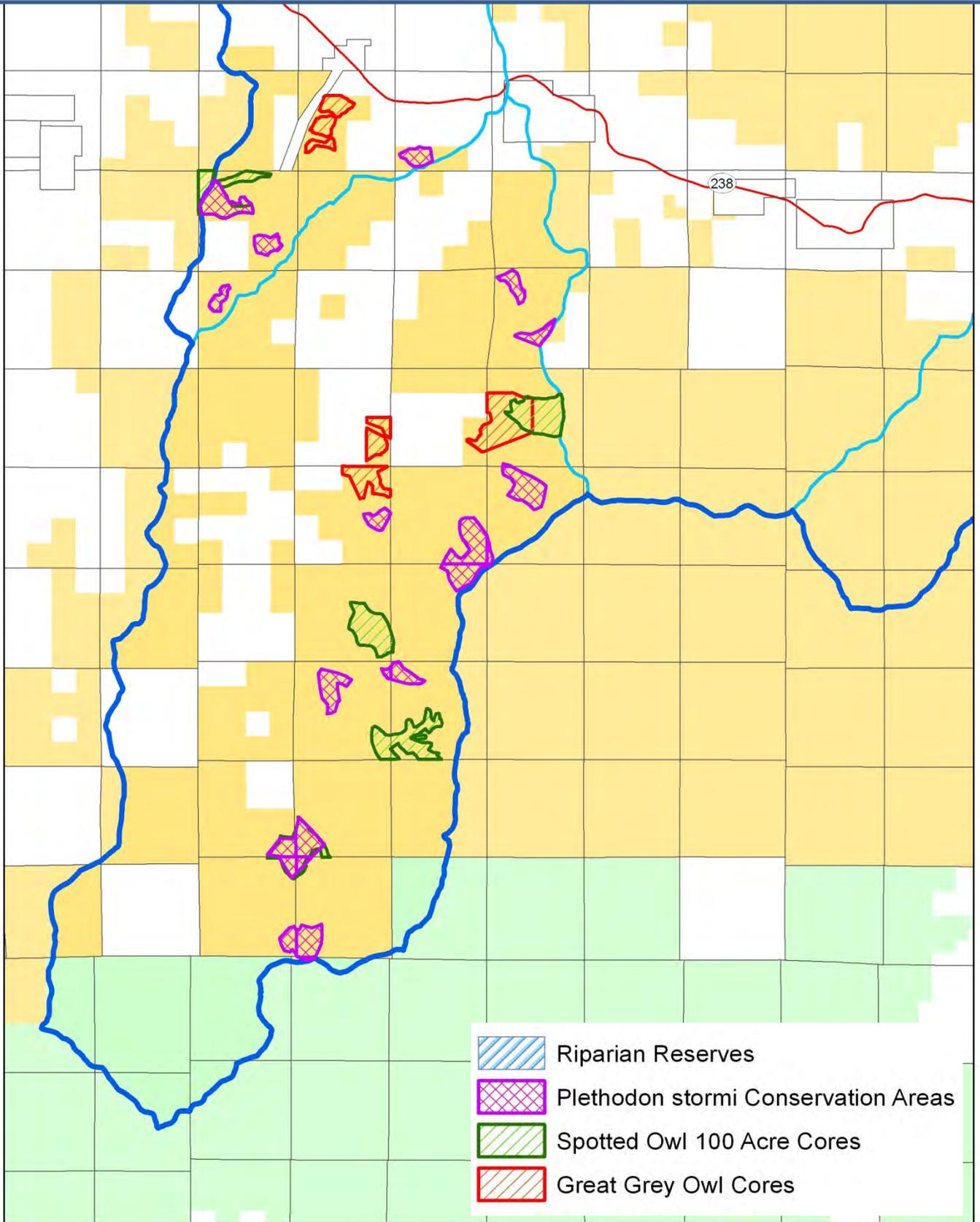
Phase 2 Planning Area – Conservation Allocations



Phase 2 Planning Area – Conservation Allocations



Phase 2 Planning Area – Conservation Allocations

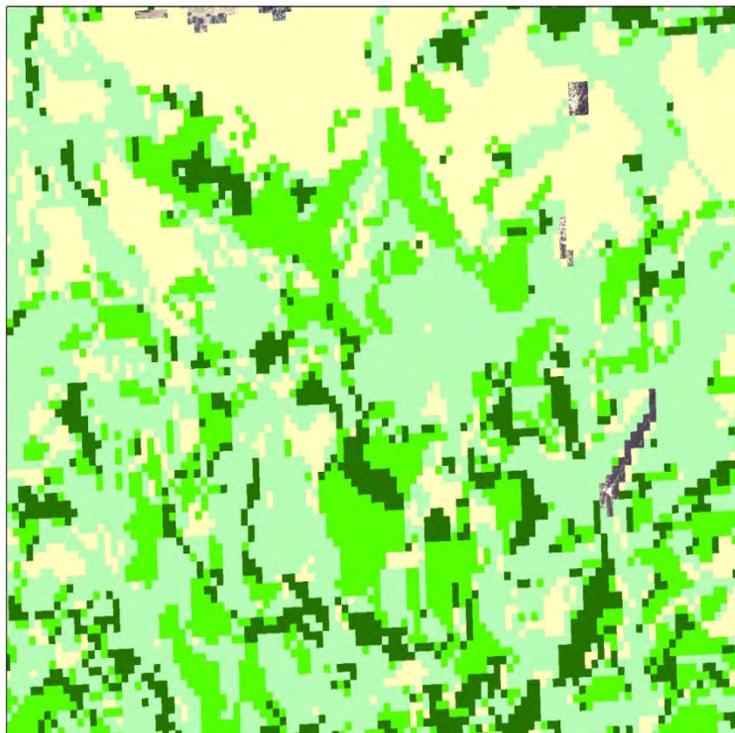


Data Layers used in LSEA delineation

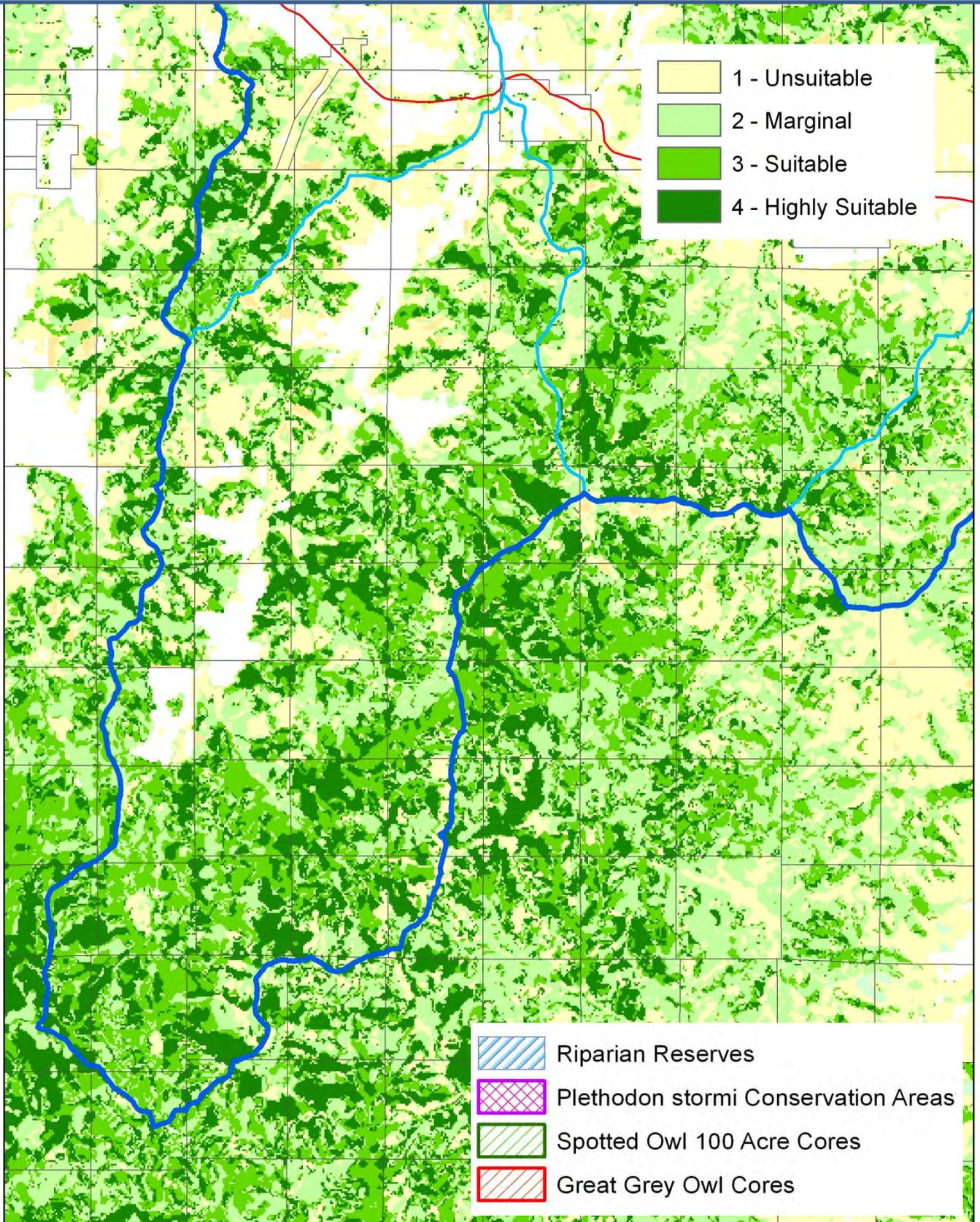
- Spotted Owl Survey Records
- Existing Conservation Areas
- **Habitat Maps**
- Fire Probability
- NSO Recovery Plan – Relative Habitat Suitability Layer

Northwest Forest Plan Habitat Model

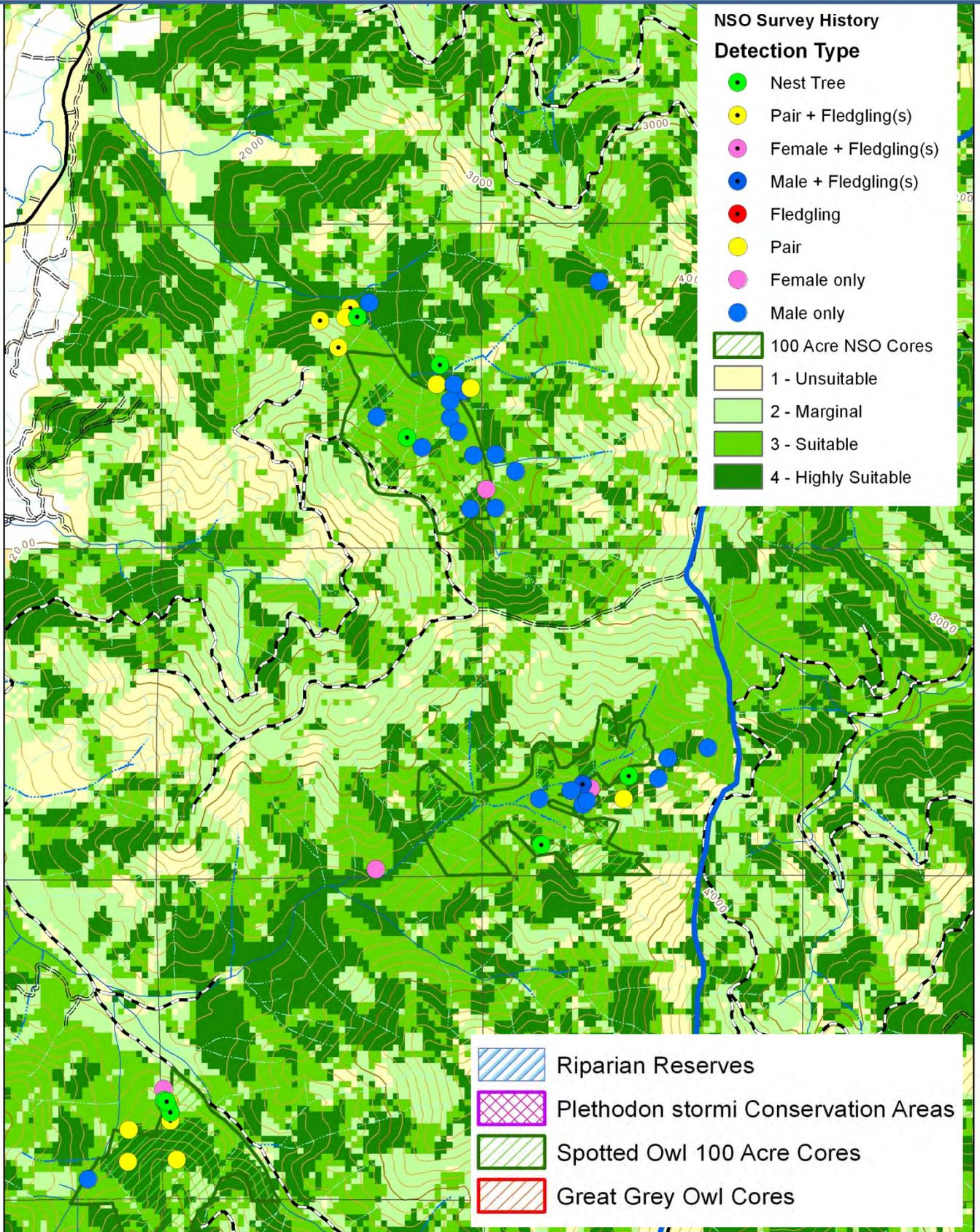
Model Region	Habitat Class	HS Value	Conifer Cover (%)	Average DBH (in)	Large Conifer (≥30"dbh) (trees/acre)	Diameter Diversity (index)	Average Stand Height (ft)	Average Stand Age (years)
Klamath Mountains	not suitable	0-15	24 ±22	13 ±10	1 ±3	2 ±2	33 ±21	52 ±45
	marginal	16-37	51 ±20	19 ±10	3 ±5	4 ±2	50 ±24	76 ±47
	suitable	38-50	60 ±18	25 ±11	7 ±7	6 ±2	66 ±25	111 ±102
	highly suitable	51-86	65 ±17	29 ±9	11 ±7	7 ±1	95 ±27	151 ±80



Phase 2 Planning Area – Habitat Map



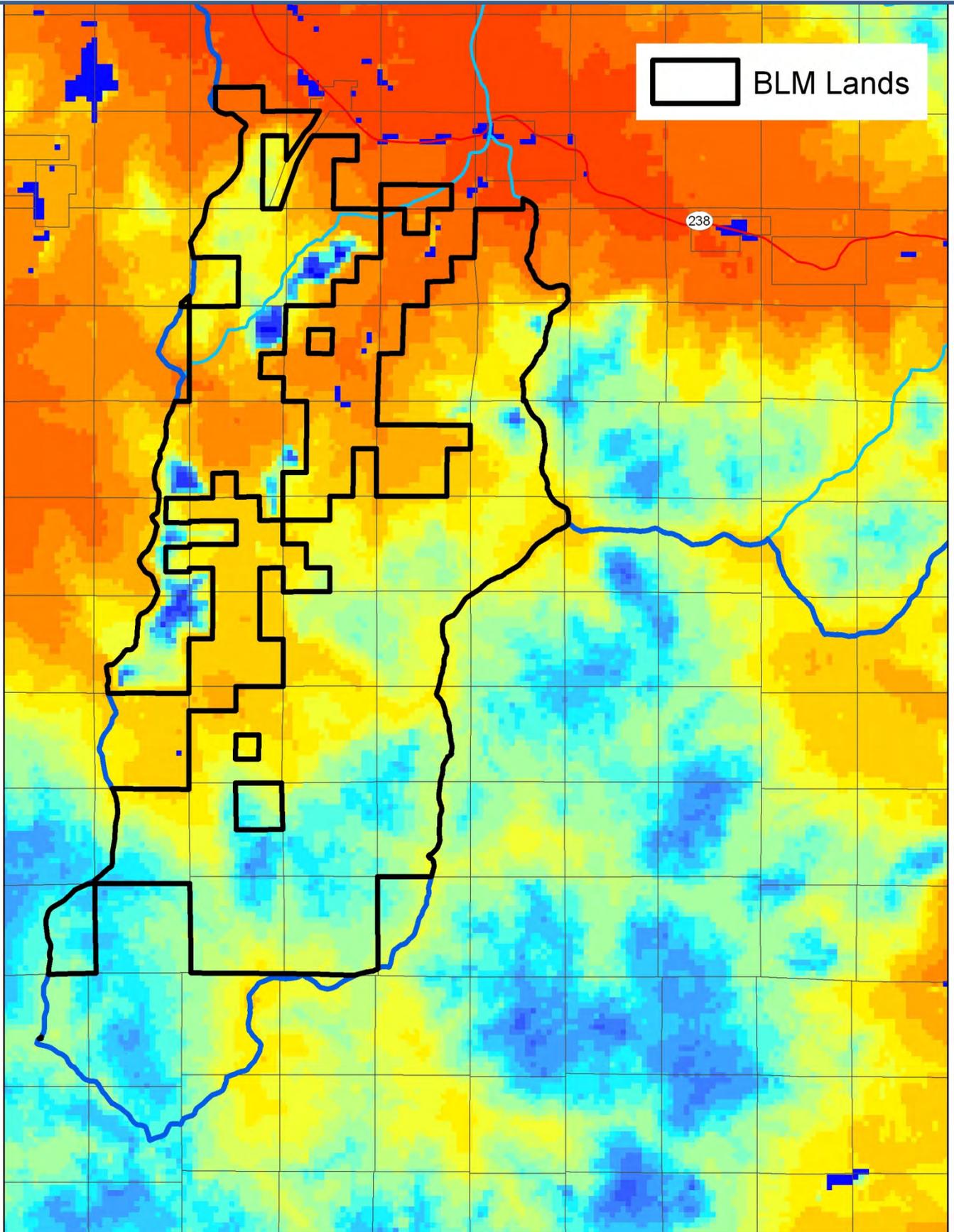
Phase 2 Planning Area – Habitat Map



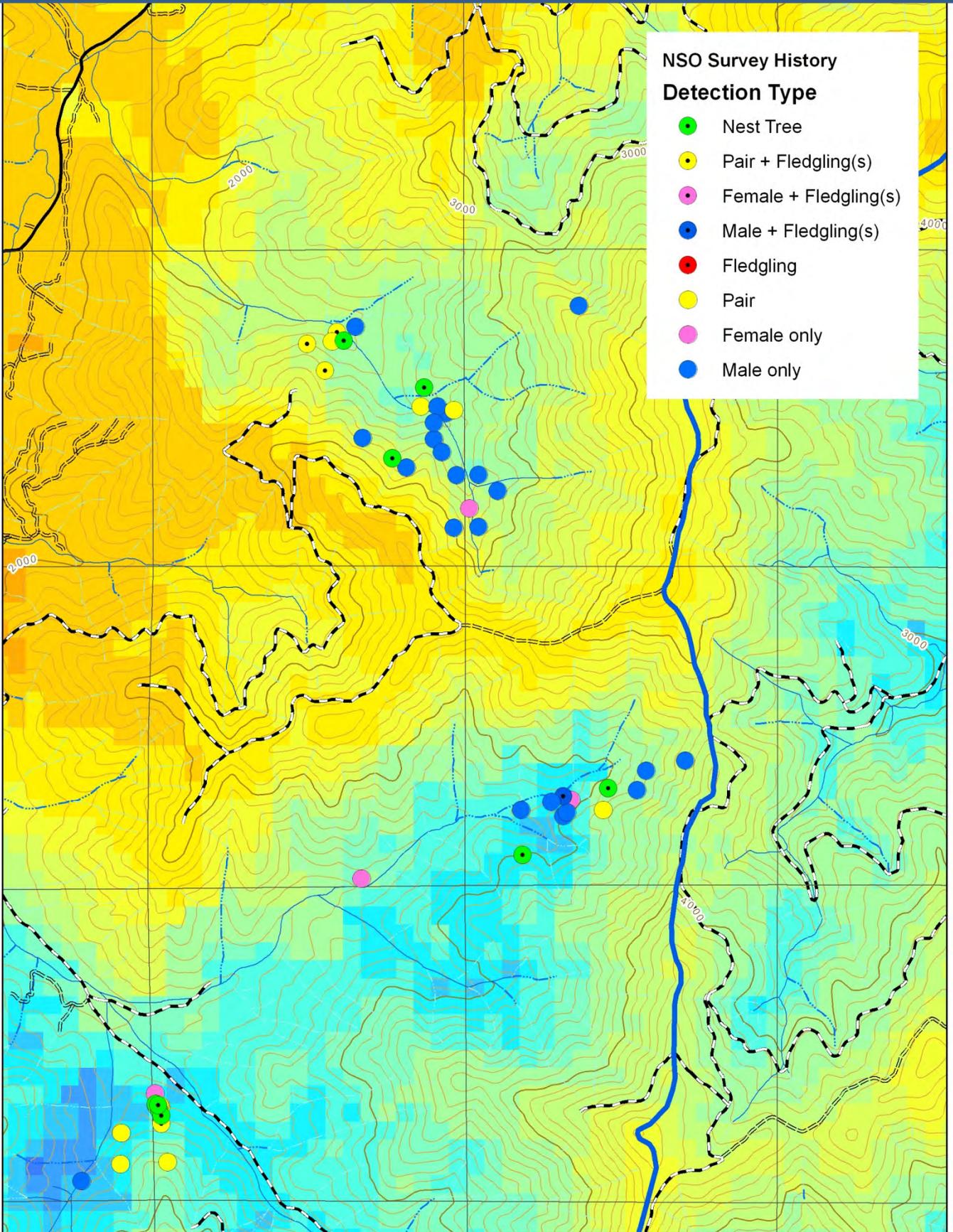
Data Layers used in LSEA delineation

- Spotted Owl Survey Records
- Existing Conservation Areas
- Habitat Maps
- **Fire Probability**
- NSO Recovery Plan – Relative Habitat Suitability Layer

Phase 2 Planning Area – Fire Probability



Phase 2 Planning Area – Fire Probability

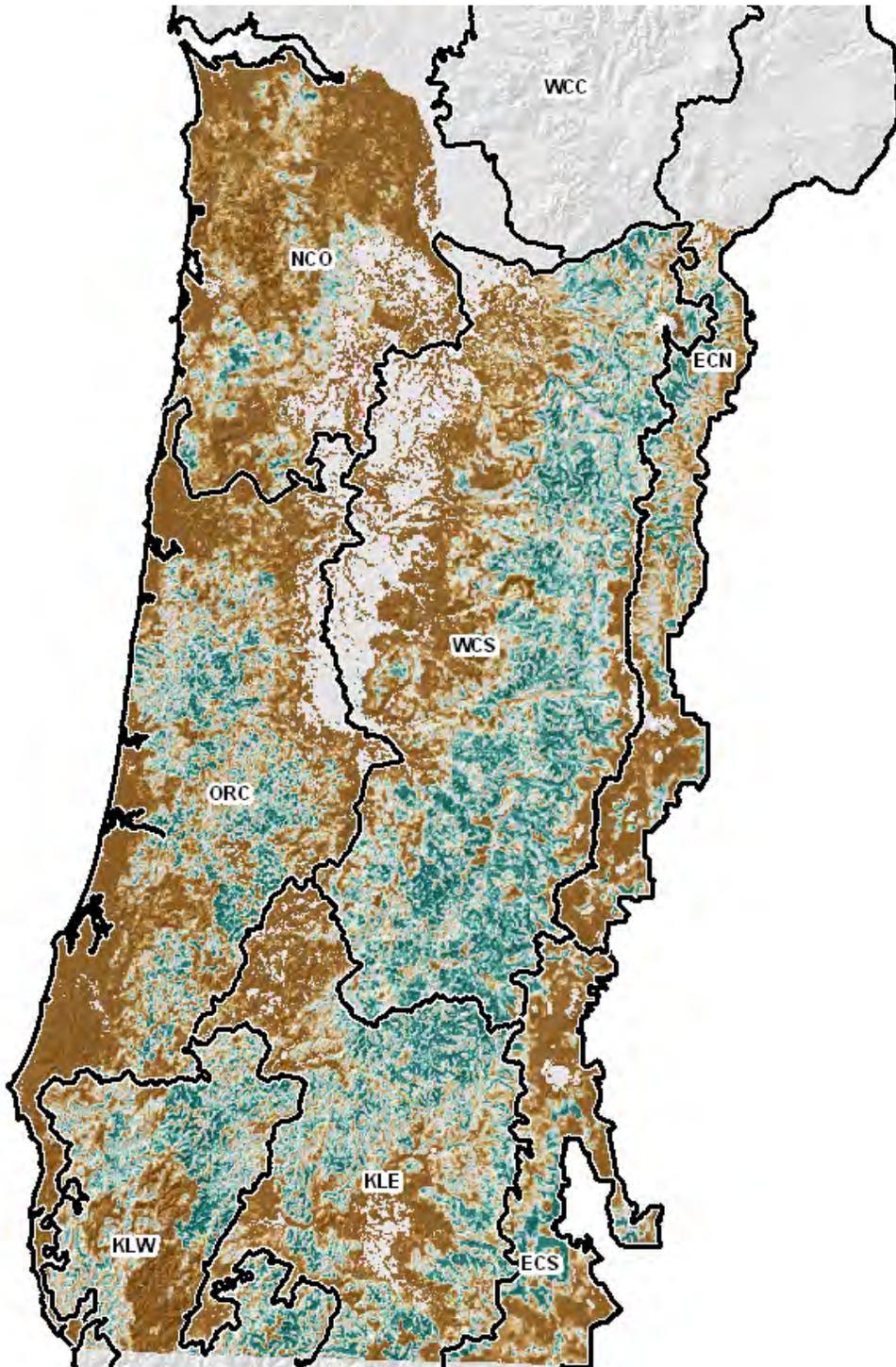


Data Layers used in LSEA delineation

- Spotted Owl Survey Records
- Existing Conservation Areas
- Habitat Maps
- Fire Probability
- **NSO Recovery Plan – Relative Habitat Suitability Layer**

Spotted Owl Relative Habitat Suitability Model

The MaxEnt relative habitat suitability surface was developed by modeling sets of predictor variables independently for 11 modeling regions across the NSO range. The graphic below provides a reference for the modeling regions associated with the Oregon dataset provided.

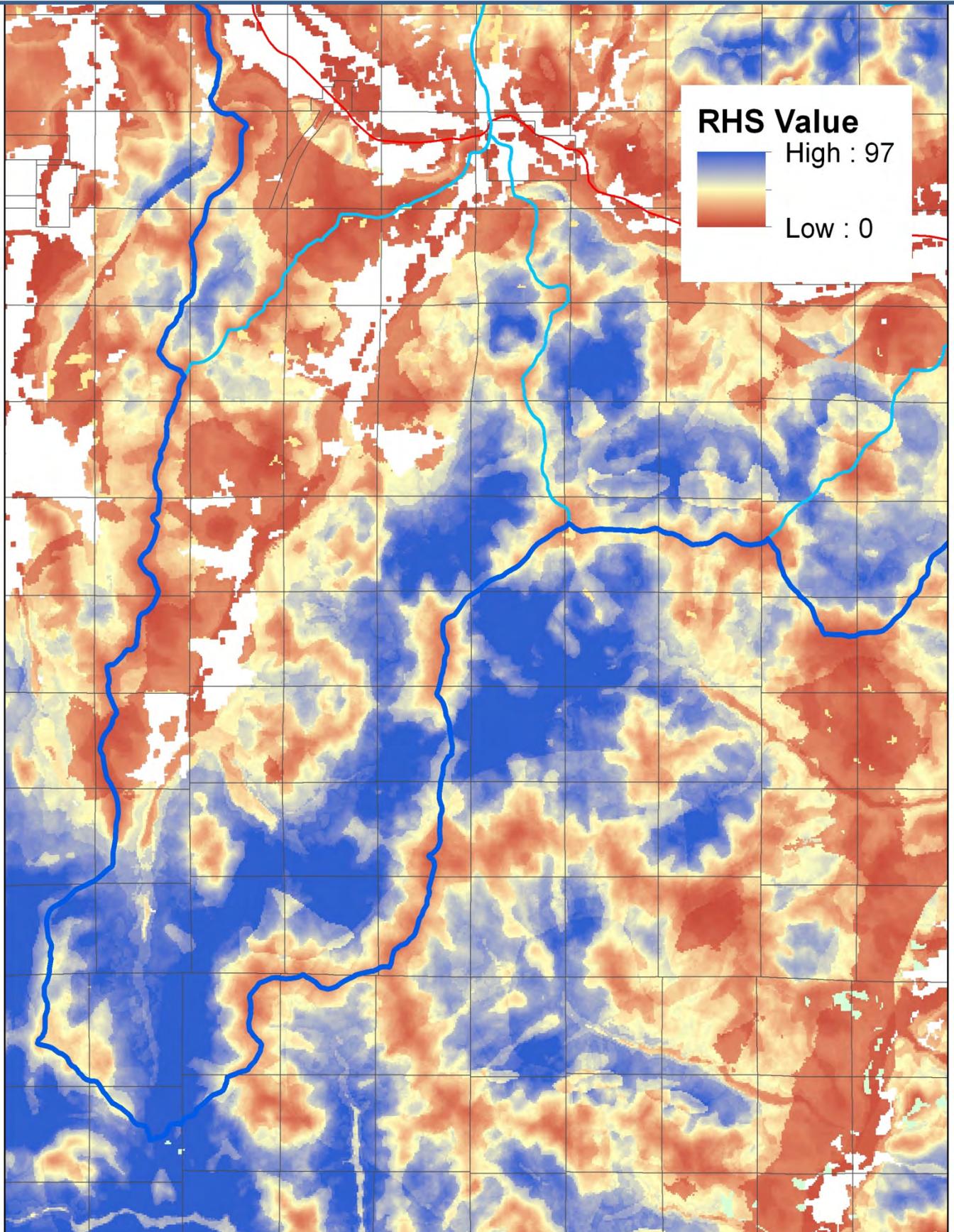


Spotted Owl Relative Habitat Suitability Model

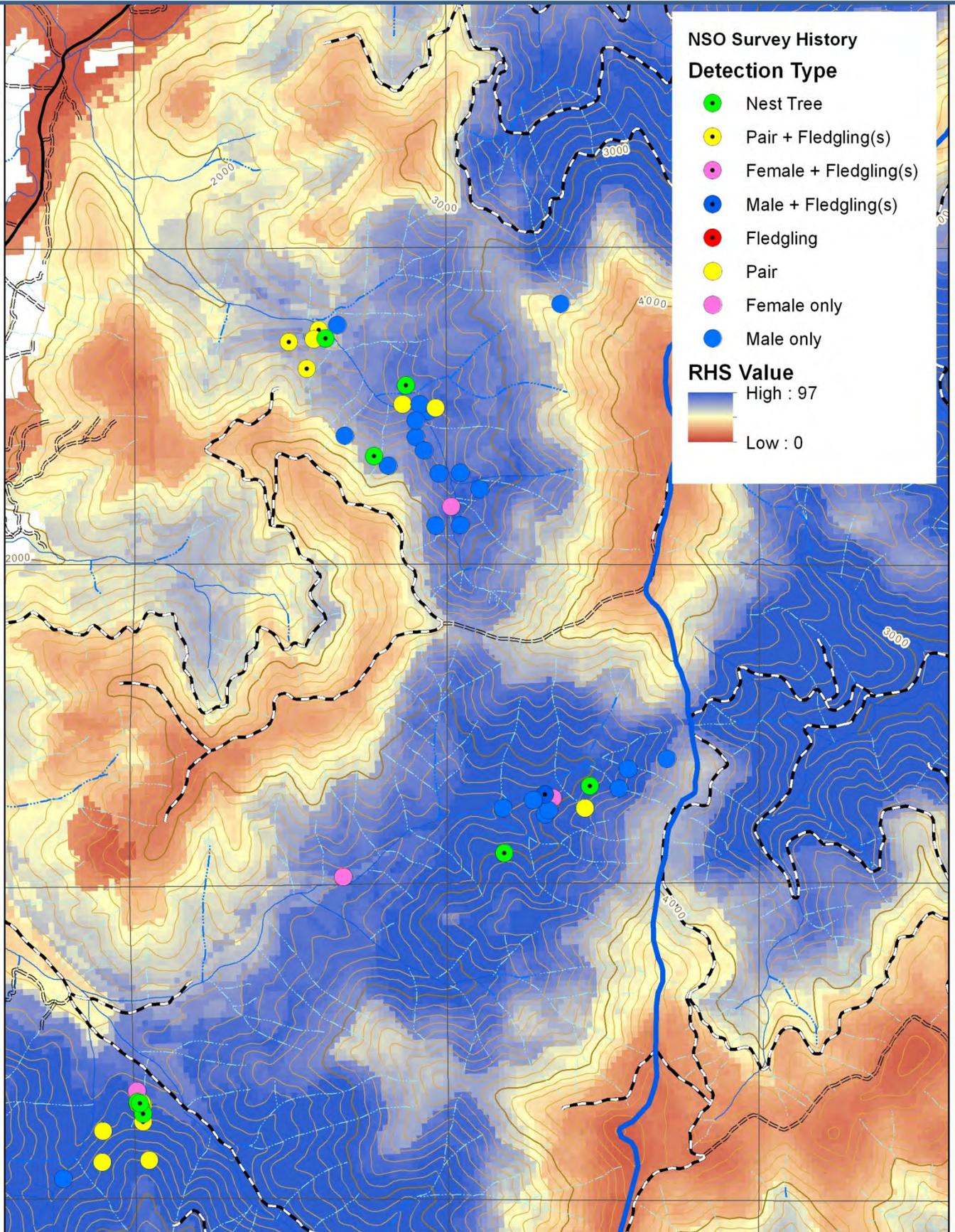
The Relative Habitat Suitability (RHS) map was developed by the US Fish and Wildlife Service during preparation of the *Revised Recovery Plan for the Northern Spotted Owl*, June 28, 2011. The RHS map encompasses multiple topographic, environmental and habitat variables that are known to correspond to presence of northern spotted owls. The RHS map can help to identify those areas with the assemblage of characteristics that are more favorable or less favorable in the long term for northern spotted owls. The variables include habitat structure, habitat pattern (core and edge), forest species composition, topographic position, elevation and climate. It is not a map of current suitable habitat but instead a map based on a set of variables that contribute to identification of long term suitable conditions.

	Variable	Order	
Best climate model	Mean July Precipitation		
	Mean July Temperature		
	Mean July Precipitation		
	Mean July Temperature		
	Mean Elevation		
Topographic position	Curvature		
	Insolation		
	Slope Position		
species composition	Redwood		
	Oak Woodland		
	Pine-dominated		
	Northern Deciduous Hardwoods		
	Evergreen Hardwoods		
	Douglas-fir		
	Subalpine species		
Habitat pattern	Core of NR habitat		
	Edge of NR habitat		
Habitat structure	Foraging Habitat Amount		
	Nesting/Roosting Habitat Amount		

Spotted Owl Relative Habitat Suitability Model

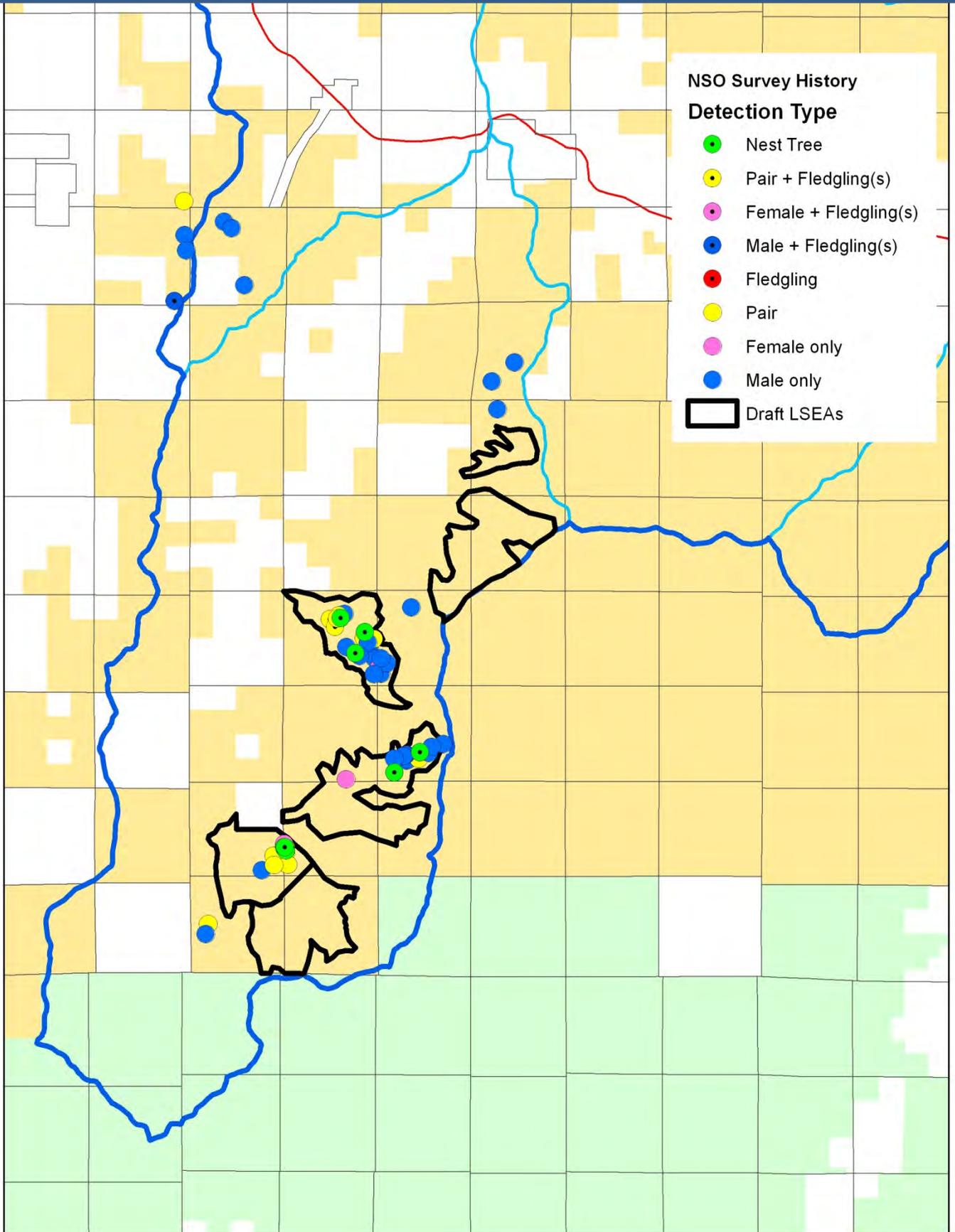


Spotted Owl Relative Habitat Suitability Model

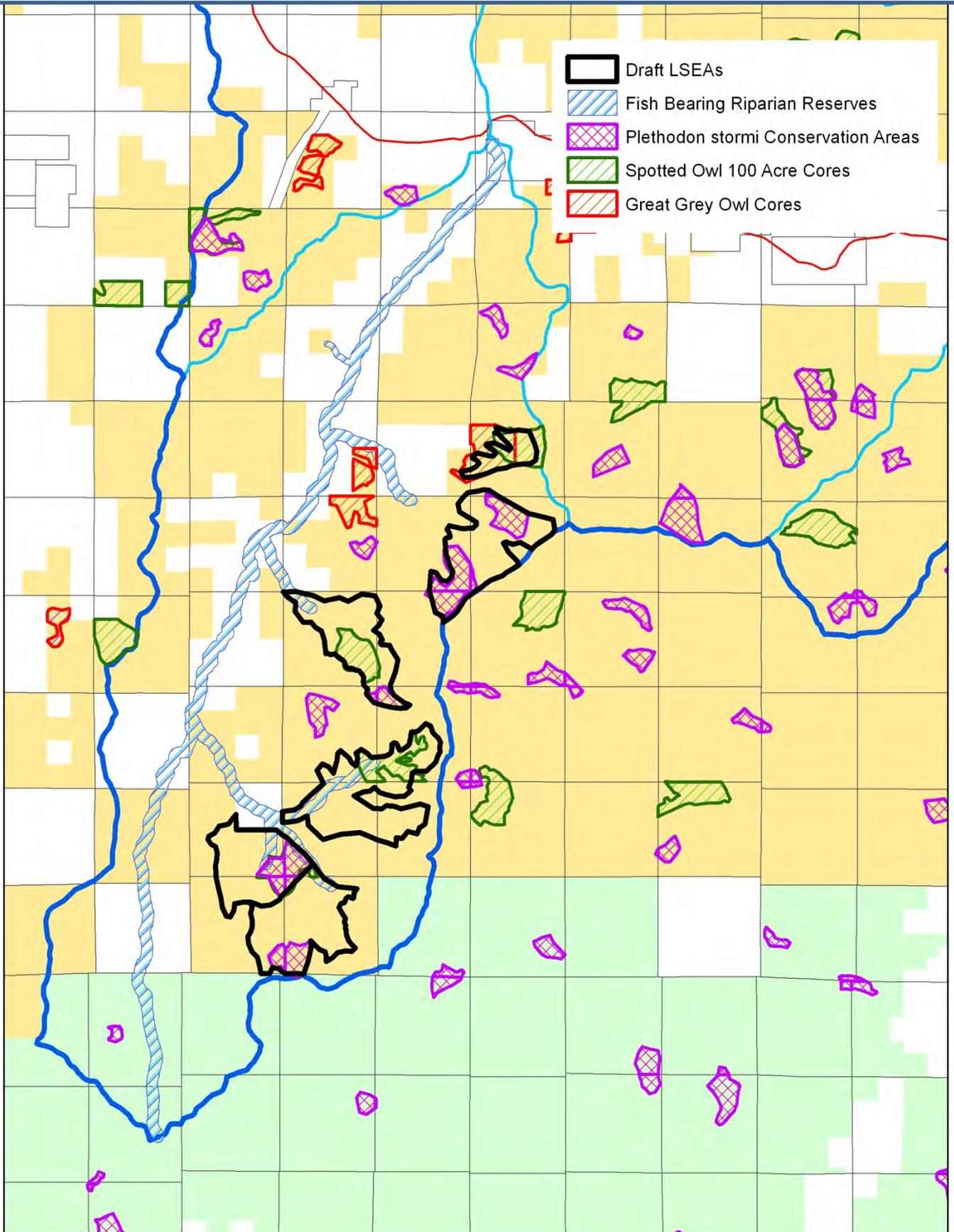


Late-Successional
Emphasis Areas
Preliminary Designation
Within the Pilot
Thompson Planning Area

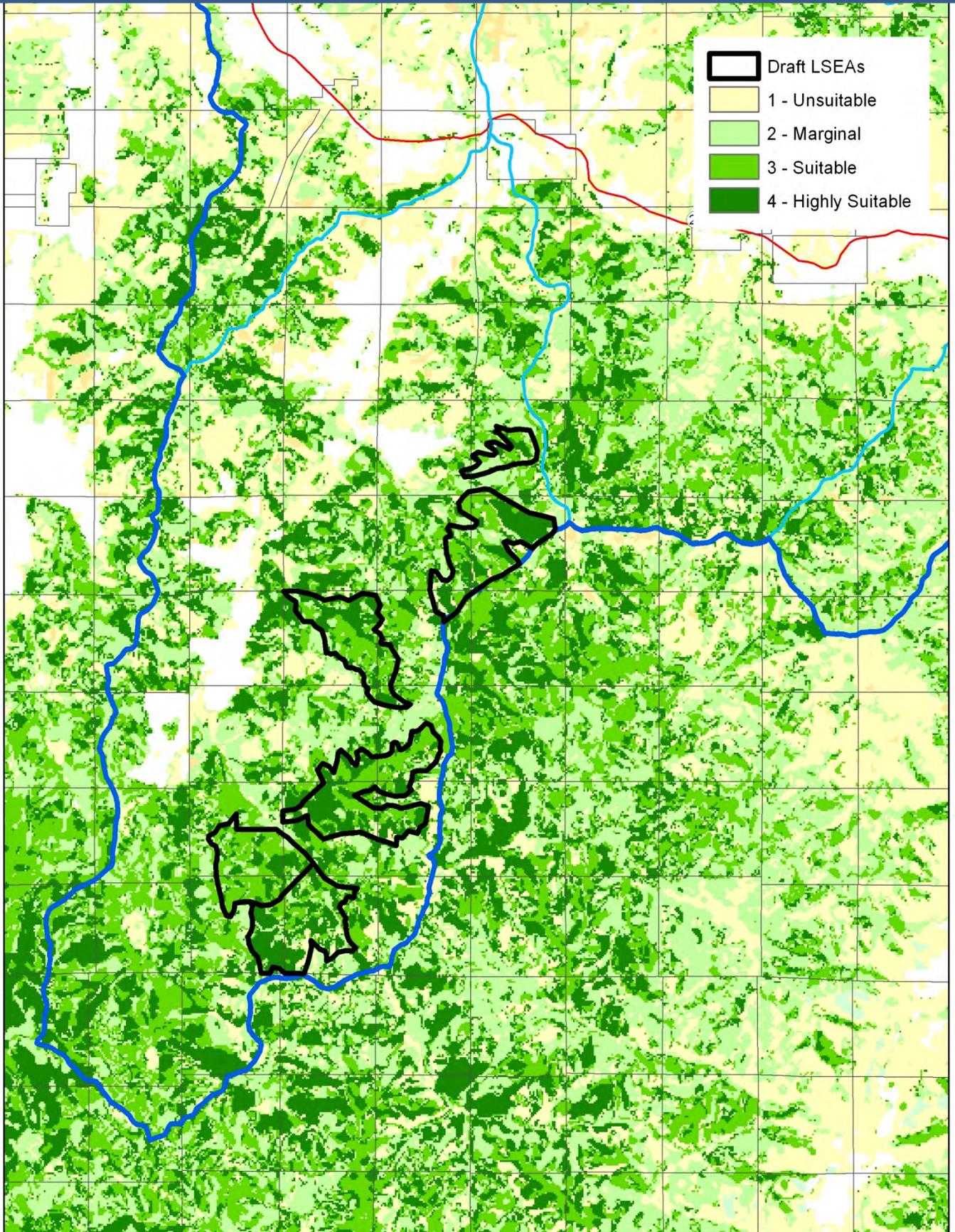
Phase 2 Planning Area – Preliminary LSEAs



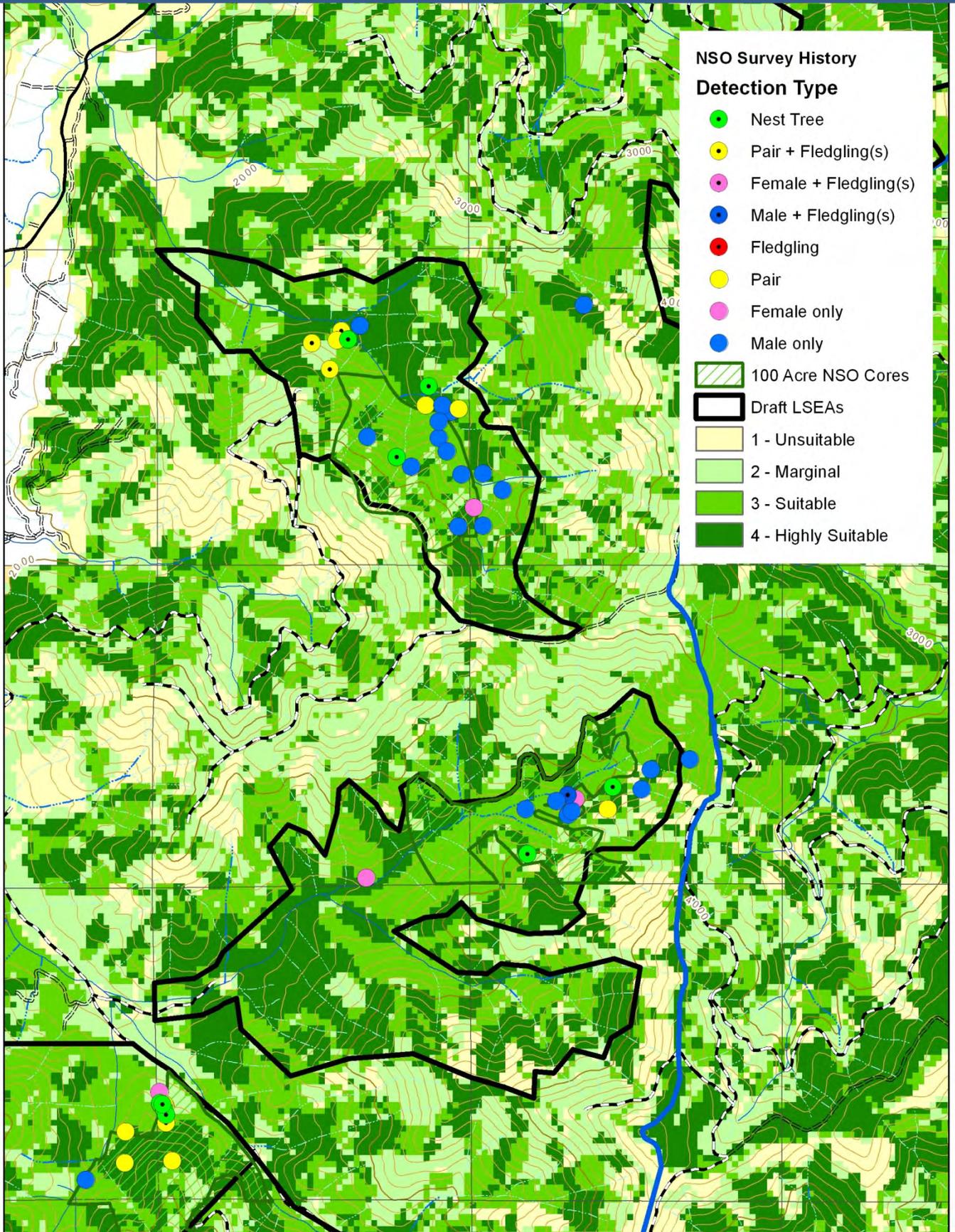
Phase 2 Planning Area – Preliminary LSEAs



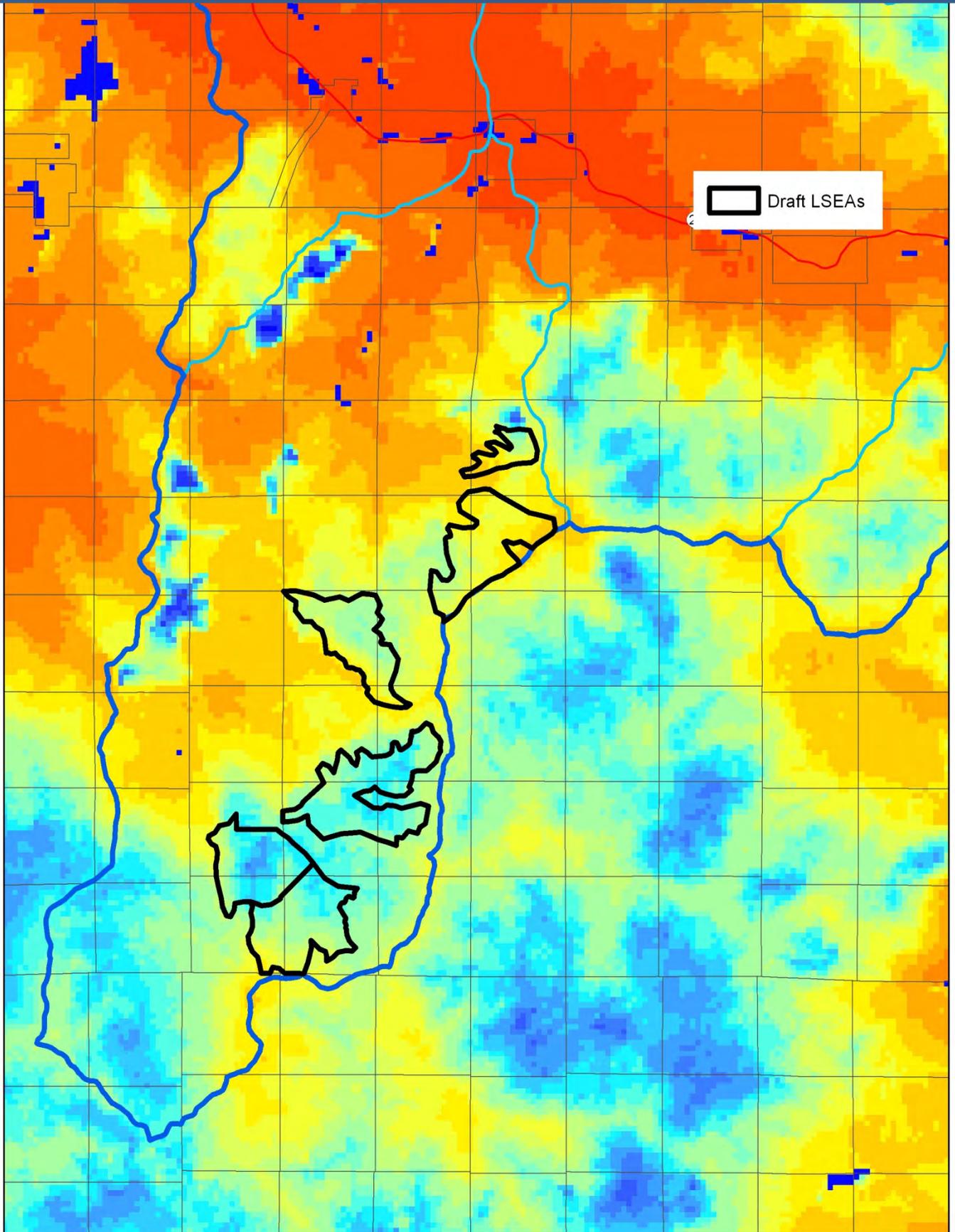
Phase 2 Planning Area – Preliminary LSEAs



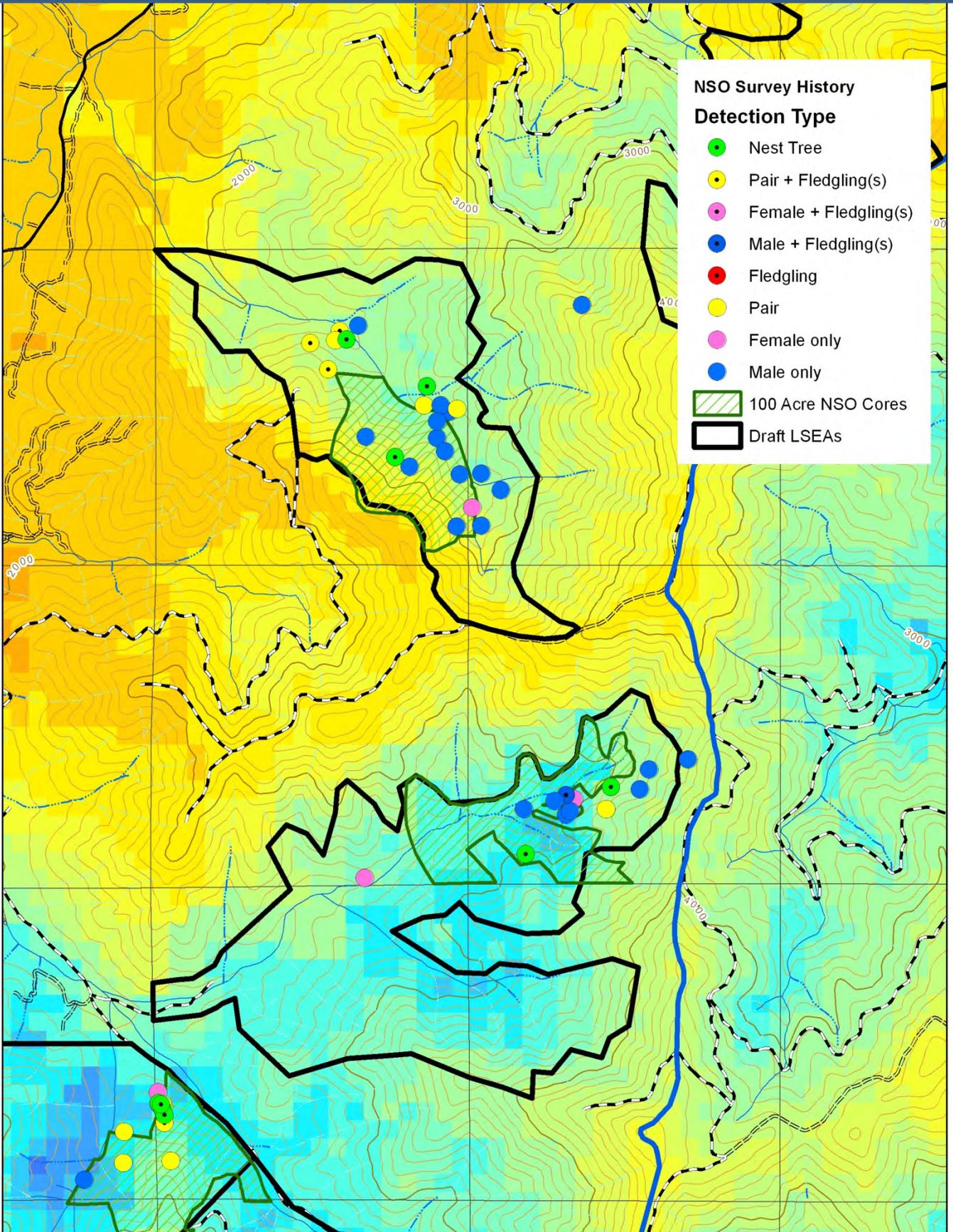
Phase 2 Planning Area – Preliminary LSEAs



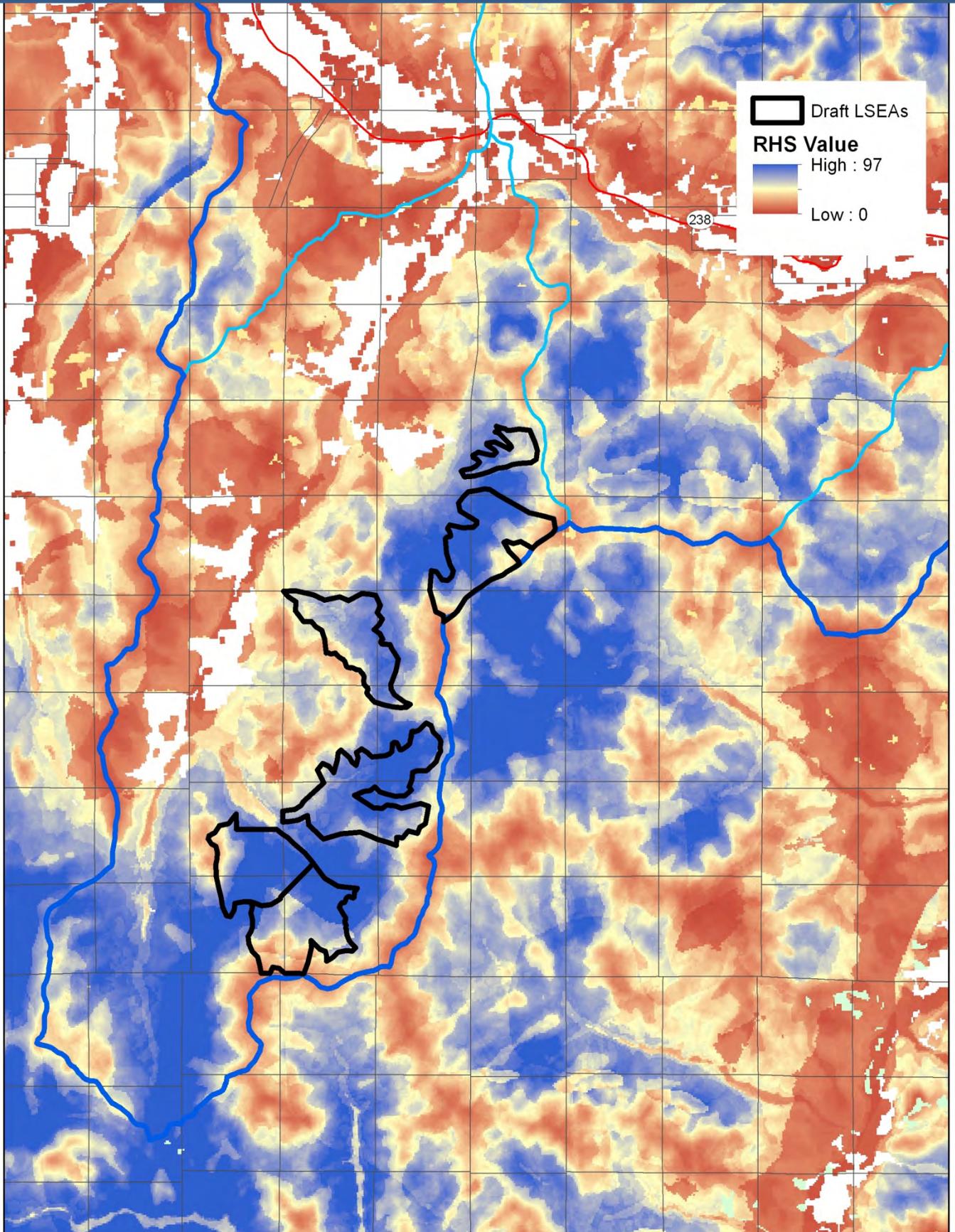
Phase 2 Planning Area – Preliminary LSEAs



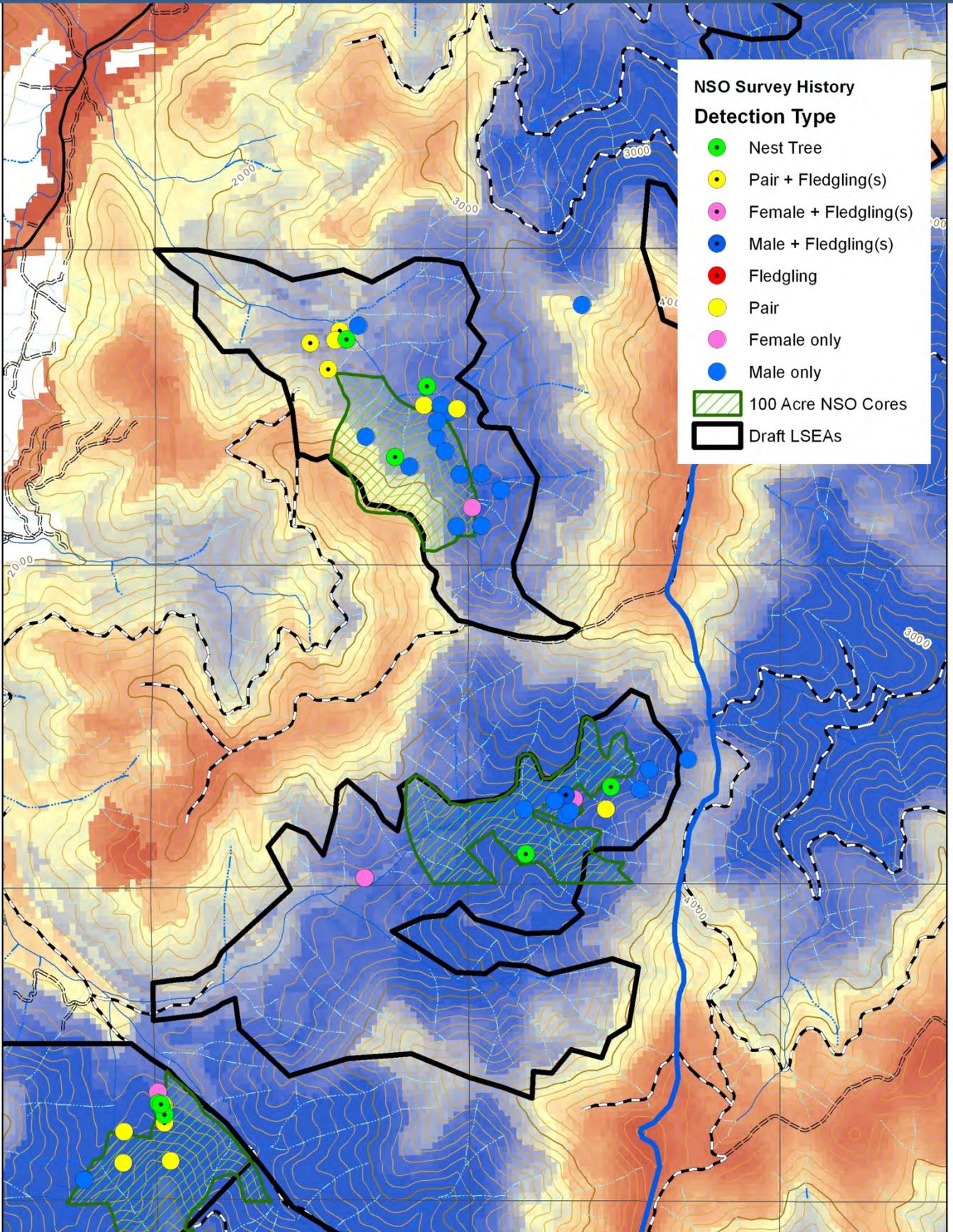
Phase 2 Planning Area – Preliminary LSEAs



Phase 2 Planning Area – Preliminary LSEAs

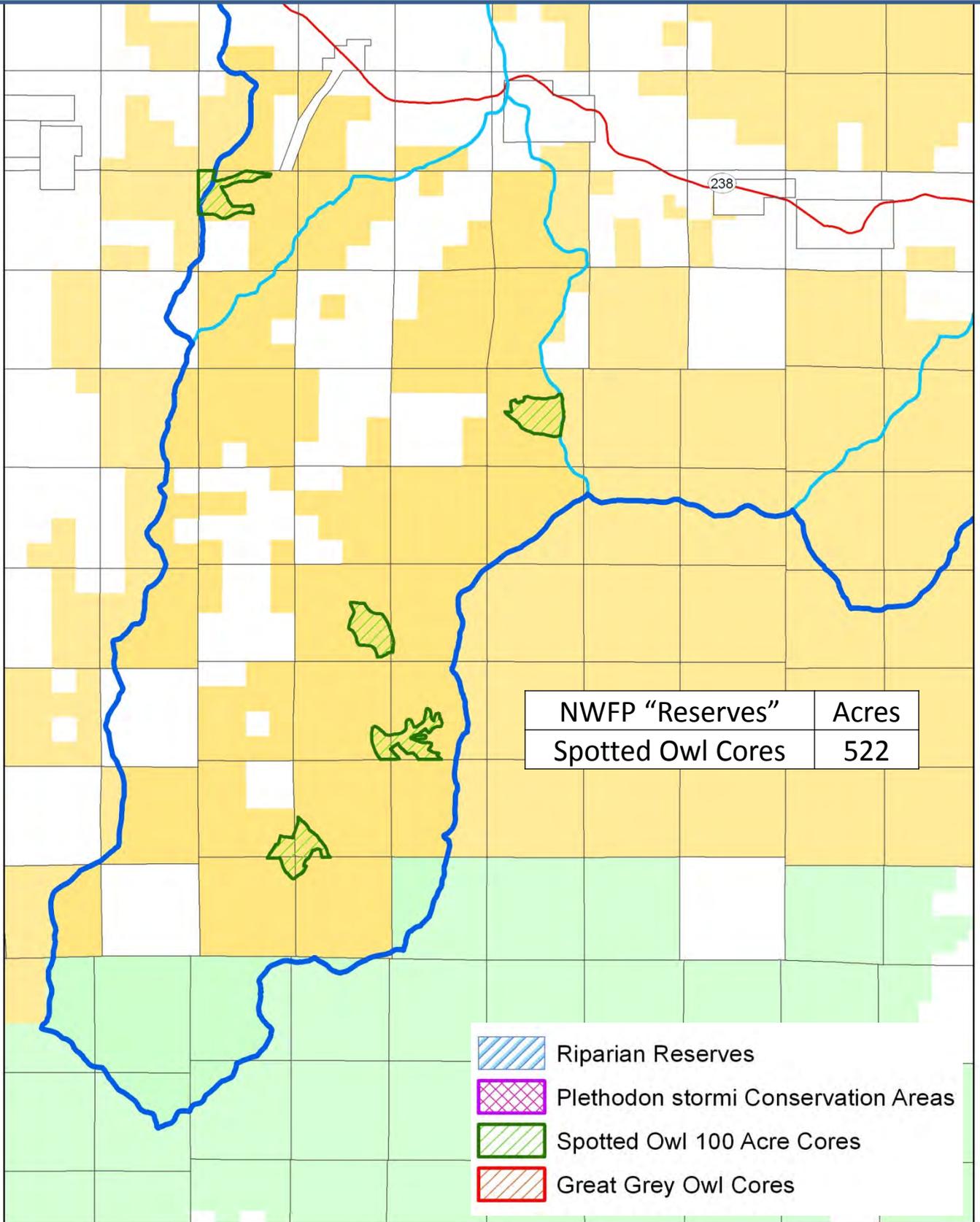


Phase 2 Planning Area – Preliminary LSEAs

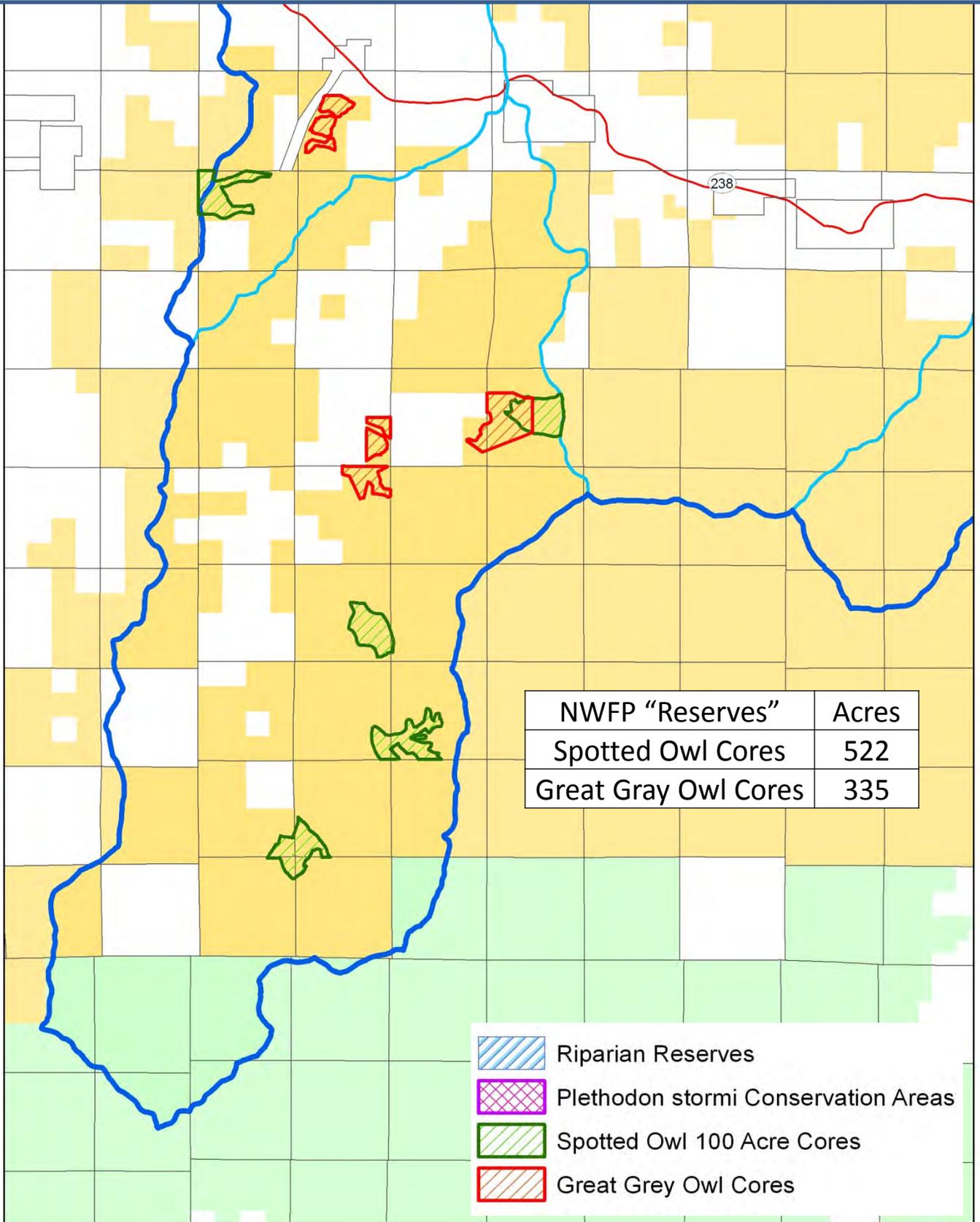


Late-Successional
Emphasis Areas
Landscape Calculations

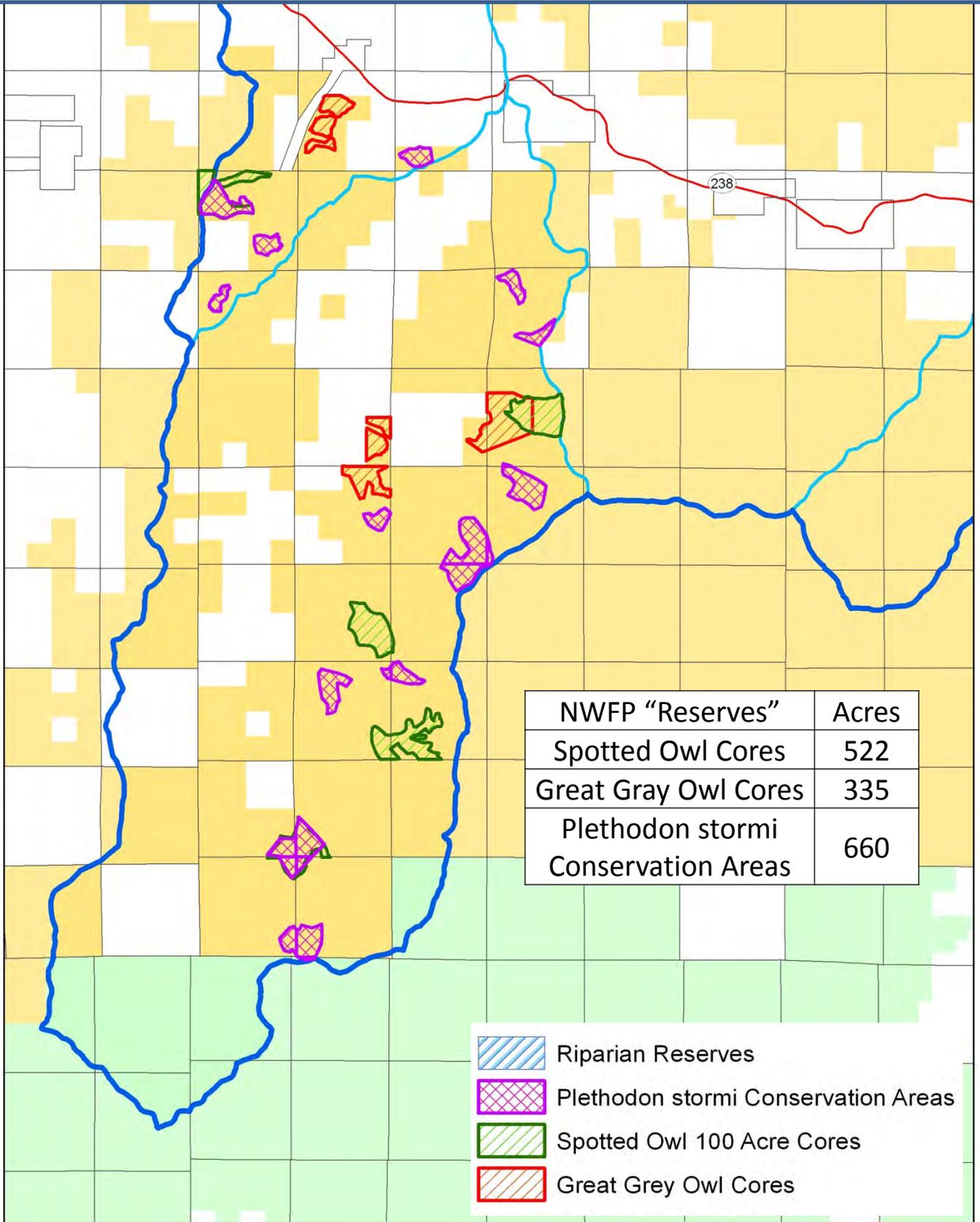
Phase 2 Planning Area – Conservation Allocations



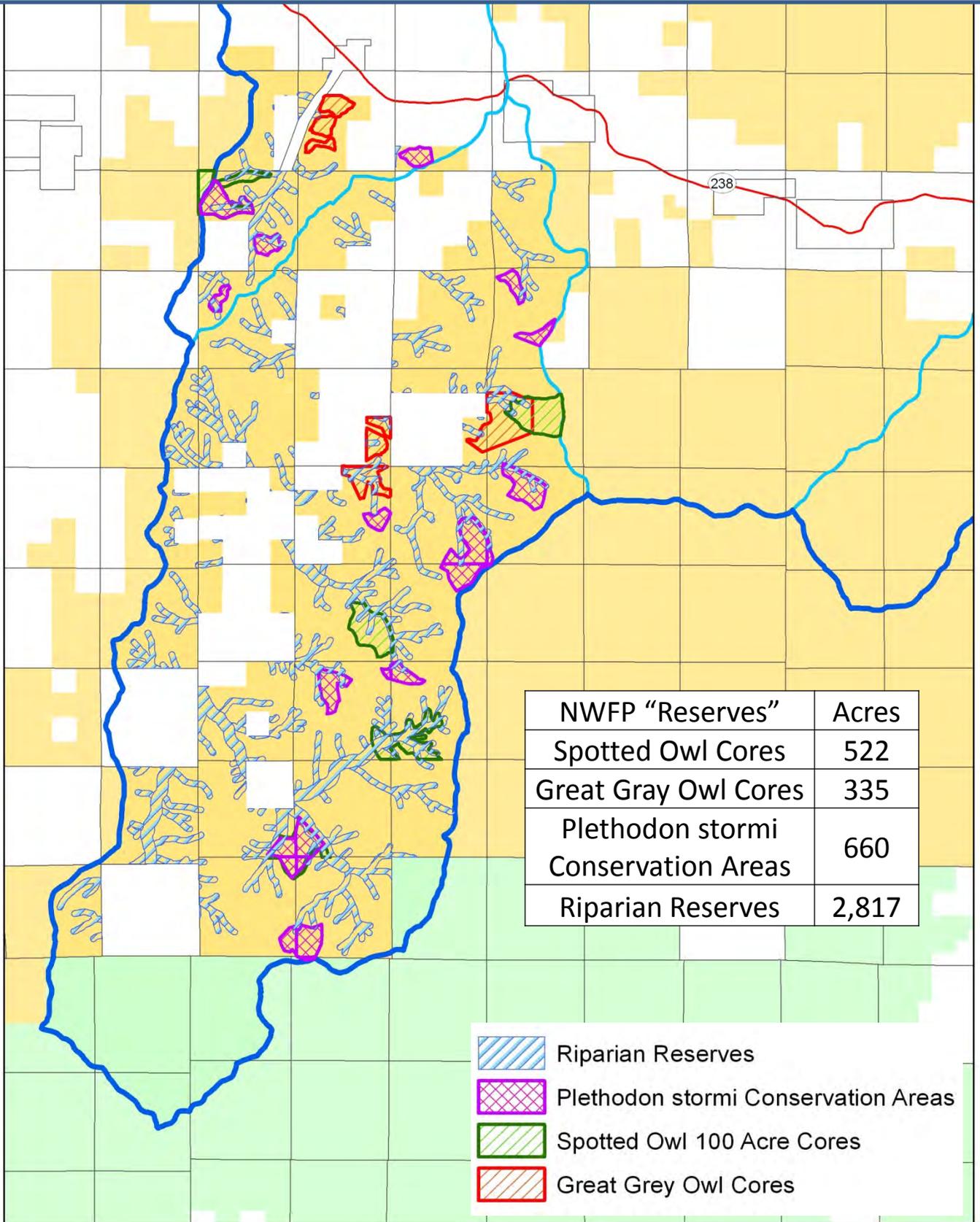
Phase 2 Planning Area – Conservation Allocations



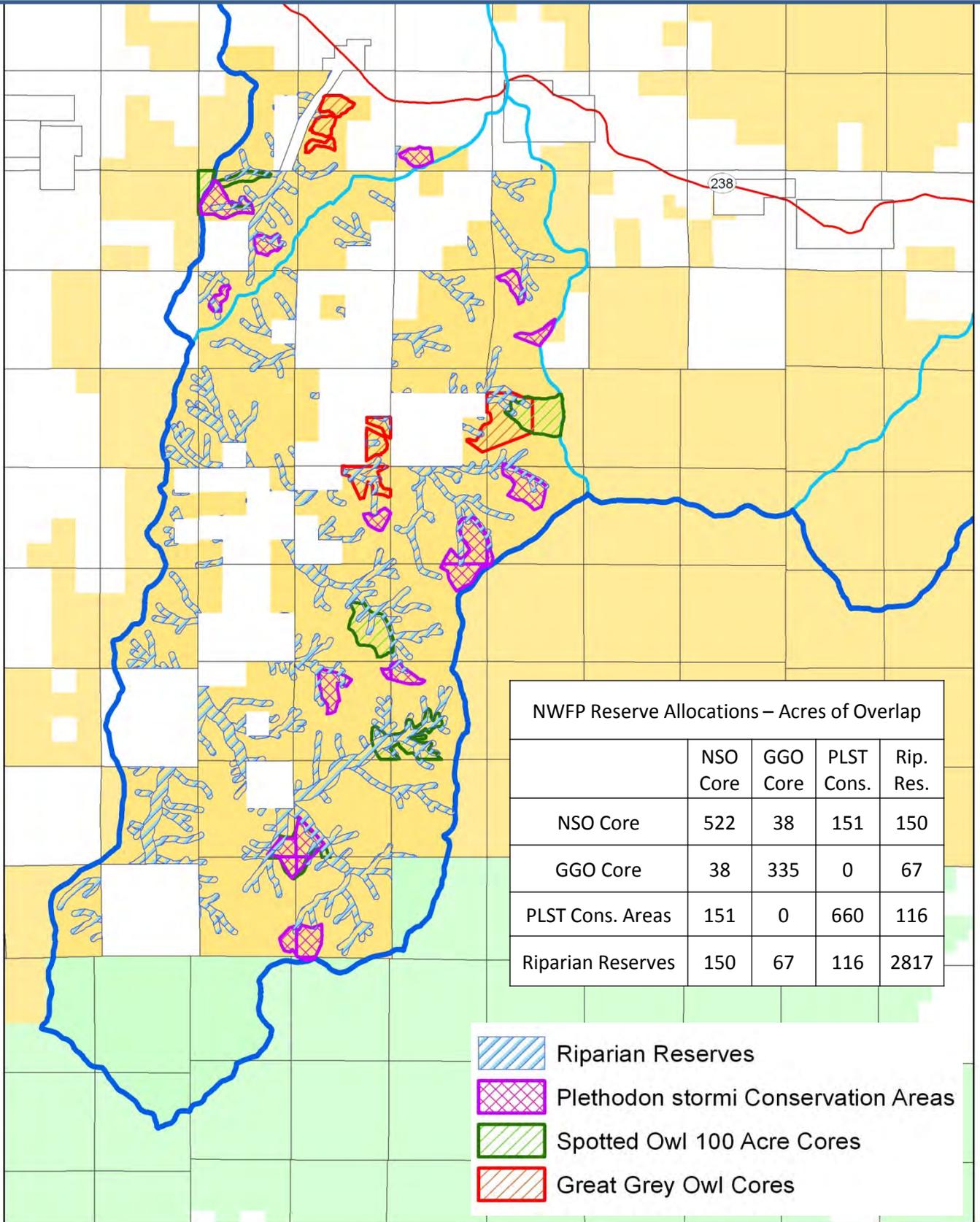
Phase 2 Planning Area – Conservation Allocations



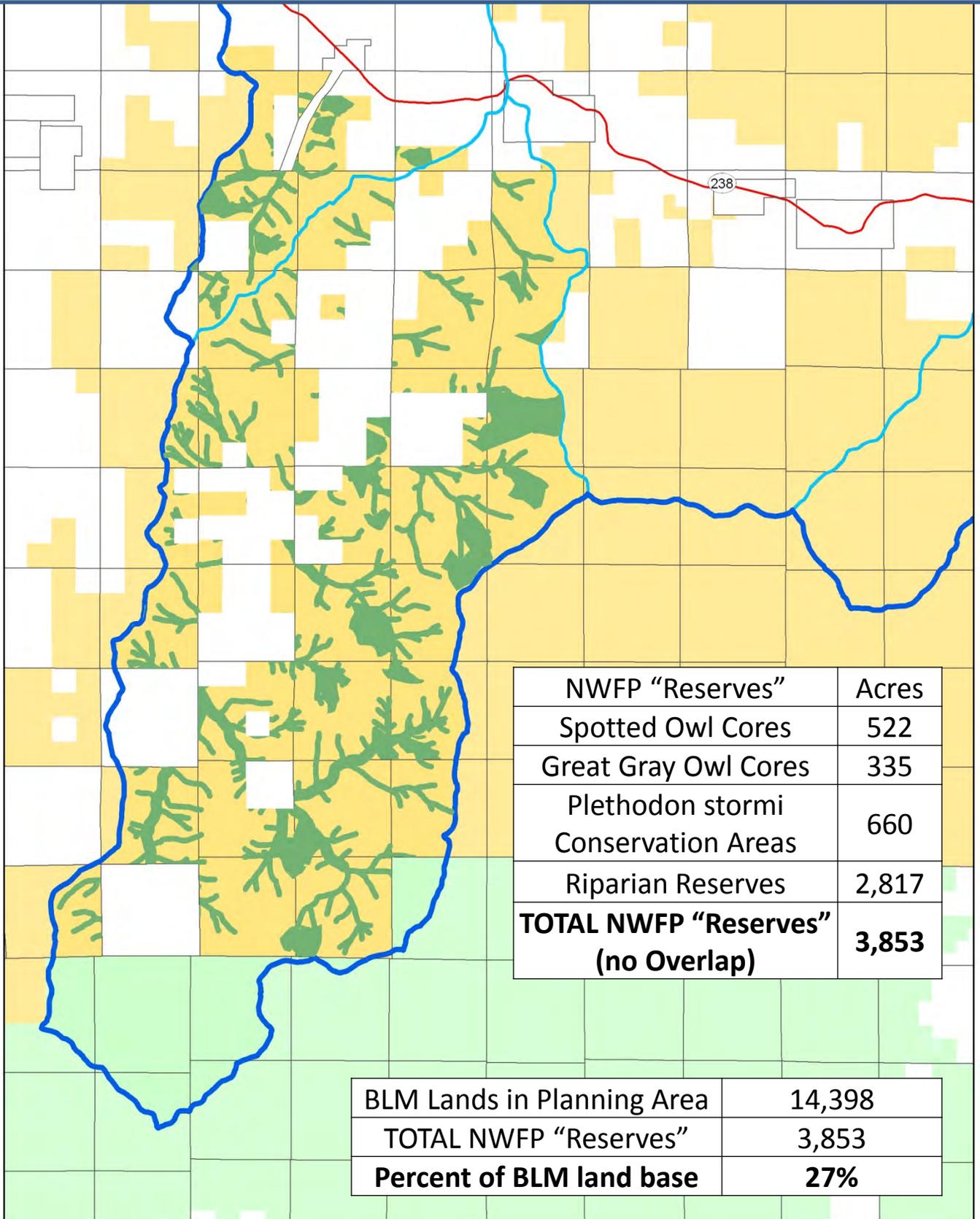
Phase 2 Planning Area – Conservation Allocations



Phase 2 Planning Area – Conservation Allocations



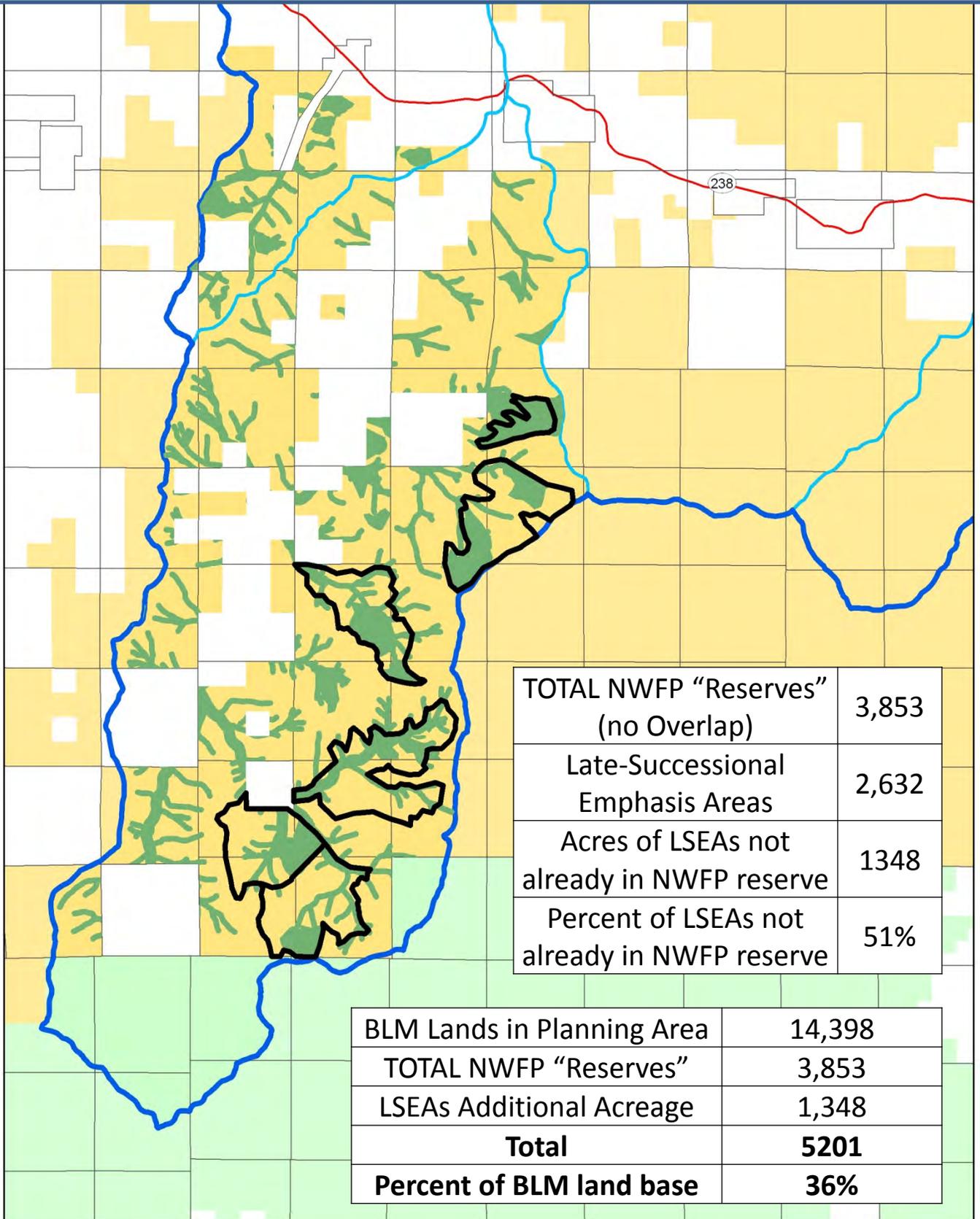
Phase 2 Planning Area – Conservation Allocations



NWFP "Reserves"	Acres
Spotted Owl Cores	522
Great Gray Owl Cores	335
Plethodon stormi Conservation Areas	660
Riparian Reserves	2,817
TOTAL NWFP "Reserves" (no Overlap)	3,853

BLM Lands in Planning Area	14,398
TOTAL NWFP "Reserves"	3,853
Percent of BLM land base	27%

Phase 2 Planning Area – Conservation Allocations

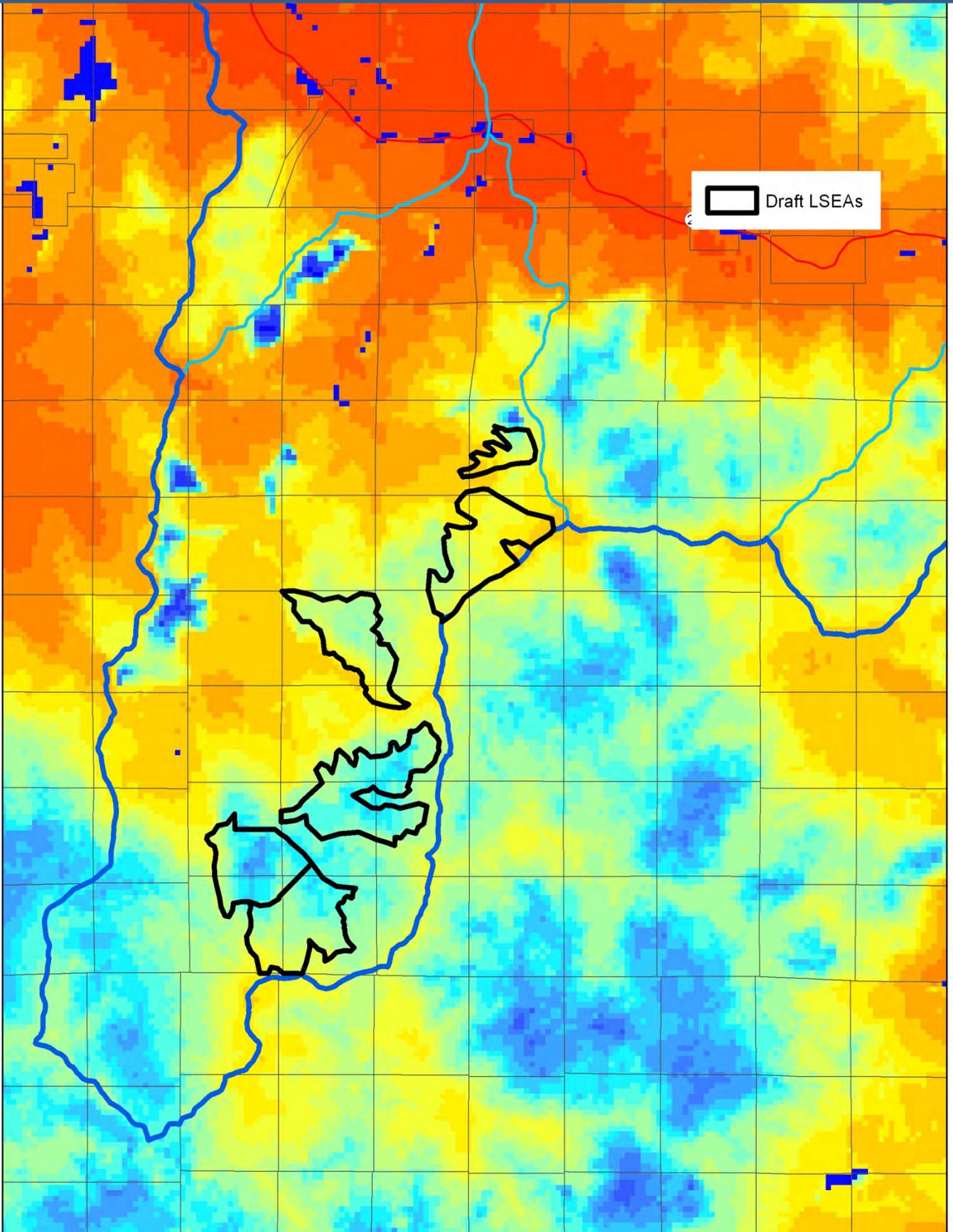


TOTAL NWFP "Reserves" (no Overlap)	3,853
Late-Successional Emphasis Areas	2,632
Acres of LSEAs not already in NWFP reserve	1348
Percent of LSEAs not already in NWFP reserve	51%

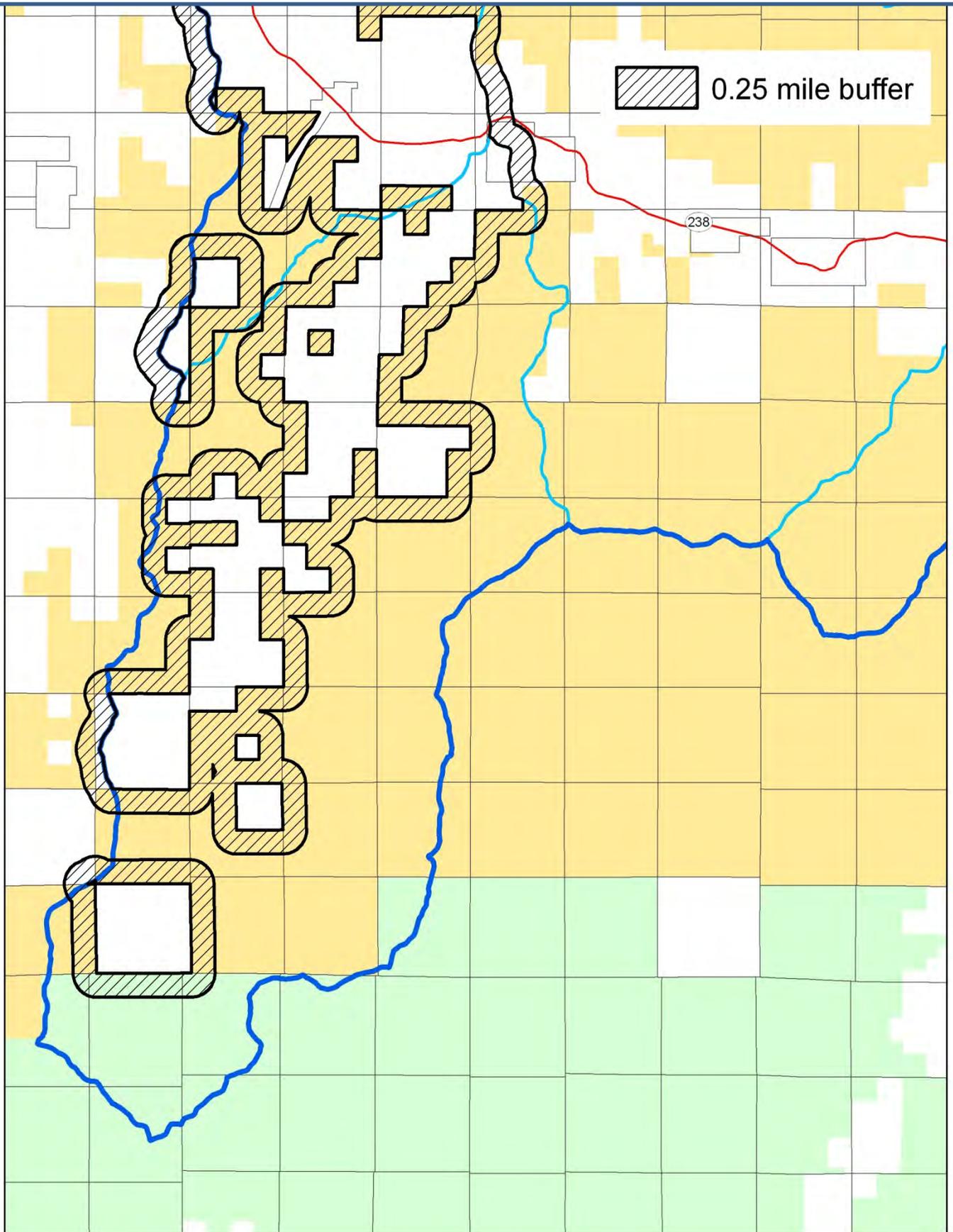
BLM Lands in Planning Area	14,398
TOTAL NWFP "Reserves"	3,853
LSEAs Additional Acreage	1,348
Total	5201
Percent of BLM land base	36%

Tools and Concepts Used to Select Areas for Treatments

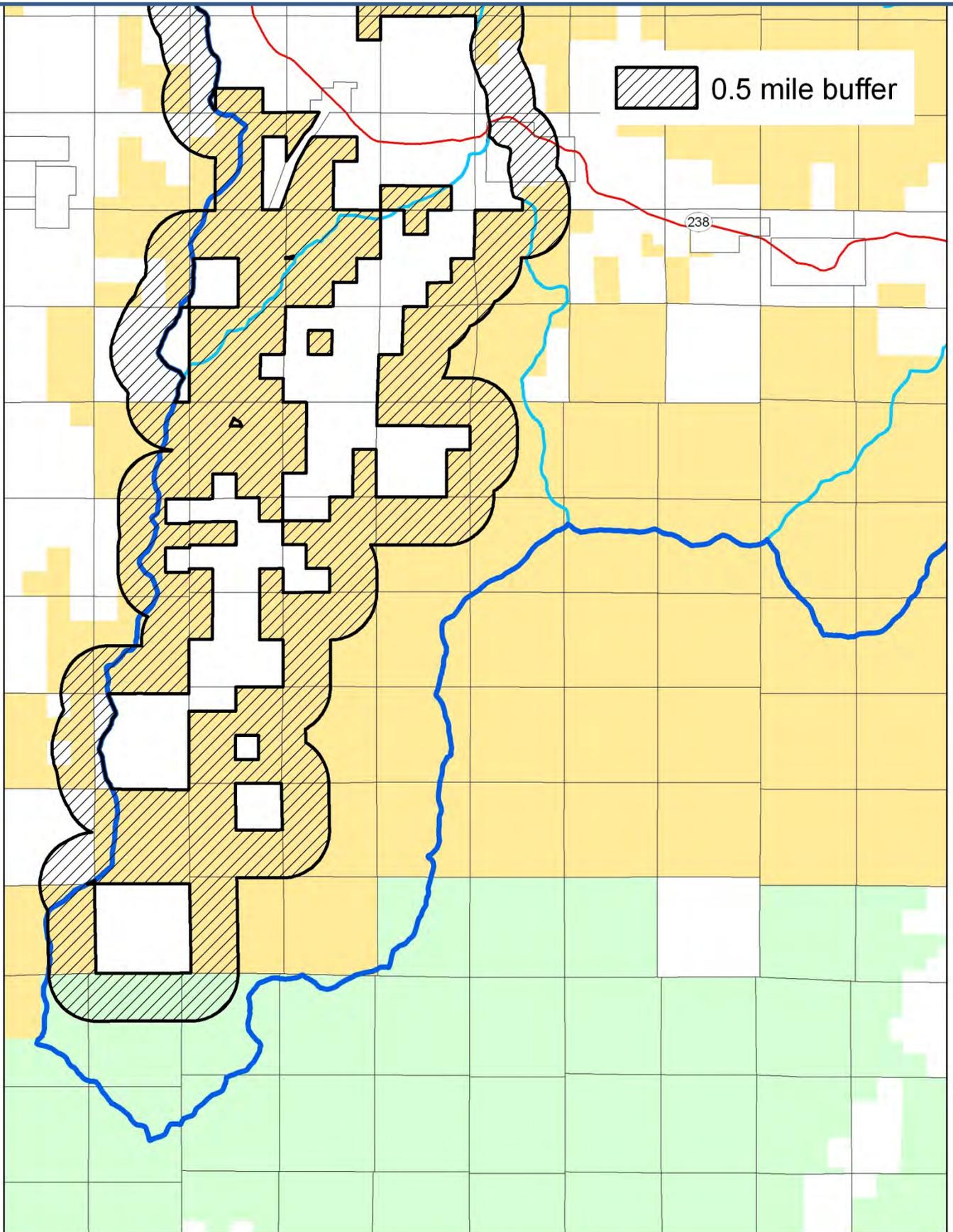
Phase 2 Planning Area – Preliminary LSEAs



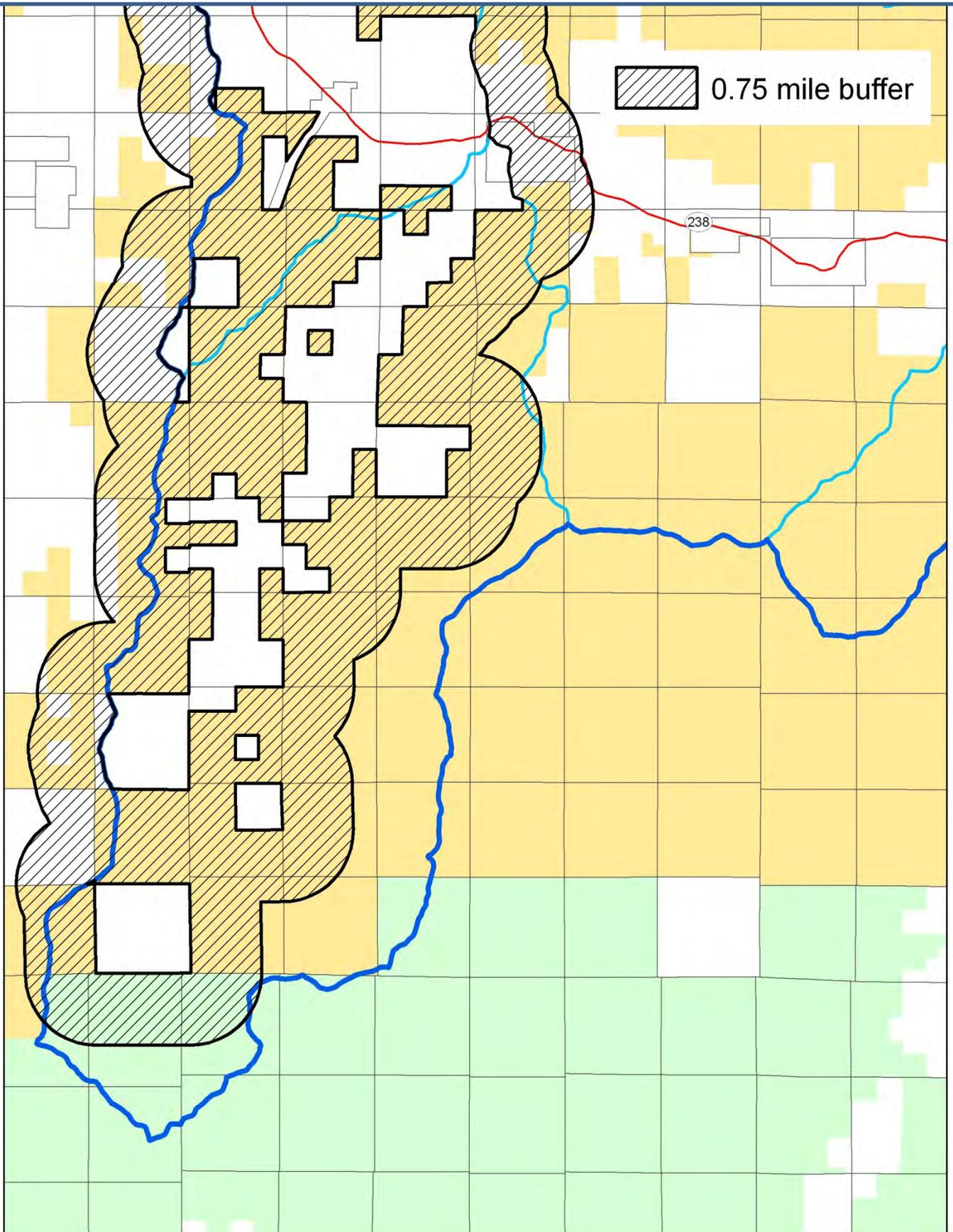
Phase 2 Planning Area – Treatment Planning



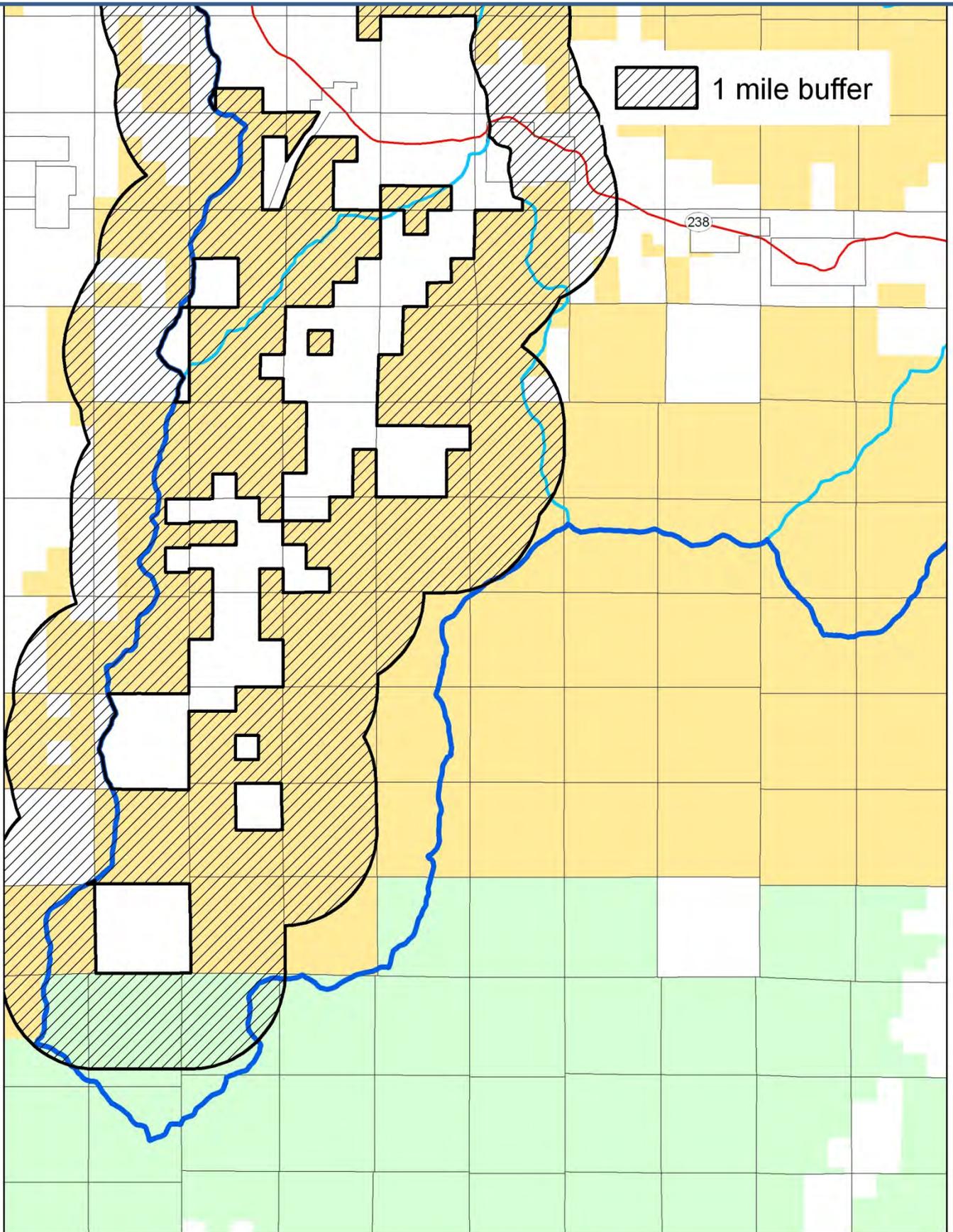
Phase 2 Planning Area – Treatment Planning



Phase 2 Planning Area – Treatment Planning



Phase 2 Planning Area – Treatment Planning



Phase 2 Planning Area – Non-Commercial Treatments

