EBMWG DS04

Co Location Project Overview and Update

April 22, 2009

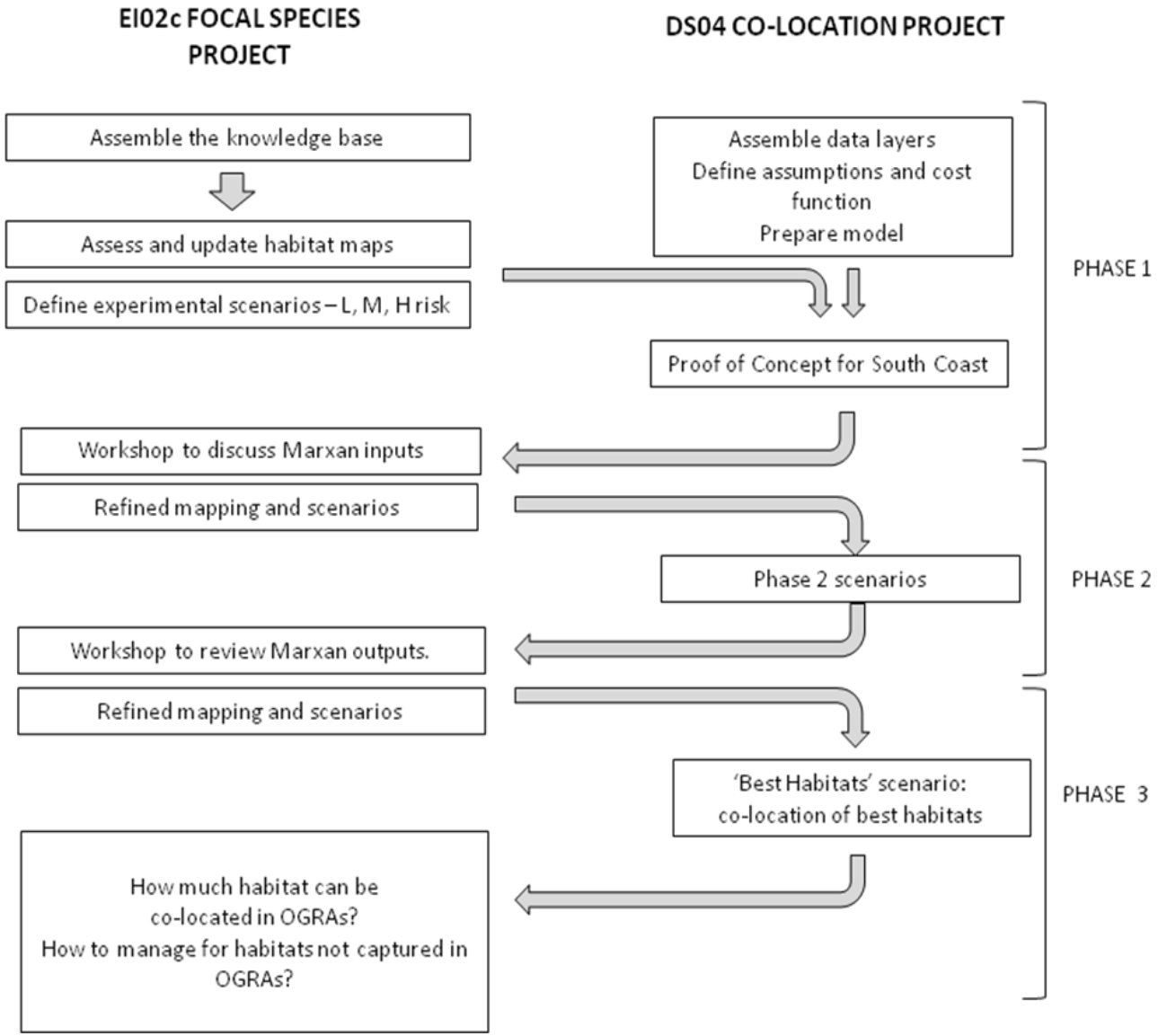
C. Rumsey

DS04 Project Purpose

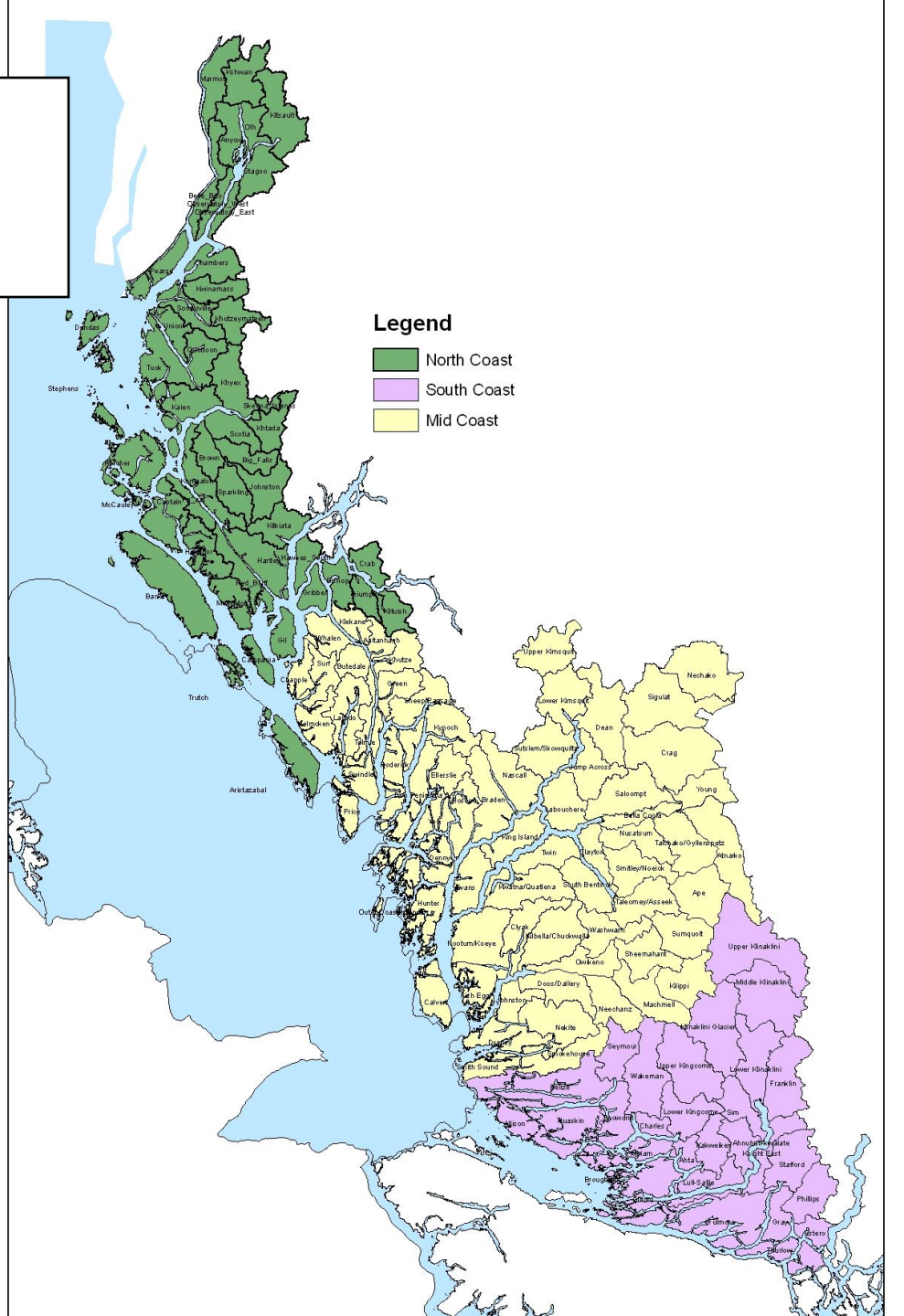
- Identify potential areas for old growth management reserves, while,
  i. meeting multiple conservation objectives
  ii. avoiding timber supply impacts.

Limitations

- Outputs do not represent recommended reserves for Old Growth Management
- Intended as information base upon which to build more detailed planning
- Affords opportunity to experiment with a number of factors and evaluate the scope and scale of potential scenarios


EI02c FOCAL SPECIES PROJECT
DS04 CO-LOCATION PROJECT
Assemble the knowledge base
Assess and update habitat maps
Define experimental scenarios – L, M, H risk
Assemble data layers
Define assumptions and cost function
Prepare model
Proof of Concept for South Coast
PHASE 1
Workshop to discuss Marxan inputs
Refined mapping and scenarios
Phase 2 scenarios
Workshop to review Marxan outputs.
PHASE 2
Refined mapping and scenarios
'Best Habitats' scenario:
co-location of best habitats
How much habitat can be co-located in OGRAs?
How to manage for habitats not captured in OGRAs?
PHASE 3

Coastal Study Area Groupings



Existing Reserves

- Conservancies
- Biodiversity Areas
- Designated Ungulate Winter Range
- WHA’s
- Grizzly Bear Critical Habitat
- Riparian/Floodplain


EBMWG DS04
South Central Coast Study Area
Upper Klinaklini
Middle Klinaklini
Klinaklini Glacier
Seymour
Upper Kingcome
Wakeman
Lower Klinaklini
Franklin
Belize
Sim
Lower Kingcome
Allison
Huaskin
Snowdrift
Charles
Knight East
Kakweiken
Ahnuhati-kwate
Miriam
Ahta
Stafford
Broughton
Lull-Sallie
Gilford
Phillips
Fulmore
Gray
Estero
Thurlow

Stafford Reserves

- Conservation Areas
- Grizzly Critical Habitat
- UWR / WHA's
- Riparian

Cooper Reach

See Protection Charts

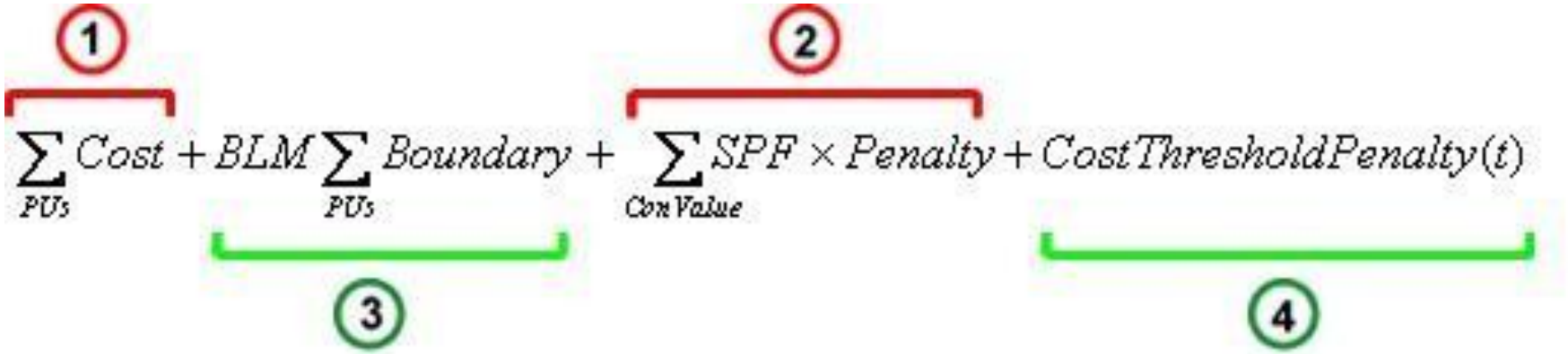
What additional reserves might be required?

- To meet Landscape Unit Objectives (LUO's) for,
  - Site series surrogates
  - Other species
- To meet habitat requirements for other focal species

MARXAN

- **Meeting Representation Targets for Conservation Features**
- **Minimizing Area**
- **Minimizing other Costs**
- **Reducing Perimeter**

MARXAN



1. The total cost of the reserve network (required)
2. The penalty for not adequately representing conservation features (required)
3. The total reserve boundary length, multiplied by a modifier (optional)
4. The penalty for exceeding a preset cost threshold (optional – see footnote 3)

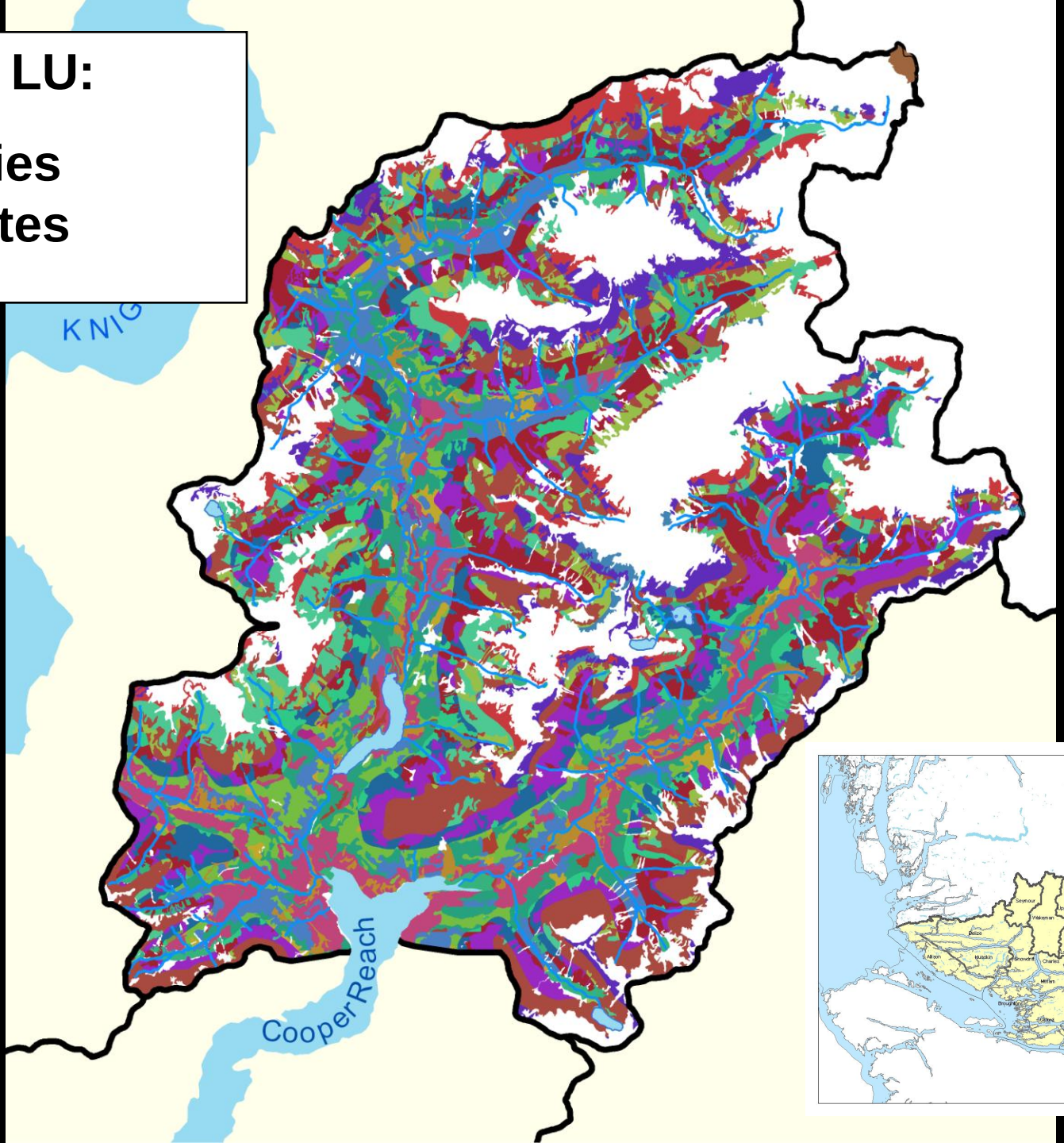
DATA INPUTS

Forest Ecosystems

- Latest CFCI Dataset
    - Site Series Surrogates (SSS) and Seral Class
- Representation targets
    - As per Landscape Unit Objectives
- Recruitment
    - Oldest First -- Satisfy target with available Old, then Mature, then Mid, then young

Stafford LU:

Site Series Surrogates



Stafford LU:

Seral Class

- Old
- Mature
- Mid
- Young

Oldest first set-up

– SSS1 Representation goal = 30%

Total SSS1 = 200ha

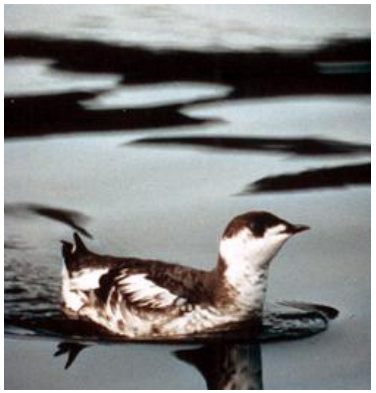
- Old 40 ha,
- Mature 10 ha,
- Mid 5 ha,
- young 145 ha

Goal Total ha = (30% x 200ha) = 60ha

- Goal Old 40 ha (all)
- Goal Mature 10 ha (all)
- Goal Mid 5 ha (all)
- Goal Young 5 ha

Focal Species

- Habitat representation targets for,
  - Marbled Murrelet
  - Grizzly Bear
  - Tailed Frog
  - Mountain Goat
  - Deer
  - Northern Goshawk



Representation Targets

- Based on extensive Domain Expert input
- Originally set low risk and ‘higher’ risk thresholds
- Modified version included look at ‘Best Habitats’
- See tables

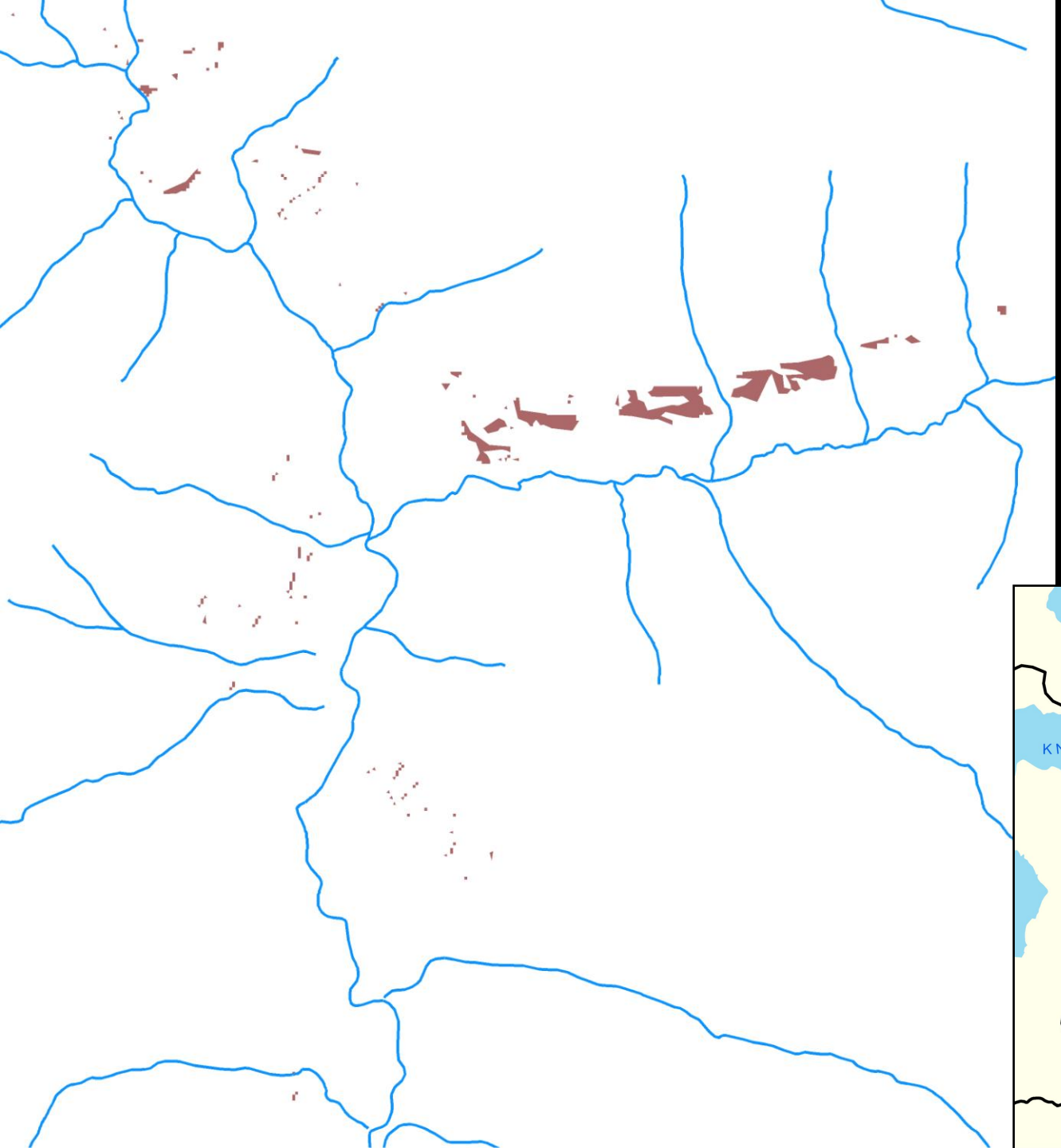
Focal Species
Updates

- Grizzly stratified by BEC
- MAMU by BEC and distance to ocean
- Tailed Frog—stream buffers and basins
- New Goat and Deer ecological layer
- Goshawk foraging and nesting model plus known nest sites

Stafford Habitats

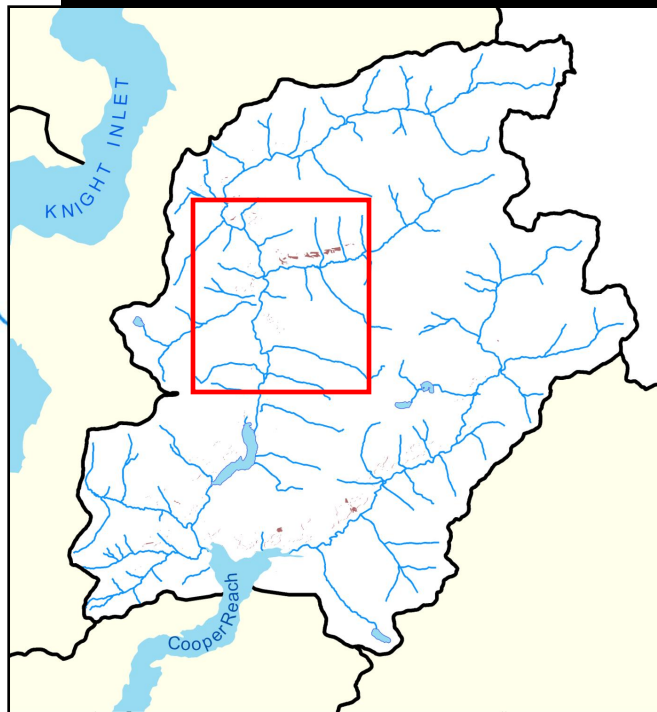
Deer

Cooper Reach



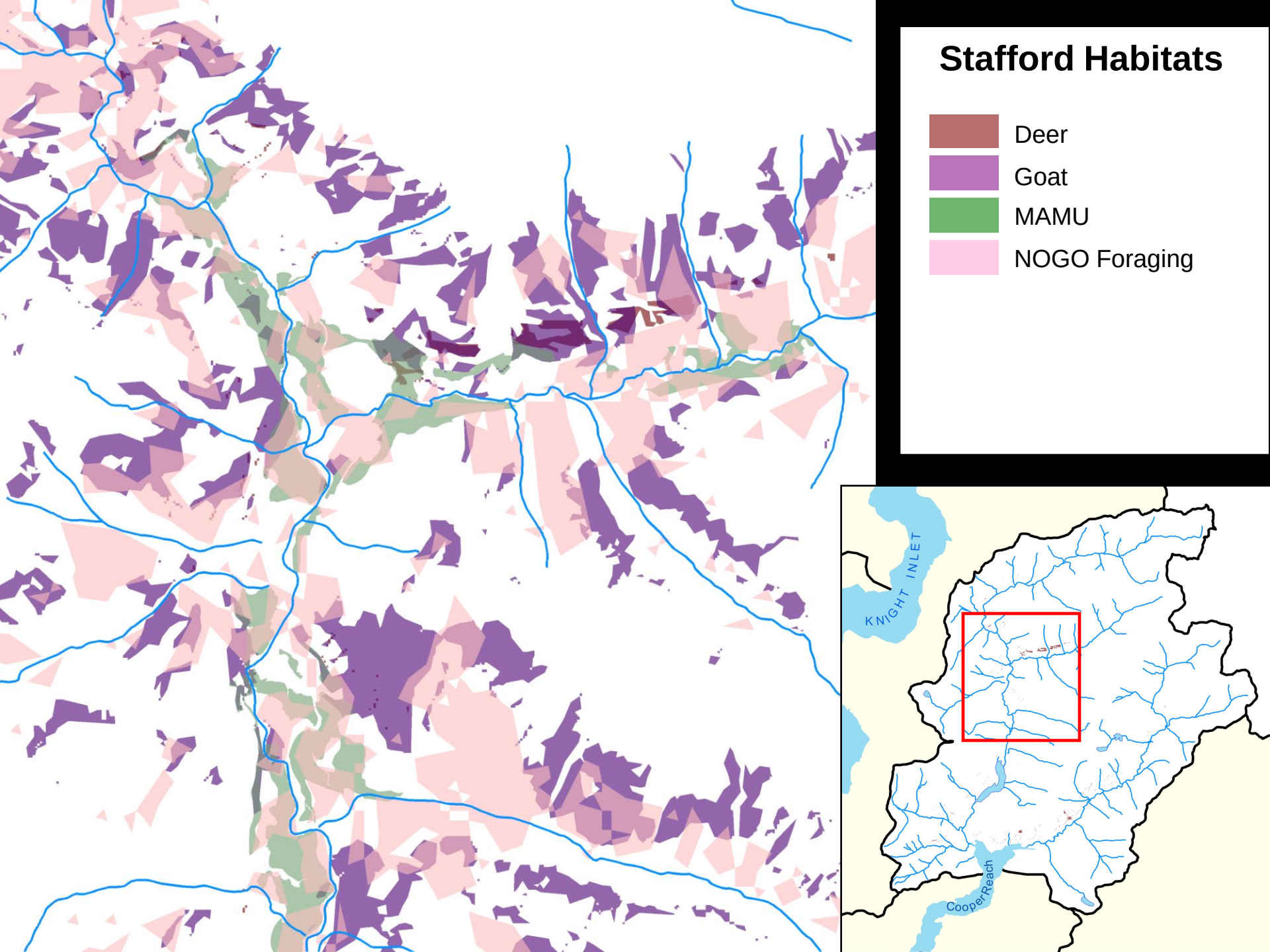
Stafford Habitats

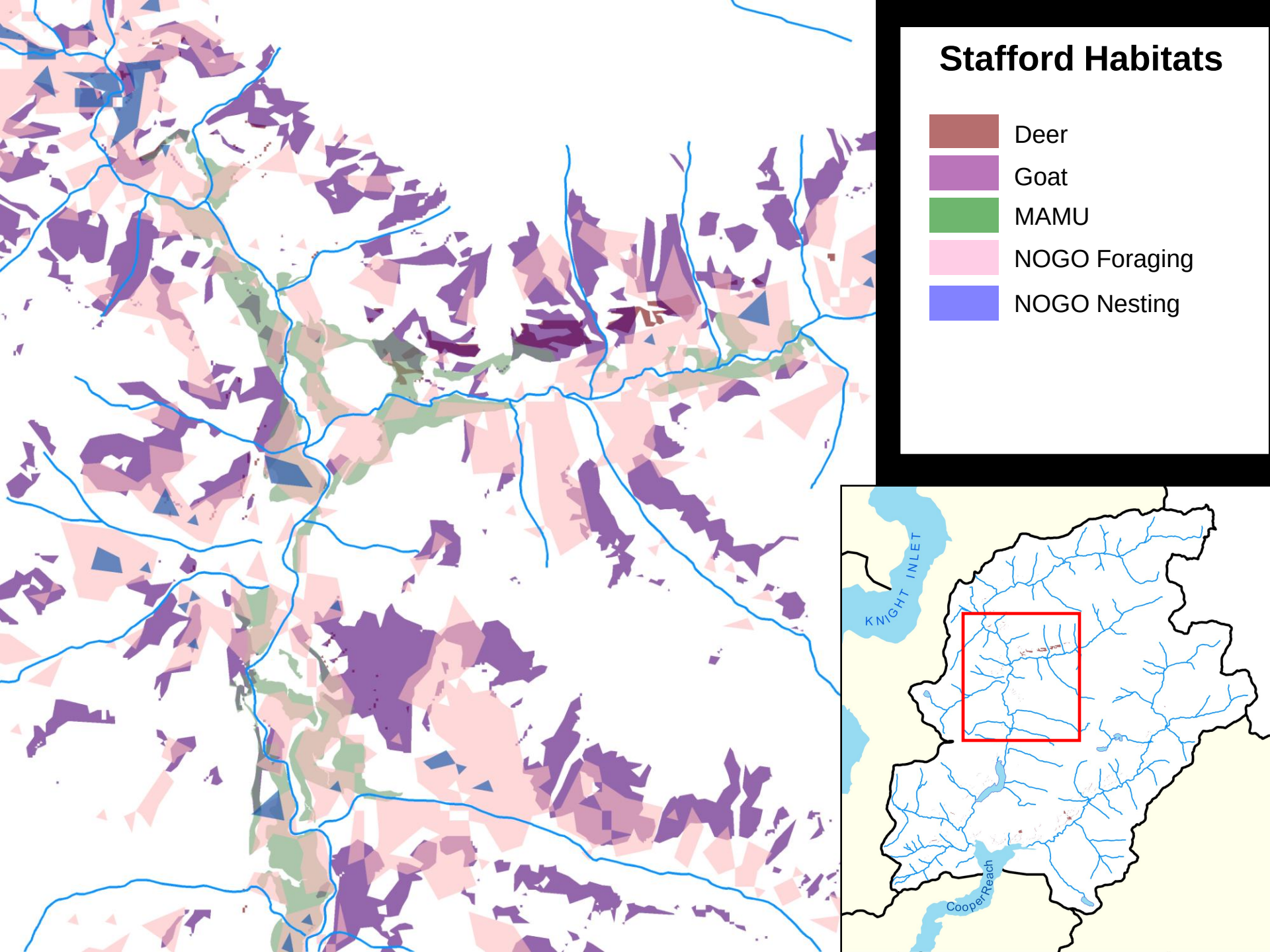
Deer




Stafford Habitats
Deer
Goat
KNIGHT INLET
Cooper Reach


Stafford Habitats
Deer
Goat
MAMU
KNIGHT INLET
Cooper Reach


Stafford Habitats
Deer
Goat
MAMU
NOGO Foraging
KNIGHT INLET
Cooper Reach


Stafford Habitats
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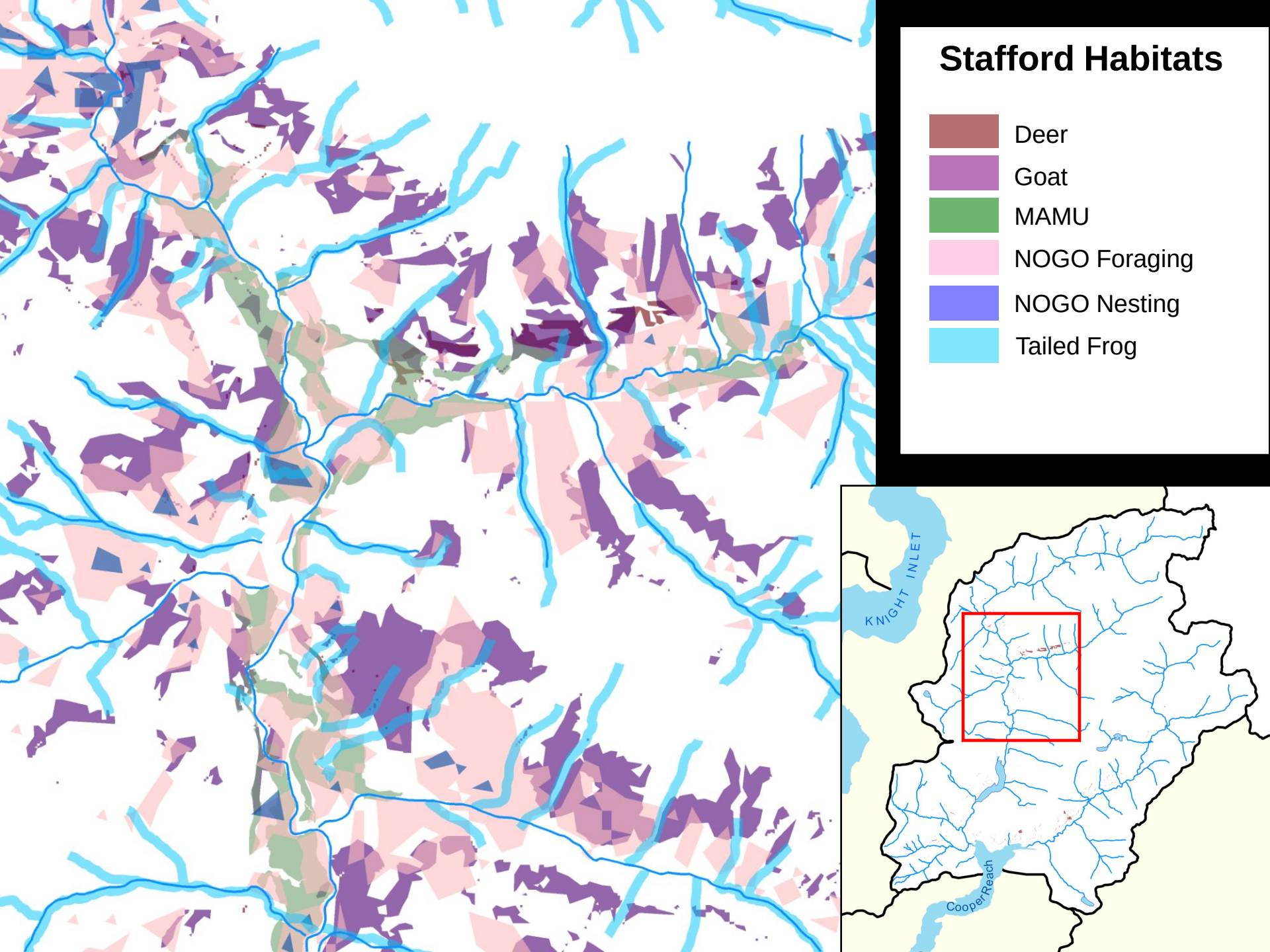
Cooper Reach


Stafford Habitats
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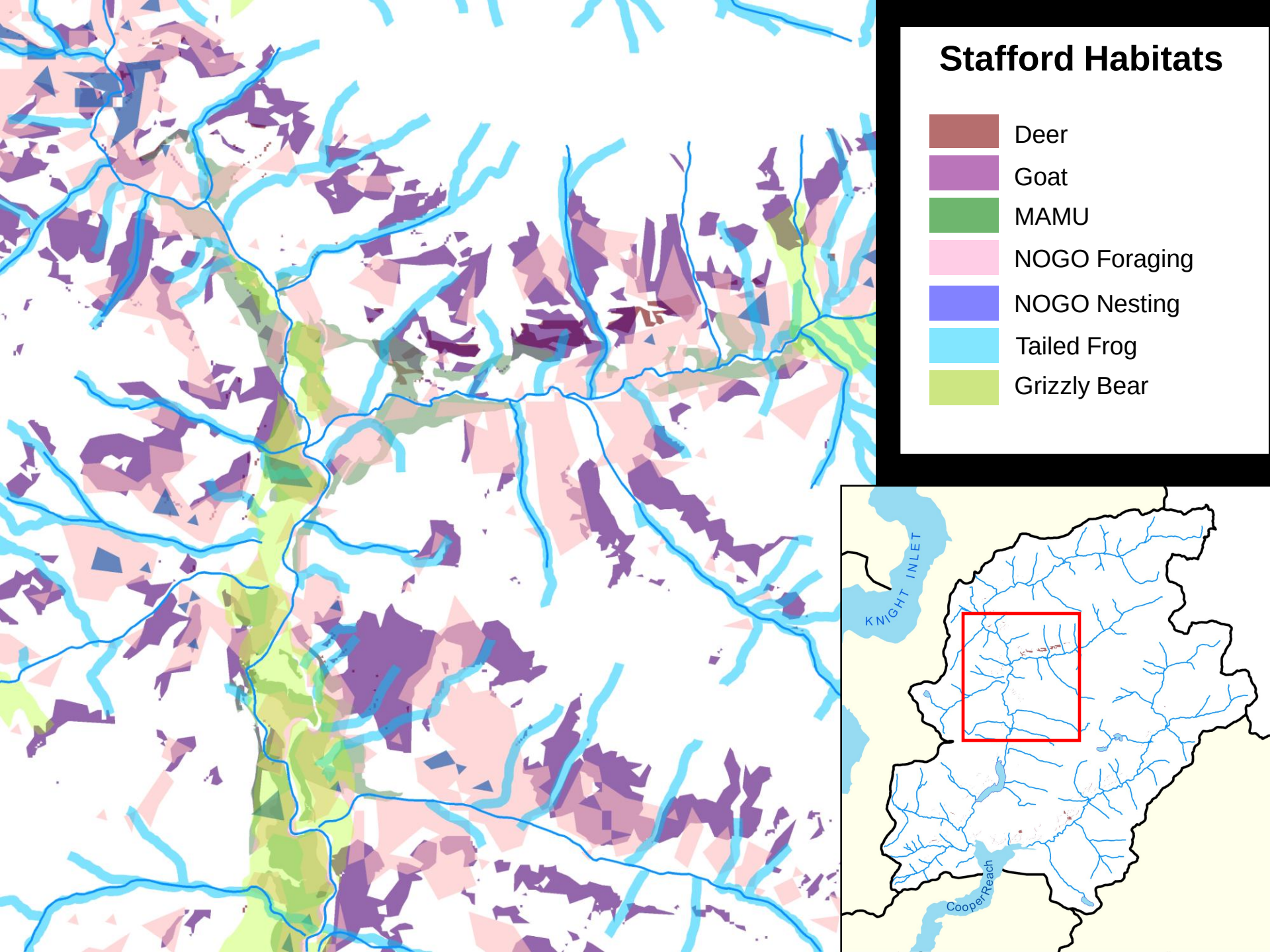

Stafford Habitats
Deer
Goat
MAMU
NOGO Foraging
NOGO Nesting
Tailed Frog
Grizzly Bear
KNIGHT INLET
Cooper Reach

Stafford Habitats

- Deer
- Goat
- MAMU
- NOGO Foraging
- NOGO Nesting
- Tailed Frog
- Grizzly Bear

Cooper Reach

Cost

- While still meeting goals, push reserve design away from areas of higher timber value
- Created a cost layer based on timber volume and accessibility

COST and SELES

- Based on total volume harvested per 1-ha analysis cell over a 400 year analysis window.
- SELES modeled a spatial baseline timber supply scenario (i.e. spatialized version of last Timber Supply Review or management plan plus new WHAs and UWRs).
- The initial cost results then divided by the square root of the normalized distance to existing access (road or ocean).

MARXAN Scenarios

Scenarios based on varying sets of representation targets

MARXAN Scenarios

1. Low Risk -- LUO's plus Focal Species Low Risk Goals

2. Best Habitat -- LUO's plus "Best" Focal Species Habitats

3. Co-Located LUO – uses LUO targets for SSS, and "Best Habitat" goals for focal Species, but with a budget threshold set based on a scenario with only LUO's run (SSS plus Grizzly Bear targets) . LUO SSS goals will be met, but focal species goals met only to the extent that the budget is not exceeded.

RESULTS

MARXAN Scenarios

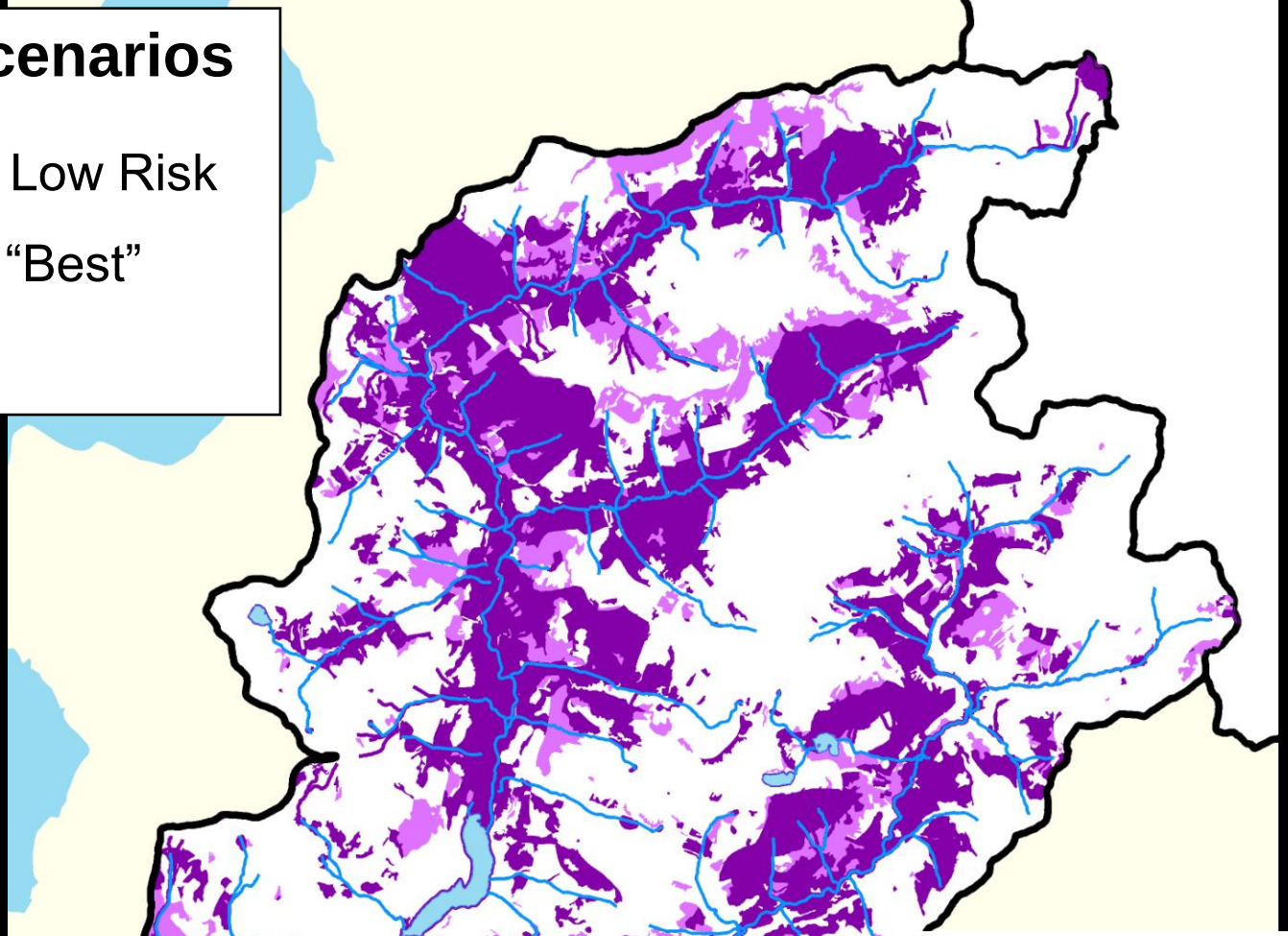
LUO's + Low Risk

Cooper Reach

MARXAN Scenarios

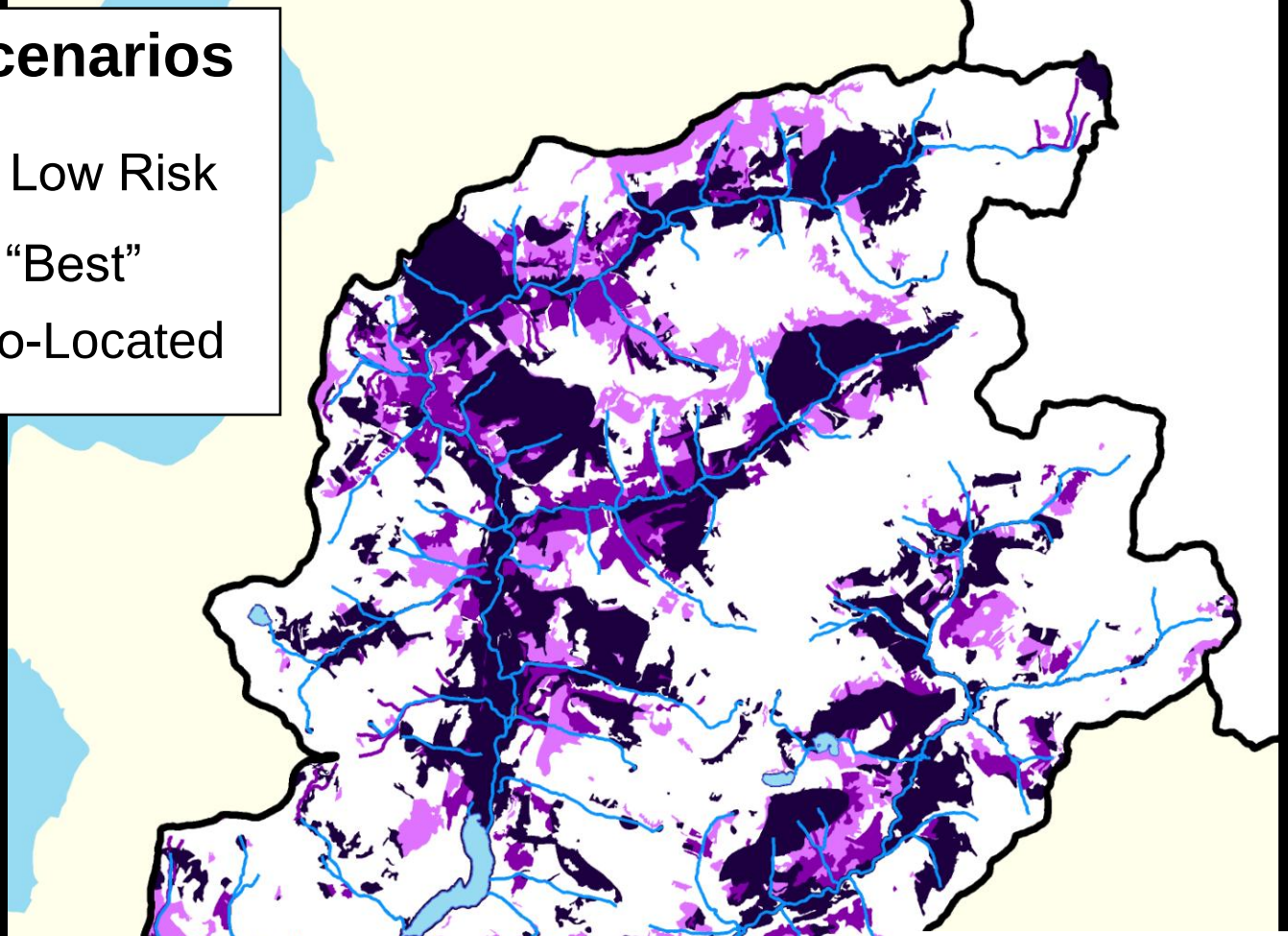
LUO's + Low Risk

LUO's + "Best"



MARXAN Scenarios

- LUO's + Low Risk
- LUO's + "Best"
- LUO's Co-Located



MARXAN Scenarios

- LUO's + Low Risk
- LUO's + "Best"
- LUO's Co-Located
- Existing Protected

Cooper Reach

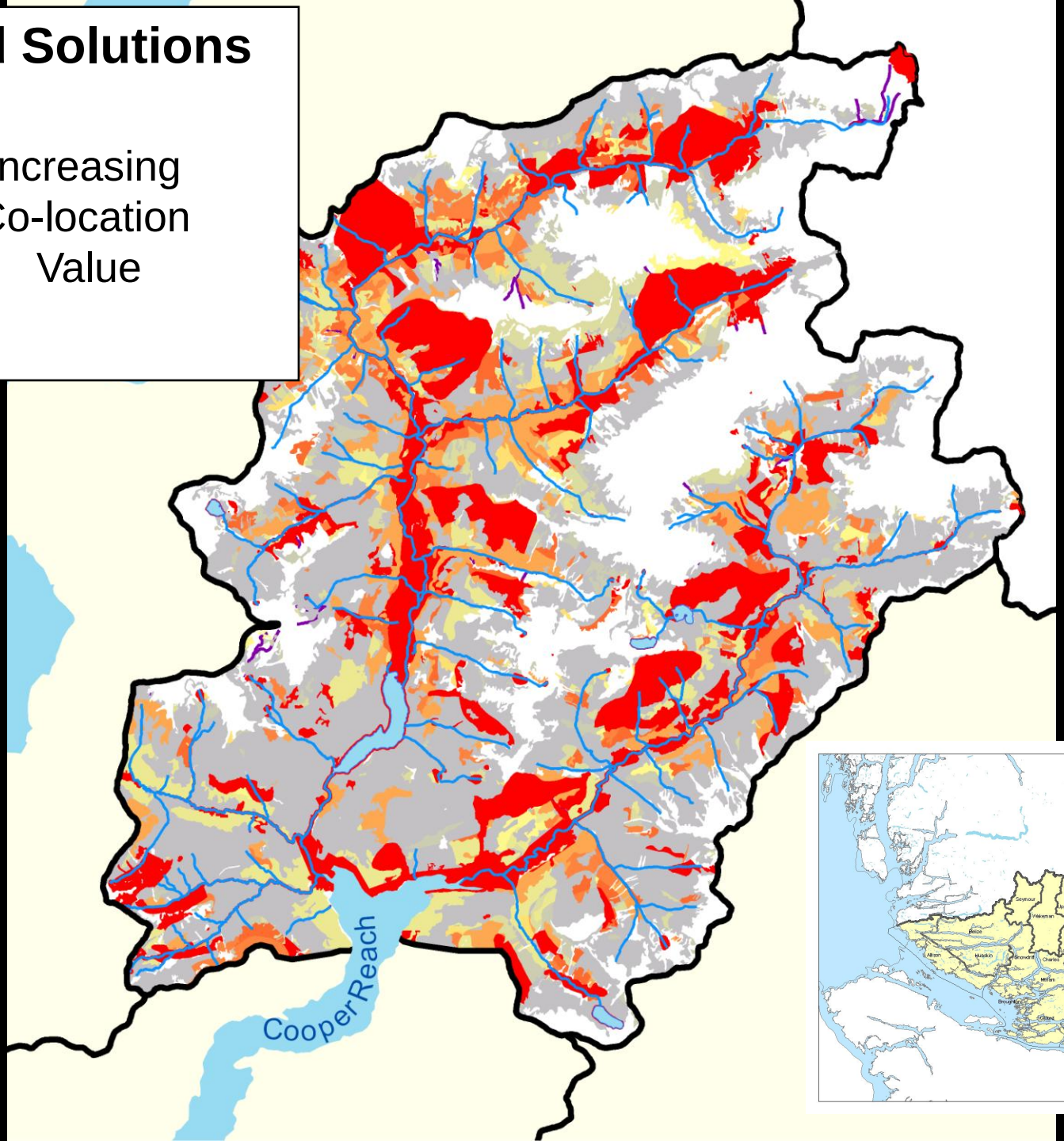
MARXAN Scenarios

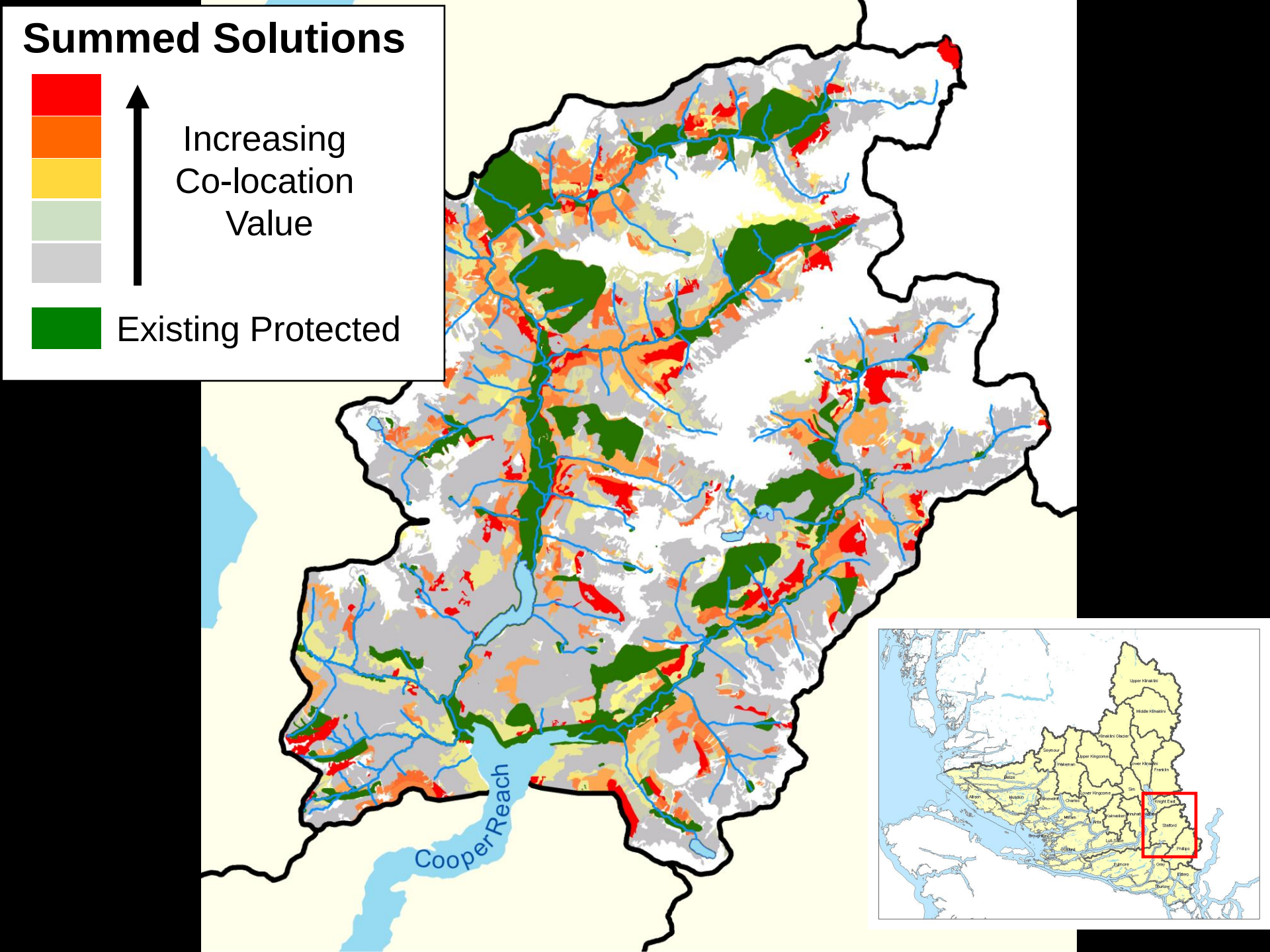
LUO's + Low Risk

LUO's Co-Located

Summed Solutions

Increasing
Co-location
Value




Summed Solutions
Increasing
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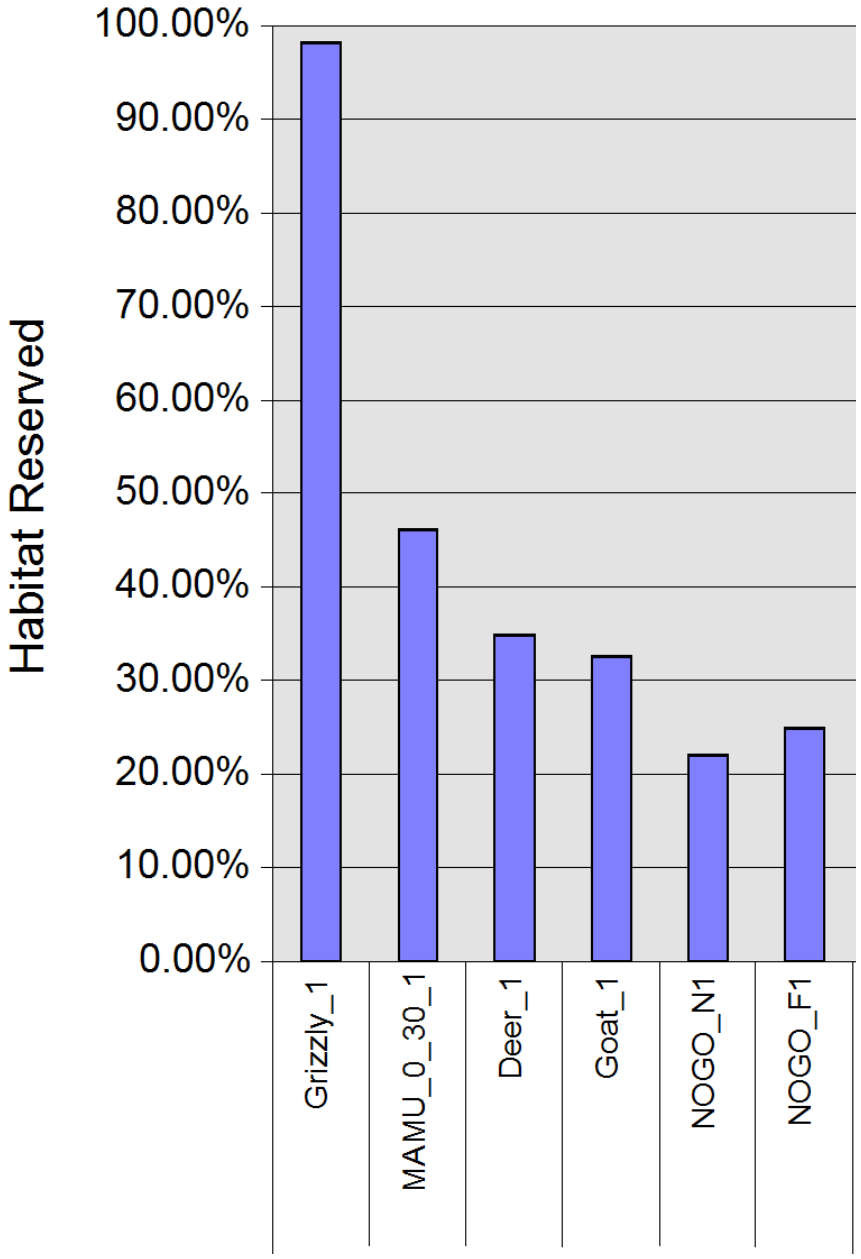
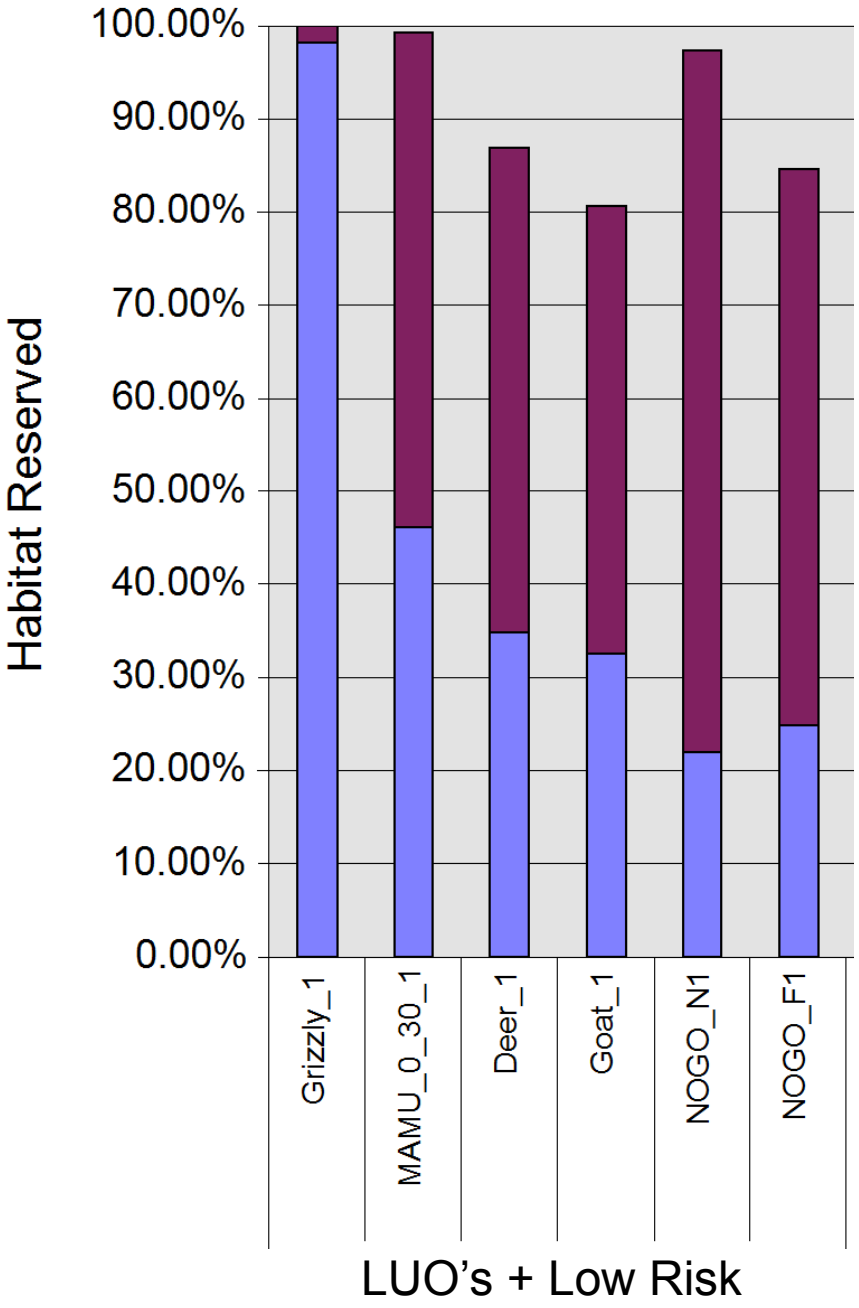
Cooper Reach

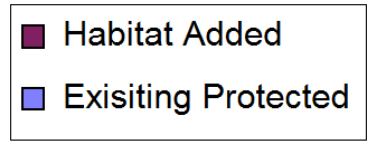
See Footprint and Habitat Workbooks

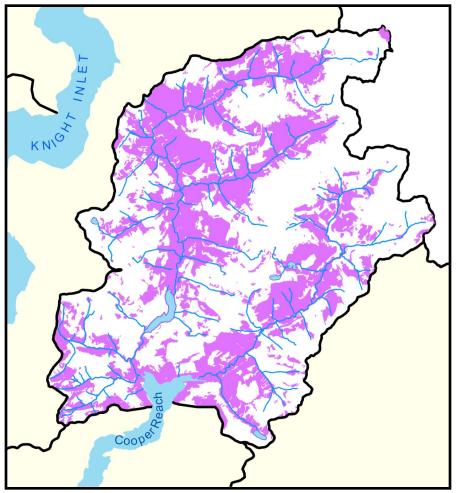
Focal species habitat captured in existing protected



Focal species habitat captured in MARXAN scenarios







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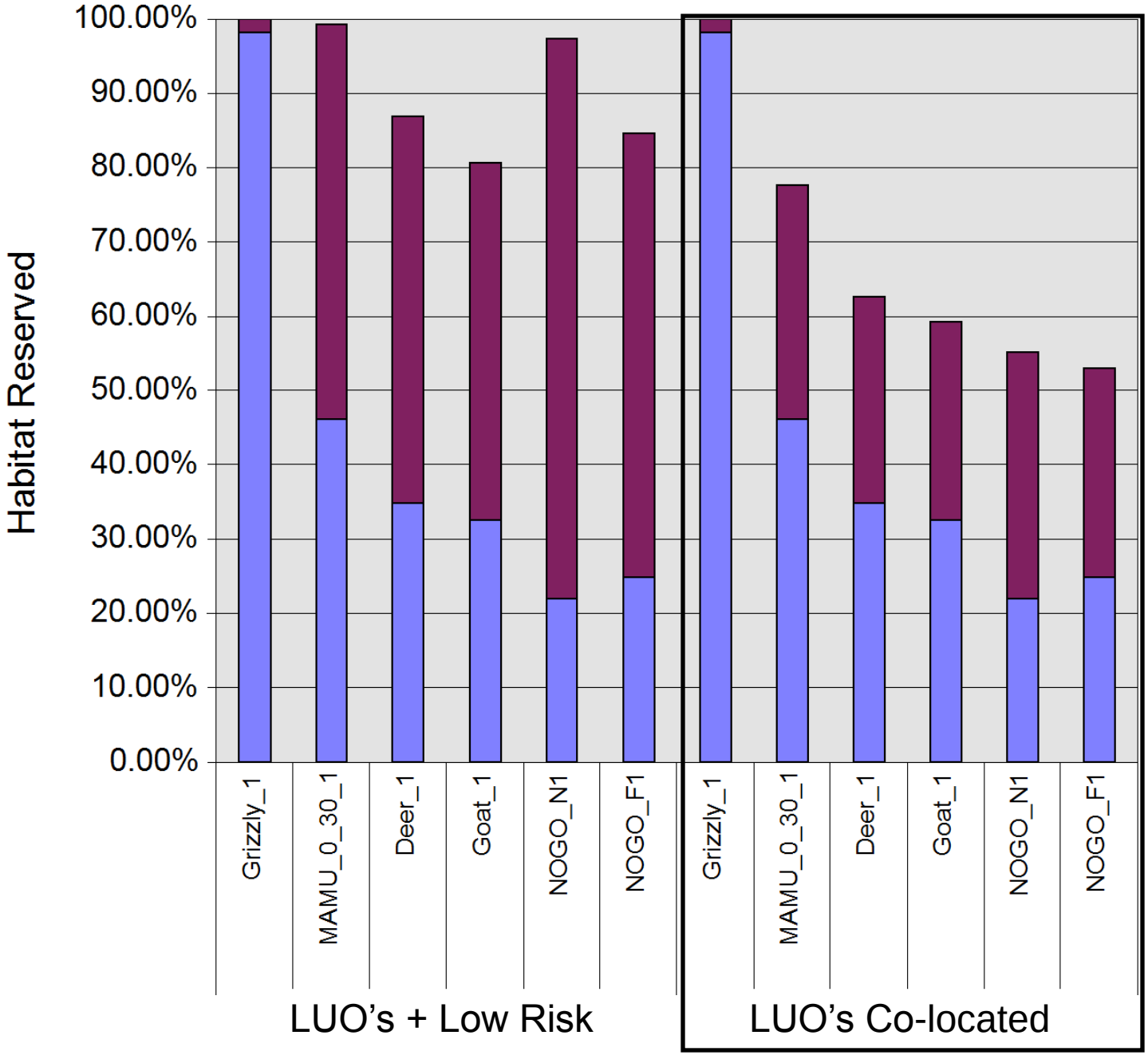
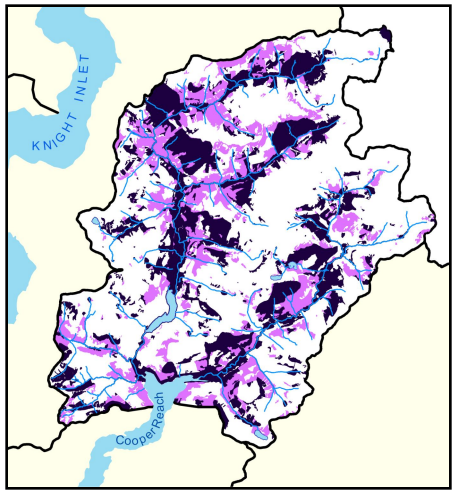
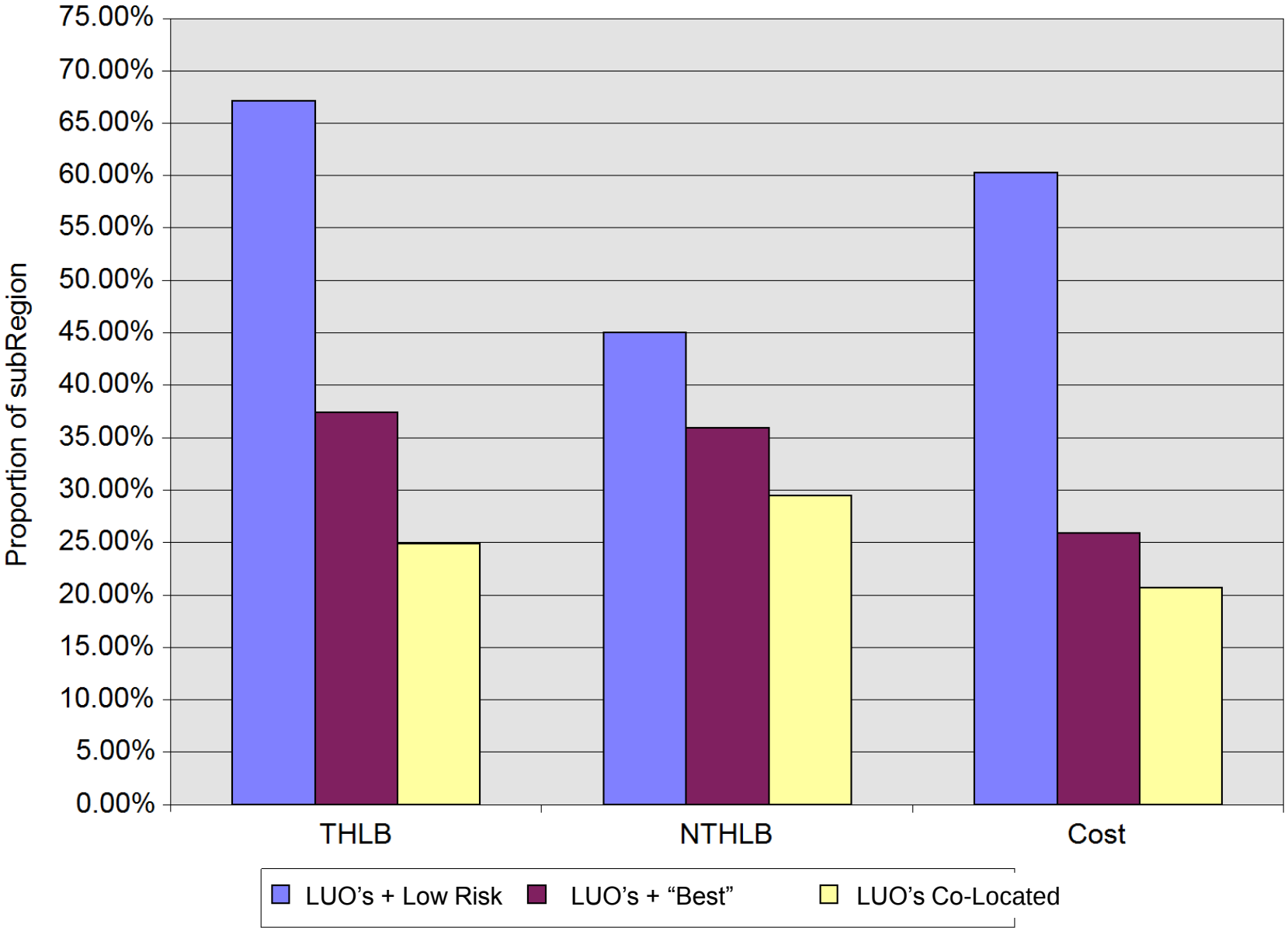




Co-Location Scenarios and “Footprint” on the South Central Coast



Next Steps

- A review of North Coast Focal species layers, and final North Coast Scenarios completed

- Improvements applied to existing Site Series Surrogate mapping in accordance with recommendations made by EBMWG project EI03a, Ecological Condition-Current Baseline. Logging updates added if necessary.

- Community Forests should be made part of the Site Series Surrogate database, and a clear methodology for accounting for community forests should be established

Next Steps

- Domain Expert recommendations on habitat mapping, models and goals need to be finalized and data updated appropriately.
- Based on Domain Expert feedback, a hierarchy of habitat types is required in order to better fine tune the goals used for species habitats in the Co-location scenario.
- A new Co-Located scenario for all sub-regions should be run based on the above mentioned updates.

Next Steps

- Finalize and implement an agreed to landscape design process and subsequent planning phase.