

Introduction to Conservation Priorities Assessment for the Peel Watershed

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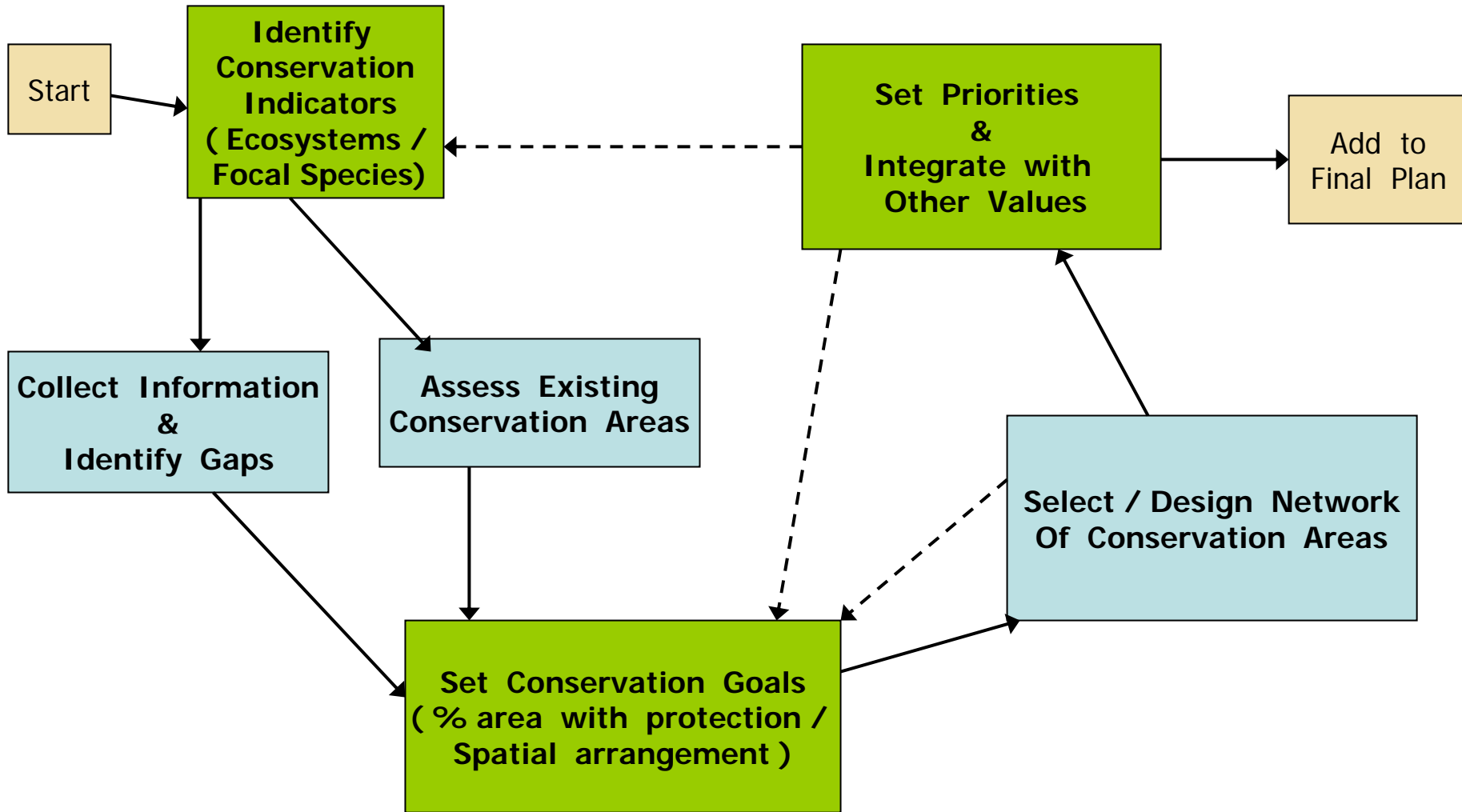
Purpose of Presentation

- Introduce the Process of Conservation Assessment and Priority Setting.
- Outline and discuss the desired inputs from the Commission members in the process.

What is a Conservation Assessment ?

- *The process of putting together a variety of biological and ecological information to produce mapped recommendations regarding priority areas for conserving species and ecosystems in the planning region.*
- This process is both a Science and an Art
- Science: logical and repeatable use of data in an objective analysis
- Art: need to make wise choices at various stages

*Schematic Representation of Conservation Assessment Process
(Green Boxes indicate major Commission inputs)*



After Groves, C. 2003. Drafting a Conservation Blueprint. Island Press, London

Where are we now ?

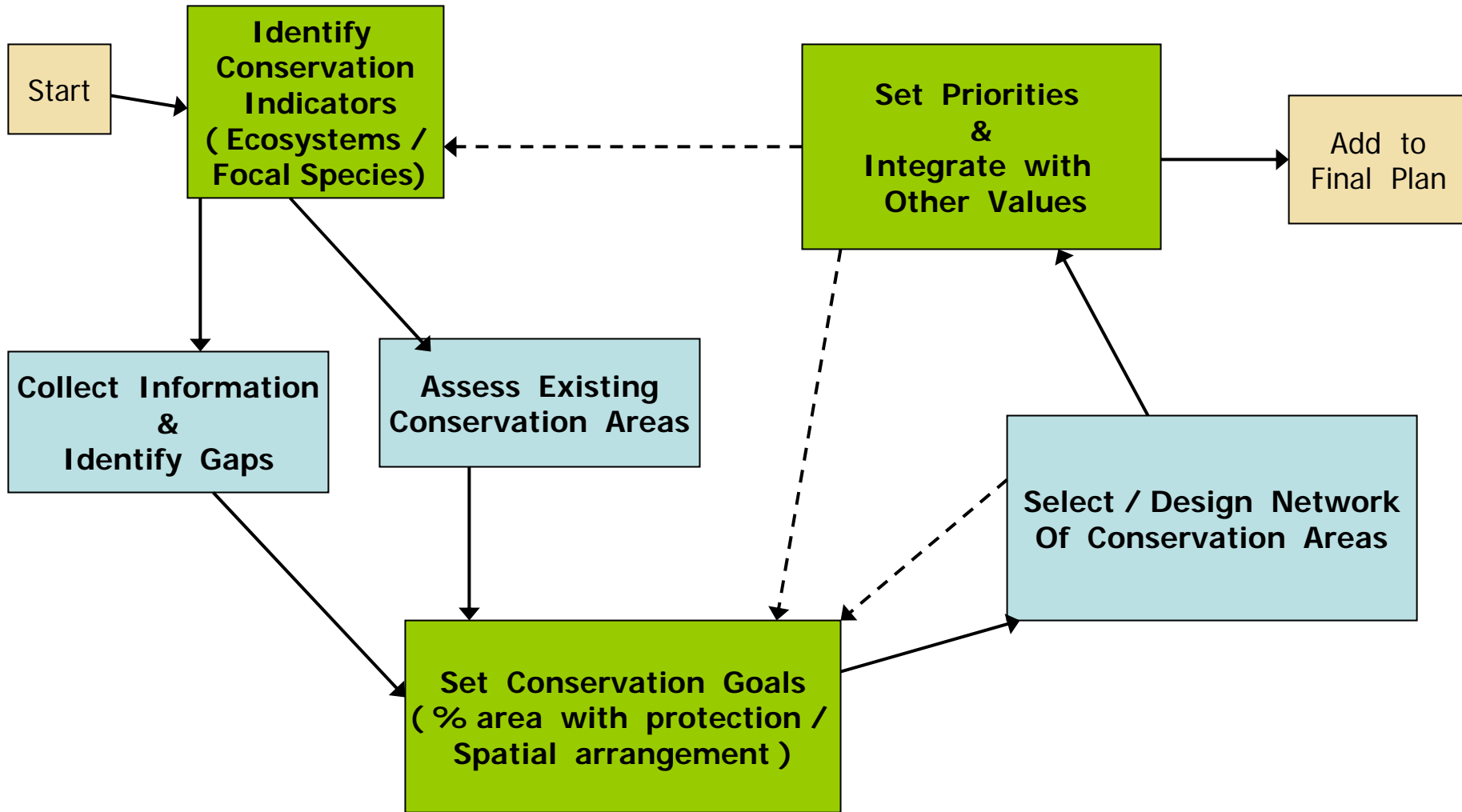
- Identify Conservation Indicators - mostly done, but needs review.
- Collect Information & Identify Gaps – largely done, though substantial analyses still to be performed.
- Assess existing conservation areas – done.
- *Set Conservation Goals - we are here now !*

“Identify Conservation Indicators”

Those chosen so far (community & technical team recommendations) – Are these sufficient?

- *Ecosystems* : Map of different land classes based on terrain and plant communities.
- *Focal Species* : Caribou, Moose, Sheep, Waterfowl, Peregrine Falcon.
- *Special Features* : Hotsprings, unusual Landforms, Rare Species occurrences, Bird diversity, Plant diversity, Fish habitat, Mineral Licks.

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"Gather Information"

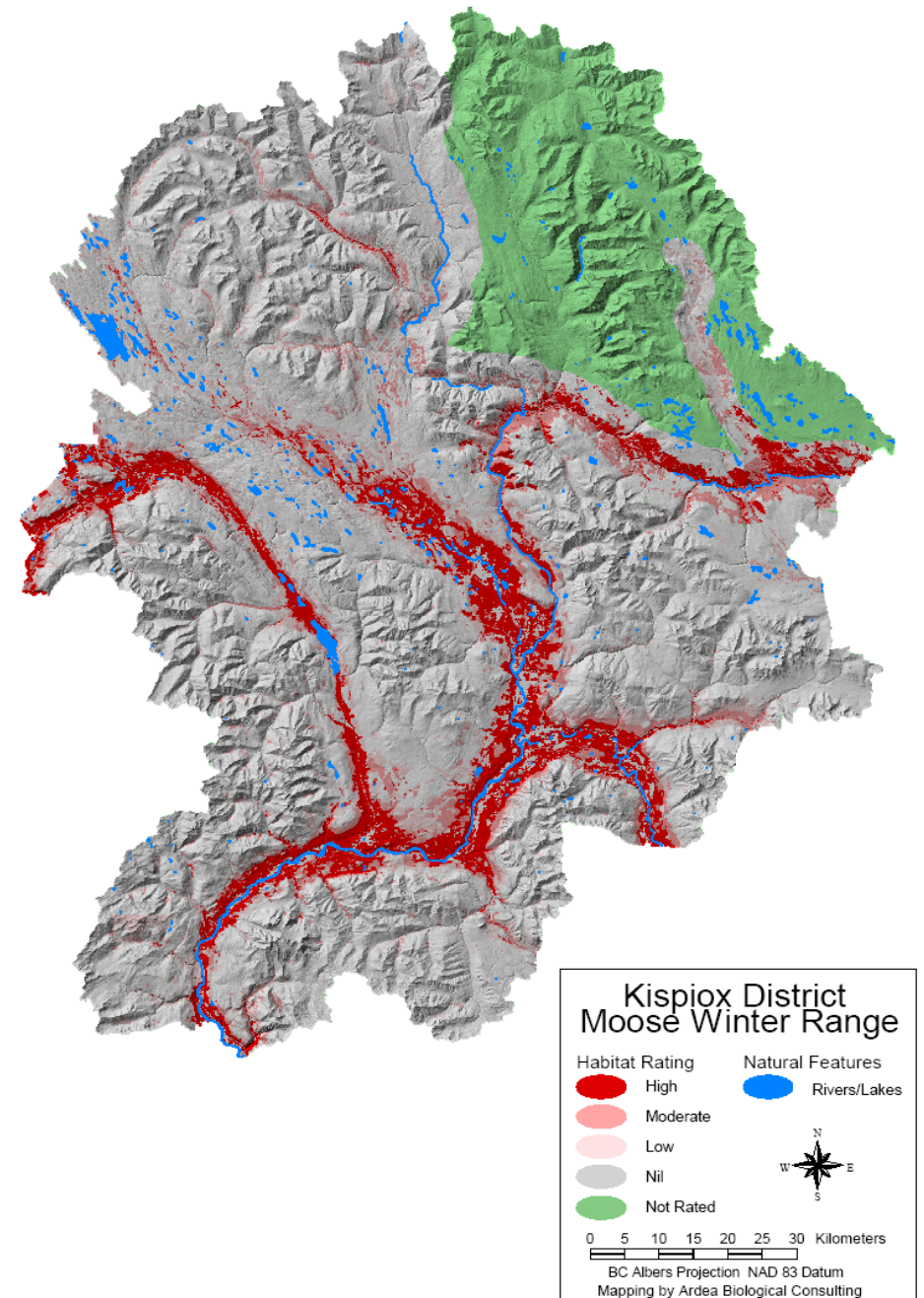
Ecosystems: *From satellite images & air photos, using GIS .*

Focal species: *From Key Wildlife Area database (surveys / ground knowledge), with some habitat suitability mapping .*

Special Features: *Site-specific knowledge from Guide-Outfitters, First Nations, naturalists, biological surveys, travelers .*

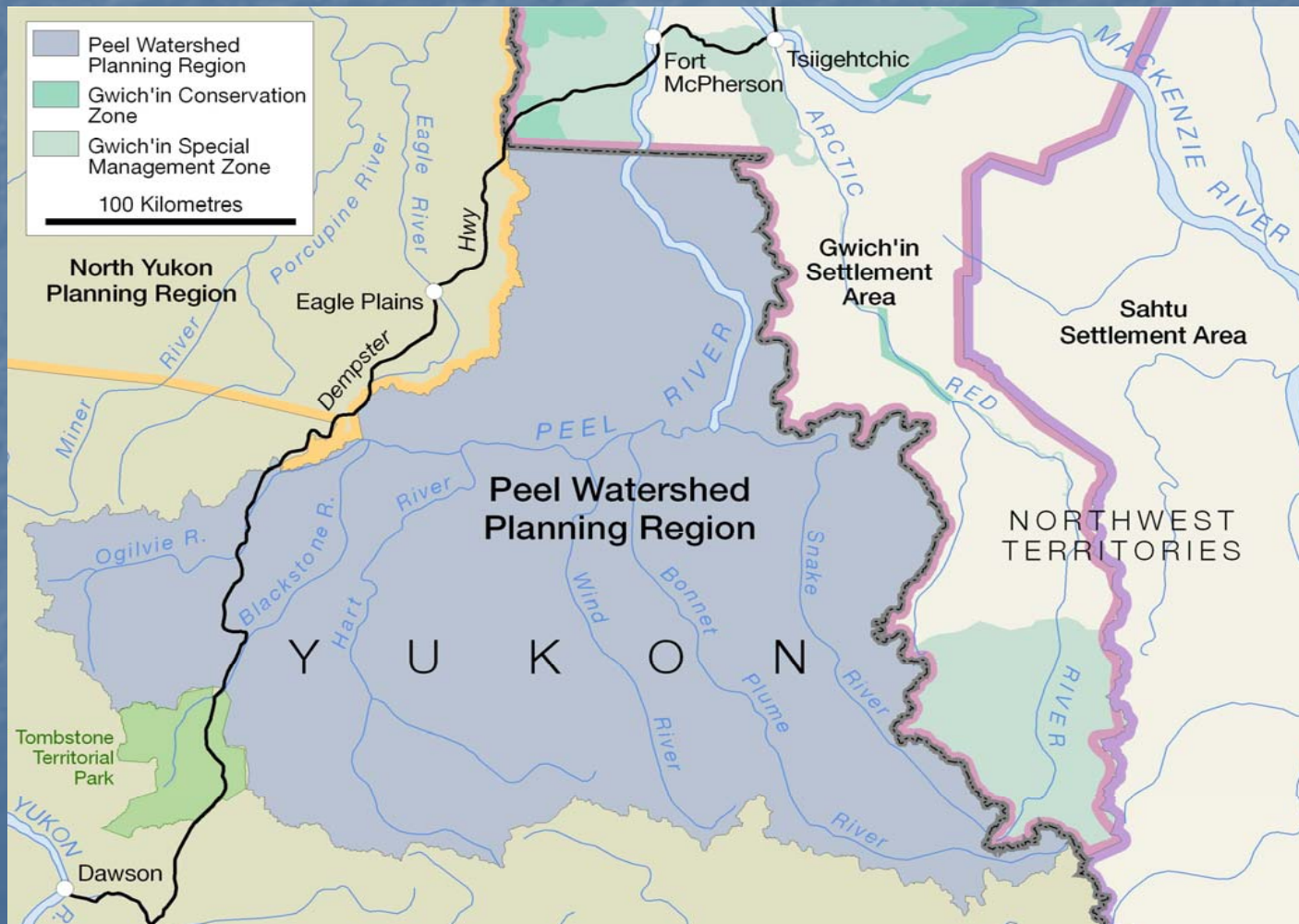
Habitat Suitability Mapping

- Choose a season or life history stage.
- Use a base map of terrain and plant communities to identify different habitats.
- Rate the habitat quality of the entire land base, at present.

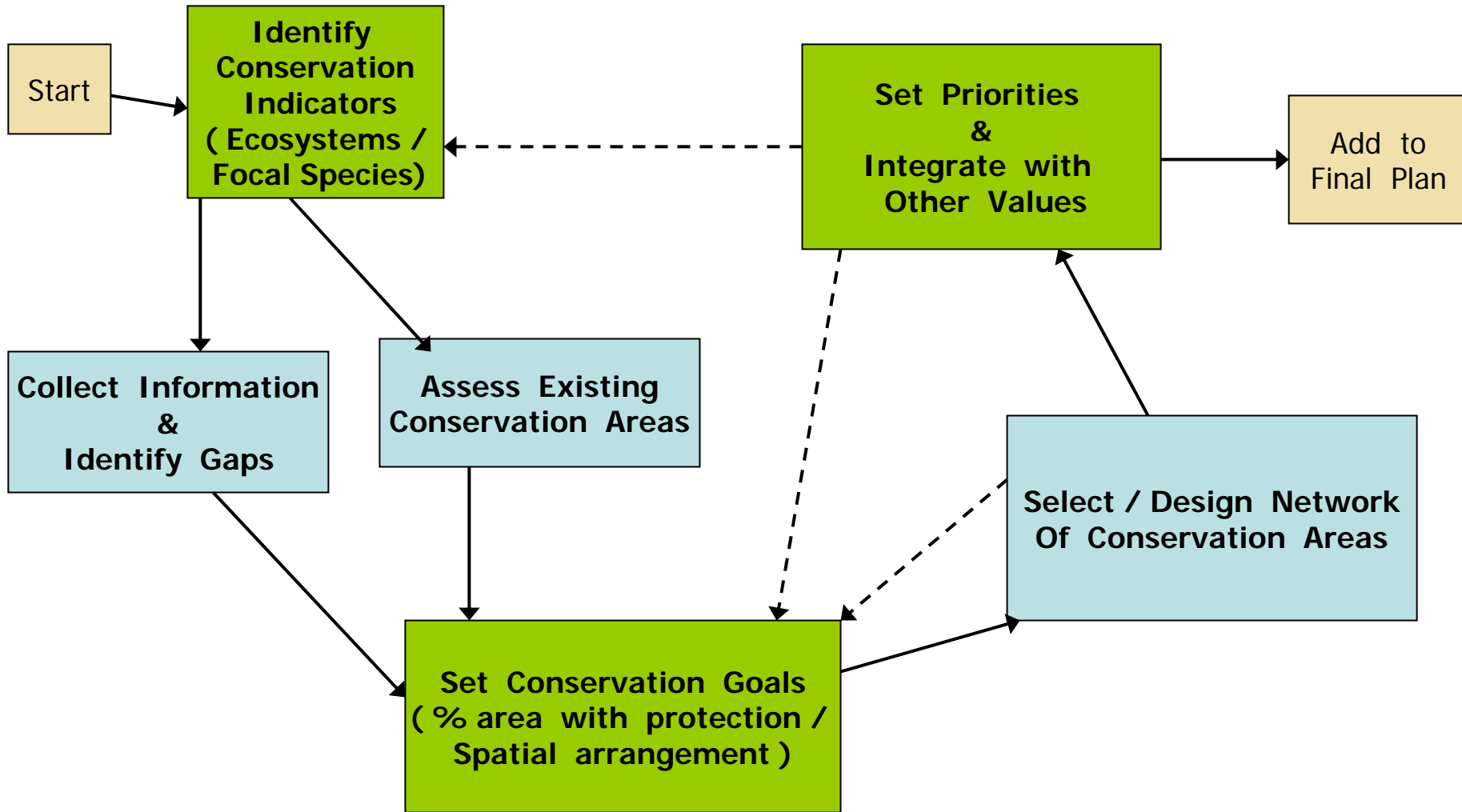


Assess Existing Conservation Areas

- None within the Plan area
- Existing Protected Areas adjacent to Plan area: Tombstone Territorial Park; Tetlin Gwich'in Conservation and Special Mgmt Zones.



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(Green Boxes indicate major Commission inputs)*



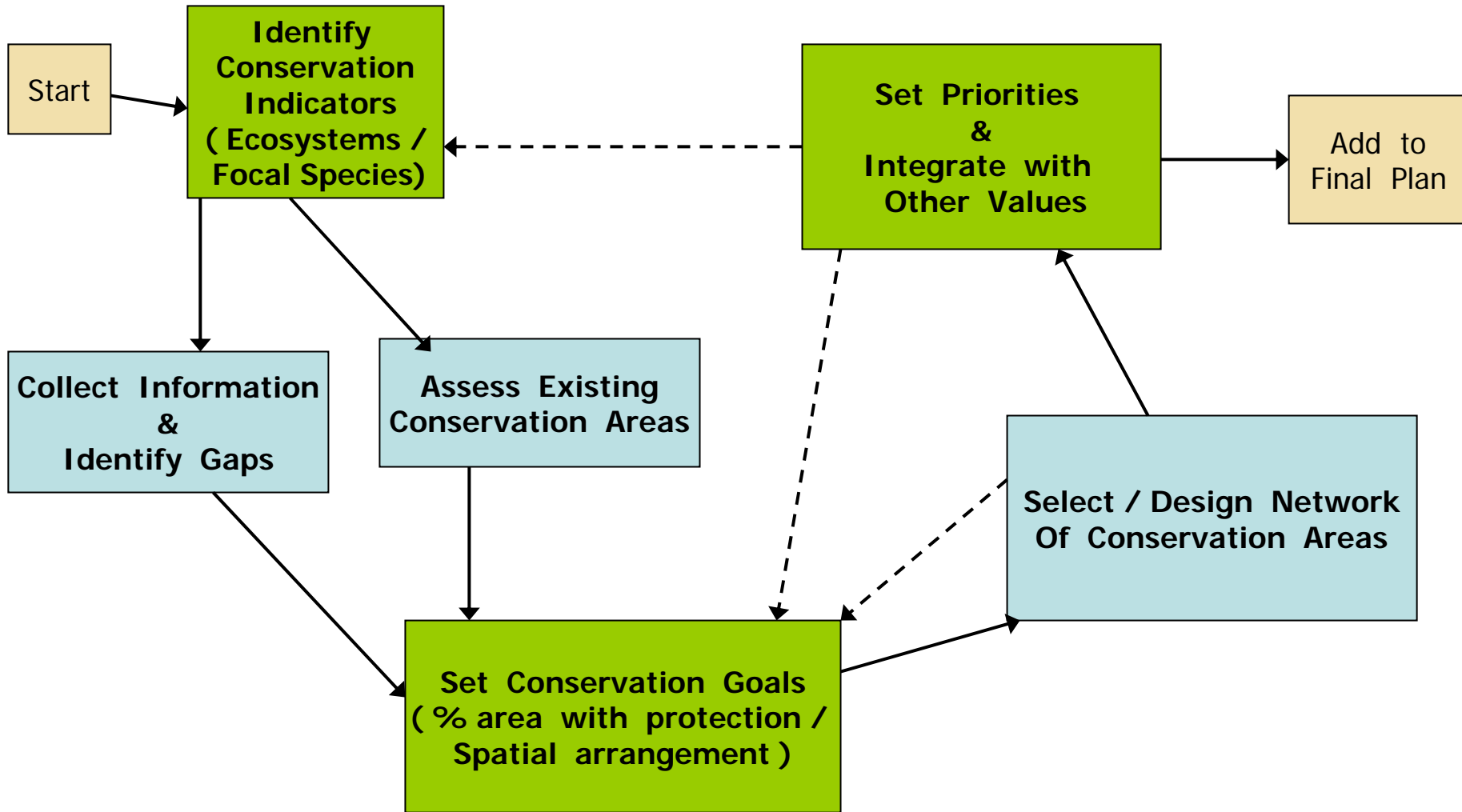
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Where do we have to go ?

- Select / Design Network of Conservation Areas.
 - This is an analytical process generally requiring GIS and other software to produce a map of recommended protected areas.
 - It can produce many different outcomes depending on decisions made in the previous step (Setting Conservation Goals), which act as rules in the GIS analysis.
 - The results are not “perfect” ; they can be re-assessed by changing the Conservation Goals.

- Set Priorities & Integrate with Other Values.
 - This is largely a negotiated process of give and take in the search for the best way to zone the area.
 - It can be informed with technical analyses, including revising the Conservation Goals, and Re-designing the Reserve Network.

*Schematic Representation of Conservation Assessment Process
(Green Boxes indicate major Commission inputs)*



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"Setting Conservation Goals"

What does this mean?

- Assumption: The final Plan will recommend protected area status for certain zone(s) in the plan area, and other management regimes for other zones.
- Major questions regarding Protection:
 - What kind of protection; which uses permitted?
 - How much of the plan area?
 - How much of each "Conservation Indicator" (species; ecosystem)?
 - Where in the Plan area?
 - What spatial arrangement within the Plan area?
- Major questions regarding other zones:
 - What type / intensity of uses?
 - Where in the Plan area?

"Setting Conservation Goals"

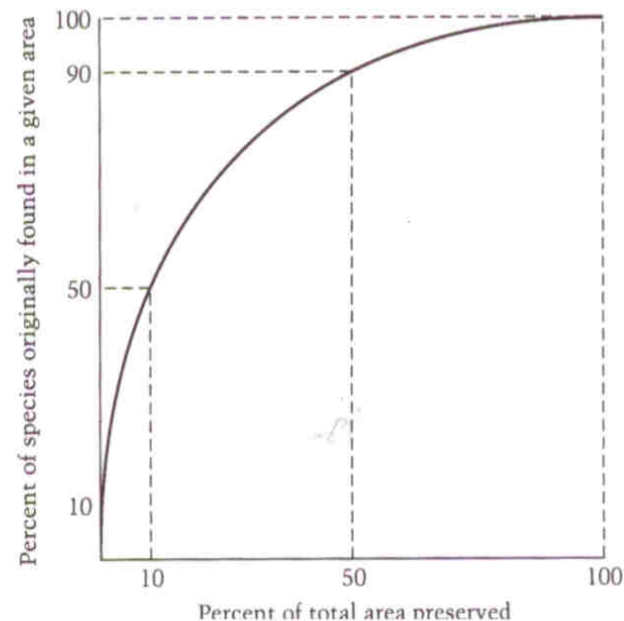
What does this mean? (cont.)

- Although we do not need to have final answers to these questions at this stage, we do need to discuss specific alternatives because the next stages in the Assessment (Selecting a Network & Choosing Priority Areas) requires these specific inputs.
- Let's look at some of these questions in detail:

1. How much of the plan area should be covered by Protected Areas ?

- There is no one answer to this question.
- Varies across large regions of the globe.
- Depends on levels of management enforced in other Zones.
- Recent science suggests that at least 30-40% of the land area is required to have a good chance of conserving most of the species.
- Based of Species – Area relationship (Primack, R.B. 1993. Essentials of conservation biology. Sinauer Assoc., Sunderland, MA.)

4.8 The number of species present in an area increases asymptotically to a maximum value. As a result, if the area of habitat is reduced by 50%, the number of original endemic species going extinct may be 10%; if the habitat is reduced by 90%, the number of endemic species going extinct may be 50%. The shape of the curve is different for each region of the world and each group of species, but it gives a general indication of the impact of habitat destruction on species extinction and the persistence of species in the remaining habitat.



2. How much of each Conservation Indicator should be in protected areas ?

- Ecosystems: Some alternatives are:
 - All ecosystems should be represented at least once.
 - Ecosystems should be represented in proportion to their relative abundance.
 - All uncommon or rare ecosystems should be completely represented.
- Special Features: Some alternatives are:
 - All features should be represented at least once.
 - All features should get some management direction more stringent than General Mgmt.
 - Features should be considered individually, with different representation and management for each.

- Focal species – Caribou: how much of the range of caribou should be protected ?

Alternatives:

- A fixed proportion of each herd's range should be covered.
- The entire ranges of one or two herds should be covered.
- All winter ranges should be covered.
- The entire range of the threatened boreal herd should be covered.



Other Focal Species

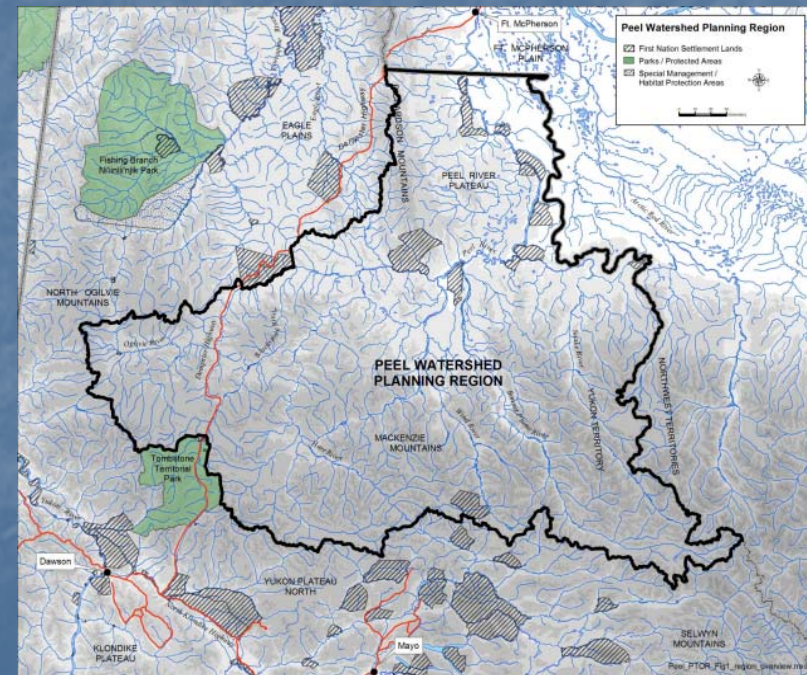
■ Moose: Alternatives

- All winter range protected
- No special requirements
- Special mgmt for licks



■ Waterfowl: Alternatives

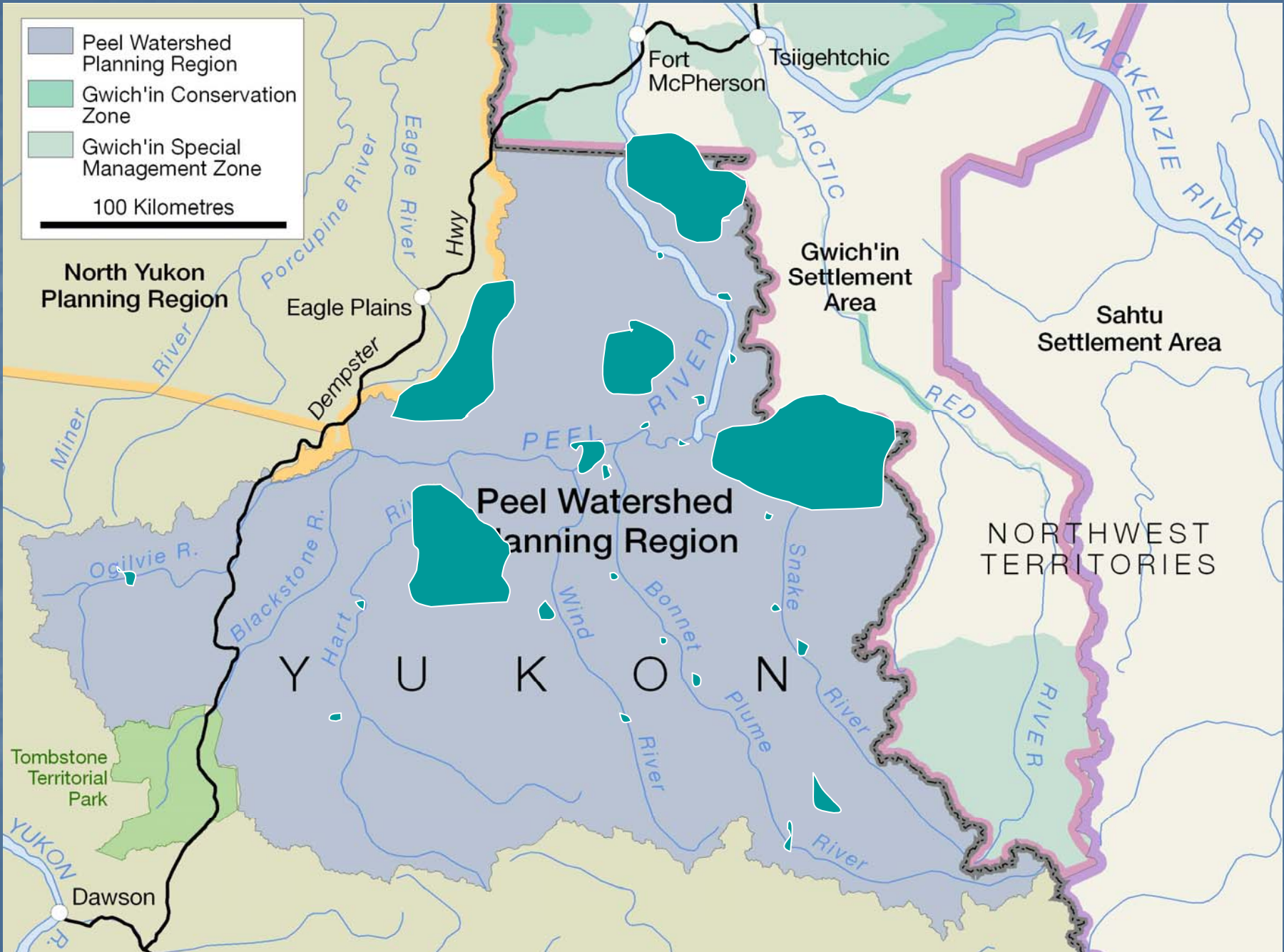
- Landscapes with high nesting potential (habitat complexes) put in Protected Area or Conservation Mgmt Area.
- Buffer all lakes and ponds.

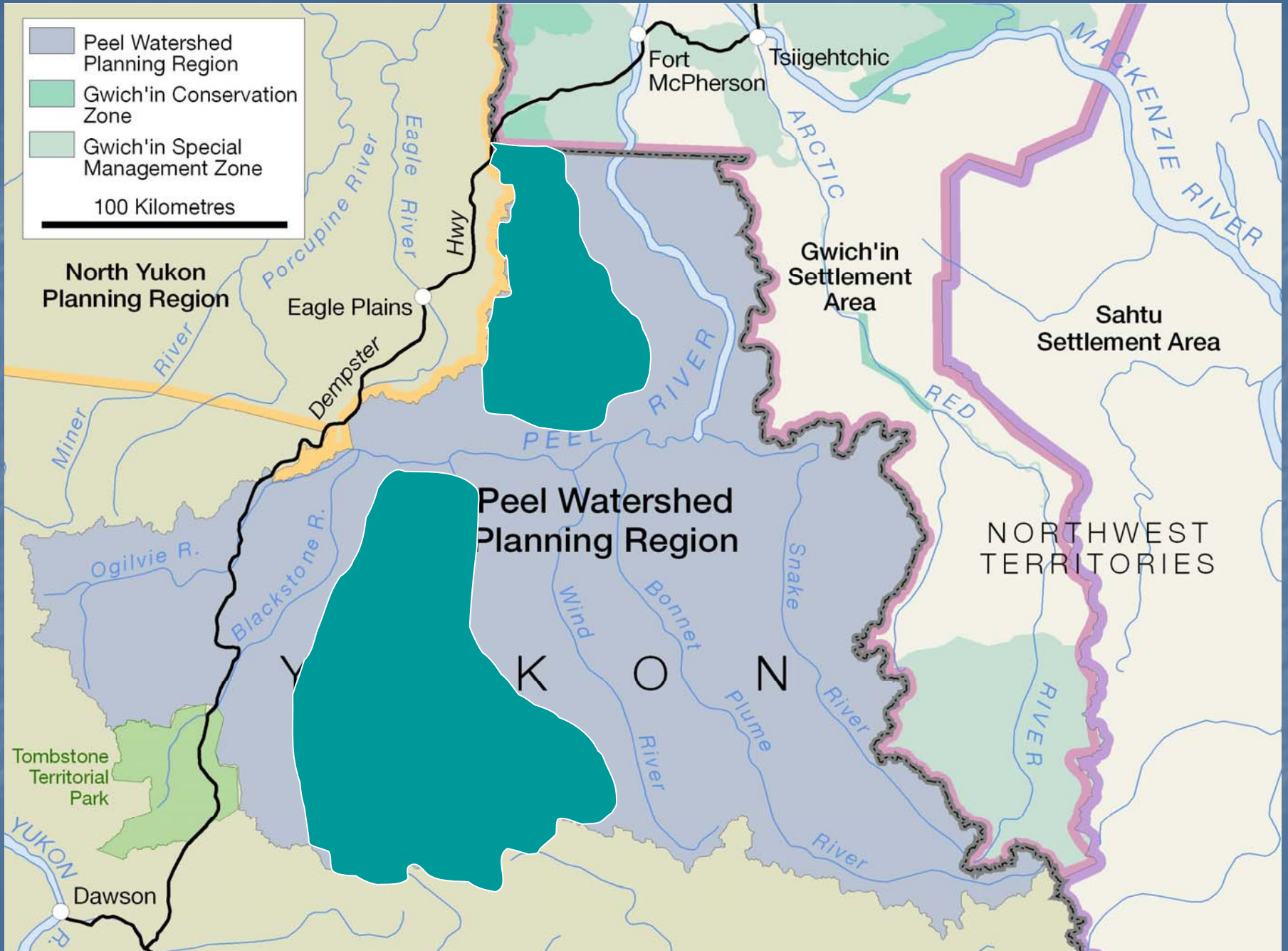


3. How should protected areas be arranged within the plan area ?

□ Alternatives:

- Assess entire watersheds individually as candidate areas.
- Rely on a network of segregated areas covering portions of all the conservation targets.
- Use a combination of large (watershed ?) and small areas, thereby covering Conservation Targets across their range of sizes.





Climate Change – the wild card !

Key considerations:

- Review likely climate trends, and choose areas which are not already at the extreme (e.g., reduced water flows, so choose watershed with robust flows)
- Look for connectedness in bedrock, soils and rivers along the likely directions for change: South-North; down-up slope.
- A few larger protected areas, already joined together, are likely to work better than more, smaller and widely separated, areas.

