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Canada

CWS-ON Biodiversity Atlas

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Canadian Wildlife Service - Ontario
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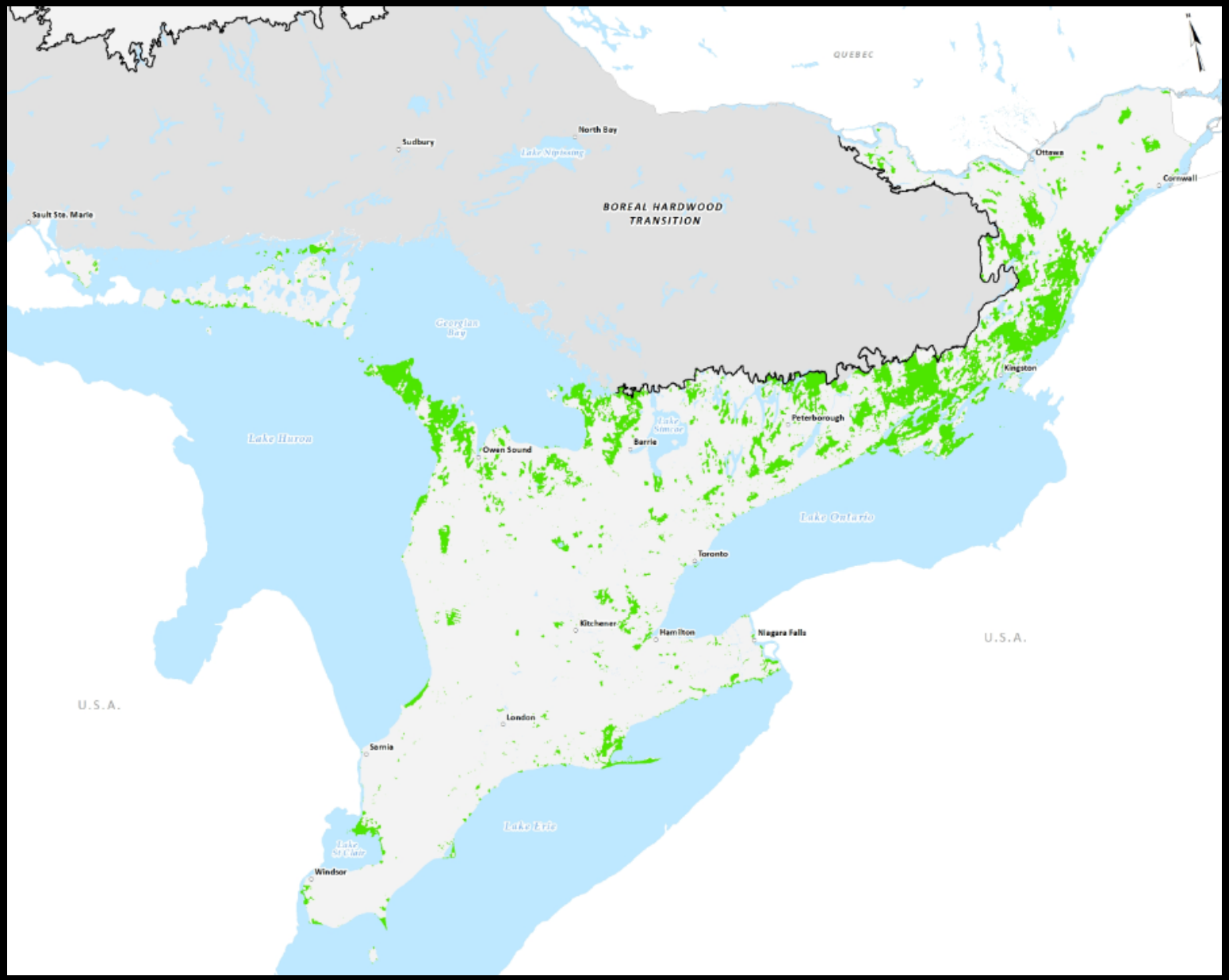

QUEBEC
North Bay
Sudbury
Lake Nipissing
Ottawa
Cornwall
Sault Ste. Marie
BOREAL HARDWOOD
TRANSITION
Georgian
Bay
Kingston
Peterborough
Lake
Simcoe
Barrie
Lake Huron
Owen Sound
Lake Ontario
Toronto
Kitchener
Hamilton
Niagara Falls
U.S.A.
U.S.A.
London
Sarnia
Lake Erie
Lake
St. Clair
Windsor

CWS-ON Biodiversity Portfolio

- Responsible for wildlife matters related to species of federal concern:
  - Species listed under federal legislation (migratory birds, SAR) (**species**);
  - National Wildlife Areas and Migratory Bird Sanctuaries (**places**);
  - Wetlands under the *Federal Policy on Wetland Conservation* (**habitats**);
  - Ecological Gifts; and
  - *others…*

CWS-ON Biodiversity Portfolio

- Little jurisdiction over non-Federal land – how to deliver on our mandate?

- By supporting activities to preserve biodiversity and natural areas within Canada.

CWS-ON Biodiversity Atlas

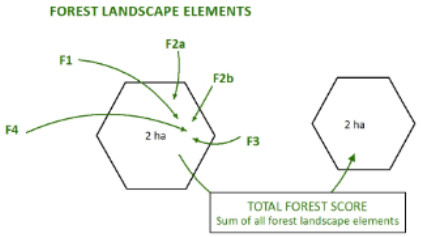
- **What** is the CWS-ON "Biodiversity Atlas"?
  - *Geospatial representation of the CWS biodiversity portfolio: species richness, migratory bird densities, habitat extent & quality.*

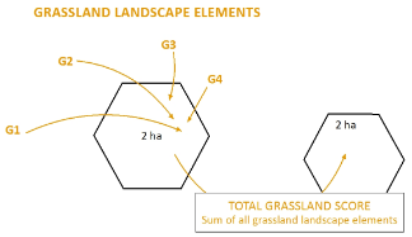
- **Where** is the Atlas focused?
  - *Ontario portions of the Boreal Hardwood Transition and Mixedwood Plains ecozone (BCR 12 and 13).*

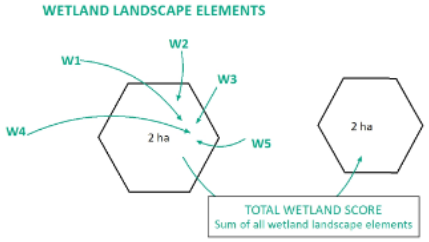
- **Why** was the Atlas created?
  - *To better see and understand the distribution of species and habitats, share information with others, and help facilitate the conservation of important natural places;*
  - ***To provide guidance on places of high biodiversity value**.*

Biodiversity Atlas: Brief Methodology

- **Step 1**: Divide BCR 13 into 2 ha hexagons
- **Step 2**: Use *HMHE* guidelines to assess habitat quality and extent
- **Step 3**: Assign habitat scores for forest, grassland and wetlands

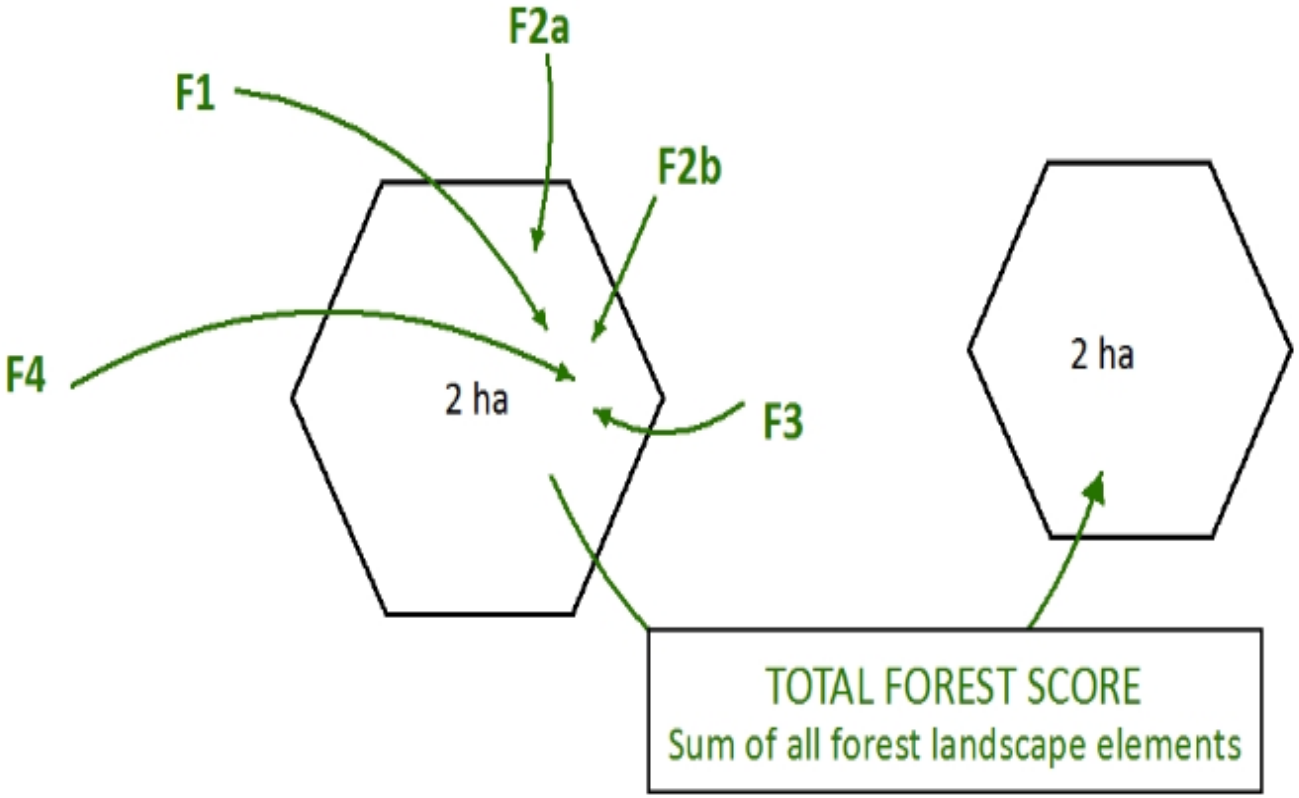


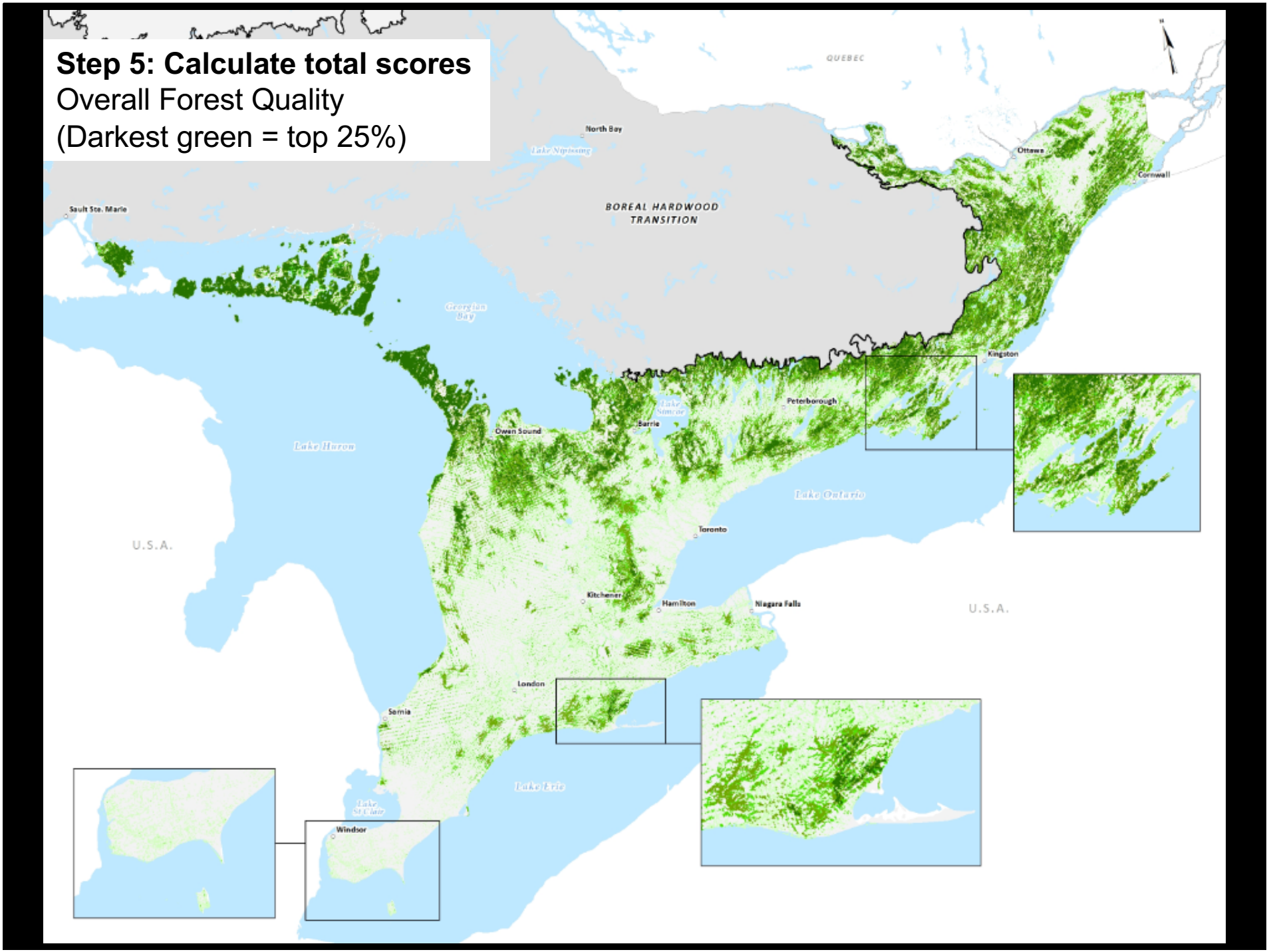




- **Step 4**: Assess SAR and migratory bird distribution and assign scores
- **Step 5**: Calculate total scores and divide into quartiles (top 25%)
- **Step 6**: Combine top 25% habitat and species scores (conservation values)
- **Step 7**: Isolate study units that have multiple conservation values
- **Step 8**: Aggregate these study units into **high value biodiversity areas**

FOREST LANDSCAPE ELEMENTS




Step 5: Calculate total scores
Overall Forest Quality
(Darkest green = top 25%)
QUEBEC
North Bay
Lake Nipissing
Ottawa
Cornwall
Sault Ste. Marie
BOREAL HARDWOOD
TRANSITION
Georgian Bay
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Barrie
Owen Sound
Lake Huron
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Hamilton
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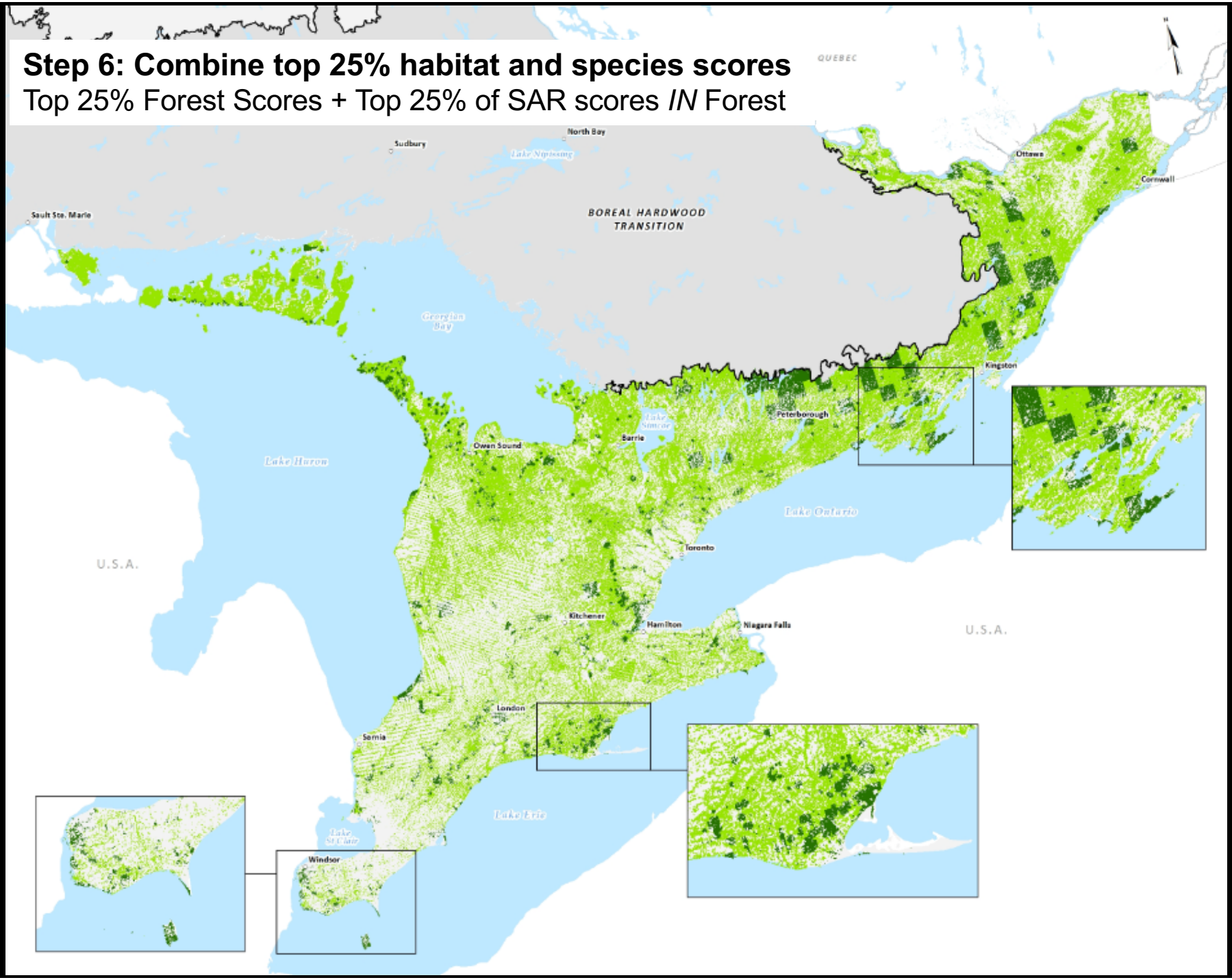
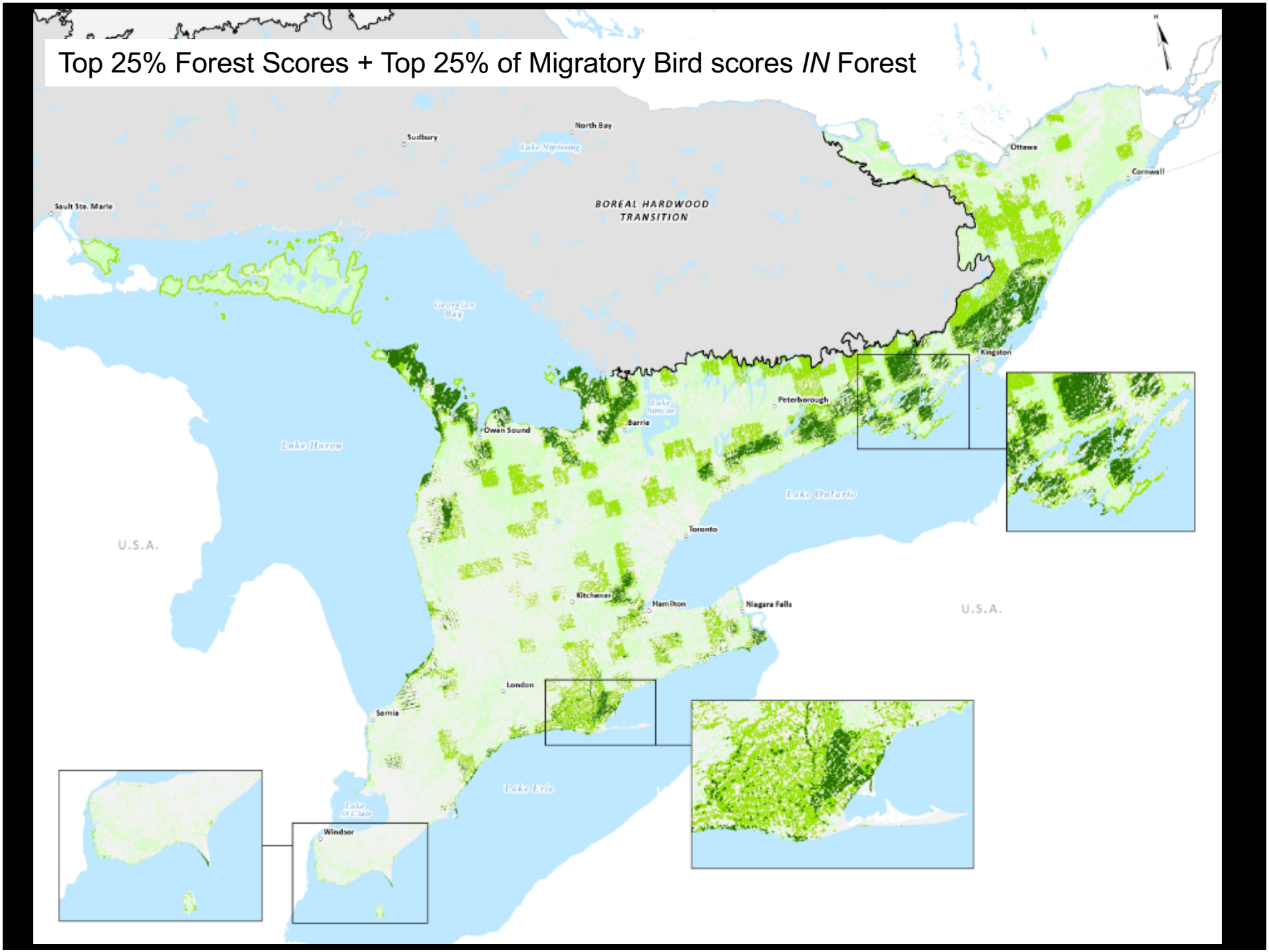
U.S.A.
London
Sarnia
Lake Erie
Lake St. Clair
Windsor

Step 6: Combine top 25% habitat and species scores

Top 25% Forest Scores + Top 25% of SAR scores *IN* Forest




Top 25% Forest Scores + Top 25% of Migratory Bird scores *IN* Forest
BOREAL HARDWOOD TRANSITION
Sudbury
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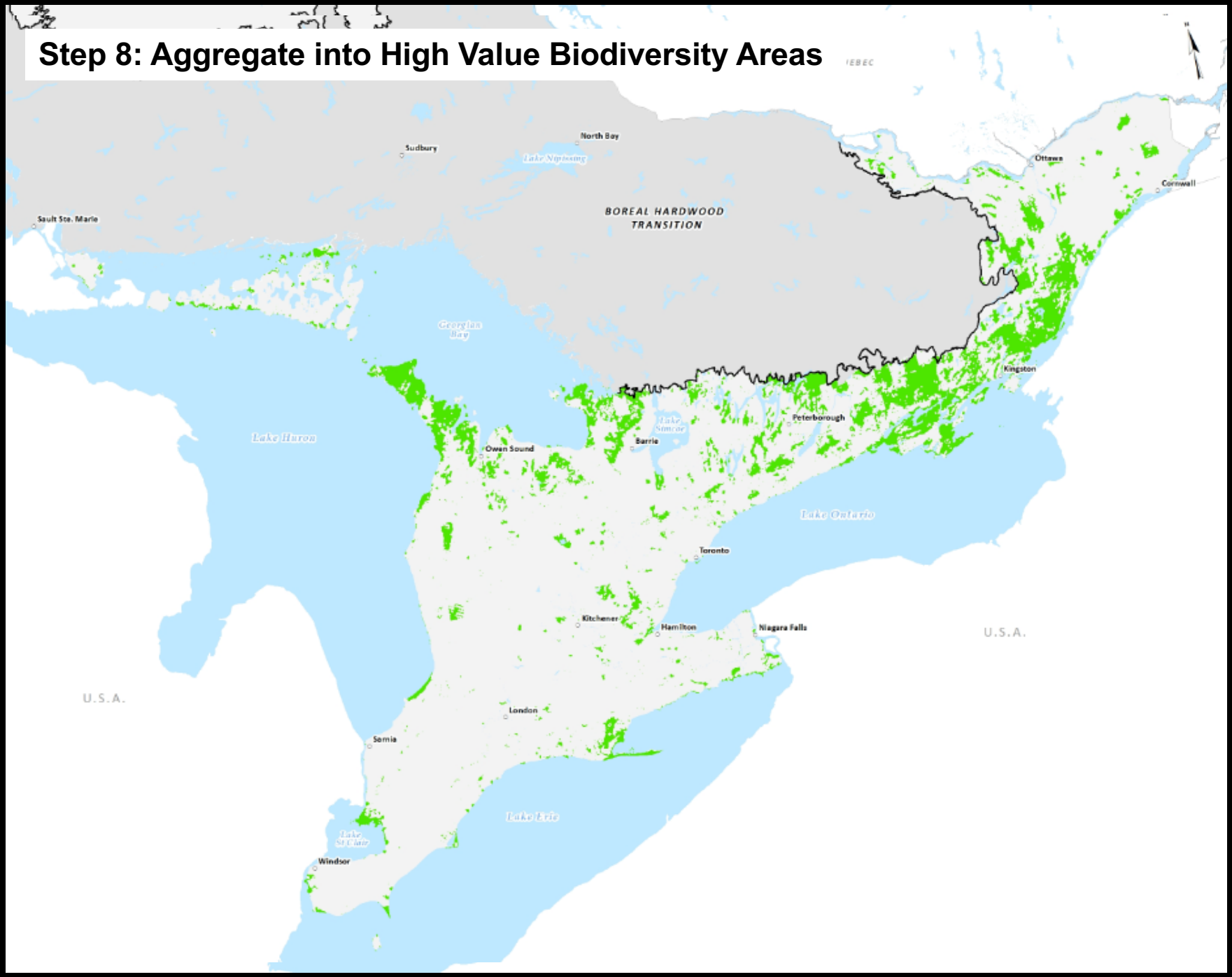
Step 8: Aggregate into High Value Biodiversity Areas



A Natural Heritage Systems Context

- The Atlas, and specifically the High Value Biodiversity Areas may provide fine scale landscape mapping to compliment your own Natural Heritage Systems:

"the diversity and connectivity of natural features in an area and the long-term ecological function of biodiversity…linkages between and among natural heritage features…"

(Best Practices Guide to Natural Heritage Systems Planning)

  - Layer to integrate into connectivity/linkages analysis between and among natural heritage features?
  - Sites of potential conservation interest?
  - Systems-based mapping approach to maintain long-term ecological function of biodiversity?

Questions?