

# Nature Counts 2

## *Assessing Natural Areas in the City of Hamilton*

Public Open House

November 28th, 2012

Ancaster Library

Presented by: Nicholas Schwetz



# Outline

- Project rationale
- History
- Project update 2011
- Where we are in 2012
- The NAI in 2013
- Questions?



# Project Rationale

- The City of Hamilton encompasses parts of seven distinct physiographic regions.
- Two major forest regions (Eastern deciduous and Great Lakes-St. Lawrence forest) provide high species diversity. Many species at their southern or northern ranges.
- Aquatic, wetland, and terrestrial ecosystems are represented within the City limits.

# Project Rationale cont.

- Natural areas in Hamilton incorporate diverse natural features and serve important ecological and hydrological functions.
- A highly urbanized and rural landscape has left many of these natural areas fragmented and/or degraded. This has an impact on species diversity, the presence of exotic species, and quality of habitat.

# Project Rationale cont.

- Natural Areas Inventories
  - To examine and update existing natural areas to see if conditions have changed within them
  - To find and report new and existing species at risk
  - To obtain plant community information using the MNR's ecological land classification (ELC) protocol
  - To incorporate all data into a geographic information system (GIS)

# History



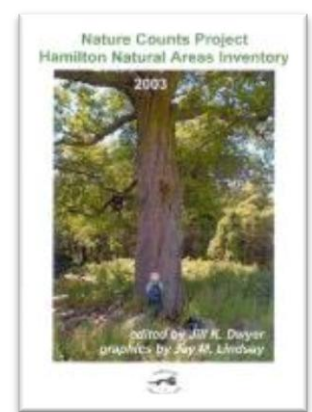
- **In 1976,**
  - a review of existing natural areas information was summarized by Ecologists and recommendations for environmentally significant areas were made to the Region.
- **In 1990-91,**
  - a Natural Areas Inventory was completed in Hamilton-Wentworth under the supervision of the Hamilton Naturalists' Club.

# History cont.

- resulting in,
  - 92 natural areas inventoried;
  - a two-volume “state-of-the-natural areas” report including site summaries, flora and fauna checklists, and watershed summaries;
  - a database and technical library supporting this report;
  - hardcopy maps of these natural areas displaying their boundaries, significant species locations, and some vegetation communities.
  - This report also formed the basis for the Region’s designation of ESA’s in its Official Plan.



# History cont.



- **In 2003,**
  - another natural areas inventory (called Nature Counts) was completed collaboratively by the City of Hamilton, Hamilton Naturalists' Club, and the Hamilton Conservation Authority.
- **resulting in,**
  - a two-volume final report entitled the Nature Counts Project: Hamilton Natural Areas Inventory which included site summaries with site evaluations and recommendations, and annotated checklists of flora and fauna,
  - updated MS Access and GIS natural areas databases
  - GIS-based mapping of natural areas boundaries, Ecological Land Classification vegetation units, and rare species locations
  - the Atlas of the Mammals of Hamilton

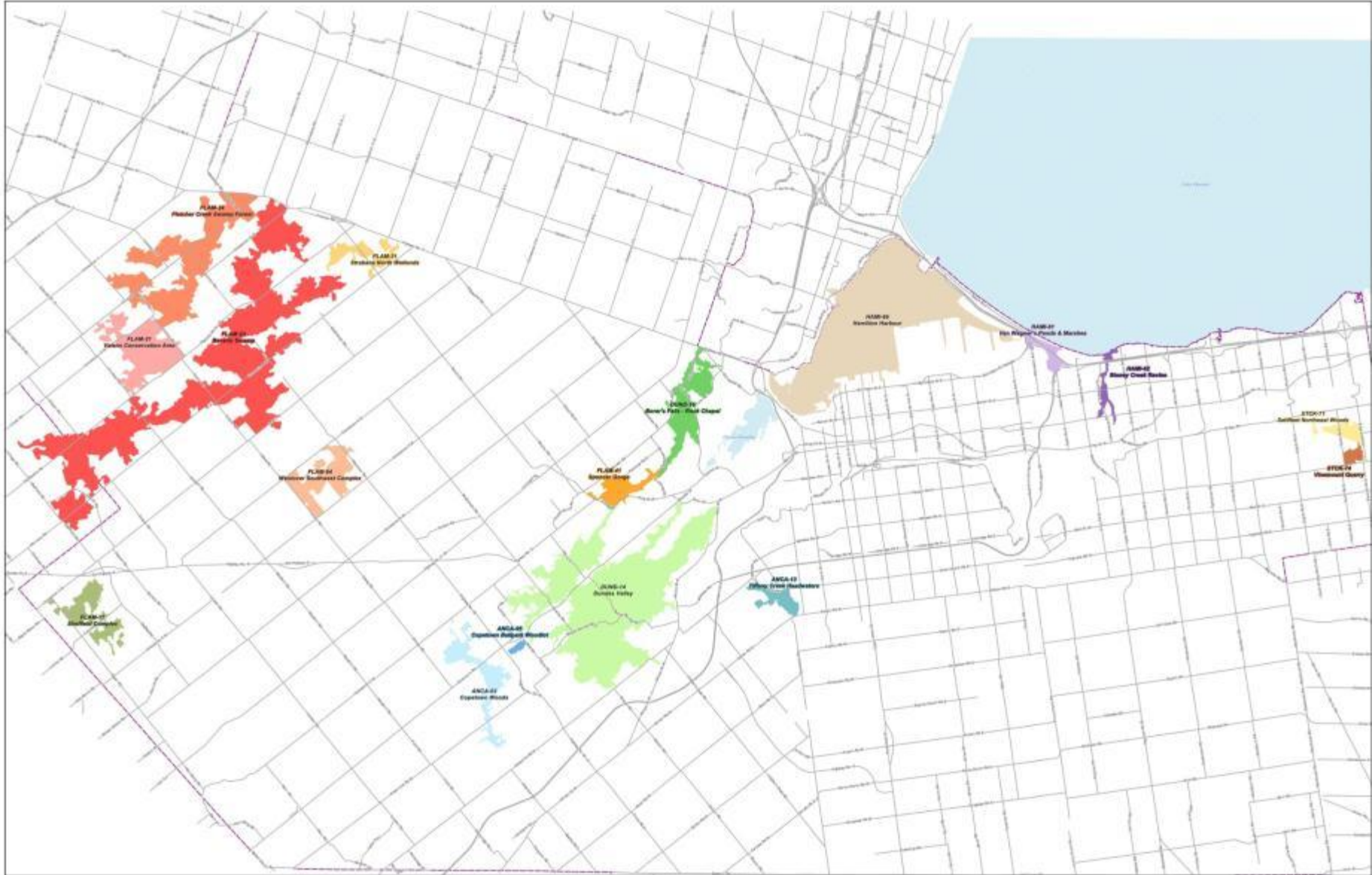


# Natural Areas Inventory Project (2010-2013)



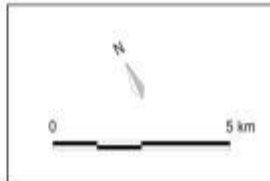
# 2011 Natural Areas

- Copetown Ballpark Woodlot (ANCA 05)
- Tiffany Creek Headwaters (ANCA 13)
- Dundas Valley (DUND 14)
- Borer's Falls-Rock Chapel (DUND 16)
- Sheffield Complex (FLAM 17)
- Beverly Swamp (FLAM 23)
- Strabane North Wetlands (FLAM 31)
- Vinemount Quarry (STCK 74)
- Spencer Gorge (FLAM 41)
- Van Wagner's Ponds & Marshes (HAMI 61)
- Stoney Creek Ravine (HAMI 62)
- Hamilton Harbour (HAMI 66)
- Saltfleet Northeast Woods (STCK 71)
- Valens CA (FLAM 21)
- Fletcher Creek Swamp (FLAM 24)
- Westover Southwest Complex (FLAM 94)



## Natural Areas Inventory HCA 2011 Study Areas

— Major Roads / Highways    Major Waterbodies    Hamilton City Boundary

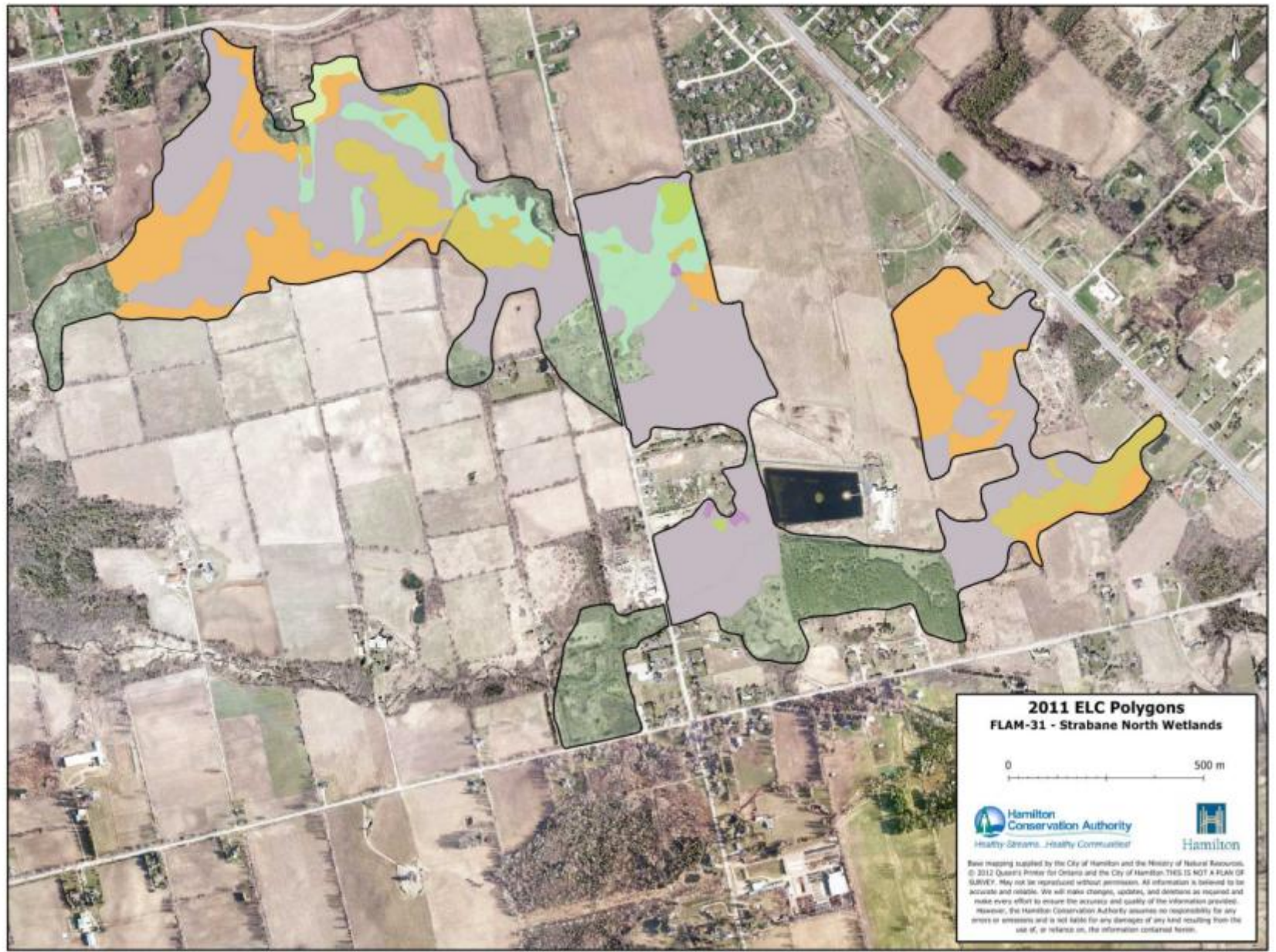


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# Project Update

- 2011 Fields Season
  - ELC
    - 3 ESA's were surveyed (originally 6)
      - 1446 ha surveyed
    - Dundas Valley
      - 72% completed
      - 214 unique polygons
    - Hamilton Harbour
      - 100% completed – LaSalle Park
      - 6 unique polygons
    - Strabane Wetlands
      - 91% complete
      - 43 unique polygons



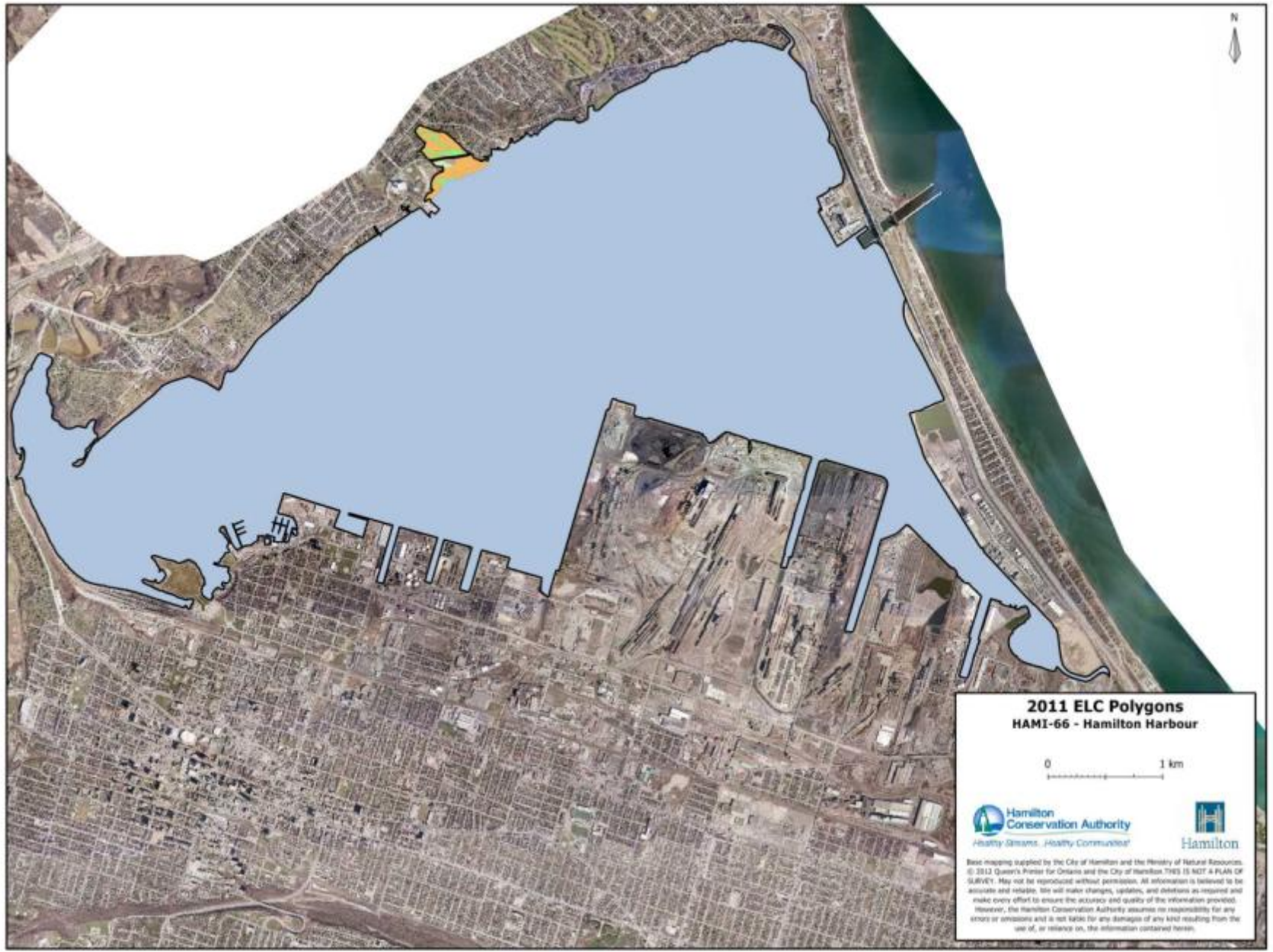


**2011 ELC Polygons  
FLAM-31 - Strabane North Wetlands**

0 500 m



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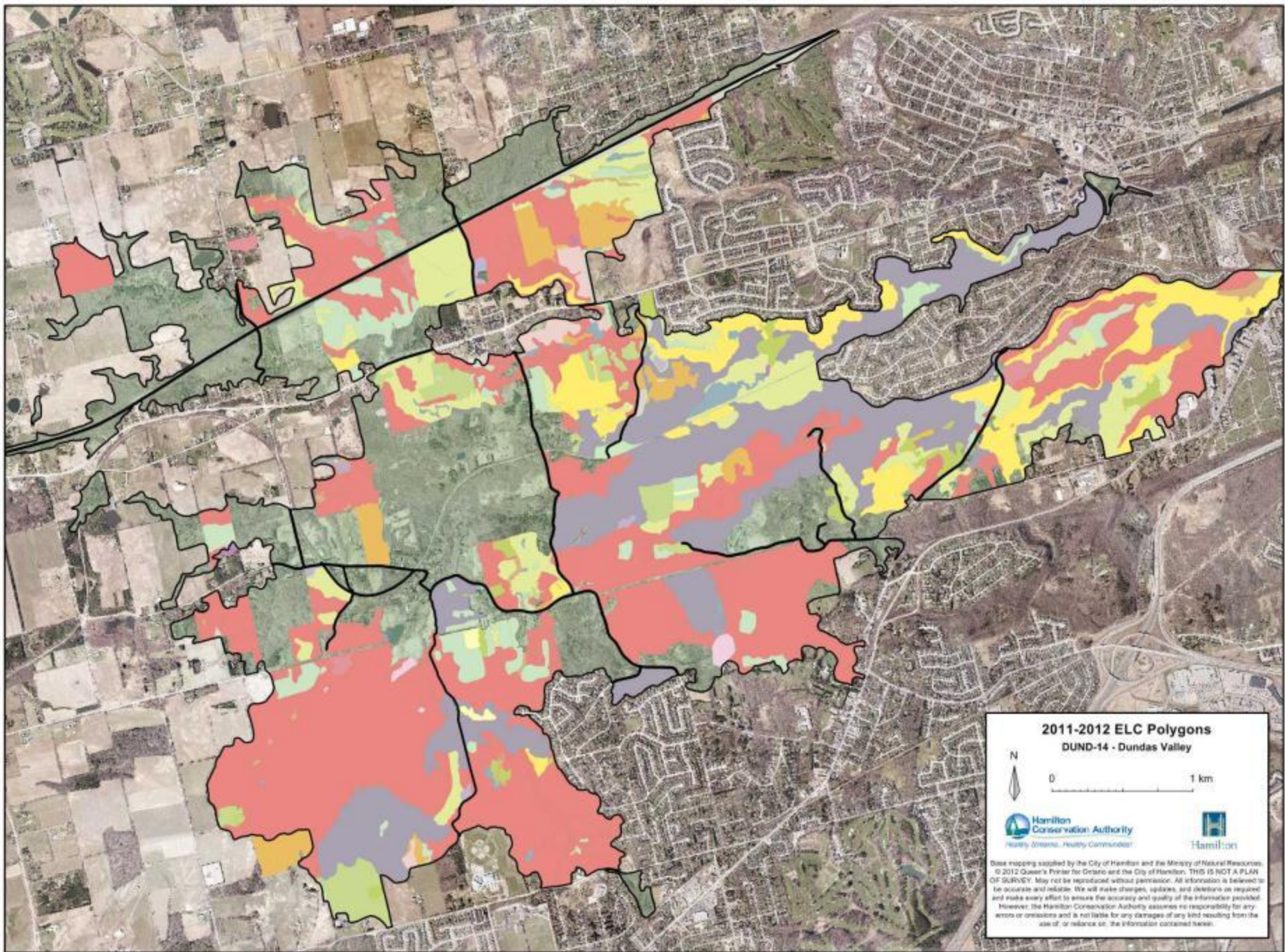


**2011 ELC Polygons  
HAMI-66 - Hamilton Harbour**

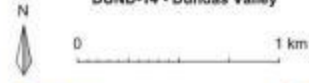
0 1 km



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**2011-2012 ELC Polygons**  
**DUND-14 - Dundas Valley**



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# Dundas Valley Stats

- 1446 ha surveyed
- Sugar Maple dominated forests
- Chestnuts, Butternuts, Flowering Dogwood, Jeffersons, Tulip Tree, Sassafras, small yellow ladies slipper orchids
- Carolinian Species – Tulip Tree, Sassafras
- Invasive species – garlic mustard, European buckthron, Tatarian honeysuckle, Multiflora rose
- Cliff habitat, Tallgrass prairies, vernal pools (salamanders and frogs)
- Multiple users - hikers, bikers, squatters, recreationalists
- Dumping in some areas along roads
- Fragmented areas
- Scattered pine and spruce plantations
- 286ha 100m, 105ha 200m Interior forest habitat- Acadian flycatcher example



# Project Update cont.

- 2011 Fields Season cont.
  - Breeding Birds, Butterflies, Odonates
    - Also recorded incidental mammals, herpetofauna (reptiles and amphibians) and plants (rare and uncommon)
    - A total of **297** species: **119** birds, **71** butterflies, **73** odonates, **2** plants, **14** mammals, and **18** herpetofauna
    - 11 of these are Species at Risk, another 4 are tracked by NHIC and another 81 species are considered to be rare or uncommon in the City of Hamilton.
    - 18 ESA's were completed (originally scheduled for 13)



*This portion of the project was partially sponsored by the Hamilton Conservation Foundation*

# Project Update cont.

- 2011 Fields Season cont.
  - Botany
    - 3 ESA's fully and 3 ESA's partially (short visit looking for significant species) (originally scheduled for 11)
      - Stoney Creek Ravine (HAMI-62)
      - Sheffield Complex (FLAM-17)
      - Saltfleet Northeast Woods (STCK-71)
      - Beverly Swamp (FLAM-23) – short visit looking for sig. species
      - Dundas Valley (DUND-14) – short visit looking for sig. species
      - Spencer Gorge (FLAM-41) – quick visit to rim communities and enhancement areas
    - 5 species known to be rare in the City of Hamilton, 1 uncommon and 1 endangered species

# Project Update cont.

- GIS and Data Entry
  - Everything has been digitized (ELC, SAR and Tracked species)
  - All data has been entered into the database except for plants from Anthony (2342 entries, of those 903 unique species)



# 2012 Field Season

## Staff

- NAI Coordinator – Tawnia Martel
- Bird Surveys – Bob Curry
- Botany – Anthony Goodban
- ELC – Seasonal Crew
- Amphibian Monitoring – Volunteers

# 2012 Natural Areas

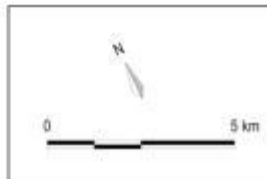
All 20 of the 2012 natural areas were surveyed (2 additional)

- Curran's Swamp-Dunmark Lake (ANCA 02)
- Southwest Summit Woods (ANCA 04)
- Copetown Bog (ANCA 06)
- Tiffany Falls (ANCA 11)
- Iroquoia Heights (ANCA 12)
- Jerseyville Northwest Woods (ANCA 84)
- Big Creek Waterhead Complex (FLAM 129)
- Beverly Swamp (FLAM 23)
- Troy Riparian Complex (FLAM 19)
- Strabane Southwest Drumlin Field (FLAM 26)
- Millgrove South Woodlot (FLAM 45)
- Wyatt Road Wetland (FLAM 46)
- Woodburn Southeast Forest (GLAN 53)
- Hamilton Escarpment (HAMI 65)
- Red Hill Creek Escarpment Valley (HAMI 62)
- Felker's Falls Escarpment Valley (HAMI 72)
- Hamilton Beach Strip (HAMI 73)
- Eramosa Karst (STCK 135)
- Fifty Creek Valley (STCK 136)
- Community Beach Ponds (STCK 75)\*
- Devil's Punchbowl Escarpment (STCK 76)
- Fifty Point Conservation Area (STCK 80)



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# 2012

- ELC
  - 9 Natural Areas surveyed
  - 359 individual polygons
  - 34 Community series ecosites
  - 1357 ha surveyed



# 2012

- **Breeding Birds, Butterflies, Odonates**

- Also recorded incidental mammals, herpetofauna (reptiles and amphibians) and plants (rare and uncommon)
- A total of **256** species: **112** birds, 58 butterflies, 59 odonates, **2** plants, **11** mammals, and **14** herpetofauna
- 9 of these are Species at Risk, another 10 are tracked by NHIC and another 64 species are considered to be rare or uncommon in the City of Hamilton.
- 22 ESA's were completed (originally scheduled for 21)

***This portion of the project was partially sponsored by the Hamilton Conservation Foundation***



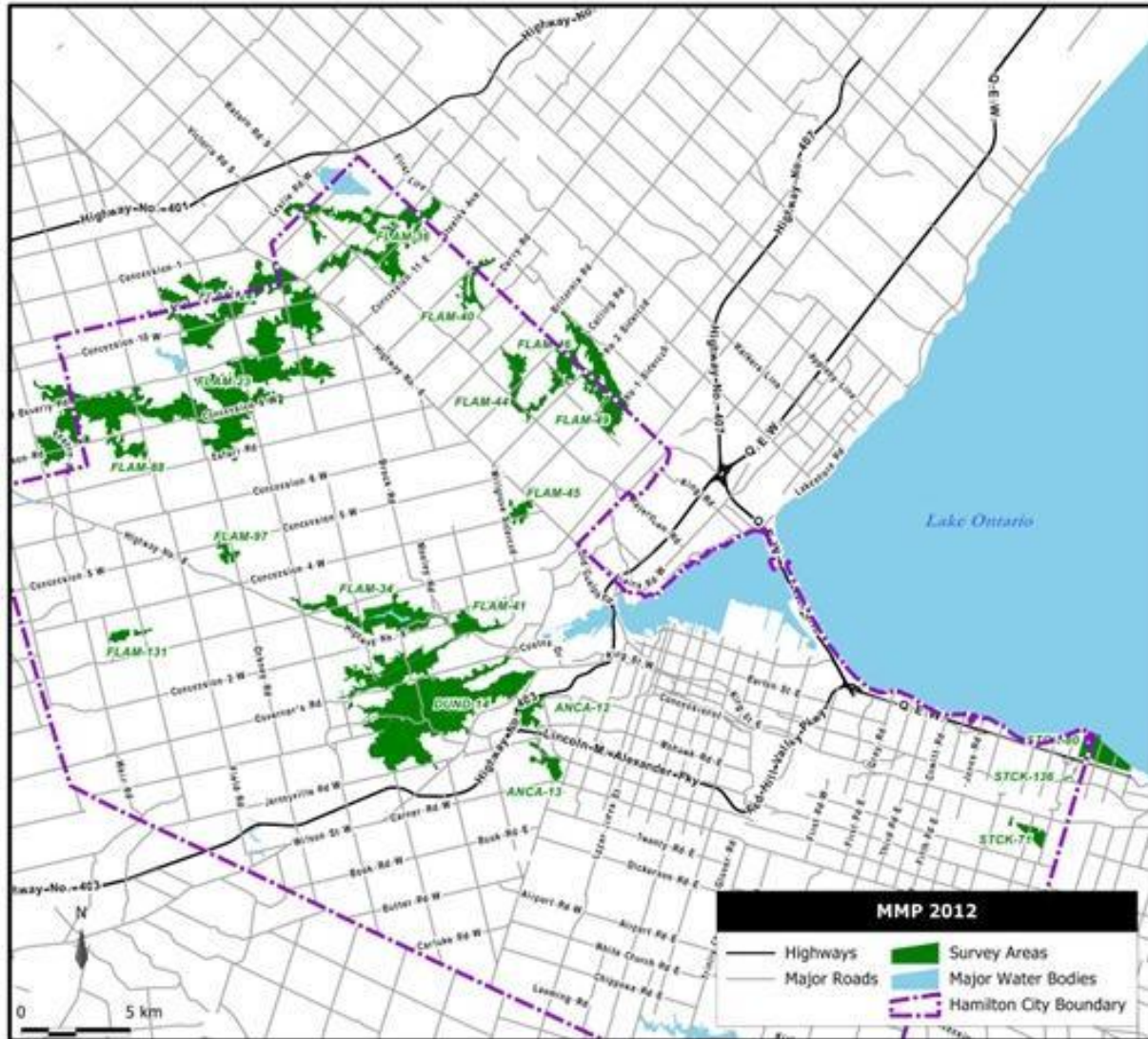
# 2012

## • Volunteer Amphibian Program

- Partnering with the URBAN (Urban-Rural Biomonitoring and Assessment Network) program from McMaster University
- Citizen science monitoring program for the City of Hamilton, enabling volunteers to experience and contribute to the preservation of wildlife and natural areas within and around the city.
- Collect monitoring data for streams, benthic invertebrates, wetland plants, birds, and amphibians.



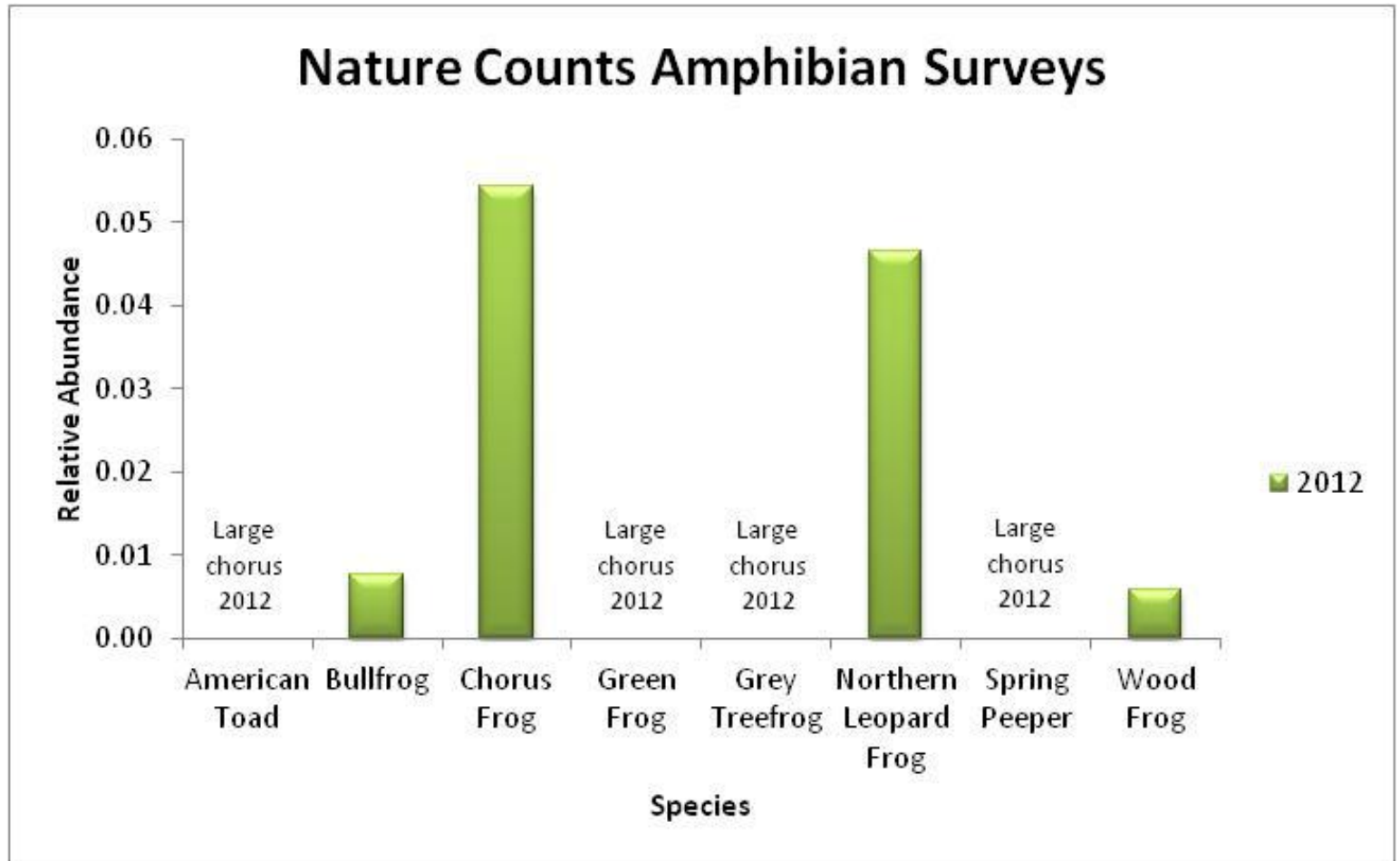
# 2012 MMP Surveyed Areas



# 2012

- Amphibian Results
  - 19 Natural Areas Surveyed
  - 8 species of frogs and toads identified (out of 10 species indigenous to the Hamilton Area)
  - >516 individual frogs/toads sampled

# 2012



# 2013 Field Season

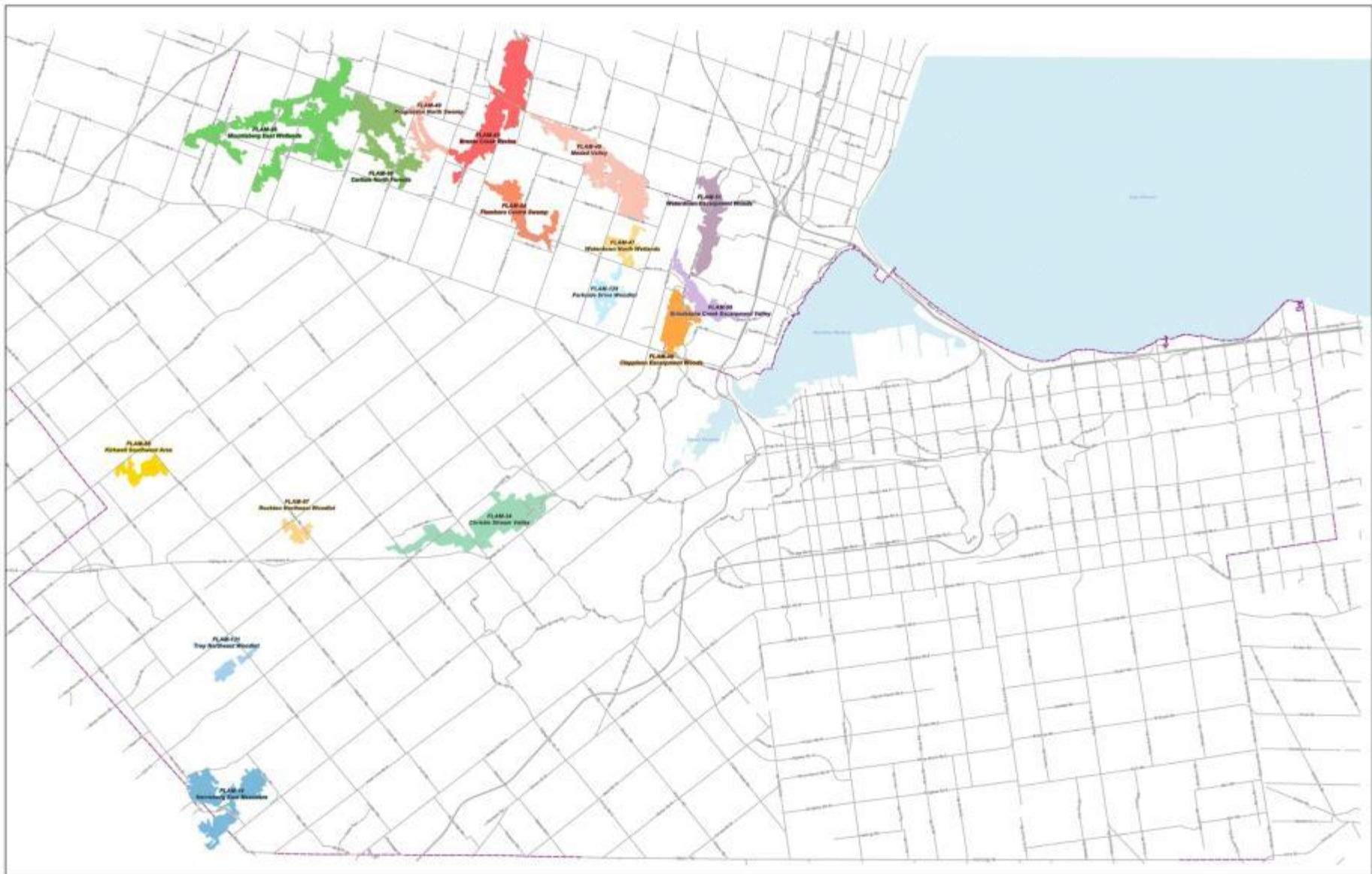
## Staff

- Nicholas Schwetz – NAI Coordinator
- ELC Crew Leader, ELC Technicians
- Bob Curry – breeding birds, butterflies, odonates
- Anthony Goodban – botany



# 2013 Natural Areas

- Parkside Drive Woodlot (FLAM 128)
- Troy Northeast Woodlot (FLAM 131)
- Christie Stream Valley (FLAM 34)
- Mountsberg East Wetlands (FLAM 36)
- Carlisle North Forests (FLAM 38)
- Progreston North Swamp (FLAM 40)
- Bronte Creek Ravine (FLAM 43)
- Clappison Escarpment Woods (FLAM 48)
- Medad Valley (FLAM 49)
- Grindstone Creek Escarpment Valley (FLAM 50)
- Waterdown Escarpment Woods (FLAM 51)
- Kirkwall Southwest Area (FLAM 88)
- Rockton Northeast Woodlot (FLAM 97)
- Flamborough Centre Swamp (FLAM 44)
- Waterdown North Wetlands (FLAM 47)



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# Funders and Supporters

- Ontario Trillium Foundation
- Salamander Foundation
- City of Hamilton
- Hamilton Conservation Authority
- Hamilton Naturalist Club
- Conservation Halton
- McLean Foundation
- McBride/McCallum Foundation
- Ontario Species at Risk Stewardship Fund
- Hamilton Conservation Foundation
- Environment Canada Habitat Stewardship Program for Species at Risk Fund



# Questions?

Thank you!

