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Prairie Canada Piping Plovers: Population Status and Trends

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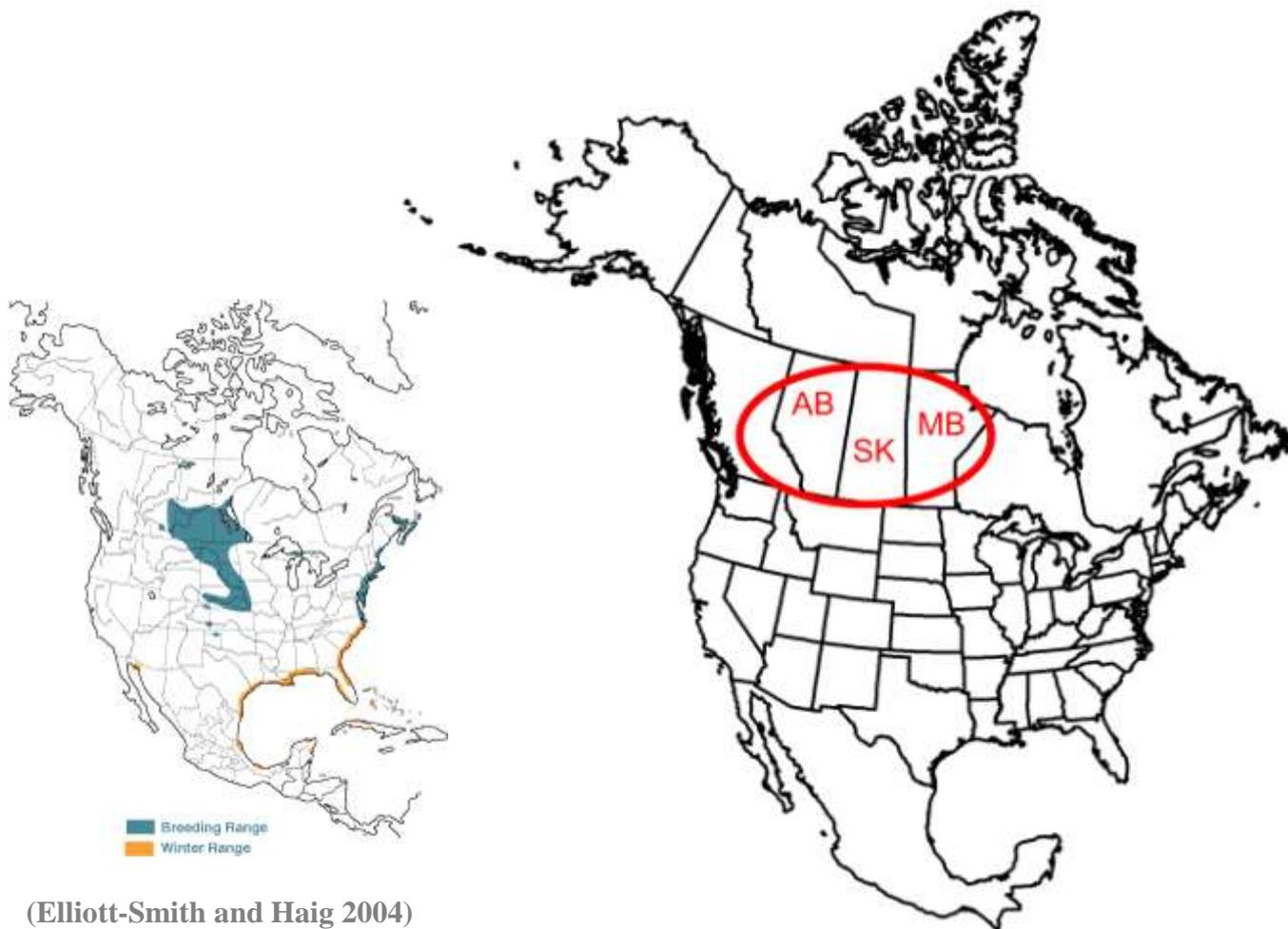




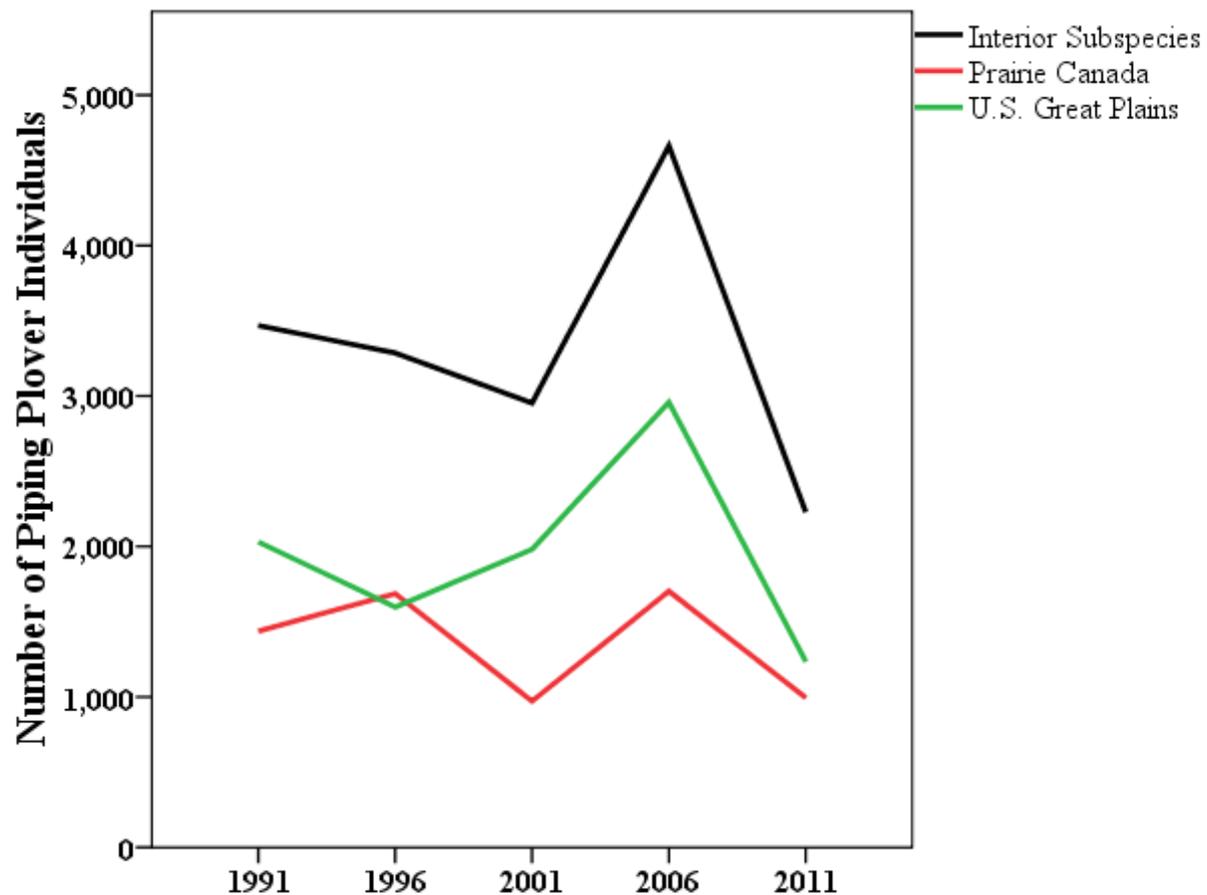
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(Elliott-Smith and Haig 2004)



(International PIPL Breeding Census results)



(International PIPL Breeding Census results)



Measures of productivity:

SK: since 2002-6 Gratto-Trevor study, only Lake Diefenbaker (SK Watershed Authority)

AB: count of chicks (not necessarily at fledge) for majority of pairs in province

MB: measure productivity of pairs in southern parks (majority of the few birds left in the province)



Measures of abundance:

All provinces participate in 5 yr census – plus:

SK: since 2002, subset of wetlands (~ half of total birds)

AB: count of virtually all birds in province annually

**MB: all birds in southern parks (majority of the birds
in the province)**

Habitat

Alkali wetlands – large and small:

- **Big Quill totally flooded since 2007**
- **Missouri Coteau wetlands shallow: drought or flood**
- **Chaplin Lake sodium sulphate mining**
- **most of south and central SK flooded in 2011**

Freshwater reservoir:

- **Lake Diefenbaker used for electricity/recreation; has flooded all but 1 year since 2005**



Movements

Birds non-uniquely marked for years in SK and AB, hundreds of adults and chicks uniquely marked SK 2002-2006.

Historically and recently birds marked in MB.



Movements

Uniquely marked birds from SK:

**Adults- only 3% (16/542) resighted in breeding grounds
out of SK: 7 AB, 9 US Great Plains
(1 F MT; 6 F ND, 2 M ND)**

**Chicks- only 5% (5/97) resighted in breeding grounds
out of SK: 3 AB, 2 US Great Plains (ND/MT)**

**The only marked birds seen in MB were from MB, the
US Great Lakes, or wintering grounds (NOT SK!)**



Information Needed?

- 1. Population Trend (can use 5 year census although population changes dramatically in 5 years.... and now SK won't have 'real' estimate for 10 years!)**
- 2. Change in average adult and juvenile survival (from 2002-2009 study)**
- 3. Change in average productivity (loss of Big Quill for years; near-annual flooding of Lake Diefenbaker recently)**



Information Needed?

- 4. What proportion of the suitable habitat is being surveyed: a) annually; b) every 5 years?
We need a spatially explicit habitat suitability model.**
- 5. Where do the birds go in “bad” (i.e., wet) years like 2011? Are they using habitats that only become available during these years but are otherwise unavailable? Do they overfly the prairies into the boreal? (e.g., Lake Athabasca)**



Habitat availability and Productivity in SK

seem most affected by CLIMATE, either directly (flood/drought/hail, temperature extremes or rain at hatch) or indirectly (increased nest predation with more narrow beaches).

This is highly variable among years.

