

# BBS: Its first 40 years

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# The Problem: Declining Populations

- North American Extinctions:
  - Passenger Pigeon, Eskimo Curlew, Bachman's Warbler, Dusky Seaside Sparrow
- Dramatic declines in Peregrine Falcon and eastern Bewick's Wren populations
- The Last Straw: DDT wiping out songbirds in the early 1960's

# Potential Methods

- Spot Mapping (BBC)
- Banding/Ringing
- Common Birds Census (BTO)
- Atlas
- CBC methodology
- **Point counts along random roadside route**
- Too labor intensive
- Too labor intensive
- Non-random and too labor intensive
- Not quantitative
- Not repeatable
- **Not perfect, but repeatable**

# Testing

- 50 3-min versus 30 5 min stops
- Repeat coverage (5+ per season)
- Geographic differences (MD, NH, CO, SD, HA, AK)
- Simultaneous counters on the same route
- Maryland Check Routes (every MD observer had to run a BBS route that Chan had run the same year).

# Observers

- For the 1965 field test in Maryland and Delaware, Chan selected observers whose experience and qualifications he knew personally. Jack Linehan did the same for Delaware members of the Delmarva Ornithological Society.
- For continental expansion of the BBS program Chan relied on the judgment of active field ornithologists in each state/province.

# Available Resources

- Biologists: Chan and Willet Van Velzen
- Clerical – Had to free mapping expert, Ceil Nalley, from other duties.
- Computer programming - John McDaniel was available part time.
- Data input – BBL staff were available off-season at no charge.
- Topographic maps – full set was available.
- Postage/phone – were free in those days.

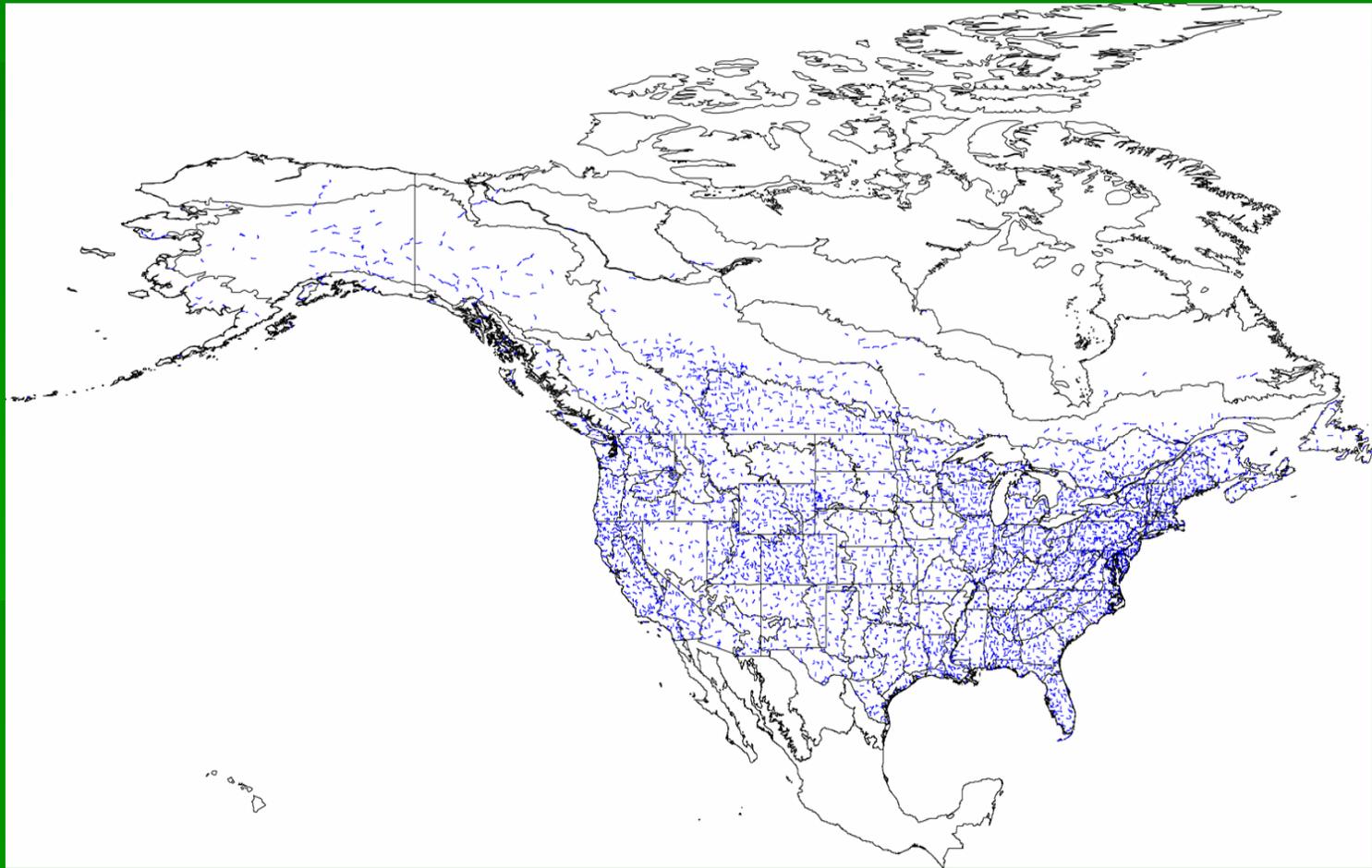
# Official Approval

- Chan's immediate supervisor, Dr. John W. Aldrich, was supportive of the attempt at a continental BBS, as long as he could do it with existing funds.
- Years later, after the program had grown significantly, he received a "don't ever do it again" reprimand from the Director of the U.S. Fish and Wildlife Service.

# Why is BBS successful? Volunteers



# BBS Coverage



# BBS Results

THE BREEDING BIRD SURVEY  
1967 and 1968

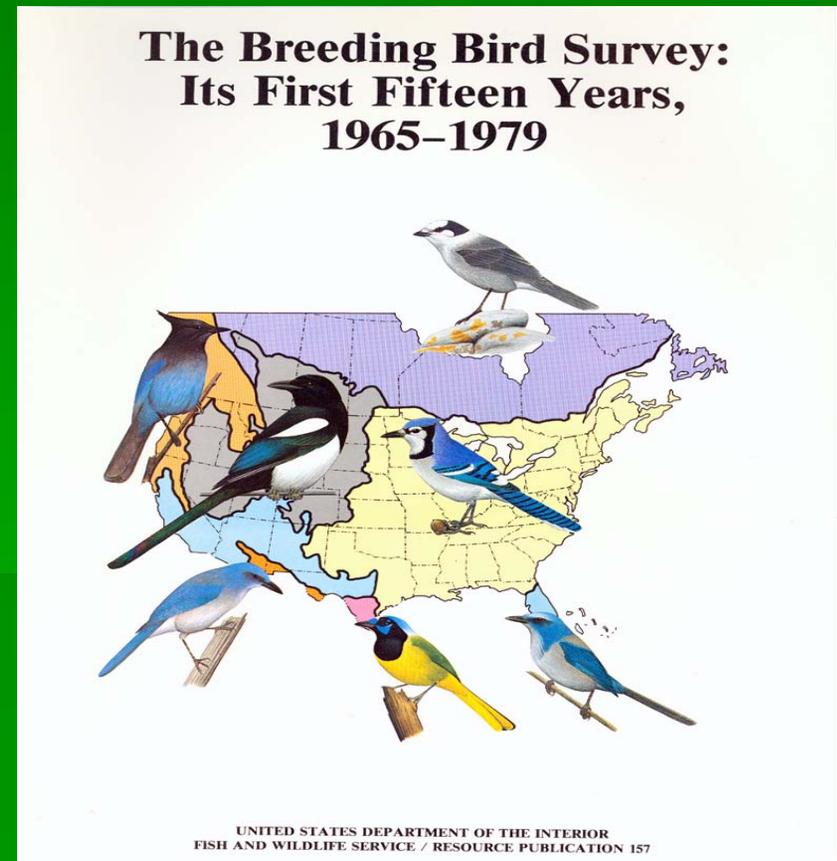


UNITED STATES DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE  
Special Scientific Report --Wildlife No. 124

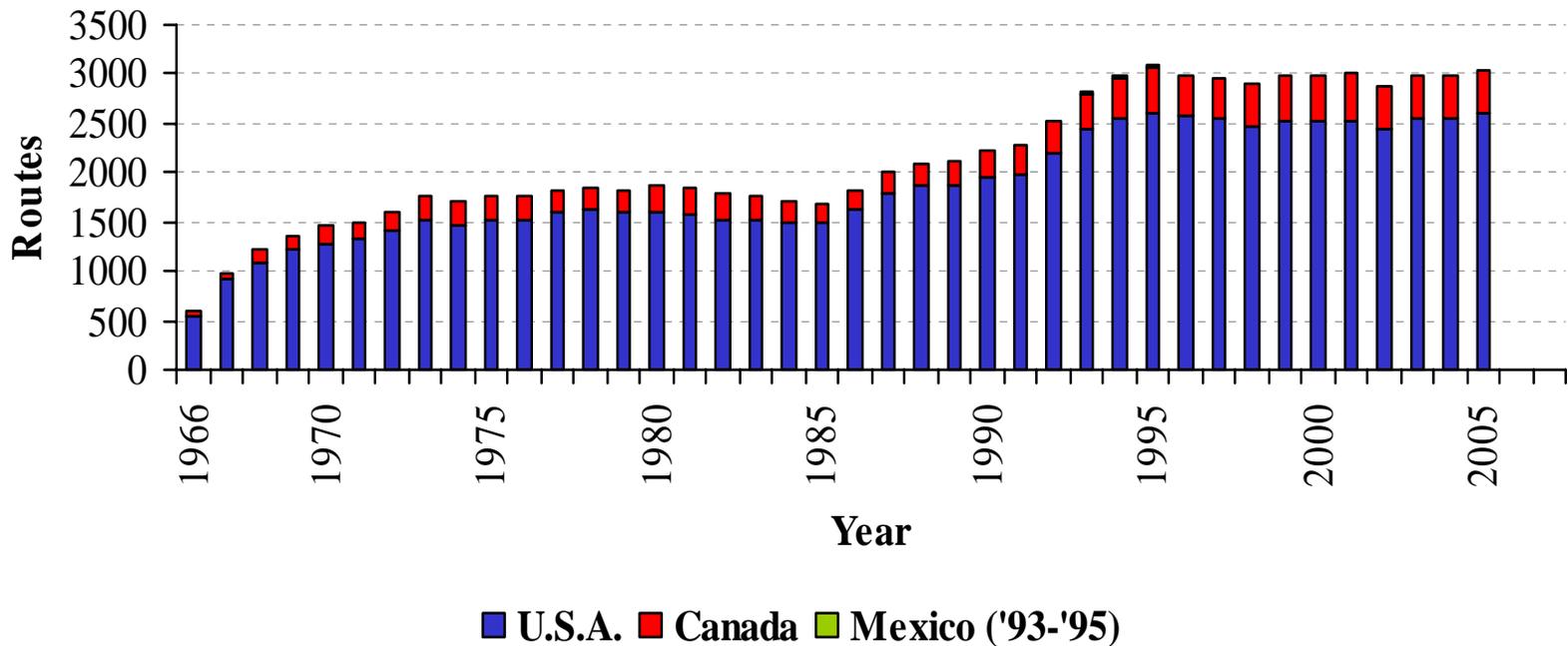
- Annual summaries of survey effort and results
- Similar summaries published by some states

# 15-year Summary

- Demonstrated usefulness of BBS to estimate long-term population trends
- Increased visibility of BBS to scientific and volunteer communities



# BBS Observer Effort



# BBS: an integral component of bird conservation

- Robbins, C.S., J.R. Sauer, R.S. Greenberg and S. Droege. 1989. Population declines in North American birds that migrate to the Neotropics. Proc. Nat. Acad. Sci. USA 86:7658-7662.

# BBS: an integral component of bird conservation

- Used BBS data to identify an important bird conservation issue
- Led to formation of the Partners-in-Flight Bird Conservation Initiative
- Other bird conservation initiatives followed (shorebirds, waterbirds)
- **“All Bird Conservation” becoming an accepted norm**

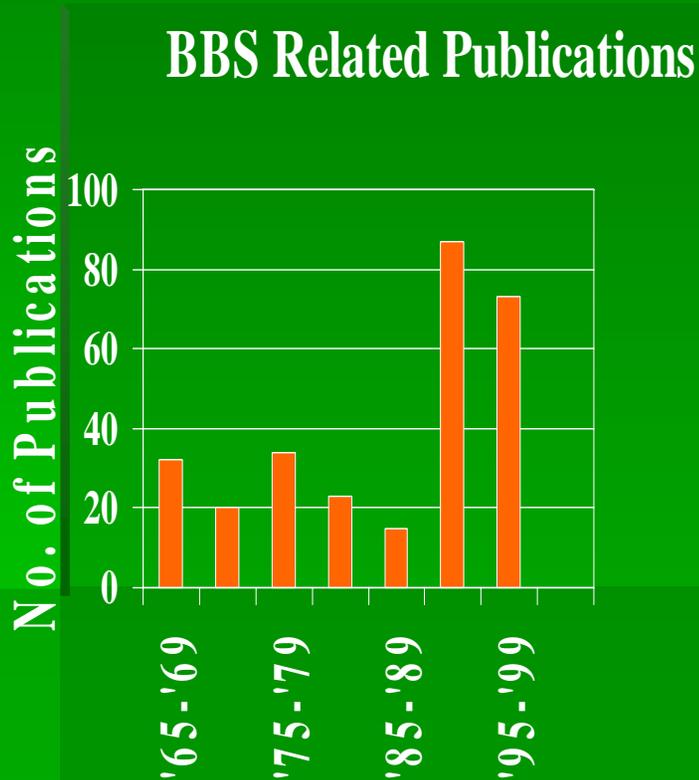
# BBS: an integral component of bird conservation

- BBS data plays pivotal role in developing PIF prioritization scheme
  - Identifies species of conservation concern
  - Targets species and habitats for on-the-ground conservation activities
- Recent interest in grassland bird conservation resulted from consistent long-term declines on BBS

# BBS in the 1990s

- Access to raw data and trend data was manual process through BBS coordinator
- Requests for data increased exponentially
- **Solution:**
- Use Internet to disseminate BBS data
  - **BBS pioneered use of web technologies for access to trend estimates and raw data**

# How are BBS data used

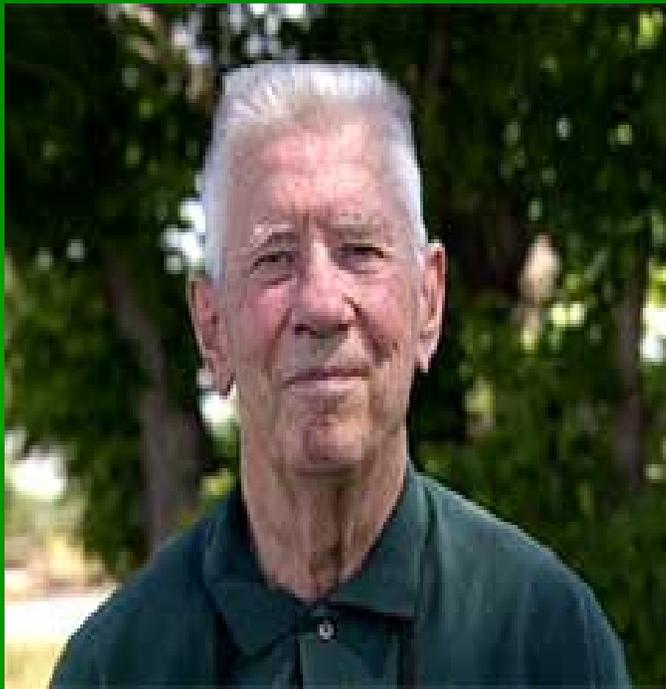


- 40 years of data on > 650 species
- > 1200 raw data file downloads/yr since 2001
- > 300 publications have utilized BBS data

# BBS in the 1990s

- Resources devoted to BBS declined
  - PWRC eliminates BBL data entry staff (1996)
- **Solution:**
- BBS data management employs scanning technology (1997) and web-based entry (1998)
- New relational database system developed (1997)

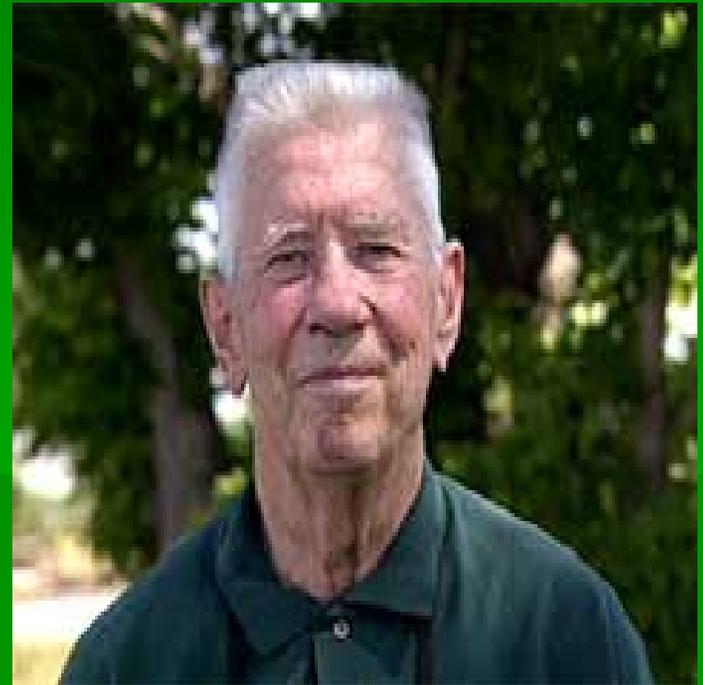
# Chan's Contribution to BBS



- Most BBS routes surveyed (1966-2005):
  - David Holmes 390
  - Vernon Kleen 305
  - Danny Bystrak 273
  - Chan Robbins 258

# Chan's Contribution to BBS

- 258 routes
- 232,563 individual birds counted of 172 species
  - 27,612 Eur. Starling
  - 27,119 Com. Grackle
  - 12,679 Am. Crow
  - 11,749 House Sparrow
  - 10,792 Am. Robin



# BBS in 2006

- PWRC BBS program with 2 full-time biologists
- Part-time programming support
- Second data management system becomes operational
  - Greater flexibility for count data storage
  - Maintains route information
- Developed strategic plan

# Goal 1: Collect scientifically rigorous data

- **Strategy 1A:** Build sufficient support to ensure continued operation, enhance scientific credibility, improve geographic coverage, and increase use of the data.
- **Strategy 1B:** Strengthen scientific credibility of BBS results at continental and regional scales.
- **Strategy 1C:** Improve geographic coverage.

# Goal 2: Ensure BBS data and analytical results are widely and easily accessible

- **Strategy 2A:** Ensure that BBS data and results presented on the web site use the best data management practices and statistical methods.
- **Strategy 2B:** Increase communication with BBS partners and stakeholders to ensure BBS continues to meet the avian population status and trends needs of the conservation community.
- ***41 action items (total)***
  - Funding to explore incorporation of detectability into BBS



# Future Activities

- **EXPANSION OF THE BBS INTO MEXICO**



**Conabio**

Comisión nacional para el conocimiento y uso de la biodiversidad



Environment  
Canada

Environnement  
Canada

Canadian Wildlife  
Service

Service canadien  
de la faune

**Workshop: 4<sup>th</sup> NAOC – Veracruz, Mexico –  
Oct. 3, 2006**

# Future Challenges

- How to retain volunteer involvement in BBS in an era of numerous opportunities for volunteer birders?
  - Demonstrate value of program for bird conservation
  - Understand that their time to devote for volunteer projects is limited

# Future Challenges

- BBS data are being used in ways that were never envisioned in 1966.
  - We cannot predict how these data may be used in the future.
- How to expand the capabilities of the BBS without compromising its value for bird conservation?