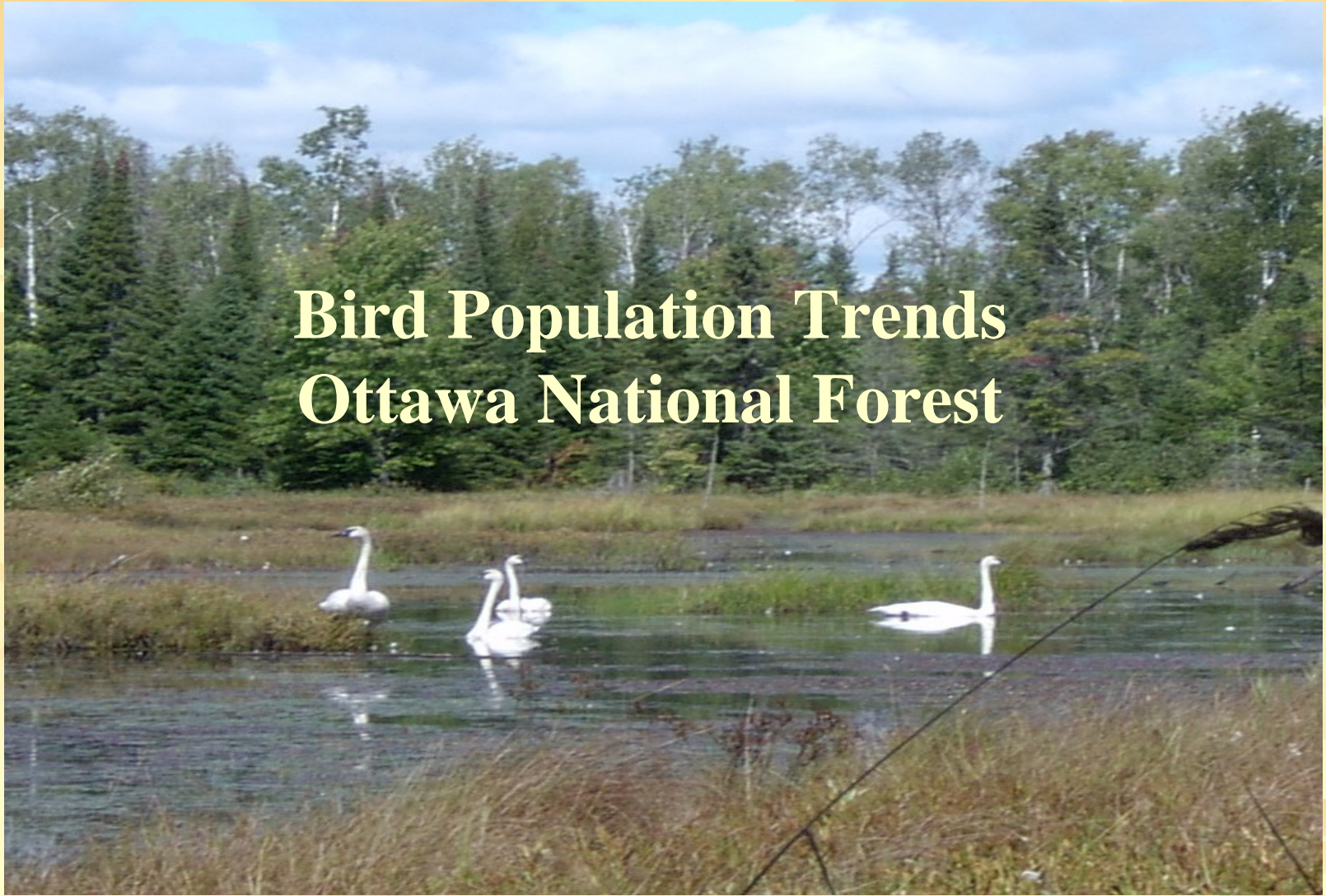


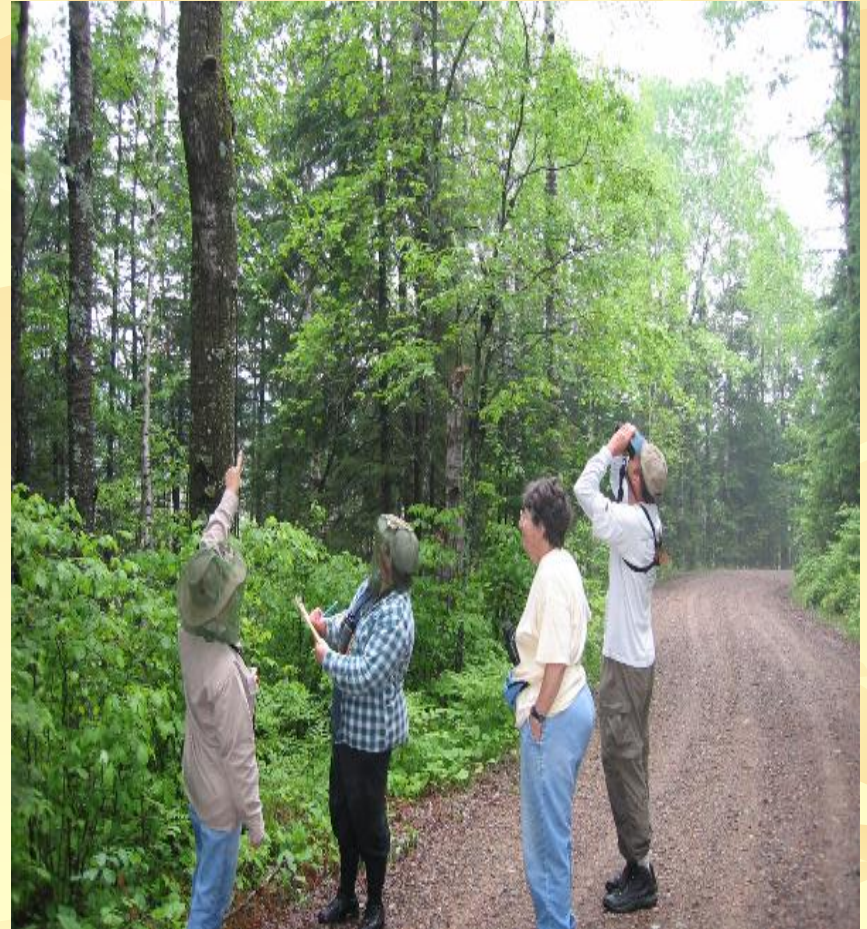
# **Bird Population Trends Ottawa National Forest**



# Volunteer's Collect Data

This study tracked bird  
Population trends from  
Three data sets:

- Ottawa NF BBC 92-03
- 3 Wi/Mn NF 91-04
- Hubbard Brk EF 69-98



# Population Trends on Ottawa

- 9 bird species plus one habitat group (mature conifers) have increased
- 14 bird species plus one habitat group (edge habitat) have decreased



## Species declining regionally and on Ottawa

- Purple Finch-----Disease?
- Indigo Bunting-----Declining edge habitat?
- Evening Grosbeak-----Population shifts?
- Red-winged Blackbirds--Regional agricultural change?
- Veery-----Regional habitat change
- Olive-sided Flycatcher---Regional habitat change?
- Gray Jay-----Global warming?
- Edge species-----Regional decline in edge?

## Species increasing regionally and on Ottawa

Black-capped Chickadee-----Global warming?

Mourning Doves-----Increased feeding?

Nashville Warblers-----Regional habitat change?

Magnolia Warblers-----Regional habitat change?

Mature Conifers-----Regional in-growth?

# Gray Jay and Black-capped Chickadee Opposite Sides of the Same Coin???



## Species declining locally (Ottawa)

American Crow-----Disease (WNV)?

Eastern Bluebird-----Local decline grassy openings?

Mourning Warbler-----Local decline in young forests?

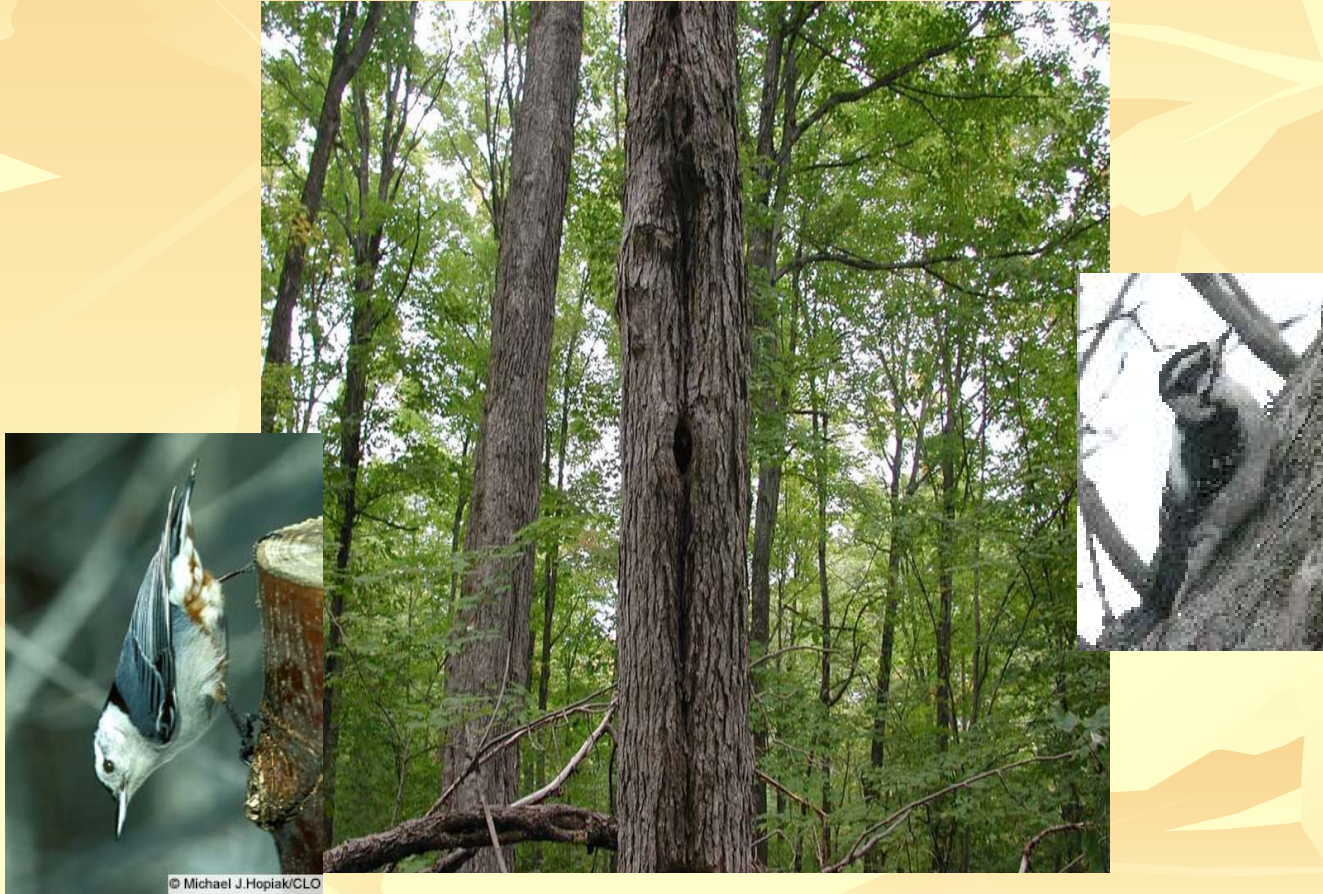
Song Sparrow-----Local decline in edge habitat?

Swainson's Thrush-----Decline in edges and openings?

Hairy Woodpeckers-----Decline in suitable cavity trees?

White-breasted nuthatch-decline in cavity trees?

# Not Enough Decadence for Some Species?





# Other Cavity Nester Seem to be Doing Well



## Species Increasing locally (Ottawa)

Northern Parula-----In-growth of conifers?

Yellow-rumped Warbler--In-growth of conifers?

Winter Wren-----More mature forests?

Brown Creeper-----Old-growth habitat?

## **Status on Ottawa Vs Regional Trends**

- **Increases in redstart (found in shrubby woodland edges with dense under story) has NOT appeared on the Ottawa and they remain rare.**
- **White-breasted nuthatch is declining on Ottawa while it increases on the Chippewa.**
- **The winter wren has declined on three National Forests but remains common and is increasing on the Ottawa.**
- **The veery, a species closely tied to young hardwood forests, particularly aspen, is declining on the Ottawa and two other regional National Forests.**

# Increase in OG Species



Brown Creepers, perhaps one of our best indicators of Old-growth forests,

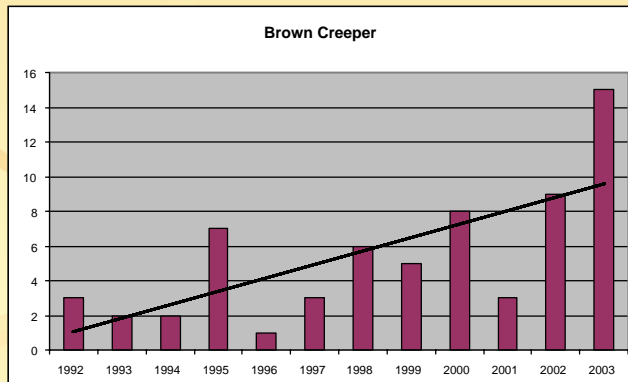
Increased on the Ottawa but declined in other Lake States Forests

# Significant Increase in Brown Creepers



Brown creepers build their nests behind the bark, peeling-off usually very old trees.

This habitat type is common in old-growth forests.



# Winter Wrens—Mature Forests



**Winter Wrens are increasing on the Ottawa. They breed in moist, mature pine and hemlock forests.**

**Nests are in natural cavities under bark or upturned roots of decomposing trees.**

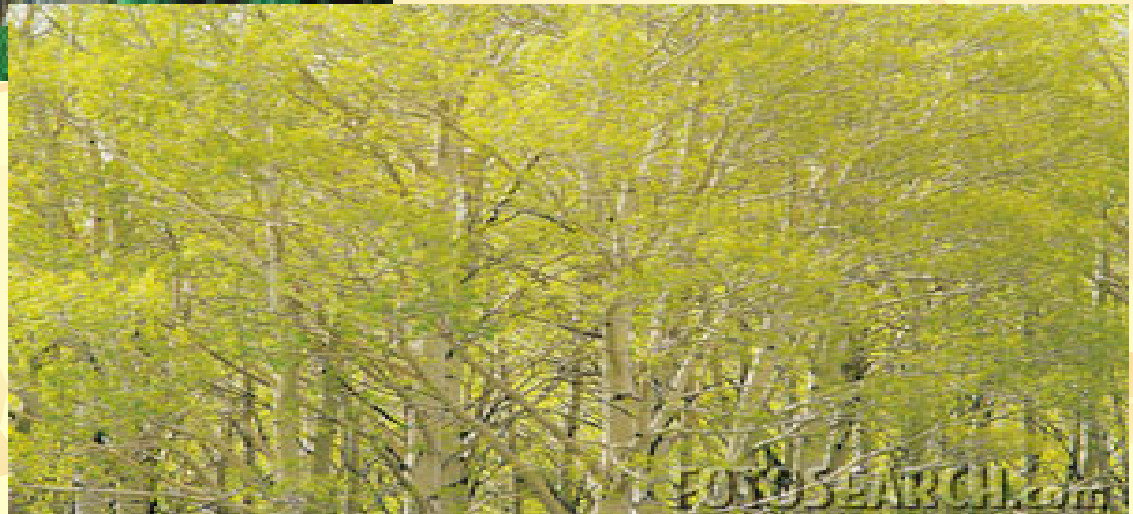


**The Veery-a thrush found in mature aspen, has declined as aspen forests have been regenerated or have succeeded to hardwoods.**



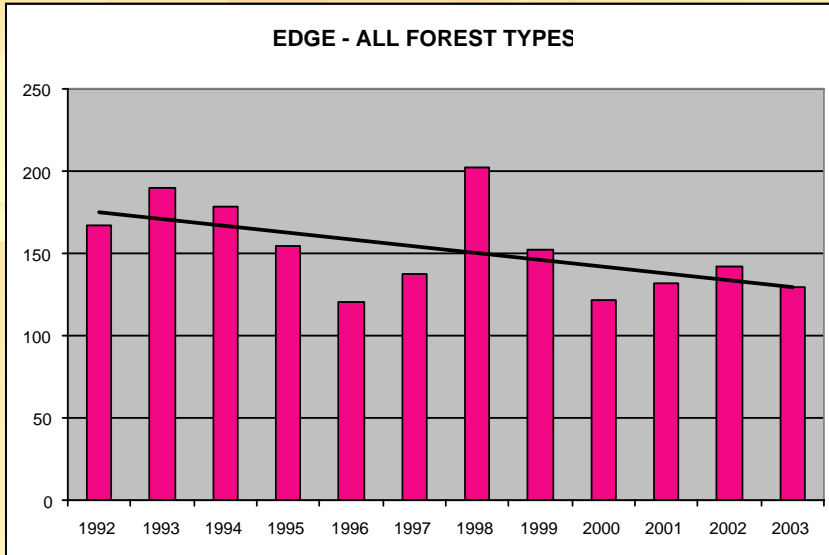


**Mourning Warbler a species found in very young forest stands, such as aspen is declining.**





# Edge Species Decline

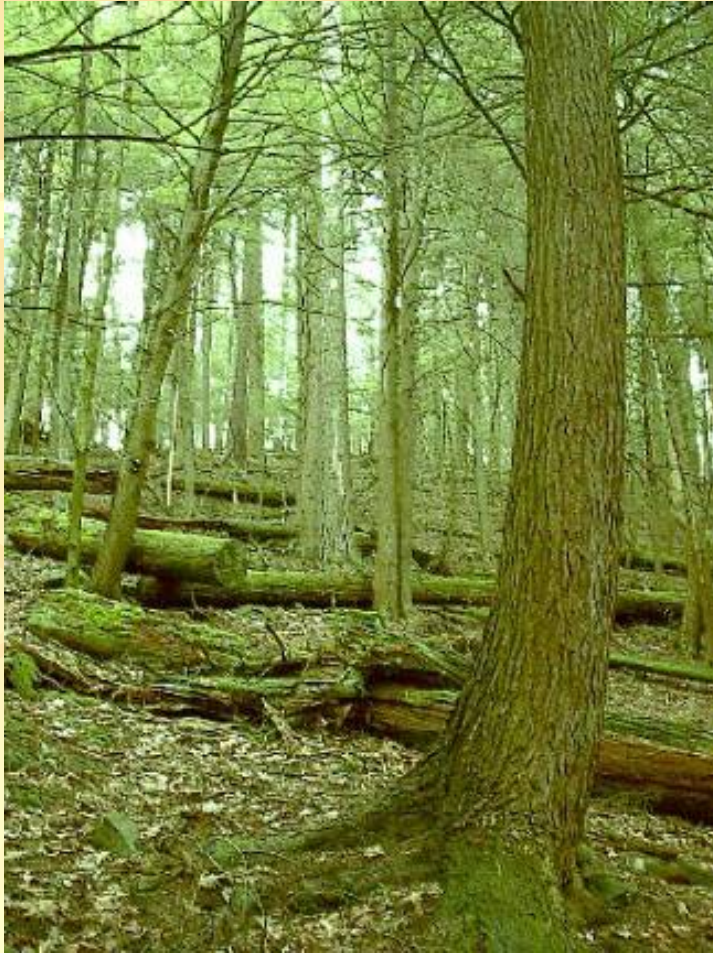


**Birds found near edges, such as the song sparrow, have generally declined on the Ottawa, indicating this type of habitat is not increasing. This trend seen in all Lake States Forests examined in this study.**

# Mature Conifer Birds Increased



# Hubbard Brook Experimental Forest



- **Hubbard Brook Exp. Forest very similar to species composition on Ottawa NF**
- **Moderate timber harvest in early 1900's—untouched since**
- **Beech bark disease in late 1960's changed habitat**
- **30 years of breeding bird population data 1969-1998**

# Habitat Comparison

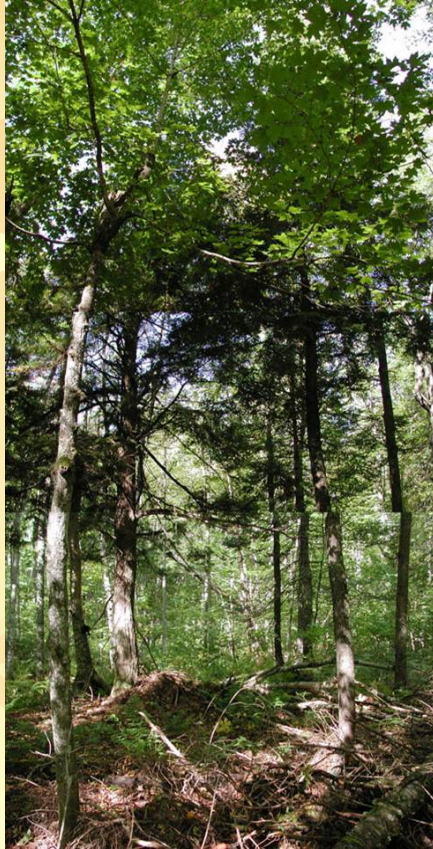
## Hubbard Brook

**The forest changed from a dense, fairly closed canopy, with an open sub-canopy, and low dense shrub layer, to one with a more open and patchy canopy, a denser and taller shrub/sub canopy, and a more sparse low shrub layer.**

## Ottawa National Forest

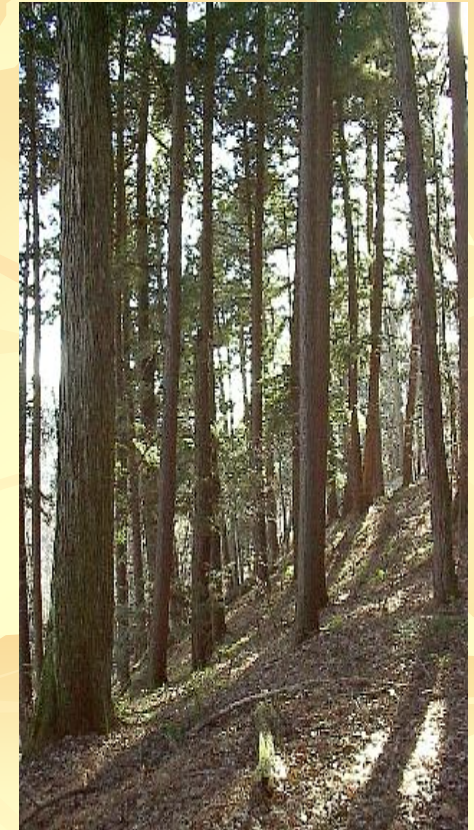
**A closed canopy with an open sub-canopy and dense low shrub layer is common, with declines in conifers, mid-tolerant species, and early seral hardwoods such as aspen. Conifer saplings are very rare due to deer browsing.**

# Maturing Hardwoods and Mixed Forests



**Both the Ottawa and Hubbard Brook are mature Northern Hardwood forests. some stands are predominately pine, some are predominately hardwoods, some are mixed.**

**The Ottawa under-story conditions today are more similar to those at Hubbard Brook 40 years ago. That is with an open sub-canopy and low dense shrub layer.**



# Comparison of Bird Populations

## HUBBARD BROOK FOREST

- 60% decline in total numbers of birds
- 12 species decline sig.
- 3 increased sig.
- 9 remained constant
- Forest structure change from disease, disturbance, and succession
- 4 species that declined or disappeared (1) attain highest abundance in mid-succession
- Birds that increased prefer mature forests
- Nest predation, brood parasitism played no role

## OTTAWA NATIONAL FOREST

- No change in numbers of birds
- 14 species declined generally early seral species
- 9 species increased generally mature forest species
- No species disappeared, several are, and have been, rare
- Trends for all resident species same as Hubbard Brook except BCCH which declined at Hubbard Brook

# Summary

The Ottawa National Forest is a maturing forest that seems to be favoring those bird species (particularly coniferous species) that are found in mature to old-growth forests---and is becoming less suitable habitat for those bird species that prefer edges and young deciduous forests such as aspen. Disease, natural disturbance, and simple succession of forests can create as great, or greater change in both bird habitat and bird population numbers as timber management alone. There is a positive role that timber management can play in development of habitat favorable for a diverse and self-sustaining bird fauna on the Ottawa.

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