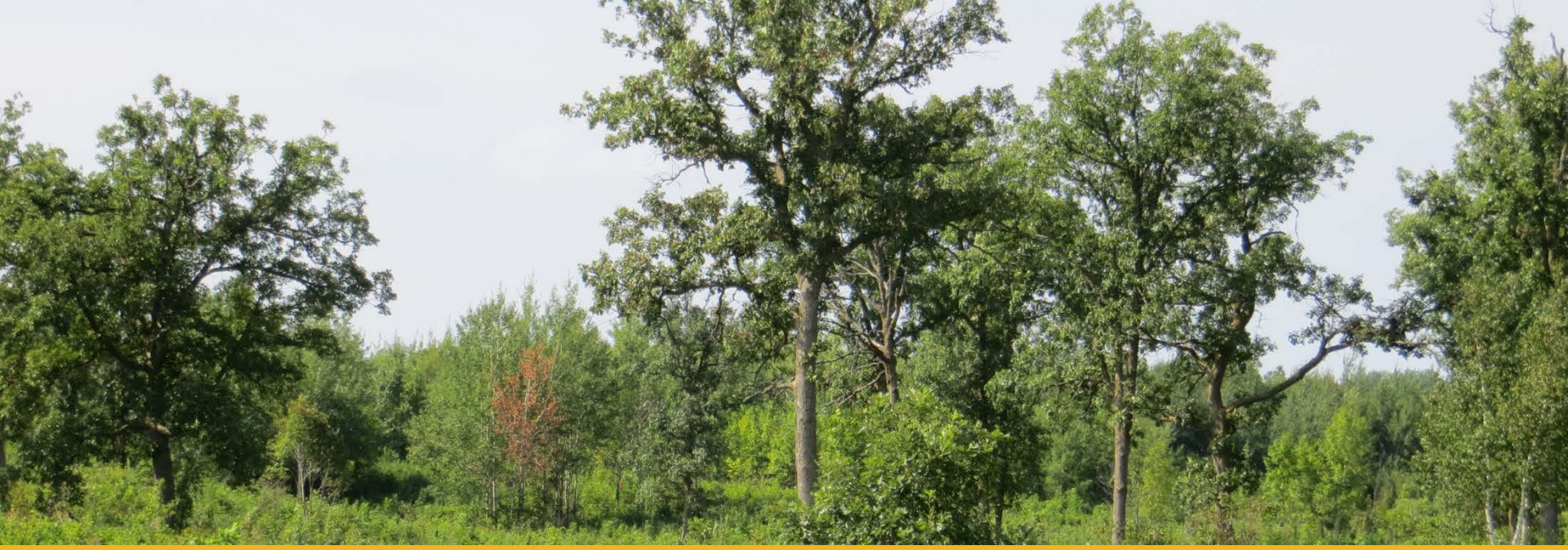

Minnesota Golden-winged Warbler Public Lands Program

Presented By: Peter Dieser

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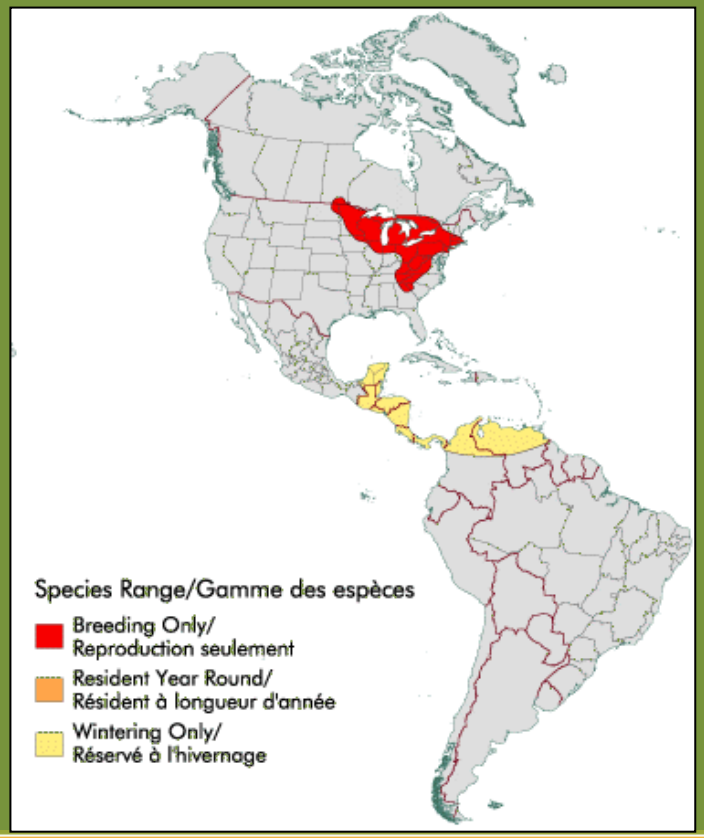
Golden-winged Warbler

- Neotropical migratory songbird
- Minnesota Resident from May through August



- The Minnesota GWWA Population winters mainly in Nicaragua and Costa Rica

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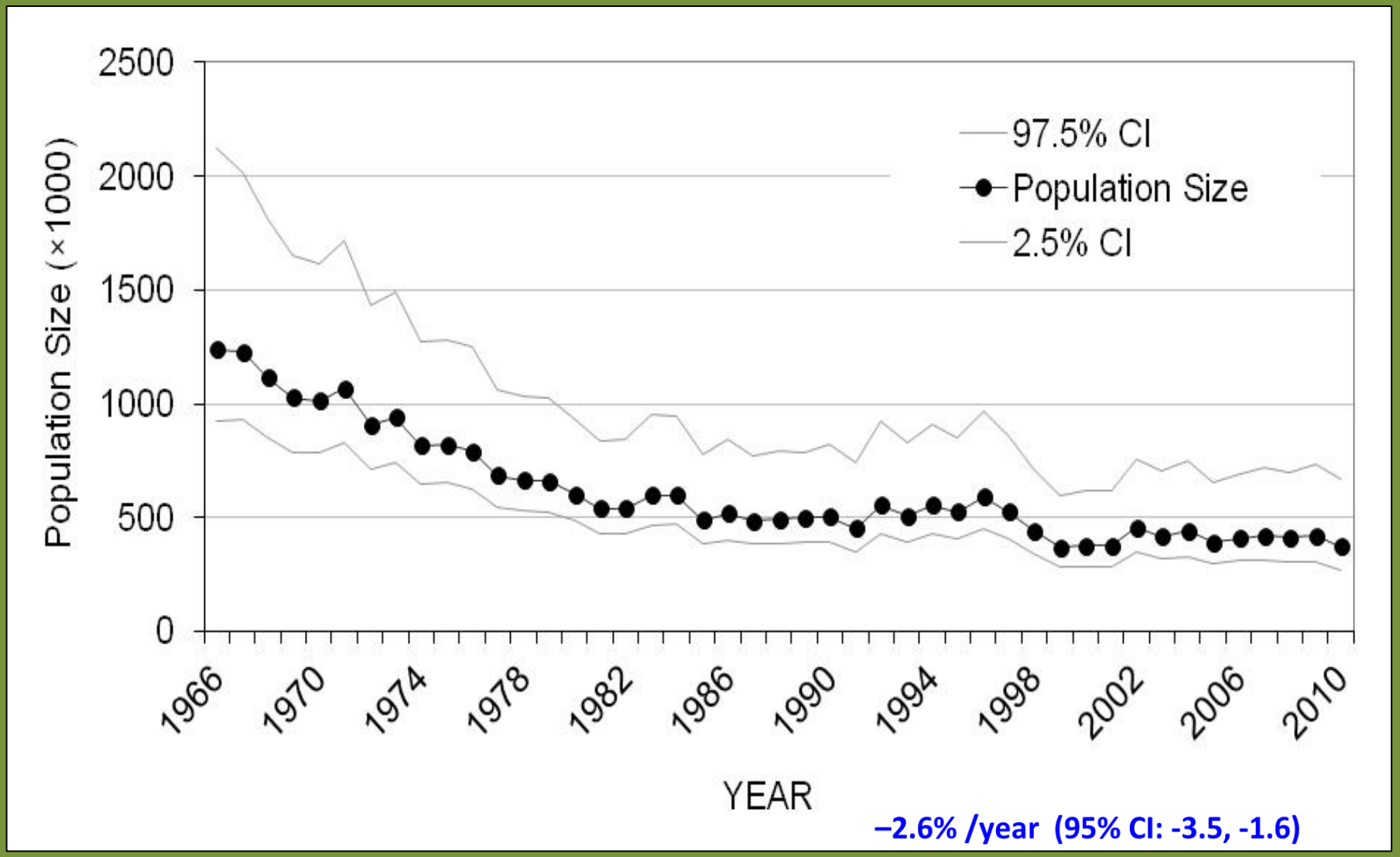
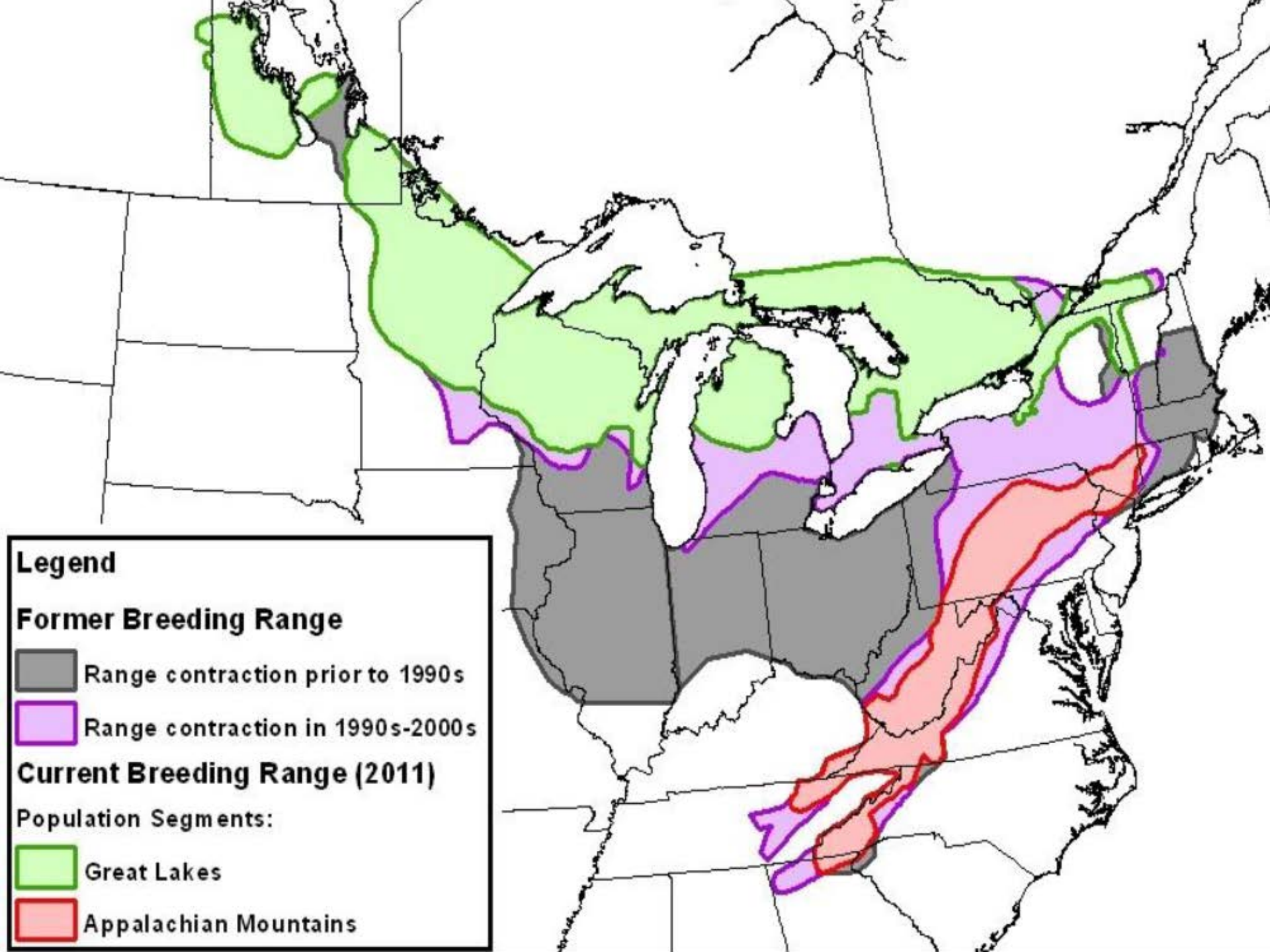
Golden-winged Warbler

- Ground Nester
- Males use canopy trees for song perches and to forage
- Foliage Gleaner - Forages in all vegetation layers (shrub, sapling and tree)
- Territories almost always incorporate a mature forest edge

Golden-winged Warbler Population Trend

(North American Breeding Bird Survey)




Legend
Former Breeding Range
Range contraction prior to 1990s
Range contraction in 1990s-2000s
Current Breeding Range (2011)
Population Segments:
Great Lakes
Appalachian Mountains

Primary Reasons for Decline

- Loss of Breeding Habitat
- Loss of Stopover Cover
- Loss of Winter Cover
- Human Development (habitat fragmentation)
- Lesser Factors: Nest Parasitism, Hybridization

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Golden-winged Warbler/Blue-winged Warbler Hybridization

Golden-winged Warbler
(*Vermivora chrysoptera*)

Blue-winged Warbler
(Vermivora cyanoptera)

Lawrence's Warbler

Brewster's Warbler

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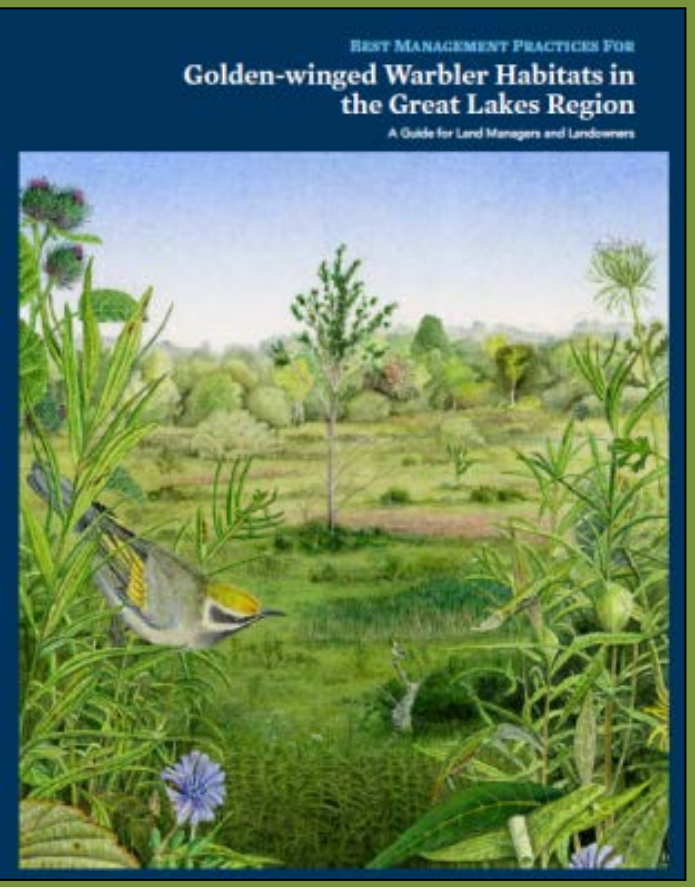
Golden-winged Warbler



GWWA Best Management Practices (BMPS) were created by the Cornell Lab of Ornithology in 2013 under the guidance of the GWWA Working Group and with the assistance of by a consortium of more than 140 biologists and managers engaged in GWWA research and conservation.

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WILDLIFE MANAGEMENT INSTITUTE · ESTABLISHED IN 1911 ·

GOLDEN-WINGED WARBLER WORKING GROUP

U.S. FISH & WILDLIFE SERVICE

NATIONAL FISH AND WILDLIFE FOUNDATION NFWF

Audubon

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Minnesota Public Lands Program

- Established with the passage of the Clean Water, Land, and Legacy Amendment in 2008 the Minnesota Outdoor Heritage Fund (MN OHF) was born.
- In 2012-13, ABC received funding to create the Minnesota GWWA Public Lands Program
- Targeted 1500 acres of GWWA habitat management and 400 acres to be acquired and transferred to Minnesota adjacent to Four Brooks Wildlife Management Area (WMA)

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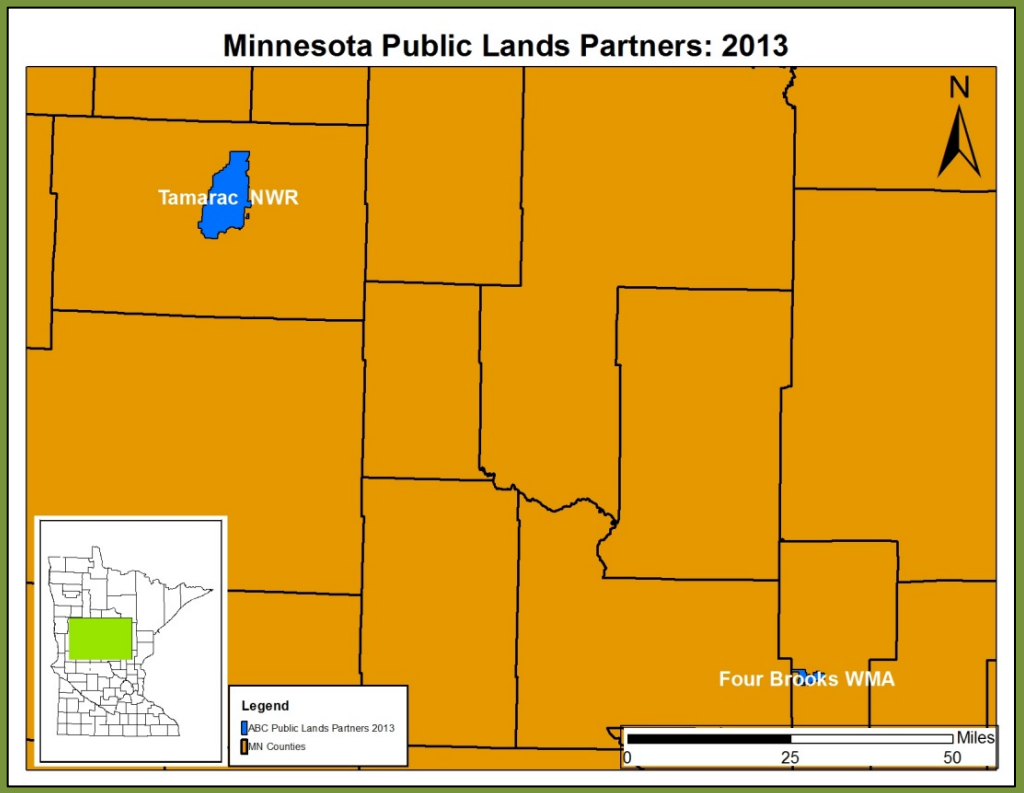
A Modest Beginning...

- Initially ABC had just two public lands partners in Minnesota: Tamarac National Wildlife Refuge and Four Brooks WMA.



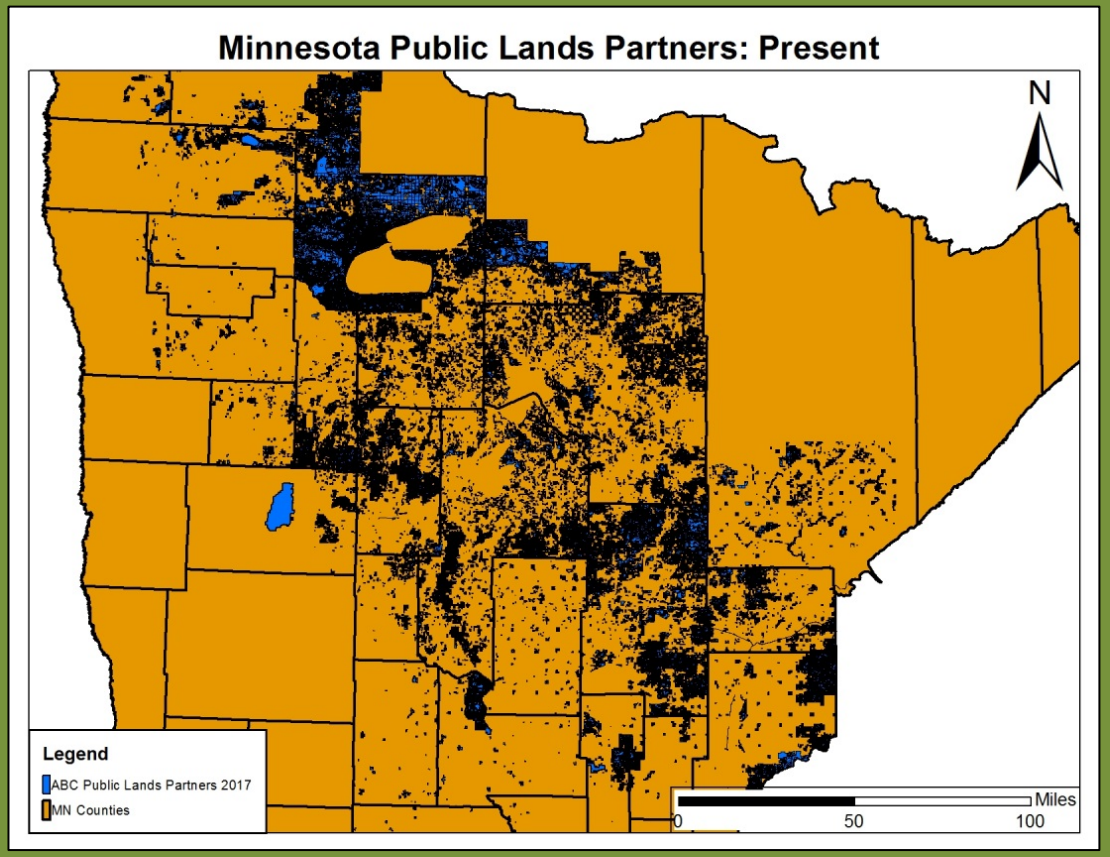
- Tamarac NWR also provides an office and technical assistance to the MN GWWA Public Lands Program

Accomplishments to Date

Minnesota Public Lands Partners:

- 11 Minnesota DNR Area Wildlife Offices
- 6 Minnesota County Land Departments
- 2 USFWS National Wildlife Refuges
- Chippewa National Forest
- The Red Lake Band of Chippewa

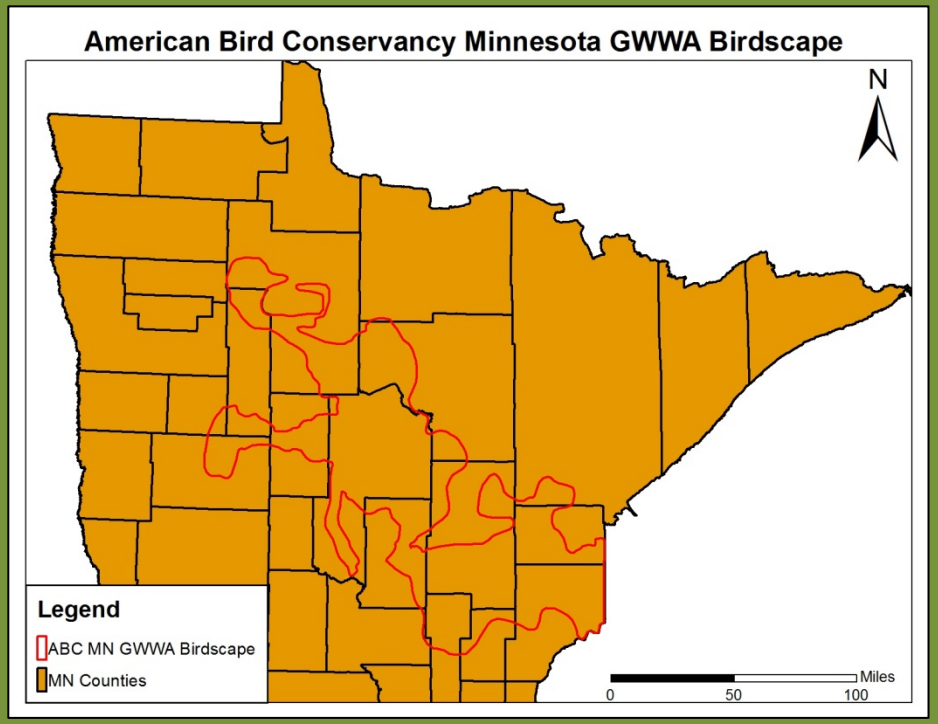
❖ Projects have been completed in 12 counties

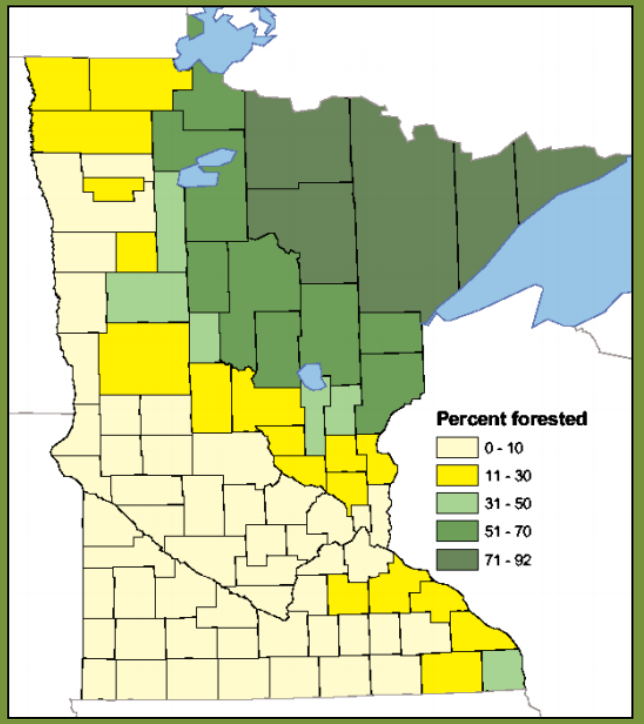


- Total Acres (including MN OHF, NFWF, and NMBCA funding): 4452

Why Minnesota?

- Minnesota is a population stronghold, with 45-50% of the remaining GWWA population visiting MN each year to breed and contains less than 10% of its breeding range.





How is Habitat Created?

- Natural Disturbance Regimes: Promote or restore natural disturbance regimes (fire, beaver activity, and flooding) that create habitat. This is especially relevant in protected areas and wetlands where active management is difficult.

- Natural disturbances pictured here: Understory Fire, Blowdown, Insect/Disease, Beaver Flowage

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How is Habitat Created?

Mechanical Clearing/Thinning

Timber Management

Prescribed Burning

Reclaim and Restore Degraded Sites

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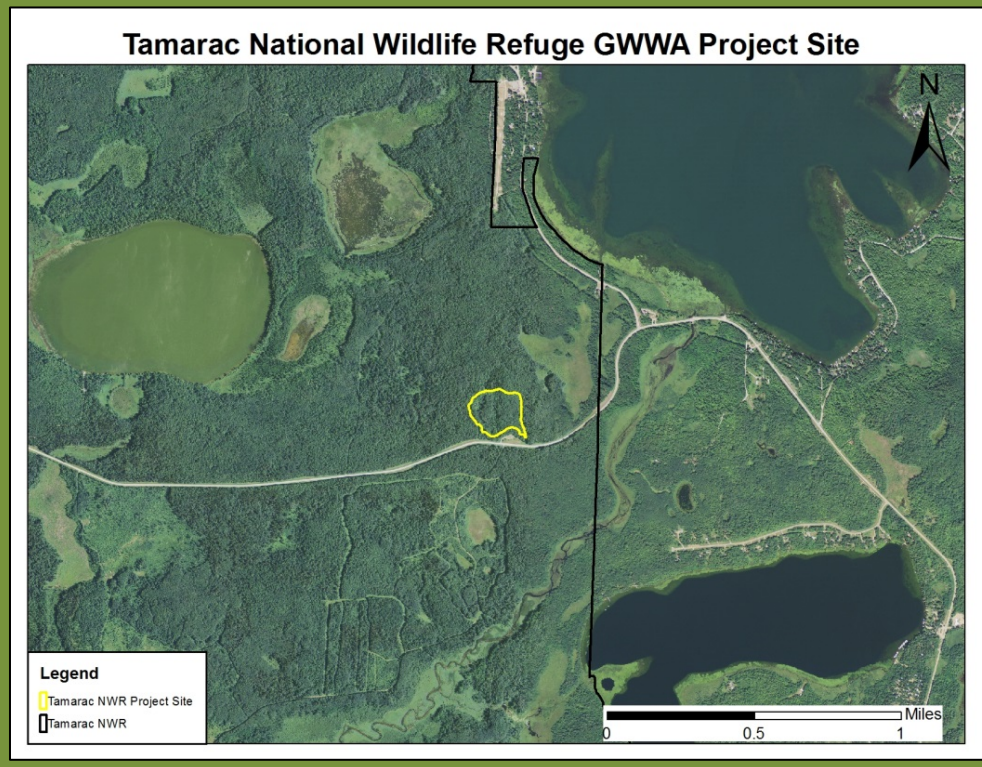
Landscape-level Requirements: Identifying Suitable Management Areas

- ≥ 50% forest cover within 1.5mi of restoration or harvest site
- Deciduous cover types
- Conifer component no greater than 30%
- Mix of mature and early successional forest ages
- Created habitat is ≤ 1 mile from other early successional patches



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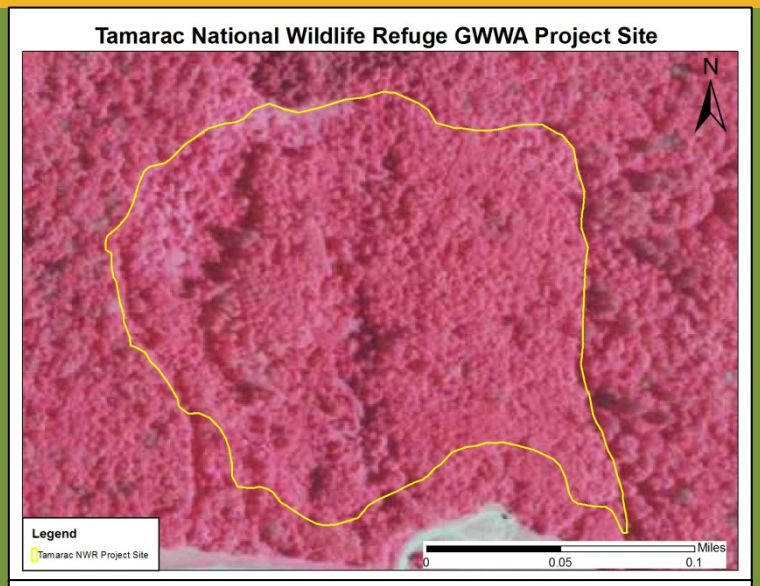
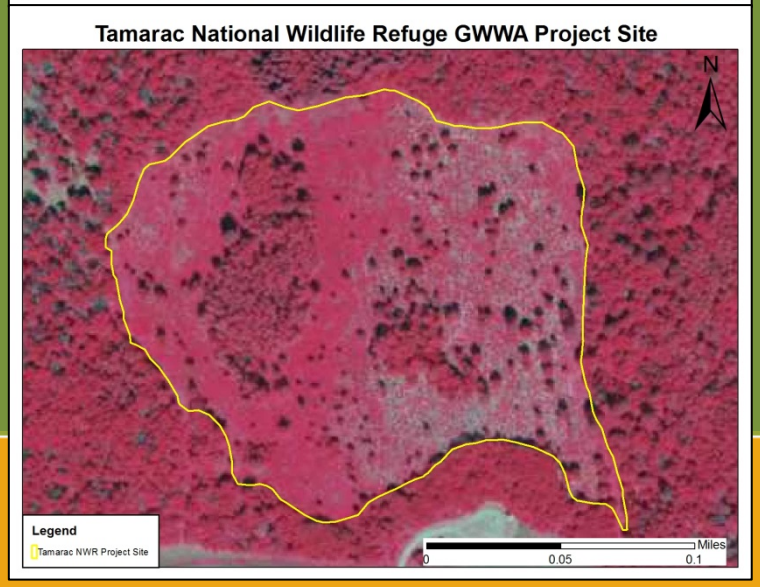
Project Site Requirements: Creating Young Forest Habitat





- Adjacent Mature Forest
- Deciduous Overstory
- Post Treatment (Brushland):
  - 30-50% shrub/sapling cover unevenly distributed as clumps
  - Well distributed leave trees (as harvest) or patch creation
- Post Treatment (Forest):
  - 10-15 trees per acre (Dom/CoDom) – 10-30% residual canopy cover
  - Well distributed leave trees or patch creation
- Legacy Patches and Feathered Edges also Have Habitat Benefits

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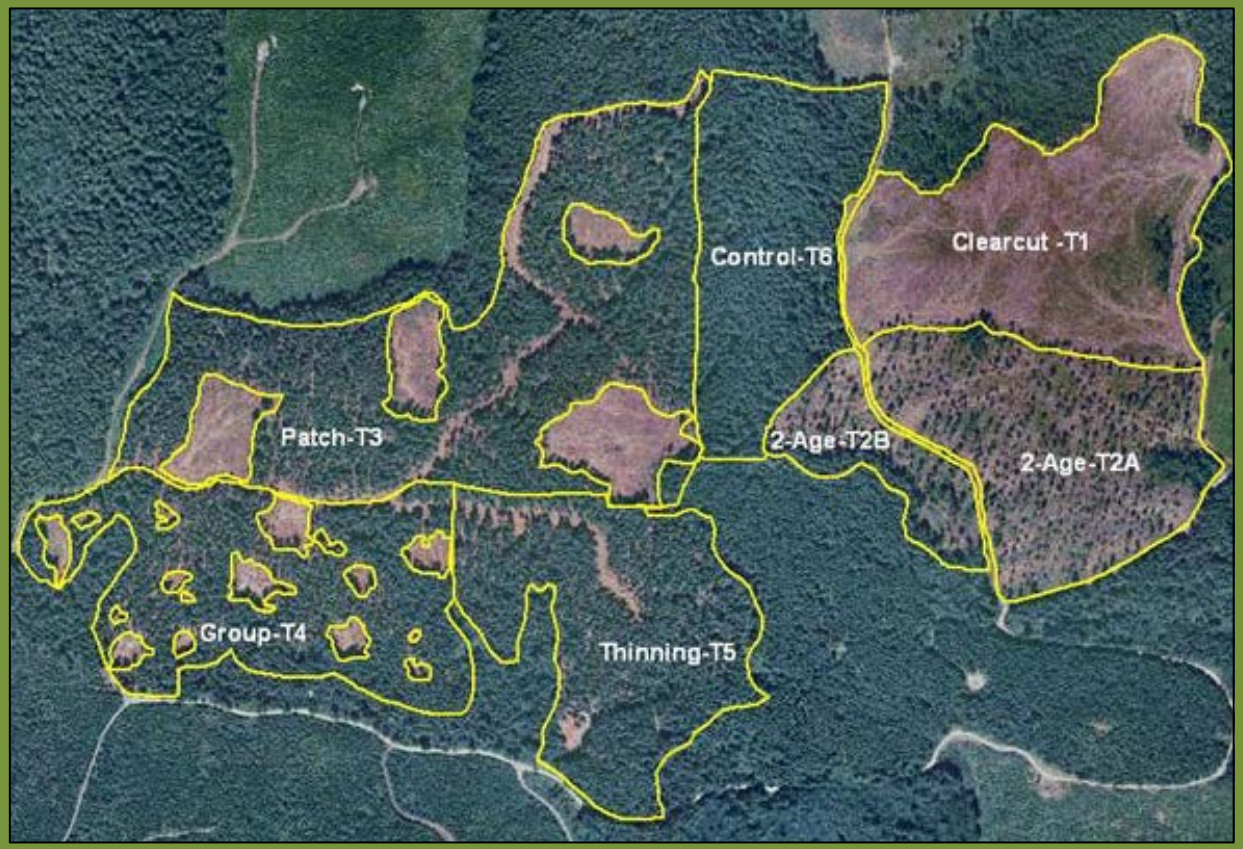
Adjacent Stands May Have Variety of Treatments that Have Habitat Benefits



Clearcut with Reserves

Seed Tree (Two Aged)

Shelterwood

Group Selection

Patch Clearcuts

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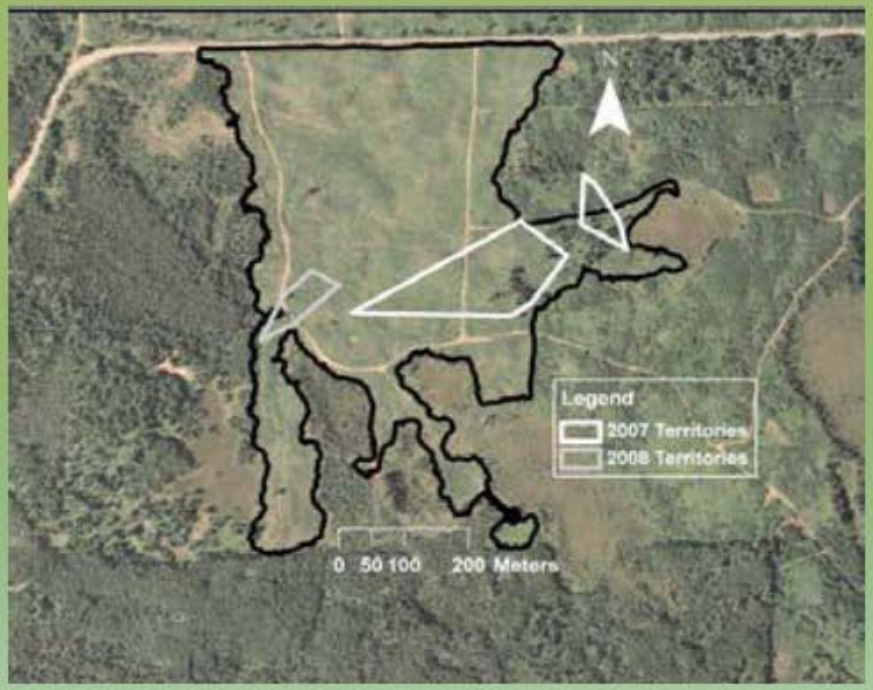
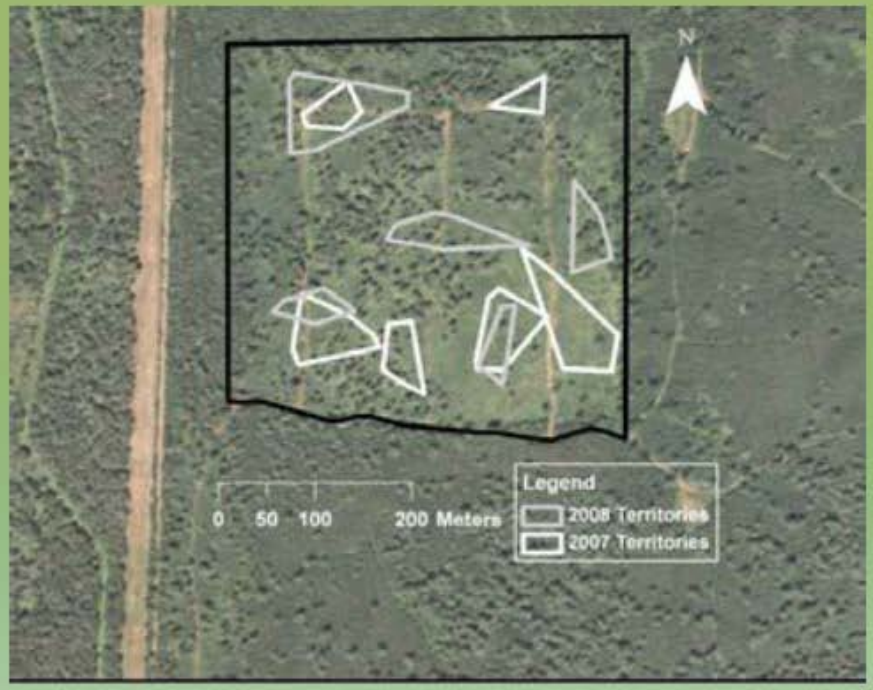
Habitat Management: BMP guidelines

WITHIN THE HARVEST

Few residual trees



High residual



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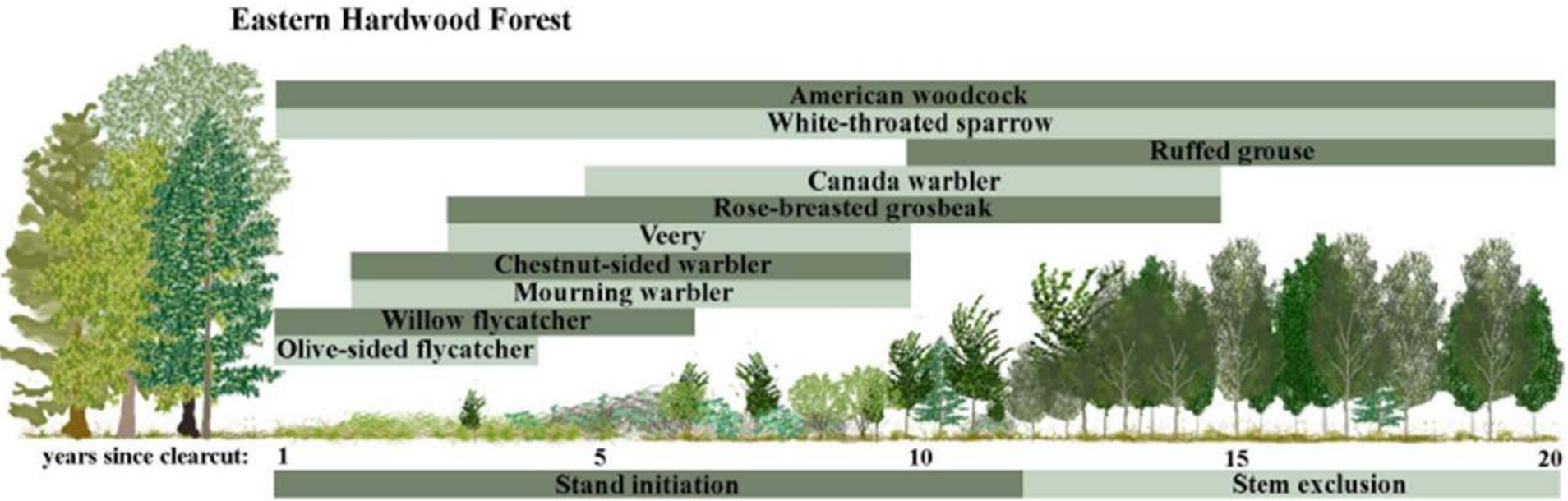
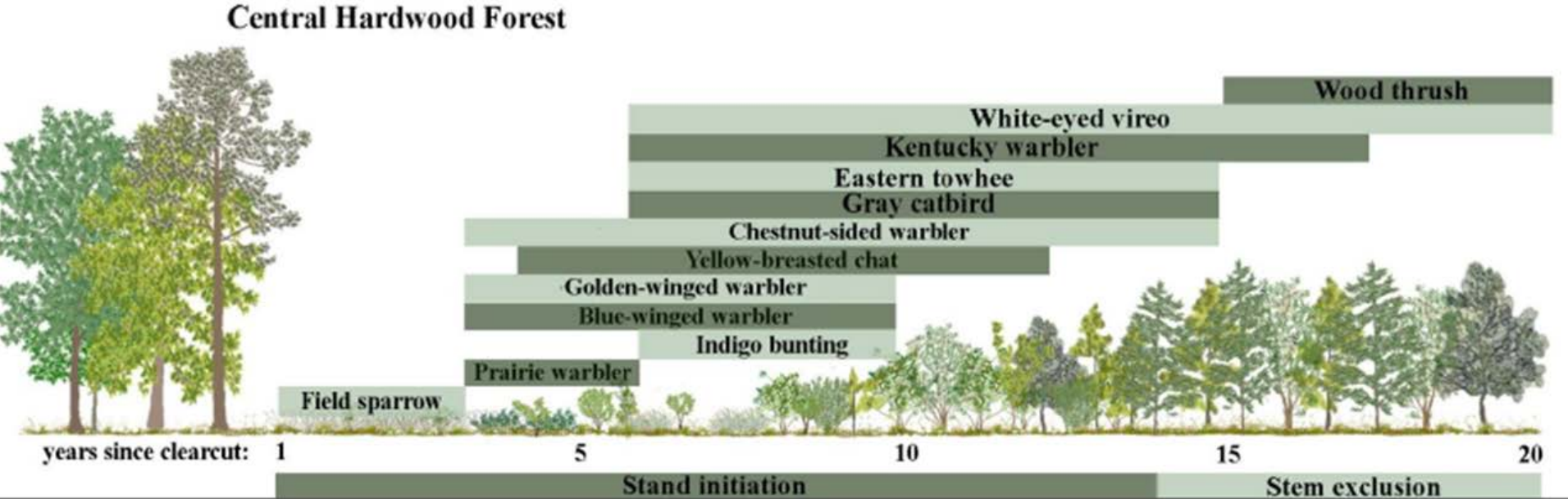
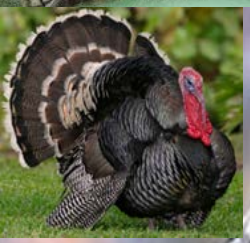
Bird use of regenerating vegetation following a clearcut












Our conservation goal is to benefit a suite of species and help promote a dynamic mosaic of forest ages and cover types on our MN natural landscape.

The Great Lakes Team

Shawn Graff
Great Lakes Regional Vice President

Kevin Sheppard - MN Private Lands Coordinator
Duane Fogard - MN Private Lands Foresters

Peter Dieser
MN Public Lands Coordinator

Callie Bertsch - WI Forest Habitat Coordinator
Nora Kennedy - WI Private Lands Forester

Chad Carlin - MI Private Lands Forester

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Looking into the Future

- ABC has received OHF Phase II funding for our Public Lands Program through FY2021.
- ABC is also evaluating partnership and funding opportunities for other species identified as Minnesota Species of Greatest Conservation Need.
- The Great Lakes Private Lands Team via the Natural Resources Conservation Service Regional Conservation Partnership Program will continue to assist private landowners with the planning and implementation of GWWA habitat projects.
- Cornell University and Indiana University of Pennsylvania-Research Institute (IUP-RI) have created a monitoring program to evaluate songbird occupancy GWWA project sites in order to evaluate and possibly improve young forest BMPs in the future.

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