



ALIANZA ALAS DORADAS: COLABORANDO INTERNACIONALMENTE PARA CONCENTRAR LA INVESTIGACIÓN Y CONSERVACIÓN DE REINITA ALIDORADA Y SU HABITAT EN LOS NEOTROPICOS

ALIANZA ALAS DORADAS: WORKING INTERNATIONALLY TO FOCUS RESEARCH AND CONSERVATION FOR GOLDEN-WINGED WARBLERS AND THEIR HABITATS IN THE NEOTROPICS

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VIII ORNITHOLOGICAL NEOTROPICAL CONGRESS
 VIII CONGRESO DE ORNITOLOGIA NEOTROPICAL
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GWWA: the Problem

GWWA Life Cycle Limitation

**GWWA Working Group &
Alianza Alas Doradas**

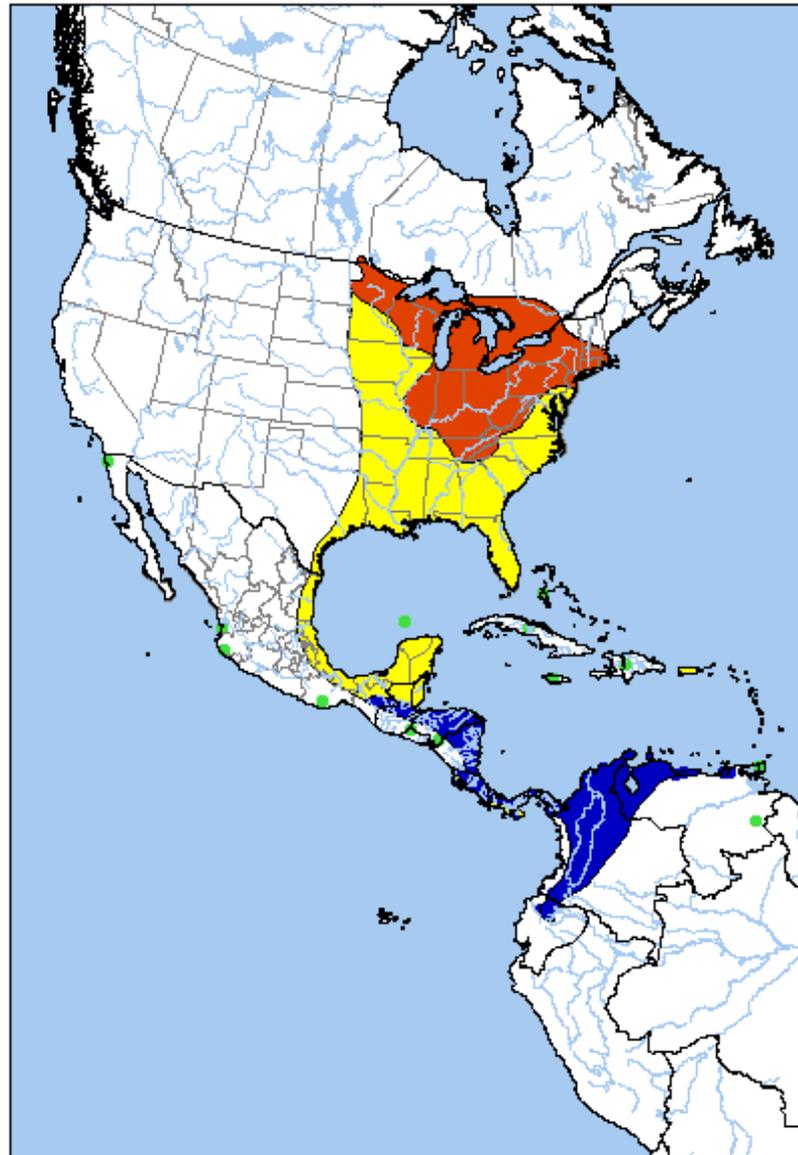
GWWA Non-breeding Areas

Actions Underway

Future Steps



Golden-winged Warbler *Vermivora chrysoptera*



- Permanent Resident
- Breeding Resident
- Nonbreeding Resident
- Passage Migrant
- Uncertain Status
- Introduced
- Vagrant
- Extirpated/Extinct
- Historical
- National boundary
- Subnational boundary
- River
- Water body



Map created June 2005

Breeding Areas Essential Habitat Elements

forest edge

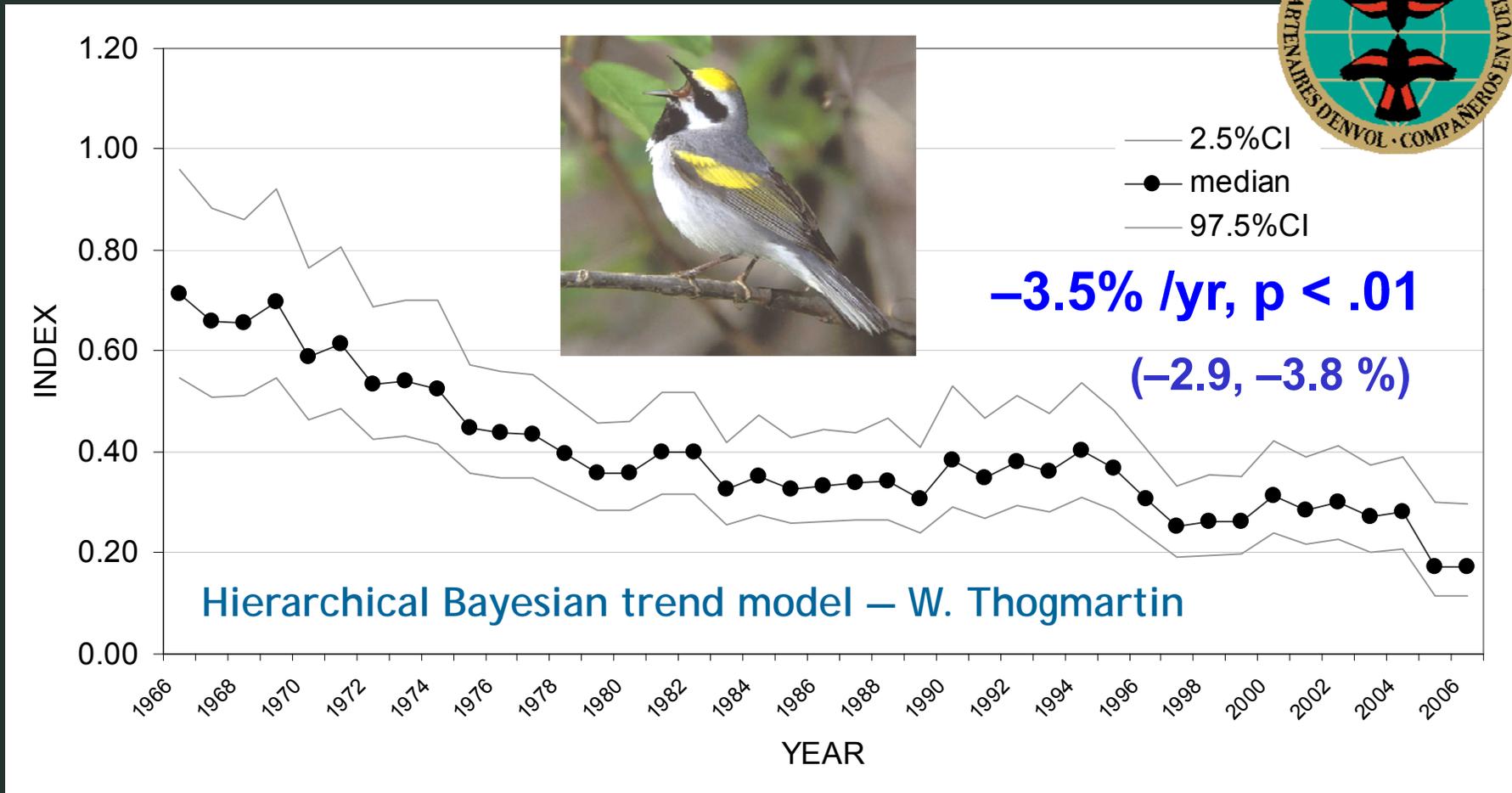
shrub layer

herbaceous layer

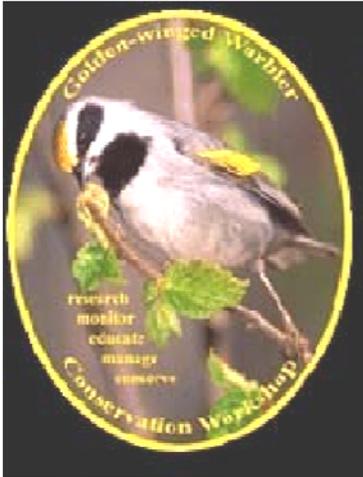
N. Klaus photo



Golden-winged Warbler (*Vermivora chrysoptera*): A Continentally Declining Species



= 75.8% decline rangewide 1966 to 2006 (Breeding Bird Survey)



Golden-winged Warbler Conservation Workshop

10-12 August 2005
Siren, Wisconsin

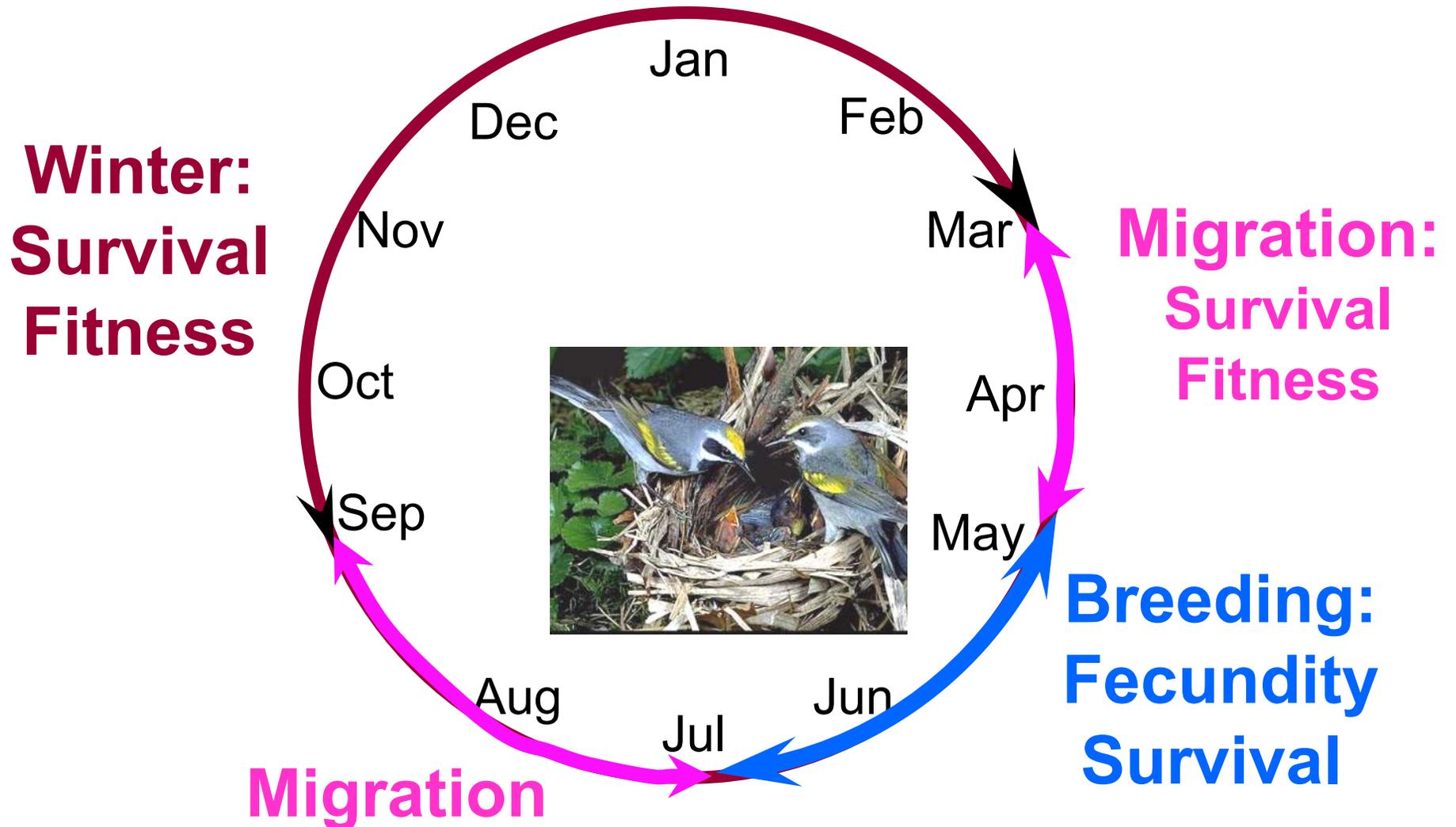


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GWWA Life Cycle Limitation



Consider the migrant life cycle...

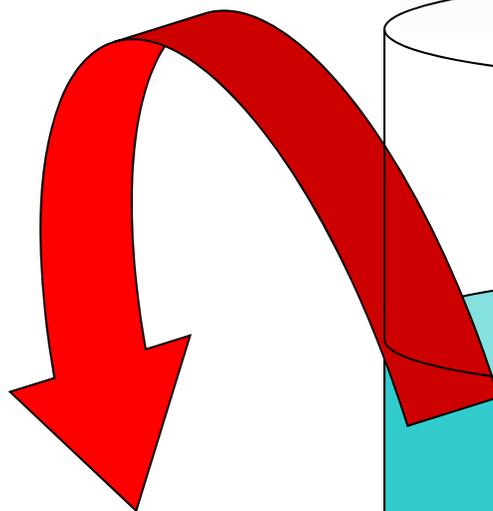




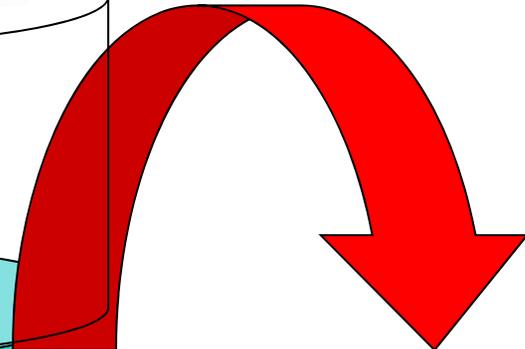
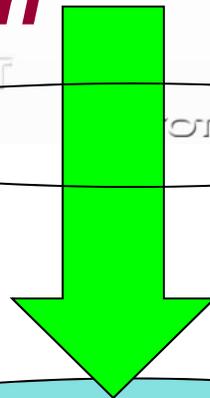
Breeding Grounds

**Wintering Grounds
and Migration**

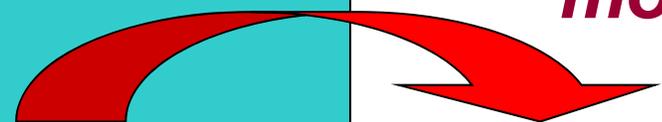
Reproduction



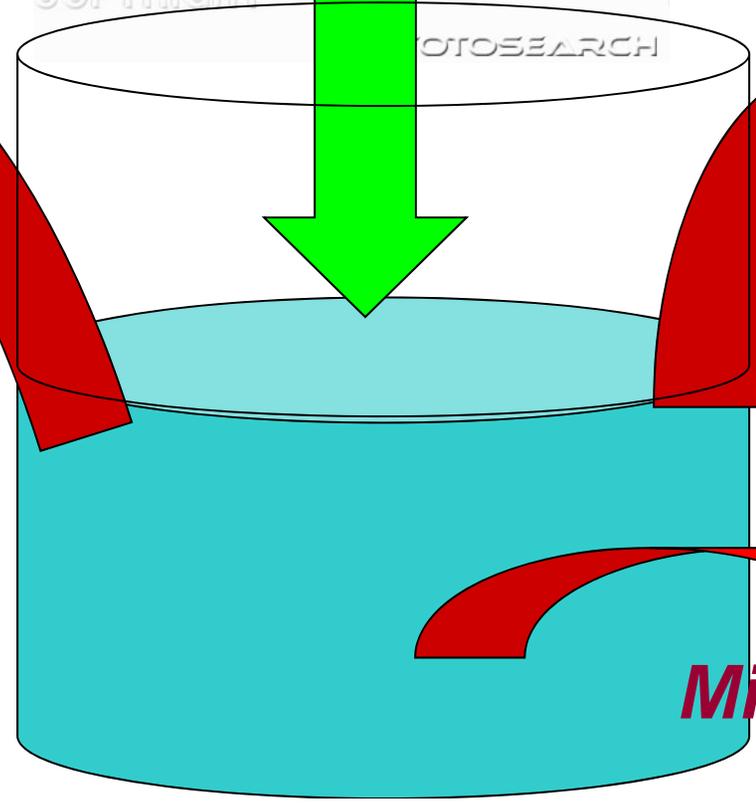
*Post-fledging
mortality*



*Over-winter
mortality*



Migration mortality



Sherry and Holmes (1992)

Population fluctuations in a long-distance migrant: Demographic evidence for the importance of breeding season events in the American Redstart. Pp. 431-442 in Hagan, J. M. and D. W. Johnstone, eds. Ecology and conservation of Neotropical migrant landbirds. Smithsonian Inst. Press, Washington, D. C.

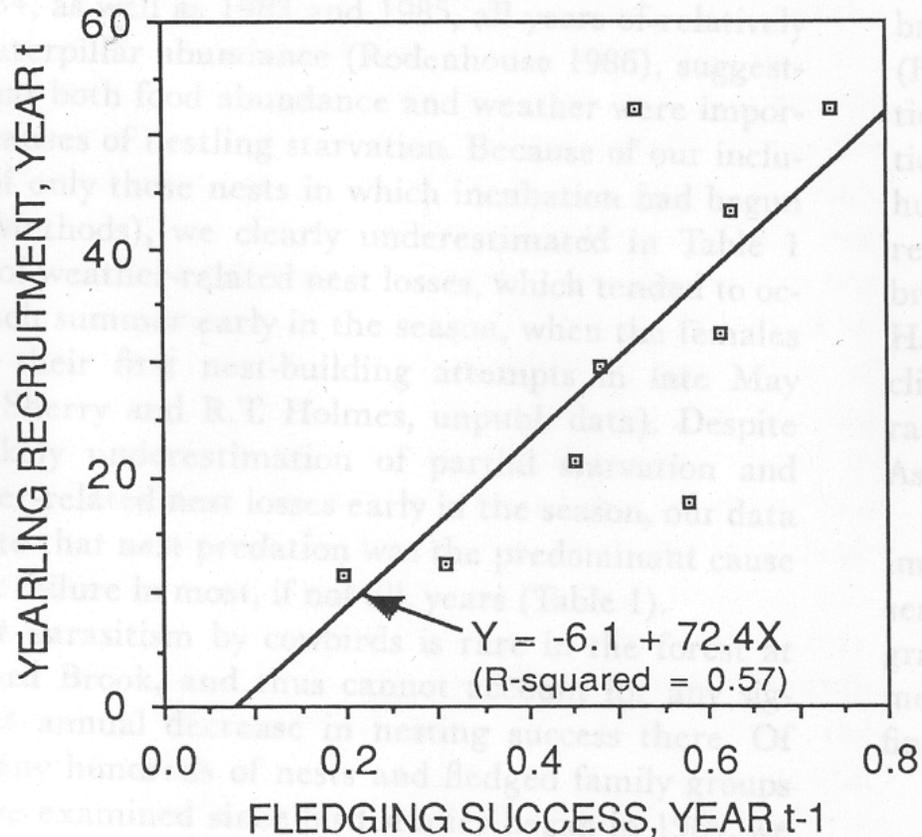


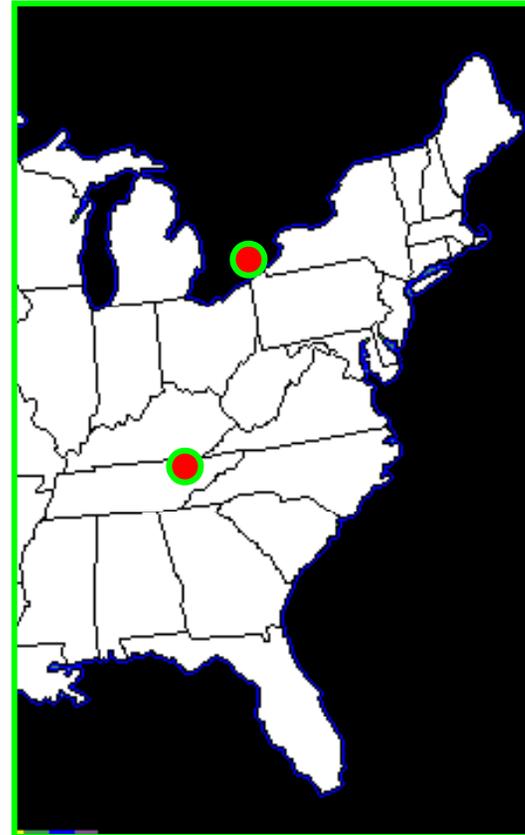
Figure 2. Yearling American Redstart recruitment in year t as

Breeding Areas



L. Bulluck and D. Buehler

- **Ontario 2001-05**
 - Queen's University Biological Station
- **Tennessee 2003-06**
 - Cumberland Mountains – 2 Wildlife Management Areas



Estimates of annual ♀ survival and daily nest survival rates from Program MARK

Breeding Areas

Vital Rates

- **Ontario**

- Annual ♀ survival = 0.477
- Daily nest survival = 0.956
- Nest success = 31.4%
- Mean clutch size = 4.95

- **Tennessee**

- Annual ♀ survival = 0.427
- Daily nest survival = 0.972
- Nest success = 47.4%
- Mean clutch size = 4.26



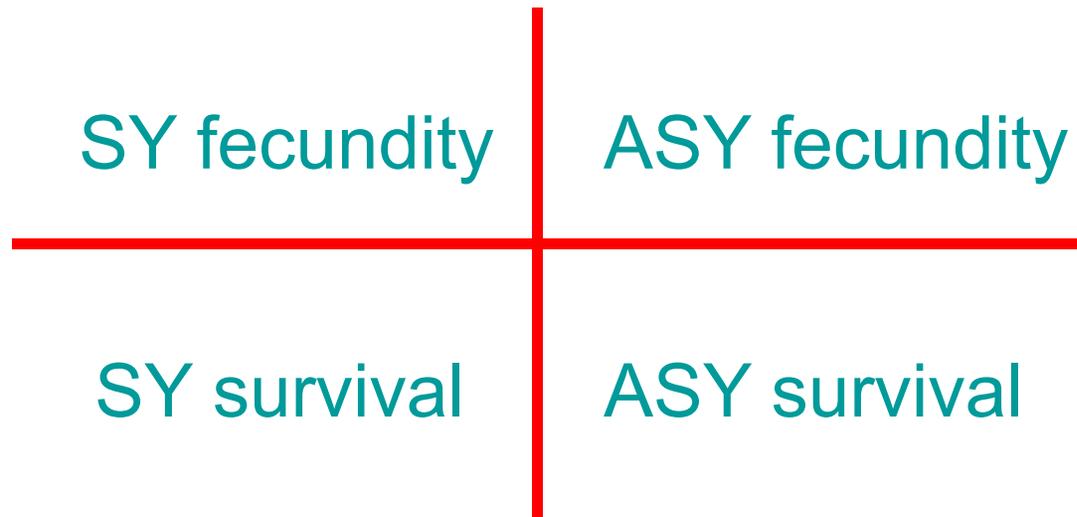
Breeding Areas

Leslie Matrix Calculations

$$\text{Fecundity} = \text{mean clutch size} * (0.5) * 2p - p^2$$

p = nest success

$$SY = ASY$$



Survival

$$SY = (0.5) * ASY$$

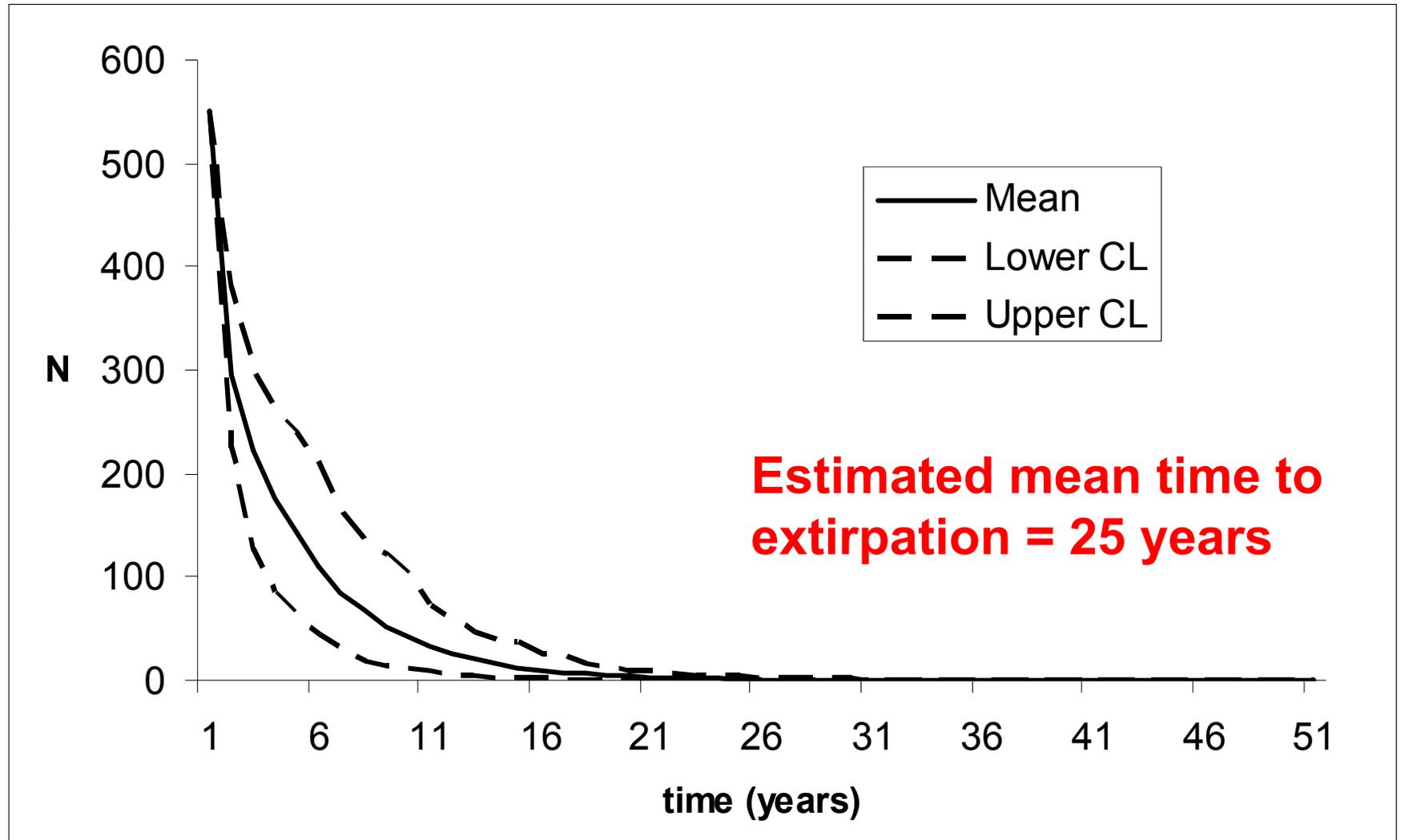
Breeding Areas



Location	Lambda	Nest success	Yrs of data	Adult S*
Tennessee	0.7560	0.4961	4	0.427
Ontario	0.7866	0.3104	5	0.477

Breeding Areas

Stochastic Projections - Tennessee



Breeding Areas

Elasticity Analysis

Elasticity = proportional change in λ given a prop. change in a matrix element while all other elements remain constant.



SY fecundity

ASY fecundity

SY survival

ASY survival

Ontario

0.1548

0.2386

0.2386

0.3677

Tennessee

0.1893

0.2457

0.2457

0.3190

How should we interpret these elasticity values?

- **Adult survival appears to have a greater proportional effect on population growth than fecundity; the magnitude of the effect varies depending upon variability in nest success.**
- **Adult survival incorporates survival on the breeding grounds as well as during migration and on the wintering grounds.**
- **Data from other species suggest that breeding grounds survival rates may be very high (and not in need of management attention).**

Smith and Moore (2003)

Arrival fat and reproductive performance in a long distance passerine migrant. *Oecologia* 134:325-331.



- **Female American Redstarts that arrived with the greatest fat scores:**

- laid larger eggs
- laid larger clutches
- appeared to produce heavier nestlings at day 5
- had greater

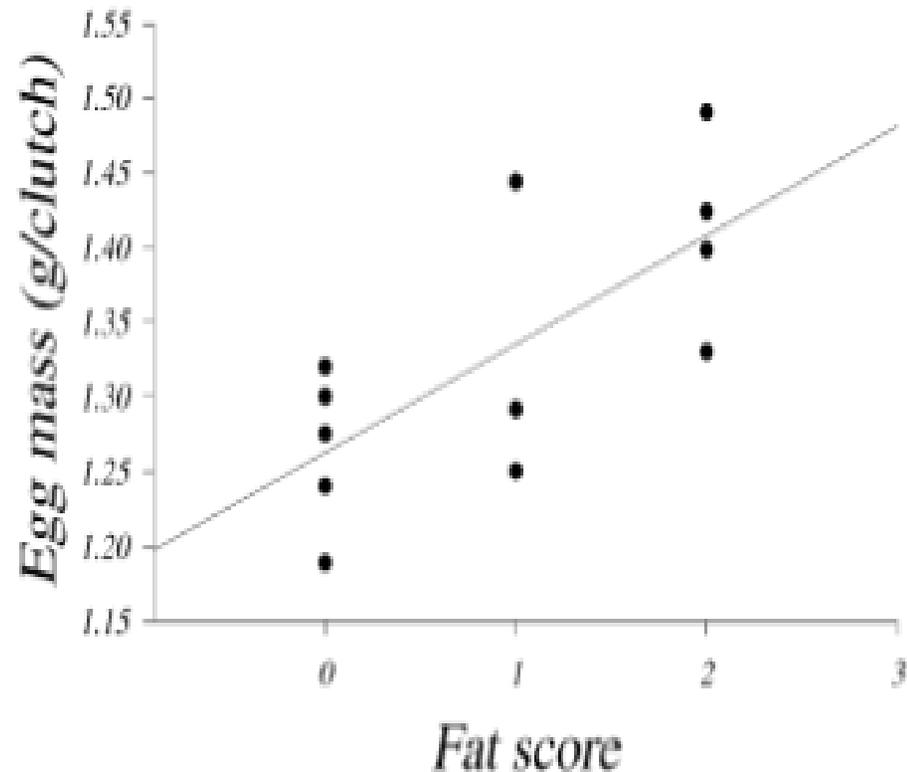


Fig. 4 Relationship between female fat at first capture and average egg mass per clutch, eastern Upper Peninsula of Michigan, 1997–1999. Spearman's rank correlation for these data: $r=0.715$, one-tailed $P=0.004$

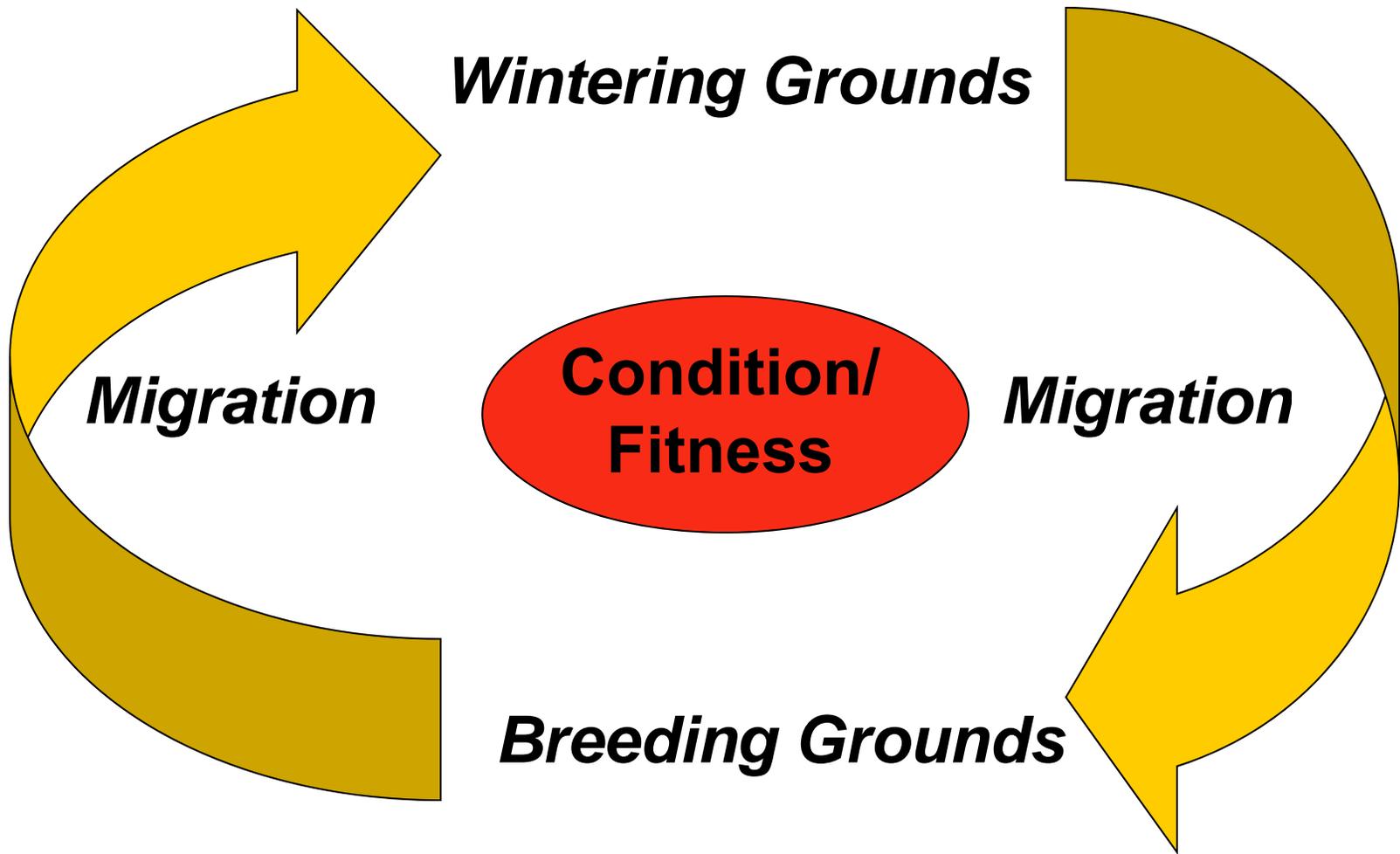
Questions

- In Golden-wings, even “good” reproduction doesn’t seem sufficient to overcome relatively poor survival — suggesting that something must be done to address the survival question.
- In some cases, we clearly have greater ability to affect breeding grounds habitat issues than ability to affect survival bottlenecks.

So on which life cycle stage should we focus our conservation efforts?

Linkages

Condition Affects Survival and Reproduction





Full Life-Cycle Stewardship

- Breeding grounds habitat management to enhance quantity and quality.
- Winter grounds habitat protection to ensure supply of quality habitats.
- Migration work to address stopover issues.

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**GWWA Working Group &
Alianza Alas Doradas**



GWWA Working Group



Golden-winged Warbler Working Group

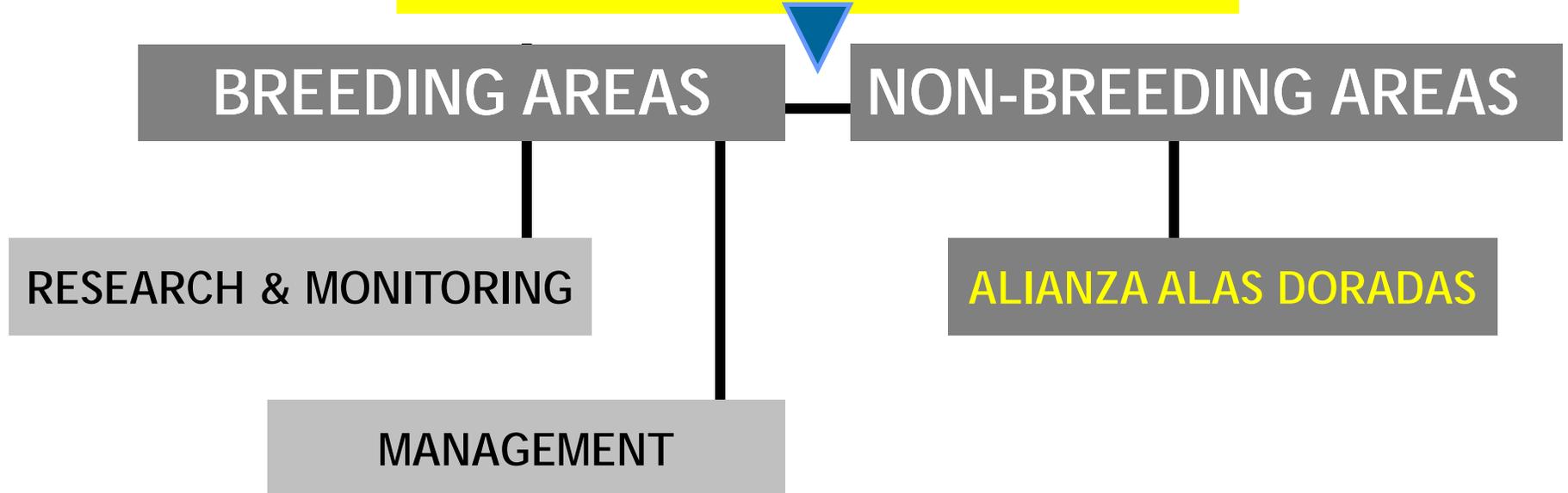
BREEDING AREAS

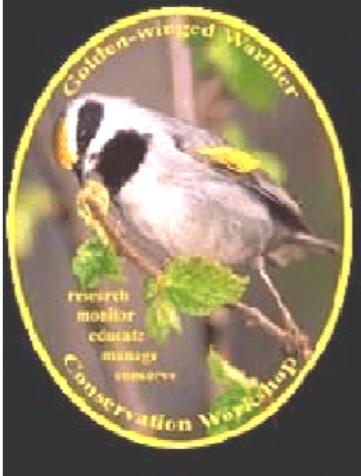
NON-BREEDING AREAS

RESEARCH & MONITORING

ALIANZA ALAS DORADAS

MANAGEMENT

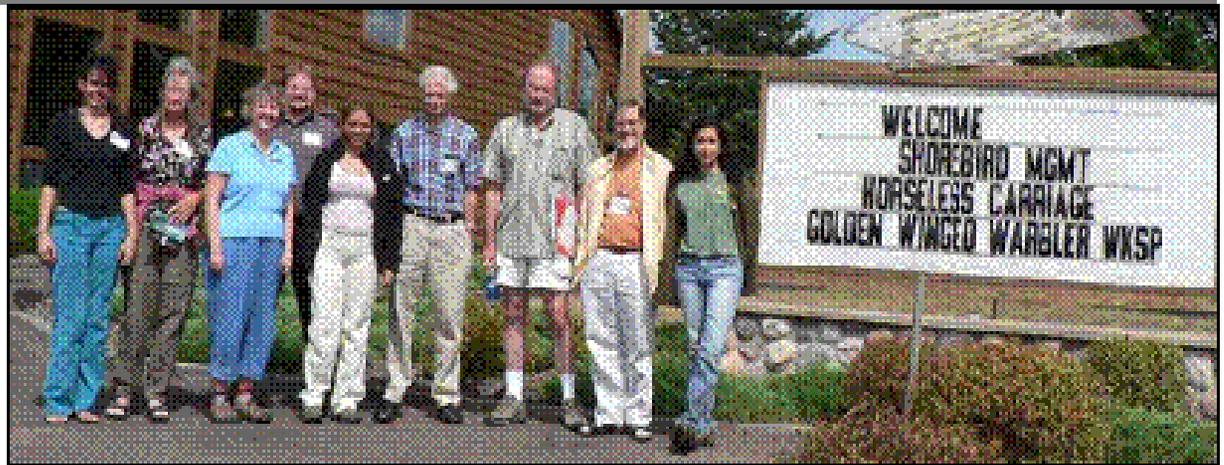




Golden-winged Warbler Conservation Workshop

10-12 August 2005
Siren, Wisconsin

ALIANZA ALAS DORADAS was formed from the Non-breeding Season Research, Monitoring, and Conservation Action Committee to investigate the status of Golden-wings on the non-breeding grounds with the aim of implementing strategies for the long-term protection of Golden-wings, their habitats, and associated resident species.

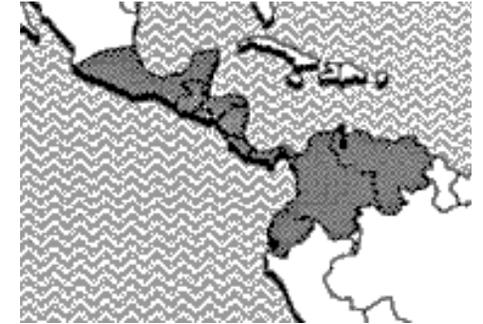


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Actions recommended:

- Promote GWWA research, gathering more data and analysis (publication on wintering range, passage and habitat requirements)
- Design a GWWA Conservation Action Plan based on comprehensive analysis and workshop, involving researchers from across the region.
- Identify key areas through target field searches.
- Implement direct conservation measures to protect key sites and landscapes for the species; e.g. purchase, agreements, easements, etc.
- Strengthen existing protected areas that are key for the GWWA.
- Education awareness campaign; migrants are great ambassadors for conservation.

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Research Needs: Non-breeding Season

- **General habitat use and distribution**
- **Habitat segregation by sex and/or age?**
- **Habitat specialists? If so are these habitats threatened?**
- **Survival rates by age, sex, and habitat.**
- **Degree of migratory connectivity.**
- **Identify key areas**

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GWWA Non-breeding Areas



GWWA Non-breeding Areas



Habitat preferences

CENTRAL AMERICA

700 – 2200

Pine – Oak Forest

Cloud Forest

Coffee Plantations



SOUTH AMERICA

1500 – 2600

Oak Forest

Humid upper subtropical
and montane forest areas

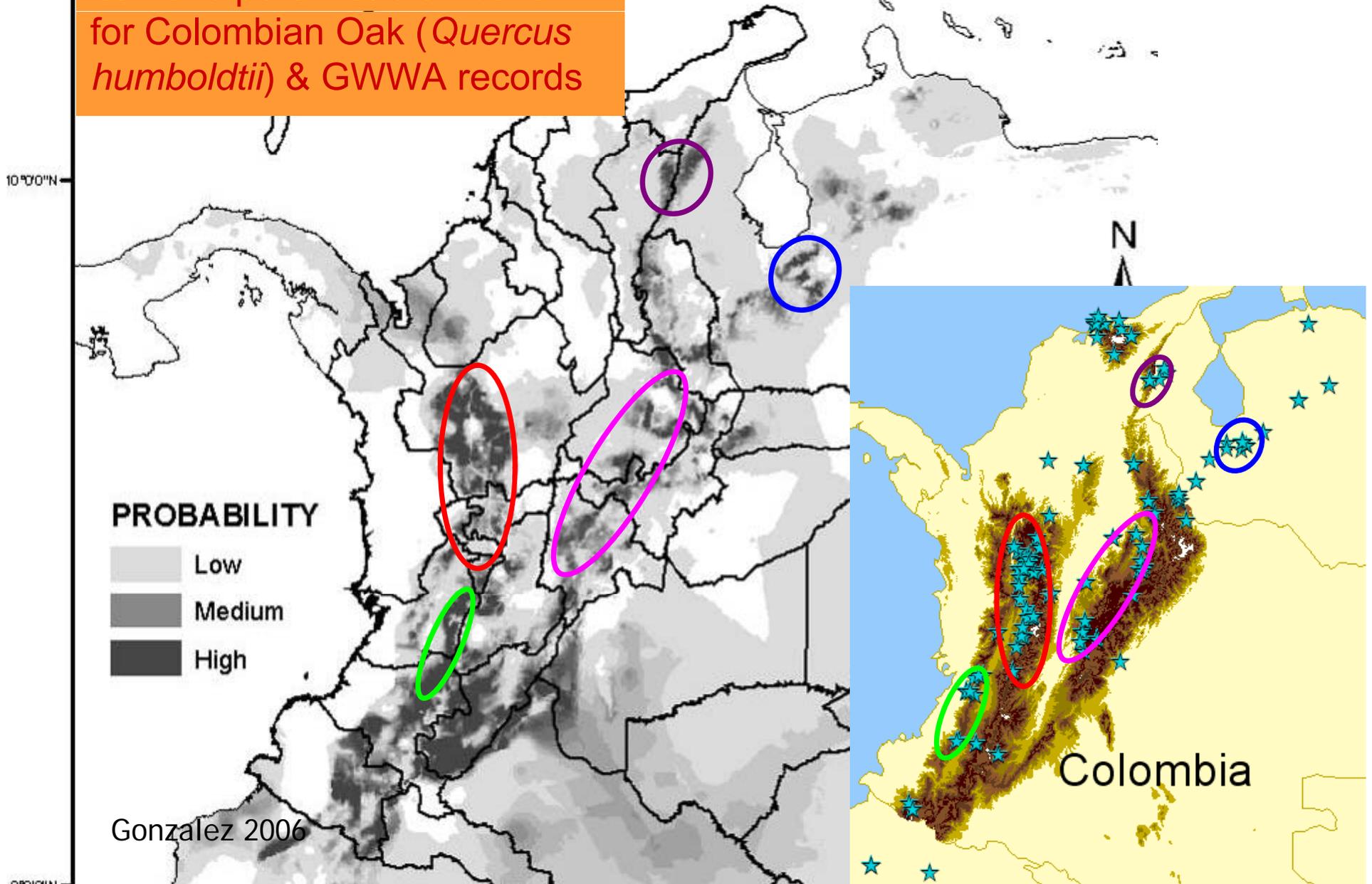
Close to water and denser
vegetation on forest
edges and regenerating
vegetation

Some records on coffee
plantations

GWWA Non-breeding Areas

Climatic potential distribution for Colombian Oak (*Quercus humboldtii*) & GWWA records

Darkness is high probability



Areas prioritarias de Robles con Aves Amenazadas en Colombia

- ▶ 29 especies de aves asociadas a bosques de roble (33% amenazadas), con 21 ocurren y 8 dependen.
- ▶ 50% Especies de Aves Críticamente amenazadas están asociadas a Bosques de Robles



Odontophorus strophium



Hapalopsittaca fuertesi



Atlapetes flaviceps



Capito hypoleucus



Grallaria milleri



Leptotila conoveri

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Actions Underway



Actions Underway

Data Request (2005 – 2006):



- **430 registros**
 - **399 GWWA**
 - **4 LAWA**
 - **2 BRWA**
 - **25 BWWA**
- **10 países de Centro y Suramérica**
- **48 personas**

Actions Underway

Priority Migrant
eBird



**Priority Migrant eBird
AverAVES database is
online now**

**to enter your
sightings of GWWA
in Latin America:**

www.ebird.org/primig

Introducing Priority Migrant eBird

Priority Migrant eBird is a NEW project that collects non-breeding season distribution for long-distance migratory species that have experienced precipitous population declines over the last few decades. This information will be used to generate effective rangewide conservation strategies for the following target species:

Cerulean Warbler (*Dendroica cerulea*)
Golden-winged Warbler (*Parus chrysoptera*)
Blue-winged Warbler (*Parus pinus*)
Canada Warbler (*Wilsonia canadensis*)
Olive-sided Flycatcher (*Contopus cooperi*)

Priority Migrant eBird was conceived by the international committees of the Golden-winged Warbler Working Group (Alianza Alas Doradas) and the Cerulean Warbler Technical Group (El Grupo Cerúleo).

NEW eBird data features for

- habitat and elevation
- age and sex information

AGE (1)	SEX (1)		
	Female	Male	Unknown
Juvenile			
Immature			
Adult		1	1
Unknown			

WE NEED YOUR HELP!

to gather critical data on the five target species.

For more information and to submit observations visit
www.ebird.org/primig/



CORNELL LAB of
ORNITHOLOGY



Actions Underway



Drawing attention to the plight of the species

Conservation Alert for the Golden-winged Warbler



The Golden-winged Warbler is a small, striking songbird that breeds in the northeastern and north-central United States and southern Canada. With changing habitat distribution, the species has expanded its range northwards, while in the southern portion of its range, the population has become smaller and more fragmented. The rate of this decline has accelerated alarmingly in the past decade. Breeding Bird Surveys in the Appalachian region between 1996 and 2005 have shown marked annual declines: 35% per year in West Virginia, 26% in Pennsylvania, and 22% in New York. Even in Minnesota, the heart of species' range where they are still relatively abundant, the population has fallen by 9% over the past decade. These precipitous declines have resulted in the species' inclusion on the ABC Green List and the U.S. Fish and Wildlife Service's Birds of Conservation Concern list. It is also nationally listed as threatened in Canada. Without significant and immediate conservation action, it

is possible that the Golden-winged Warbler will require federal intervention in the U.S. and protection under the Endangered Species Act.

The threats to the Golden-winged Warbler on its breeding grounds are varied and complex. In the eastern portion of its range it inhabits wet, early successional forest. Extermination of beavers by settlers meant a sharp reduction in the numbers of wet areas, and farm abandonment at the start of the 20th Century, while initially favorable in creating this habitat type, soon saw a reversion to more mature forest.

Multifaceted as the threats to the warbler's breeding grounds are, they are far better understood than threats on its wintering grounds, and it is possible that these threats are some of the most significant factors affecting the species' population. With funding from Amos W. Butler Audubon Society, preliminary analysis by ABC and Fundación ProAves of the species' wintering habits indicates that it

is restricted to a narrow elevational zone of oak-dominated montane forests across Costa Rica, Panama, and Colombia. The rich volcanic soils and cooler climate of these forests have attracted human settlement, and as little as 15% of original habitat now survives, much of the rest having been converted to cattle pasture.

ABC and other members of the Alianza Alas Doradas (Golden-winged Alliance) are presently surveying potential key wintering areas for the species and assessing whether wintering habitat availability may be limiting the Golden-winged Warbler's population. Simultaneously, ABC is promoting awareness of the Golden-winged Warbler to birders and regional communities in an effort to stimulate local participation in surveys. In the coming months and years, we hope that we can gain a better understanding of this stunning little warbler and begin to address its conservation needs to secure its future with us.

Actions Underway

How do I join ALIANZA ALAS DORADAS?

To sign up for the *Alianza Alas Doradas* ListServe, send an email message — *from the email address where you want to receive listserve messages* — to:

LISTSERV@LISTSERV.UARK.EDU

and place the following command in the message body (not the subject line):

SUBSCRIBE GWWINT-L Your Name

You will then receive a message and instructions indicating that your subscription was processed.

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Future Steps



Future Steps

Promote GWWA research:

- **Surveys are desperately needed at suitable elevations across Costa Rica, Nicaragua, Panamá, Venezuela, and Colombia**
- **A fieldwork team searching for GWWA in each country**
- **Research needed from Oct 07— Mar 08**
pilot study now funded by NFWF
- **Key sites identified**

Future Steps

Design a GWWA Conservation Action Plan

- **Data analysis by the Alianza Alas Doradas**
- **Workshop by Alianza Alas Doradas for September 2007 (establish methods and conservation framework)**
- **Regional Workshop
....conservation actions commences**

Future Steps

You can help!!



- **Report sightings www.ebird.org**
- **Volunteer your time to search for GWWA with our partners!**
- **Raise funds to support direct GWWA field searches and conservation actions.**
- **Draw attention to the species plight**
- **Subscribe to the Listserve**

Thank you!



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Fundación ProAves
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