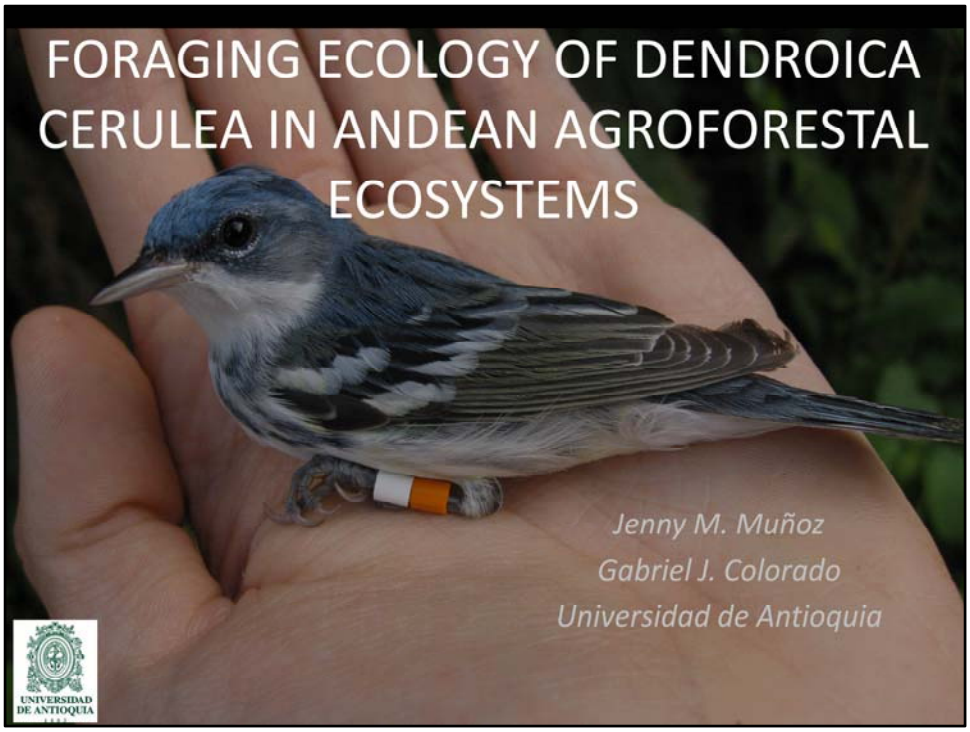
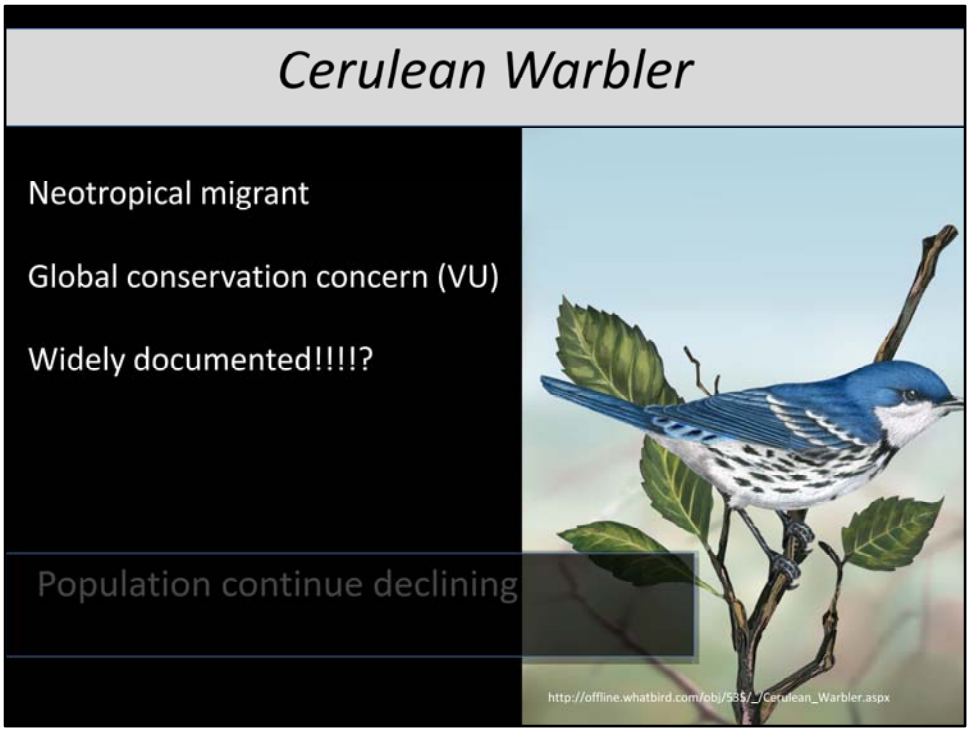
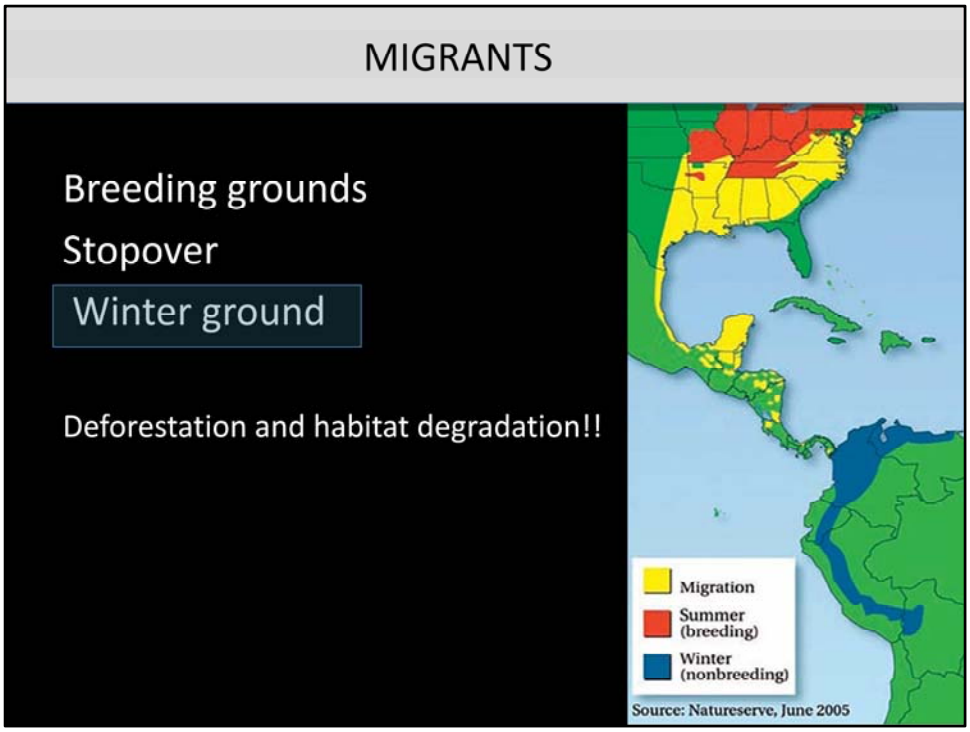


La reinita cerulea es uno de las aves que gana el interes de numerosos investigadores



Q hace de cerulea un ave tan interesante…
Como todos ustedes lo saben cerulea es como otras migratorias un ave de dos mundos lo q la hace centro de inquietud en el norte y el sur. aDICIONALMENTE Durante los ultimos siglos su poblacion ha declinado fuertemente , y del cual aunno sabemos mucho.



Las aves migratorias son aves q enfrentan los mayores riesgos ya sufren los mismos riesgo que otras aves, pero no solo en su sitio de residencia sino en sus itios de parada, y en los cuarteles de invierno

WINTER GROUNDS

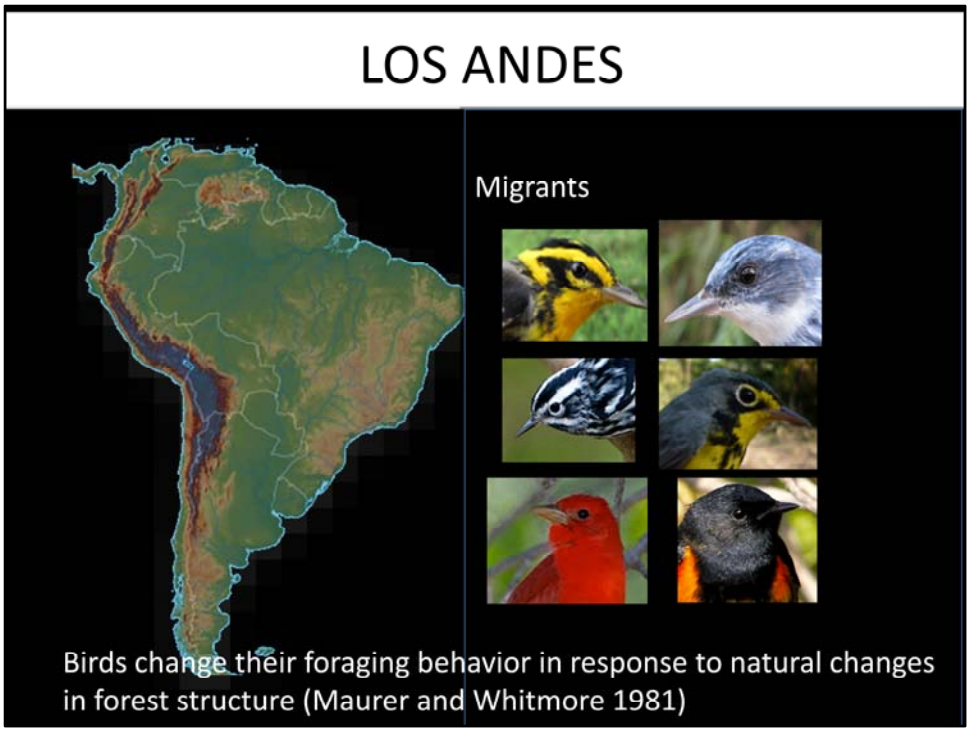
Poorly understand

Suitability
Habitat use
Habitat requirements
Feeding requirements

The habitat use and feeding requiments change dramatically in winter grounds.

Vamos a concentrarno en los cuarteles de invirno ya que el conocimiento que se tiene es limitado, en muchos aspectos.

Bosuqes de pino con unas disposicion de alimentos diferentes, y sobretodo con unos competidores diferentes



Hablar de la importancia de los Andes, por su diversidad, los pocos estudios de bandadas. Hablar que albergan tanto aves residentes como migratorias lo que genera relaciones muy interesantes a nivel de comunidades. Y que Colombia alberga un alto numero de residentes

Puede ser un indicador de que tan buenos (aptos) son estos habitats para cerulea y que necesita a nivel de couidada para estar alli

STUDY AREA

Winter season 2010-2011

Central and Western Cordillera of the Andes mountains in Colombia.

Mencionar q fueron tres sitios

FOCAL INDIVIDUAL

Systematic searching

6:00-12:00 14:00-17:00

Sex

Mixed bird flocks

Foraging height

Strata Vertical-Horzontal

FORAGING

Foraging rate (cap/min) …….. *Corporal condition*

Substrate

Position sustract Top/botton

Maneuver

RESULTS

MIXED BIRD FLOCKS

FORAGING RATE

Substrate

Sex

Higth

COMPETITION

Group effect

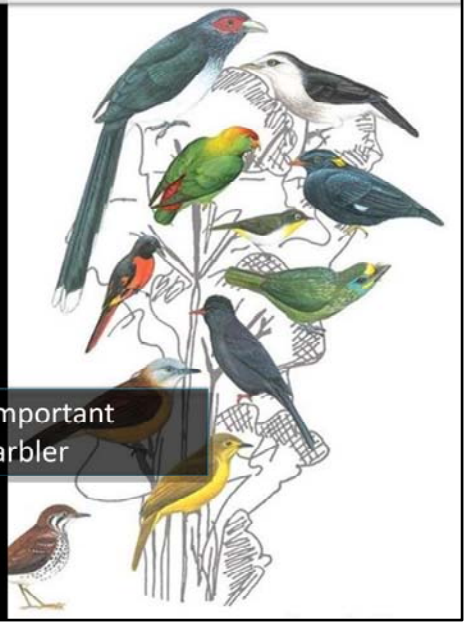
MIXED BIRD FLOCKS

Propensity 97%

Colorado 2011 (82%)

Bakermans 2008 (86%)

Tropical mixed bird flocks play a important role in the ecology of Cerulean Warbler



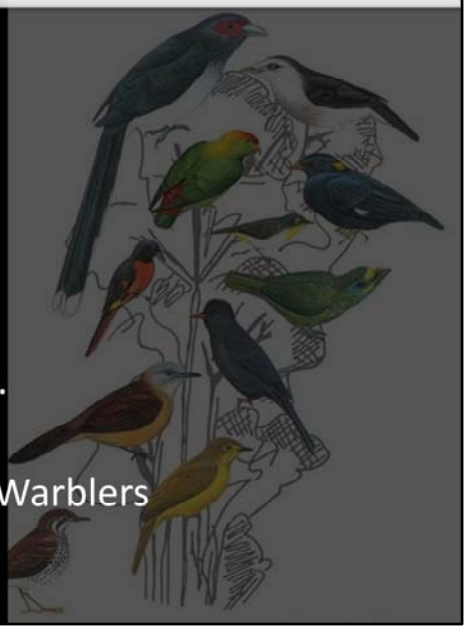
MIXED BIRD FLOCKS

Mixed bird flocks

107 Species
27 Migrants

45 species, 75 individuals.

At time up to 7 Cerulean Warblers



RESULTS

MIXED BIRD FLOCKS

FORAGING RATE

Maneaver
Substrate
Strata
Sex
Higth

COMPETITION

Group effect

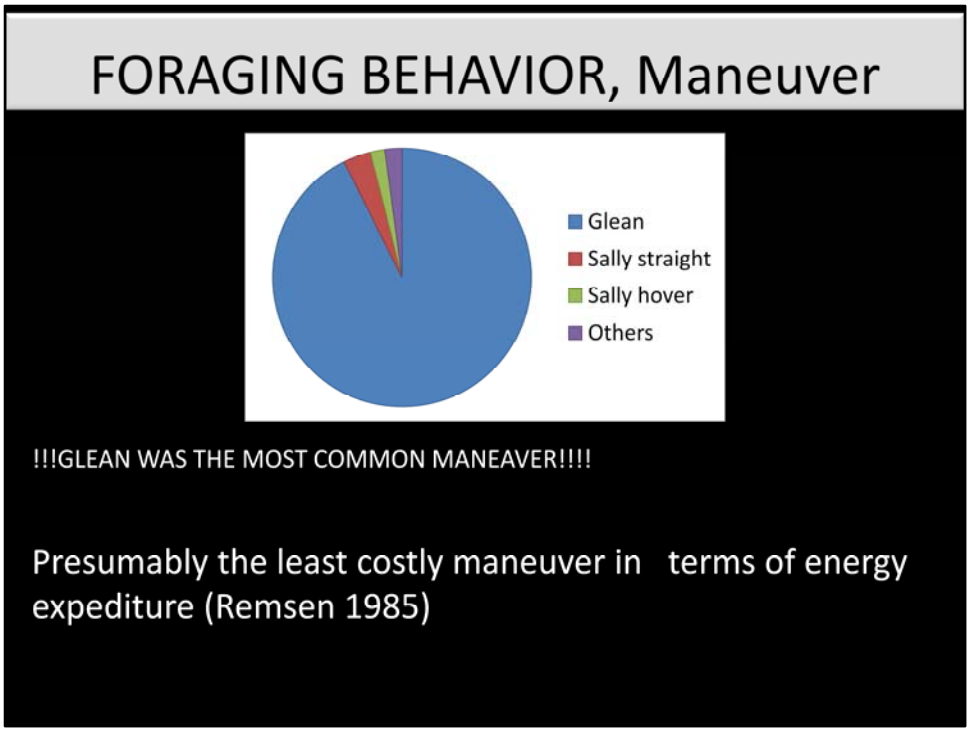
FORAGING BEHAVIOR

We collected 91 foraging observations

Foraging rate 4.767 captures / min….

Increased corporal condition (Colorado 2011)

Foraging rate breeding grounds 7.5 captures\min (Newell 2010)

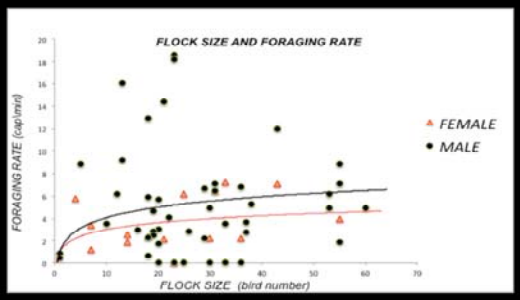


Sexual differences between females and males in foraging rate perhaps reflect differences in the dominance status of males and females in groups. Females have been suggested to be more vigilant towards males and thus have less time available to forage (Smith, 1977, Kotrschal et al., 1993), and can be forced to feed in poorer parts (Smith and Metcalfe , 1997)

FORAGING BEHAVIOR, sex effect

Male (41) 5.13 cap/min ± 4.51

Female (30) 3.63 cap/min ± 2.49 ES Vigilant (Smith 1977))



Reflect differences in the dominance status of males and females. Females can be forced to feed in poorer parts

(Smith and Metcalfe , 1997)

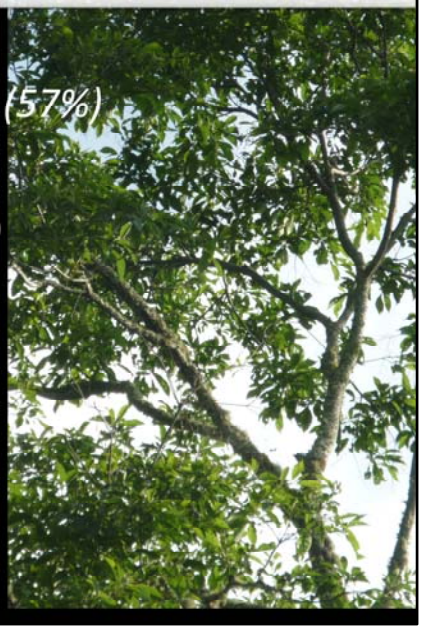
Sexual differences between females and males in foraging rate perhaps reflect differences in the dominance status of males and females in groups. Females have been suggested to be more vigilant towards males and thus have less time available to forage (Smith, 1977, Kotrschal et al., 1993), and can be forced to feed in poorer parts (Smith and Metcalfe , 1997)

FORAGING BEHAVIOR,

Foraged often in subcanopy (57%)

Using the outer strata (76%)

Substrate green leaves
–bottom (68%)



FORAGING, hight

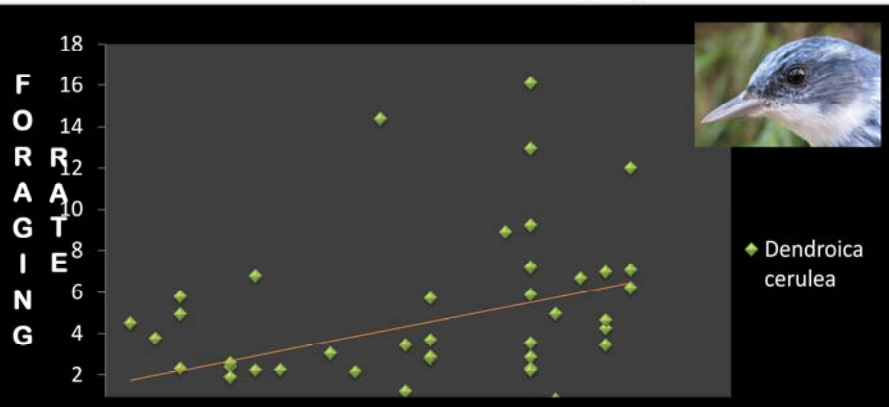
Foraging height

Males 10.53 m ±2.5

Females 7.18 m ± 1.8

Potencially access to different resource, could be related with the foraging rate.

FORAGING RATE- *seasonality effect*



Improved the body condition throughout the nonbreeding season (Colorado 2011, Bakermans 2008).

RESULTS

MIXED BIRD FLOCKS

FORAGING RATE

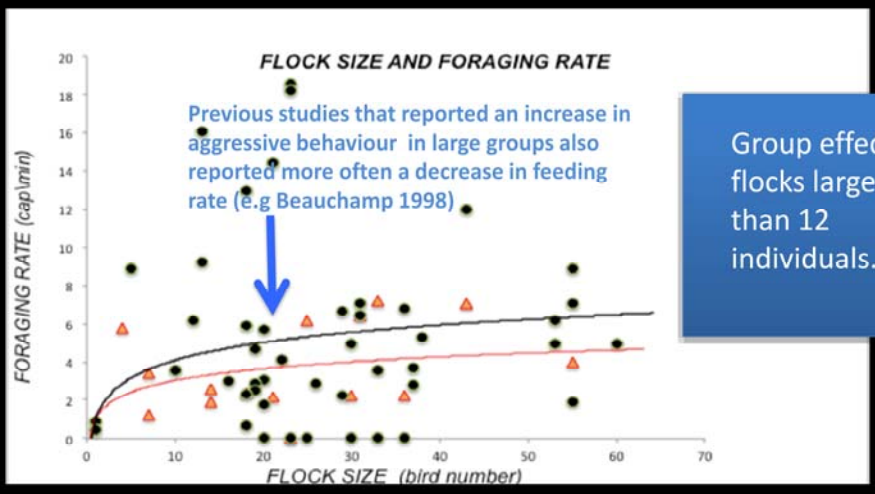
Maneaver
Substrate
Strata
Sex
Higth

COMPETITION

Group effect

GROUP EFFECT

FLOCKING



Group effect in flocks larger than 12 individuals.

The frecuency of aggressive interactions is likely to increase in larger groups (Stillman, Goss- custard & Caldow 1997

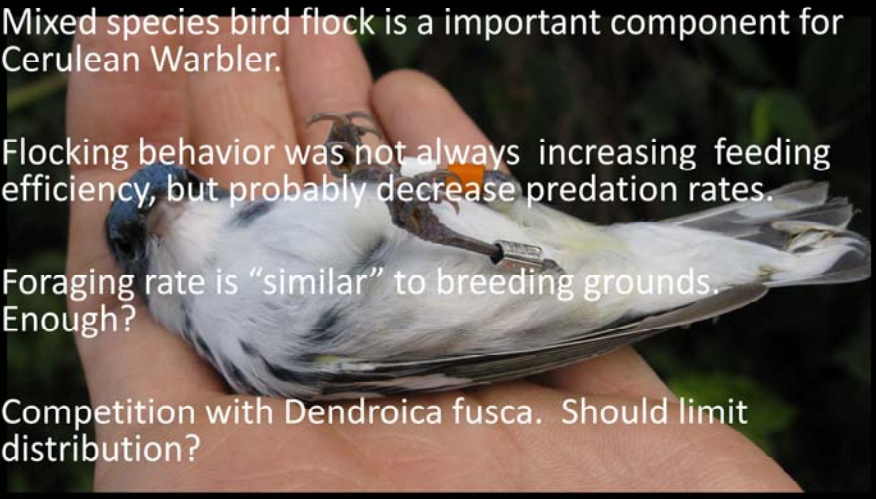
GROUP EFFECT, Competition

Aggressive interactions (n=30) of *Dendroica fusca* and *Dendroica castanea* on *Dendroica cerulea* in flocks larger than 12 individuals.

Glean
Green leaves
Vs
Botton

SIMILAR HABITAT PREFERENCES

CONCLUSIONS



Mixed species bird flock is a important component for Cerulean Warbler.

Flocking behavior was not always increasing feeding efficiency, but probably decrease predation rates.

Foraging rate is “similar” to breeding grounds. Enough?

Competition with Dendroica fusca. Should limit distribution?

Acknowledgments

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