



MASS**W**ILDLIFE

Ornithology Projects Update

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Fisheries and Wildlife Board

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Grassland Bird Management

- An Action Plan for the Conservation of State-listed Obligate Grassland Birds in Massachusetts
 - Grasshopper Sparrow & Upland Sandpiper
 - Now Eastern Meadowlark Special Concern
 - Most important sites based on current numbers
 - Highest restoration rank

An Action Plan for the Conservation of State-listed Obligate
Grassland Birds in Massachusetts



Westover Air Reserve Base

- Most important grassland site in Massachusetts and New England for Grasshopper Sparrow and Upland Sandpiper
- 2019 survey: 150-200 singing male GRSPs and ~75 adult UPSAs
- Good working relationship
 - Promoting native warm-season grasses
 - Prescribed burning
 - Herbicide
 - Mowing



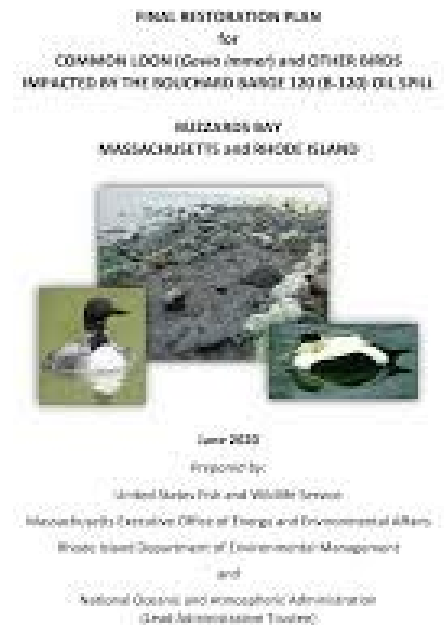
Management on WMAs

- Both sites managed with prescribed fire and mowing
- Frances Crane WMA
 - Expanded to a 400 acre sandplain grassland
 - Grasshopper Sparrow & Eastern Meadowlark
- Southwick WMA
 - ~200 acres grassland
 - Adjacent to CT grassland (functionally larger)
- Become birder hotspots
 - Blue Grosbeak, Mountain Bluebird
 - Short-eared Owl
 - Upland Sandpiper



Common Loon Restoration

- Bouchard 120 Oil Spill in Buzzards Bay (2003)
- >500 Common Loons died in spill
- ~8 Million-dollar settlement fund to restore loons



Restoring Loons to Southeast Massachusetts

- Biodiversity Research Institute (BRI)
 - Loon restoration (2015-2017) – Ricketts Conservation Foundation
 - Largest natural inland waterbody in state
 - Historical loon nesting (late 1800s)
 - 24 chicks released on Assawompset Pond Complex (APC)
 - Loons came from Maine & New York
- Signs of success
 - Banded loons gradually returning (9-10 birds)
 - Territorial pair (2018-2019)
 - Successful nesting pair (Fall River, 2020)



Loon Translocation



- Oil spill settlement funds
 - Project continuation best way to restore lost loons in MA
 - Increase low numbers
 - 2.5 million to restoring loons in southeast Mass (6 year project)
- Translocate an additional 18-24 juvenile loons to APC over next 2 years (2020-2021)
- Translocate juvenile loons to Berkshires (2022-2024)
- State-wide monitoring
- Nesting raft program
- Outreach program
- Funding for agency to continue monitoring & outreach after 6 year project completed
- Media attention: Boston Globe, Providence Journal, BPR

Young Forest Bird Banding Project

- Sites in central Massachusetts
 - Banding late June - mid August
- Regenerating harvests
 - 5-8 years old
 - >5 acres
- 9 nets/site (similar array)
- Open 30 min before sunrise
- Close 4 hrs. after sunrise
- Each site sampled 4 times/season



Results

- Capture > 1000 birds each year
 - 55 species
 - ES and MF species
 - High capture rates at all sites (>100 birds)
 - Fruits and dense cover attract birds
 - Landscape matters
- Fragmented sites (housing development)
 - Dominated by common species
 - Gray Catbird, Common Yellow-throat, Baltimore Oriole, Ruby-throated Hummingbird
- Forested sites
 - Montague WMA, Muddy Brook WMA
 - Prairie Warbler, Ovenbird, Veery





Birds & Deer Ticks

- Collaboration with Dr. Sean Williams (College of the Holy Cross)
- Species that forage on ground had most ticks (Veery, Towhee)
- Birds at fragmented sites had more ticks
- All larva and nymph stage deer ticks
- Subset of 100 ticks tested for diseases
 - 28 positive for *Borrelia* (Lyme)
 - 10 positive for *Babesia* (Babesiosis)
 - 14 positive for *Anaplasma* (Anaplasmosis)

	<i>Borrelia</i>	<i>Babesia</i>	<i>Ehrlichia</i>	<i>Anaplasma</i>
Undisturbed	13	1	0	3
Disturbed	15	9	0	11

Table 1. 100 ticks were collected at disturbed (n = 49) and undisturbed sites (n = 51) and analyzed for four tickborne human pathogens. *Borrelia* occurred at a similar rate in disturbed vs. undisturbed landscapes, but disturbed landscapes had more ticks with *Babesia* and *Anaplasma*.

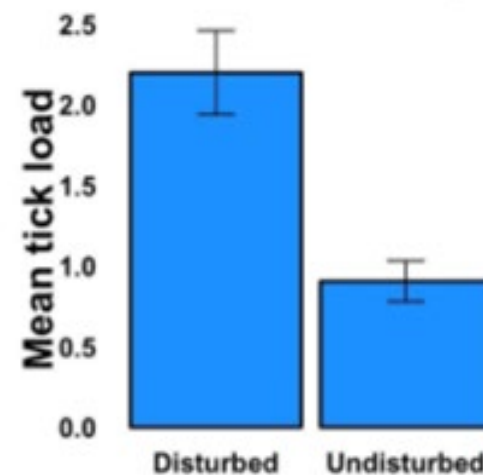


Figure 1. Mean tick load was higher across all individuals and species in disturbed vs. undisturbed sites.

Competitive State Wildlife Grant

- Expanding the Motus automated tracking network throughout New England
- Collaborative effort
 - NH, MA, ME, NH Audubon, Mass Audubon, Carnegie Museum of Natural History
- 50 towers as “fence lines”
- At least 7 automated towers in Mass (2021)
- Ideal for tracking migrations and broad scale movements
- Weekly planning meetings



Motus - American Kestrel Project

- Part of the C-SWG grant
- MassWildlife & Mass Audubon collaboration
- Deploying automated radio-tags on kestrels (2021-2022)
- Proposed for state-listing
- Important information for understanding the rapid decline of the species
 - Movements & survival
 - Migration timing and pathways
 - Wintering areas



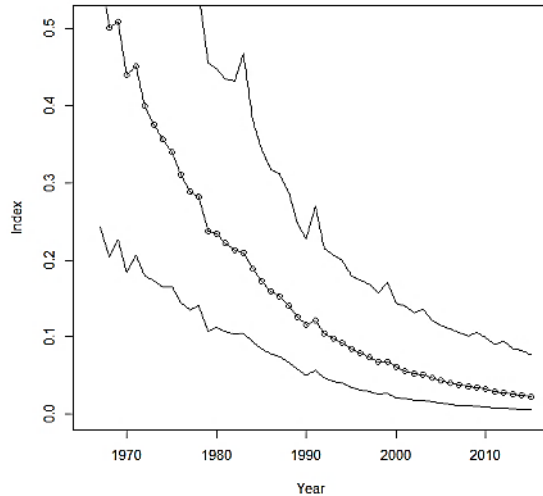


Eastern Whip-poor-will Project

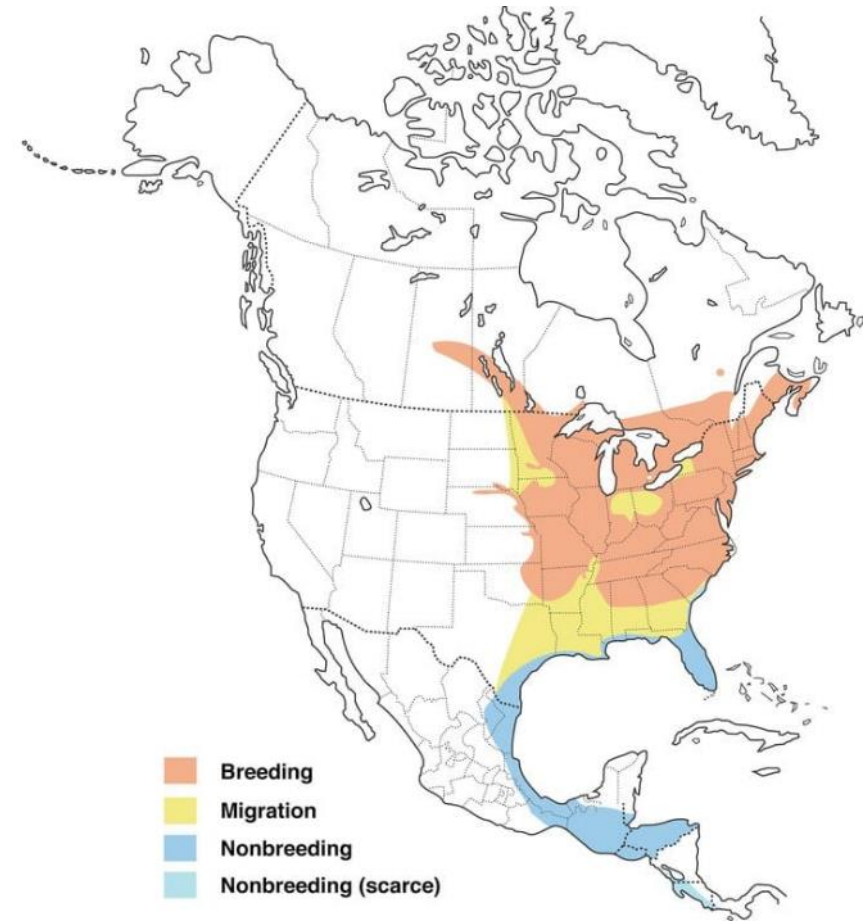
- Collaboration with Dr. Marja Bakermans (WPI)
- Little known about species
- Almost nothing known outside of breeding season
- Species of Special Concern under MESA



Eastern Whip-poor-will



Massachusetts has shown a 6.6% annual decline since 1966 (Sauer et al. 2017)

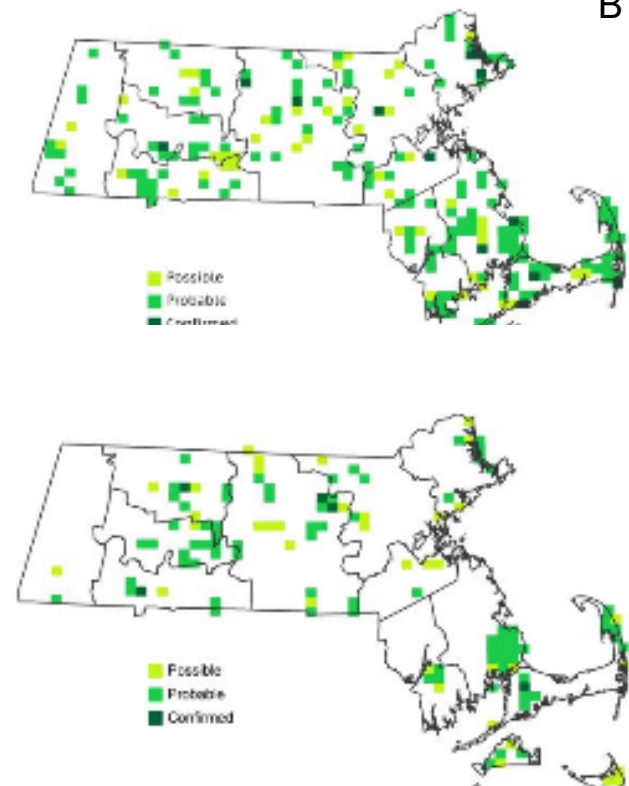
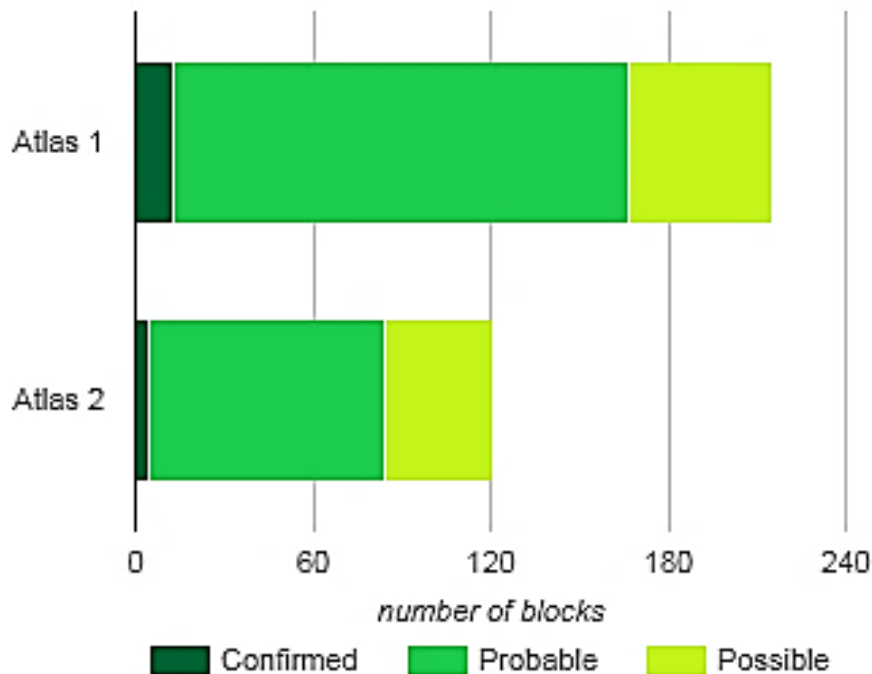


Distribution in Massachusetts

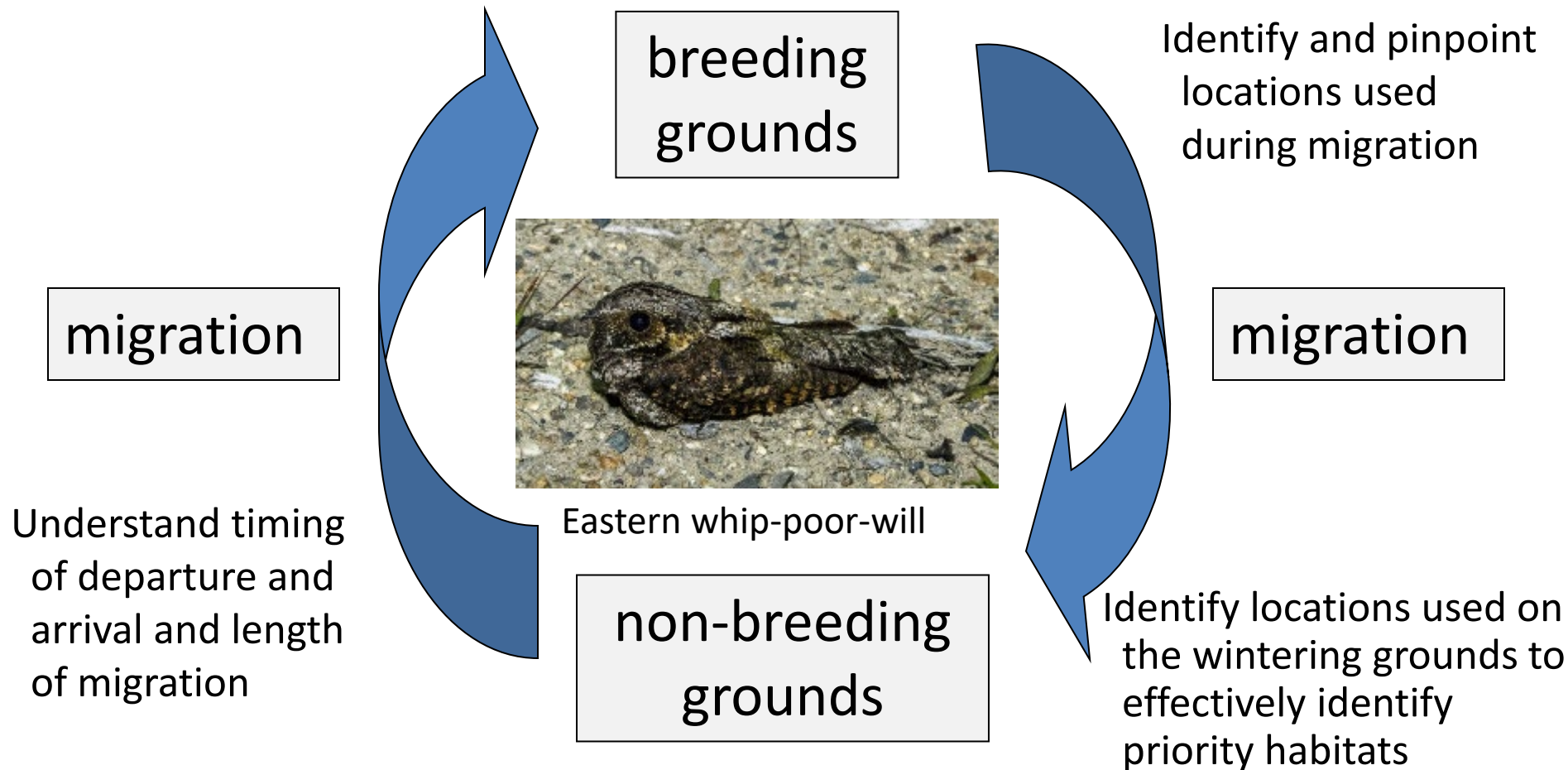


B Rochow

Atlas Blocks Found - Atlas 1 vs. Atlas 2

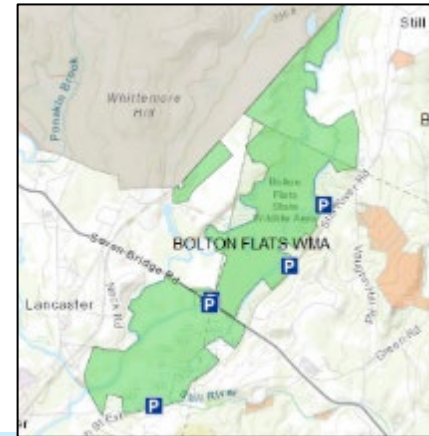
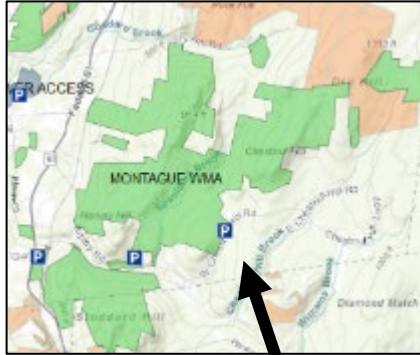


Eastern Whip-poor-will - Full Annual-cycle

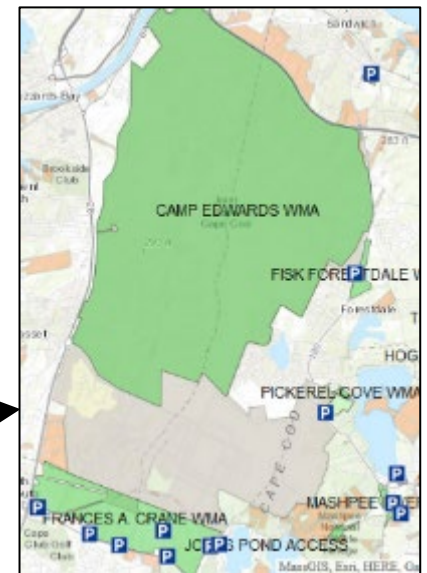
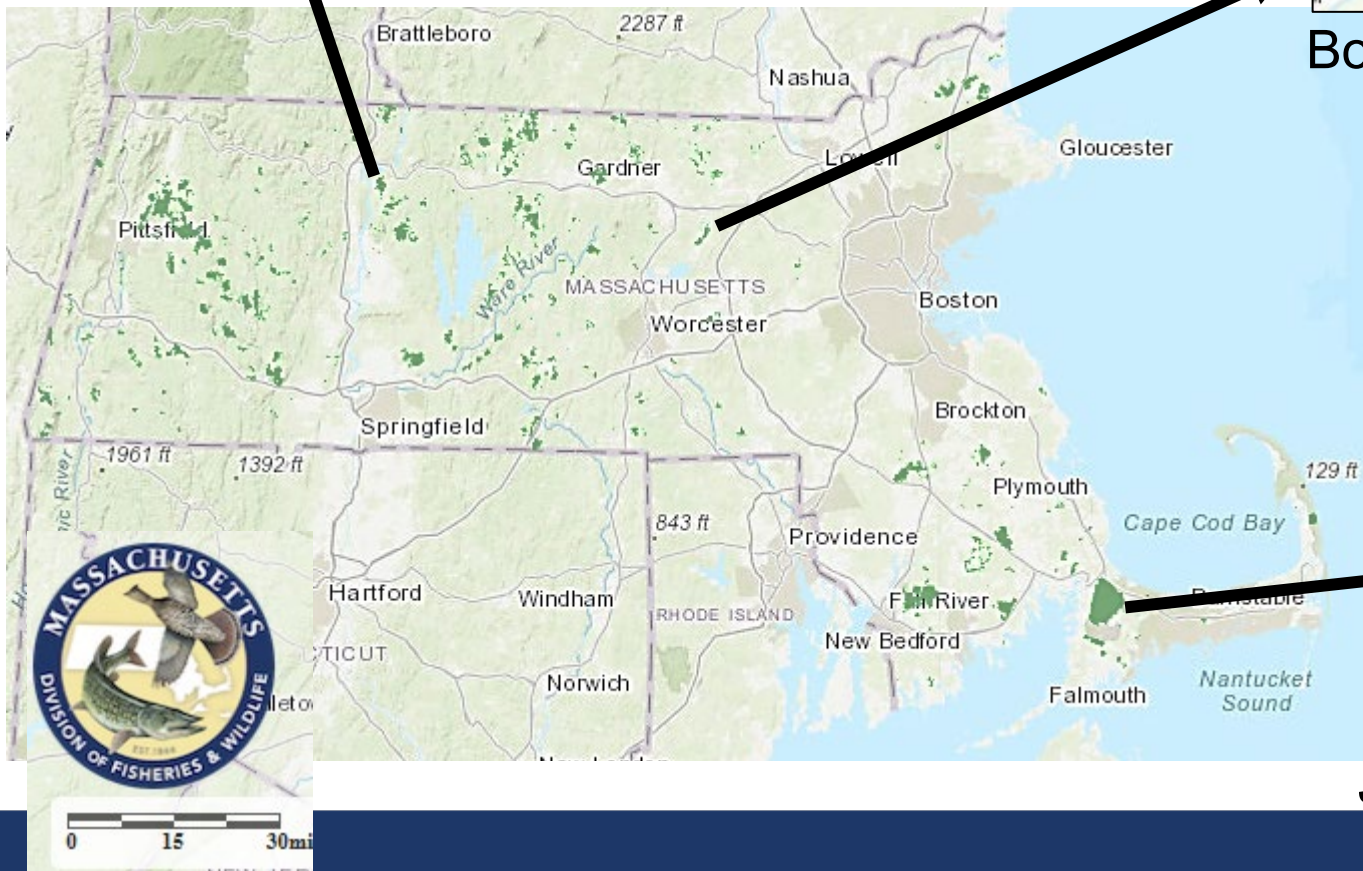


Montague Plains WMA

Study areas



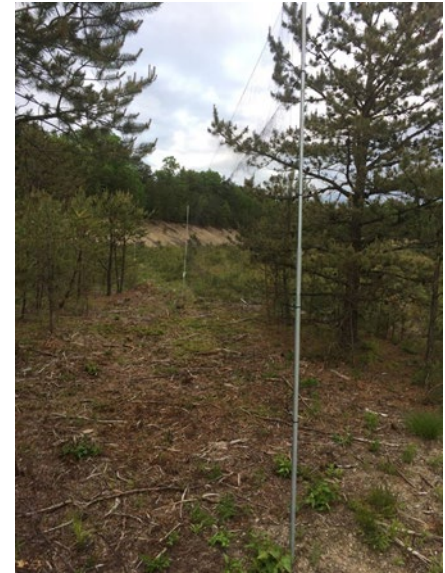
Bolton Flats WMA



Joint Base Cape Cod

Methods

- Mist-netting for capture, May-June
- Playback of male at net
- Age/sex and measurements
- GPS tags: 2018 & 2019



Methods – Lotek Pinpoint GPS tags

- 1 gram tag – data logger
- Fully programmable schedule
- Migration: 1 point every 3 days
- Winter: 1 point every week



Results

- Birds tagged:
 - 2018 = 27 (21 males)
 - 2019 = 31 (30 males)
- Bird return rates
 - 31 gps tags retrieved (61%)
 - 25/33 (76%) ASY males recaptured
 - 6/18 (33%) SY males recaptured
 - 7 females tagged (1 recaptured)



Preliminary Results

- GPS tags: mean of 53 pts.
- Mean Departure date: Sept. 13
- Mean winter arrival date: Nov. 2
- Mean winter duration: 147 days
- Mean spring departure date: March 28th



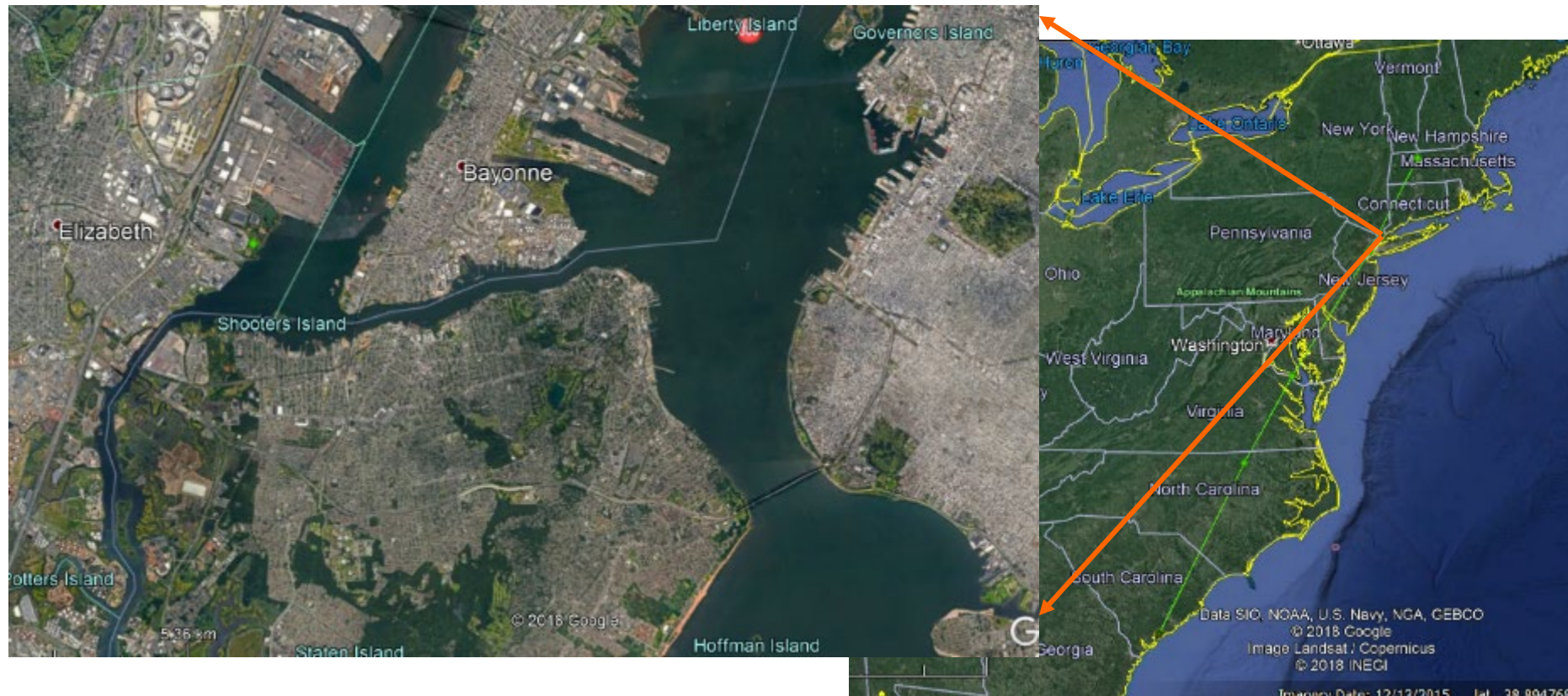
Results - Migration Pathways



Migration Pathways



Migration Pathways





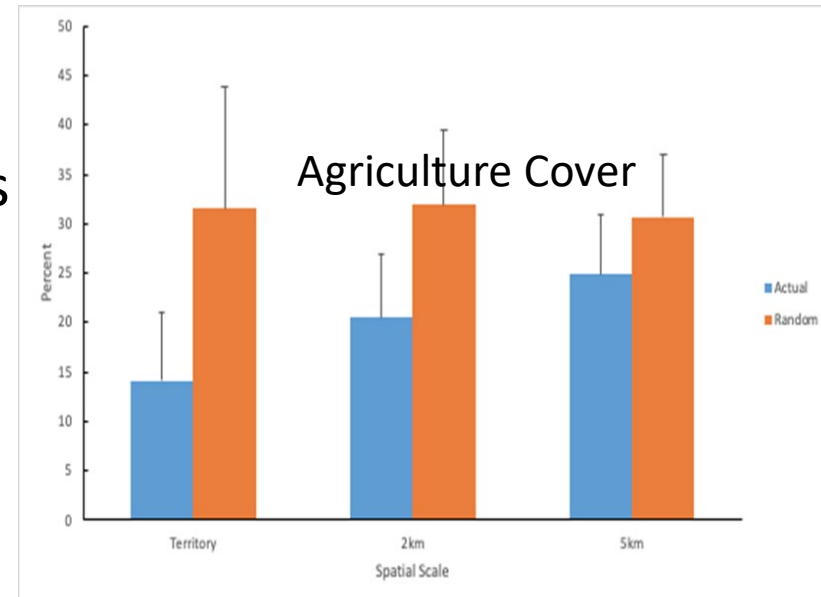
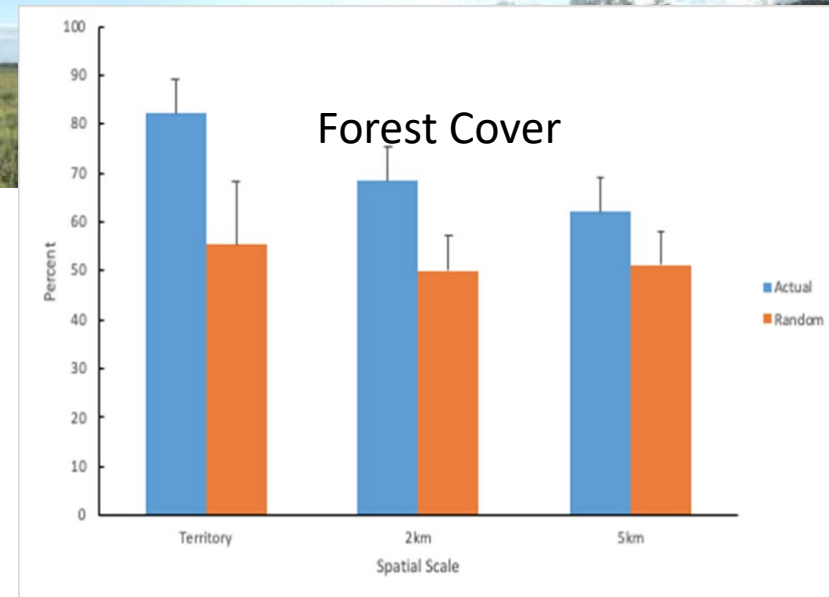
Results- Wintering locations





Results – Wintering Habitat

- Mean territory size: 0.88 ha
- More forest cover around territories
- More agriculture at random locations



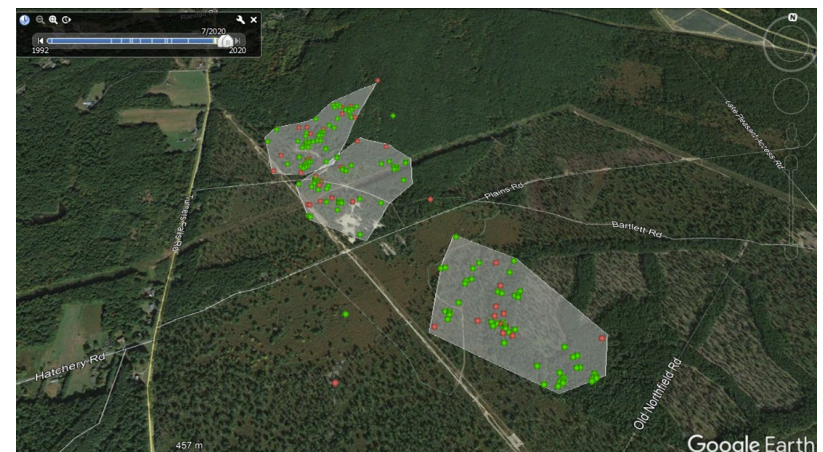


Conclusions

- High survival for ASY males
- Low return rates for SY males
- Small territory size
- Selected heavily forested landscapes for winter habitat
- Agriculture primary replacement of forest
- Rapidly changing landscapes

Next Steps

- Data collection for winter/migration project completed
 - Working on analysis & publication of results
- Switching focus to whip-poor-wills nesting in Massachusetts
 - Habitat use and how influenced by management actions (fire)
 - Montague Wildlife Management Area



Questions?

