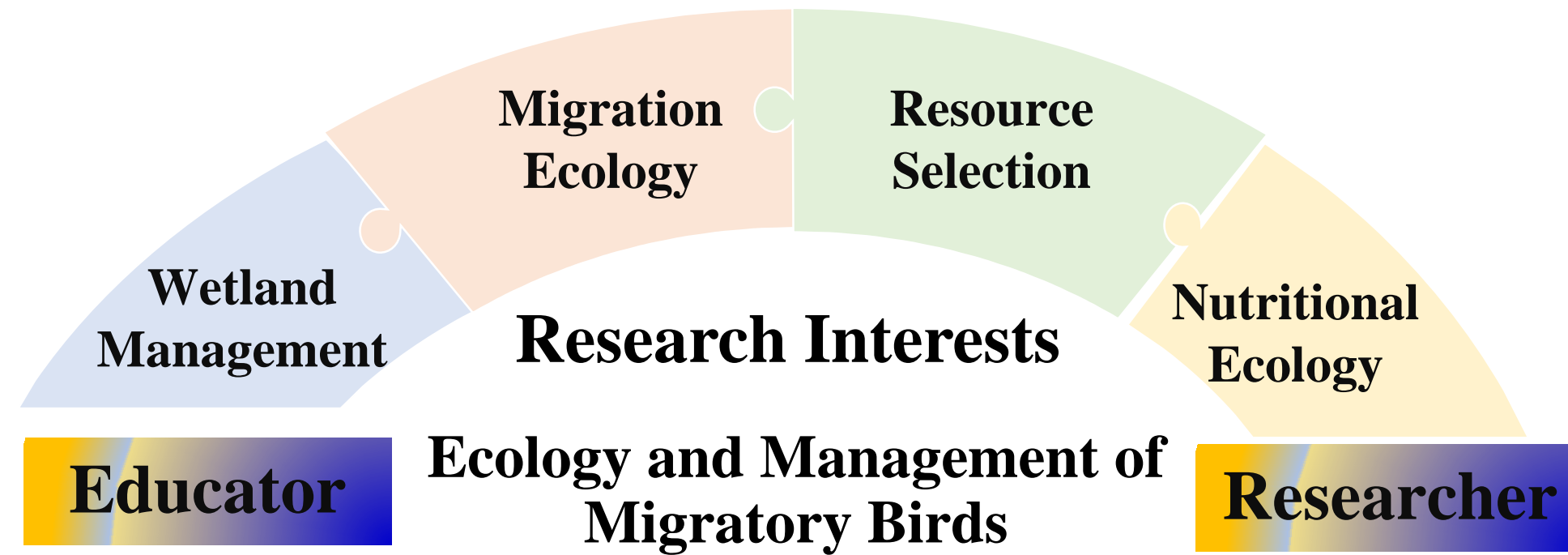


Dr. Bart Ballard, The Educator of the Month, December 2022



- ✓ Regents Professor, TAMU System
- ✓ 2017 Coastal Bend Bays Foundation Conservation Award for Higher Education
- ✓ 2012 Distinguished Teacher of the Year, TAMUK Javelina Alumni Association
- ✓ 2011 TAMUS Student Recognition Award for Teaching
- ✓ 2011 Educator of the Year, Texas Chapter of The Wildlife Society

Professor and Chair, Department of Rangeland and Wildlife Sciences
 C. Berdon and Rolanette Lawrence Endowed Chair in Waterfowl Research, Caesar Kleberg Wildlife Research Institute



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Note

Prioritizing Conservation of Coastal Ponds for Wintering Redheads

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ABSTRACT The Laguna Madre of Texas, USA, and Tamaulipas, Mexico, are the most important wintering areas for redheads (*Aythya americana*) as most of the continental population winters in these lagoons. Redheads forage in the saline waters of the Laguna Madre and make daily flights to coastal freshwater ponds on the adjacent mainland to drink. The abundance and spatial distribution of coastal ponds varies depending on precipitation and can influence the foraging pressure on adjacent seagrass meadows. We conducted weekly aerial surveys to monitor coastal pond use by wintering redheads from mid-October through mid-March along the entire length of the Laguna Madre of Texas, during 2000–2003 and in 2012–2014. We developed 3 parameters to provide a measure of biological value of each coastal pond to redheads: amount of foraging habitat within 10 km of each pond, water permanence of the pond, and the potential to distribute redheads if inundated. During 101 aerial surveys across 5 years of study, we identified 140 coastal ponds that were used by redheads. We developed a prioritization scheme to identify wetlands that remain inundated in all years and targeted them for conservation protection. We identified those coastal ponds that, if enhanced through increasing their water permanence, would provide additional drinking sites during dry years and help distribute redheads on more foraging habitat, thereby reducing potential overgrazing on seagrass meadows. We identified 3,624 ha of foraging habitat (21.5% of all foraging habitat) in the lower Laguna Madre that had no coastal ponds within a 10-km radius and, thus, was proximal to potential areas for coastal pond creation. Our results provide guidance for resource managers to protect, enhance, or create coastal ponds to reduce foraging pressure on seagrass meadows in the Laguna Madre and help sustain future populations of wintering redheads. © 2021 The Wildlife Society.

KEY WORDS *Aythya americana*, coastal pond, creation, enhancement, Laguna Madre, protection, redhead.

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Movement Ecology

RESEARCH

Open Access

Winter fidelity, movements, and energy expenditure of Midcontinent Greater White-fronted Geese

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Abstract

Background: Animal movement patterns are the result of both environmental and physiological effects, and the rates of movement and energy expenditure of given movement strategies are influenced by the physical environment an animal inhabits. Greater white-fronted geese in North America winter in ecologically distinct regions and have undergone a large-scale shift in wintering distribution over the past 20 years. White-fronts continue to winter in historical wintering areas in addition to contemporary areas, but the rates of movement among regions, and energetic consequences of those decisions, are unknown. Additionally, linkages between wintering and breeding regions are generally unknown, and may influence within-winter movement rates.

Methods: We used Global Positioning System and acceleration data from 97 white-fronts during two winters to elucidate movement characteristics, model regional transition probabilities using a multistate model in a Bayesian framework, estimate regional energy expenditure, and determine behavior time-allocation influences on energy expenditure using overall dynamic body acceleration and linear mixed-effects models. We assess the linkages between wintering and breeding regions by evaluating the winter distributions for each breeding region.

Results: White-fronts exhibited greater daily movement early in the winter period, and decreased movements as winter progressed. Transition probabilities were greatest towards contemporary winter regions and away from historical wintering regions. Energy expenditure was up to 55% greater, and white-fronts spent more time feeding and flying, in contemporary wintering regions compared to historical regions. White-fronts subsequently summered across their entire previously known breeding distribution, indicating substantial mixing of individuals of varying breeding provenance during winter.

(Continued on next page)



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Short Communication

Migratory stopover sites used by Reddish Egrets: prioritization for conservation

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ABSTRACT. The conditions encountered during the migratory period, particularly at stopover sites, can influence individual survival, reproductive success, and population stability; therefore, knowledge of migration ecology is important for developing conservation strategies. We monitored stopover site use by Reddish Egrets (*Egretta rufescens*) marked with satellite transmitters between their breeding area in southern Texas, USA, and wintering sites in Mexico and El Salvador. The duration of time spent at stopover sites varied among individuals and seasons, ranging from 1 to 64 days at a particular site. Three of the four individuals that were tracked for stopover seasons flew farther between stopover sites during autumn migration compared to spring, and the average distance between stopovers ranged from 192 to 580 km among individuals. Laguna San Andres in Tamaulipas, Mexico, appeared to be the most important stopover site based on the proportion of the marked population that used it. Understanding the stopover ecology and habitat use of migratory individuals will help direct conservation efforts for the species.

Haltes migratoires utilisées par les Aigrettes roussâtres : priorisation pour la conservation

RÉSUMÉ. Les conditions rencontrées pendant la période de migration, en particulier sur les haltes migratoires, peuvent influencer la survie des individus, le succès de reproduction et la stabilité de la population. Par conséquent, il est important de connaître l'écologie de la migration si l'on veut élaborer des stratégies de conservation. Nous avons suivi l'utilisation des sites de repos par des Aigrettes roussâtres (*Egretta rufescens*) marquées au moyen d'émetteurs satellites entre leur aire de nidification dans le sud du Texas, aux États-Unis, et leurs sites d'hivernage, au Mexique et au Salvador. La durée de séjour aux haltes a varié selon les individus et les saisons, s'échelonnant de 1 à 64 jours sur un site particulier. Trois des quatre individus qui ont été suivis pendant plusieurs saisons volaient plus loin entre les sites de repos pendant la migration d'automne par rapport à celle du printemps, et la distance moyenne entre les haltes allait de 192 à 580 km selon les individus. La lagune San Andres à Tamaulipas, au Mexique, s'avère le site de repos le plus important d'après la proportion de la population marquée qui l'utilise. La compréhension de l'écologie aux haltes et de l'utilisation de l'habitat des individus migrateurs aidera à orienter les efforts de conservation de l'espèce.

Key Words: *Egretta rufescens*; Gulf of Mexico; migration; Reddish Egret; stopover

THE UPLAND and GAME BIRDS of Texas



Leonard A. Brennan, Damon L. Williford, Bart M. Ballard, William P. Kuvlesky Jr., Eric D. Grahmann, and Stephen J. DeMaso