Longevity of the Tricolored Heron (*Egretta tricolor*)

James A. Kushlan

P.O. Box 2008, Key Biscayne, FL 33149, U.S.A.; jkushlan@earthlink.net

Abstract

The recovery of a Tricolored Heron (*Egretta tricolor*) banded in Florida extends the known life span for this species to 22 years.

Key words: Ardeidae; demography; Everglades National Park; Florida; life span; Okeechobee City.

Introduction

Information on survivorship in the wild is a critical element towards understanding the demography of a species. In turn, a species' demography should influence conservation planning and practice. The Tricolored Heron (*Egretta tricolor*) is one of the medium sized herons, which are thought to have a reasonably long life span (Kushlan and Hancock 2005). However, records documenting life spans of herons are few, primarily because recoveries of banded birds are so limited. The present paper provides a new longevity record for the species.

Methods

The bird was banded as part of a study conducted in the 1970's of the nesting biology of herons in relation to water conditions. Banding was done in southern Florida, U.S.A. Standard U.S. Fish and Wildlife Service lock-on Monel bands were placed on the tarsus of chicks while still in the nest, at 1-2 weeks of age.

Results

The heron was banded at a nesting colony known as Lane River Colony, Monroe County, Florida, U.S.A., located approximately at 25° 17′ 00″ N, 80° 53′ 00″ W. The colony is within Everglades National Park. It was banded on 23 April 1979.

The heron was found dead in November 2001 by Mr. Charles Coker, who reported it to the Bird Banding Laboratory in 2008. The heron was recovered at a new land fill in Okeechobee County, Florida, U.S.A., 27° 21′ 00″ N, 80° 45′ 00″ W, approximately 21 km North Northeast of Okeechobee City, Florida (C. Coker, pers. com.).

Discussion

The banded Tricolored Heron lived 22 years 7 months, establishing a new longevity record for the species. The oldest bird of this species previously reported was 17 years 8 months (Clapp *et al.* 1982).

While it is assumed that medium sized herons are relatively long lived birds, in fact mortality is very high, especially among the young. Mortality of Tricolored Herons in the first year has been calculated to be 79% and 31.6% annually thereafter, giving a life expectancy of 1.16 years at fledging and 2.69 years after the first year (Telfair 1979). Therefore a lifespan of 20 plus years is seemingly an unusual occurrence. Early mortality is likely involved with inexperience in feeding and other aspects of survival, as is suggested by the delayed maturity of medium and large herons (Kushlan and Hancock 2005). Adult life expectancy for most birds is typically calculated over all adult ages due to the paucity of data, leading to a single metric for average adult survivorship. Perhaps, once a bird has the experience of surviving several years, life expectancy may be higher than that calculated overall.

The distance from banding site to mortality site is 229 km. The resident heron population in south Florida are not known to migrate, so likely this represents a dispersion from the natal area in extreme southern Florida northward. Juvenile Tricolored Herons have been shown to disperse as much as 95 km from the nesting site, although birds are thought to remain rather sedentary after breeding, providing that conditions remain accessible (Bancroft and Jewel 1987, Bancroft *et al.* 1994).

Over the past century and over the twenty years of this bird's life span, much has changed. In the early part of the 20th century, the Tricolored Heron was likely the most abundant heron in Florida (Howell 1932). In the mid part of that century, the species substantially expanded its range northward into the Mid-Atlantic States and even in the mid 1970's remained the most abundant heron species counted in the wide-ranging censuses of the time, despite its difficulty of detection (Frederick 1997). However, populations have decreased in more recent decades and all indications are that the population trend has been rapidly downward in most areas, including Florida (Frederick 1997). In Florida the decrease in known nesting birds from the mid 1970's to mid-1980's was on the order of 54% (Runde 1991).

In southern Florida in the past several decades, there has been a shift in the nesting sites of several wading bird species. Whereas colony sites and numbers nesting in Everglades National Park have decreased over the past decades, those known to nest further north have increased (Runde 1991). It is intriguing that this single individual seems to have followed the overall pattern.

Nonetheless, in over two decades, the net displacement of the bird was not great, but rather was within the south to central Florida area, and moreover within the greater Everglades basin. This recovery adds evidence to the understanding that individual birds move over the southern Florida landscape, likely taking advantage of the feeding and nesting opportunities that vary over time and space. From a conservation perspective, this recovery lends support to the idea that the population of conservation concern includes birds from throughout southern and central Florida. Similarly that management of heron populations of southern Florida must involve the entirety of the wetlands of the region. These concepts, in fact, are well recognized in current conservation planning for the Everglades (SFWMD 2011).

Acknowledgements

I'd like to acknowledge Mr. Charles Coker of Parrish, Florida, U.S.A., who found the bird and reported it to the national banding office. I thank him also for generously providing me with additional information on the recovery. I thank Bruce Peterjohn and the Bird Banding Laboratory for notifying me of the recovery.

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