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A HISTORY OF COMMON EIDER (*Somateria mollissima*) OCCURRENCES AND HABITS IN NORTHEAST FLORIDA (NASSAU, DUVAL, AND ST. JOHNS COUNTIES)

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Abstract.—The Common Eider (*Somateria mollissima*) is the most widely studied sea duck in North America, but most research on this species has focused on its breeding ecology, diet, and the effects of contaminants on mortality. Thus, there is an interest in and need to better understand the species' range, habits, and demography outside of its breeding range. This article summarizes the twenty-six known individuals across twenty-one reported occurrences of Common Eider in northeast Florida dating back to 1970 and includes information about certain habits that corroborate known characteristics while challenging other existing understandings about the species.

INTRODUCTION

The Common Eider (*Somateria mollissima*) is the largest duck in the Northern Hemisphere, and four subspecies are recognized in North America. While it is the most widely studied sea duck in North America, the majority of studies are based on breeding ecology, diet, and the effects of contaminants on mortality. There is a clear interest in and need for better understanding of the species' range, habits, and demography outside of its breeding range (Goudie et al. 2000).

The four subspecies' range and occurrence outside their respective breeding grounds are not entirely well understood, but it is assumed that Common Eiders reaching the state of Florida are of the "American" race, *S. m. dresseri*, whose usual breeding grounds are around the rim of the Arctic Ocean, Hudson Bay, and the Gulf of St. Lawrence, though they sometimes breed as far south as Boston Harbor and Buzzards Bay, Massachusetts. Their normal winter range extends only a little

farther south to Long Island, New York (Bellrose 1980, Goudie et al. 2000). However, vagrants occur near-annually along Florida's Atlantic coast where they are still considered a very rare transient. They have strayed as far south as Dry Tortugas National Park, Monroe County, Florida, the southernmost record for the species (Greenlaw et al. 2014). The distance they travel by any possible measured route would exceed 2,000 miles each way (Greenlaw et al. 2014).

From the first record in 1970 through 2018, there have been 21 documented observations of the species in northeast Florida (Nassau, Duval, and St. Johns counties). Following the initial observation, over twenty years passed before the next report on 3 February 1993; fifteen years of sporadic reports followed, but since 2010 these eiders have been recorded annually in the region. Little is known about their migration patterns or how they behave outside of their usual range, particularly in winter months.

An examination and closer study of these 21 observations has reaffirmed many known traits and behaviors exhibited by the species, but has also identified previously undocumented characteristics that may challenge existing ideas. This analysis includes a mixture of historical reports, personal observations, and the examination of extant photographs of all 26 Common Eiders reported across these 21 occurrences in northeast Florida. Performing an assessment of all observations versus a selection of a smaller sample size has led to the most comprehensive possible analysis and conclusions.

METHODS

Data on Common Eider observations in northeast Florida are based upon previously published field notes in journals, eBird, and List Servers. A manual review of *Audubon Field Notes*, *American Birds*, and *North American Birds* dating back to 1945 was conducted, as well as a thorough search of the *Florida Field Naturalist's* Field Observations reports, and previously published books on Florida birds. In addition to this review of printed material, a search of the Searchable Ornithological Research Archive (SORA, sora.unm.edu) was performed using a combination of keyword searches including "Common Eider," "Florida," "Jacksonville," "Duval County," "St. Johns County," and "Nassau County." A search of the "Florida Birds" listserver (lists.ufl.edu) archives using a similar keyword search was also performed.

The eBird database of bird observations was queried to identify reported and validated sightings of Common Eider in Florida. Every observation was then reviewed to identify the high count for the species, and the plotted location in eBird was then used to determine the approximate GPS coordinates listed in Table 1. Common Eider is a species that should be flagged as "rare" in eBird in all Florida counties and in all seasons, but there are a couple of reports that are in a validated status with no supporting comments or documentation (photo, sketch, or video). As such, those observations were discarded from this study.

Since the eBird species map renders every observation made by dozens of observers of a single bird, it creates an almost indecipherable view when attempting to specify the occurrence of a single bird over the duration of its presence. Thus, following the data col-

Table 1. Summary of Common Eider records in northeast Florida through 31 Dec 2018. Numbered observations accompanied by an asterisk (*) denote that no photograph is available; those with a plus sign (+) indicate that one or more photographs are available. Those with a caret (^) indicate identification can most likely be assigned to the subspecies *S. m. dresseri*, although no measurements are available.

No.	Date(s)	Age/Sex	Location	County	Latitude	Longitude	Reference
1 *	25 Nov 1970-4 Feb 1971	Not recorded	Fort George Inlet	Duval	30.418068	-81.414895	(Below 1983)
2 *	3-16 Feb 1993	First-year male (FYM)	Nassau Sound	Nassau	30.520966	-81.449040	(West & Wamer 1993) (Pranty 1993)
3 *	19-30 Nov 2006	FYM & F (not aged) on 28th	Fort Clinch State Park Pier	Nassau	30.7026918	-81.4223965	eBird
4 + ^	16 Dec 2006	Adult female	St. Augustine Inlet	St. Johns	29.909502	-81.297031	Listserv
5 *	3-10 Feb 2007	FYM & F (not aged)	St. Augustine Inlet	St. Johns	29.909502	-81.297031	eBird
6 *	4 May 2010	FYM	South Ponte Vedra Park	St. Johns	29.9906467	-81.3147604	eBird
7 *	18-24 Dec 2010	FYM	Nassau Sound	Nassau	30.520966	-81.449040	(Pranty 2011)
8 +	24 Jan-17 Mar 2011	One F & one FYM	Huguenot Memorial Park	Duval	30.405543	-81.406508	(Pranty 2011)
9 + ^	16-17 Dec 2012	FYM	Huguenot Memorial Park	Duval	30.405543	-81.406508	(Pranty 2013)
10 + ^	29 Dec 2012	FYM	Mayport Ferry slip; different bird than #9	Duval	30.395698	-81.435544	eBird
11 +	7 Nov 2013	Female	N Amelia River	Nassau	30.694206	-81.465089	eBird (Ahern, 2014a)
12 *	9 Nov 2013	Female, not aged	Little Talbot Island State Park	Duval	30.459453	-81.411093	eBird
13 + ^	15-18 May 2014	Adult female	Huguenot Memorial Park	Duval	30.405543	-81.406508	(Ahern 2014b)
14 + ^	7 Nov 2014	Adult male	Huguenot Memorial Park	Duval	30.405543	-81.406508	(Ahern 2015a)
15 + ^	18 Nov 2014-9 Mar 2015	FYM	Nassau Sound	Nassau	30.520966	-81.449040	(Dailey 2015)
16 + ^	14-15 Jan 2016	Adult female	S Amelia River	Nassau	30.5381643	-81.4646959	eBird (Dailey 2016a)
17 + ^	3 Feb-8 Mar 2016	Adult, eclipse male	Fort Clinch State Park Pier	Nassau	30.7026918	-81.4223965	eBird (Dailey 2016a)
18 *	4 Apr 2016	First-winter male	ICW S of St. Johns River	Duval	30.3154876	-81.4325416	(Dailey 2016b)

Table 1. Continued. Summary of Common Eider records in northeast Florida through 31 Dec 2018. Numbered observations accompanied by an asterisk (*) denote that no photograph is available; those with a plus sign (+) indicate that one or more photographs are available. Those with a caret (^) indicate identification can most likely be assigned to the subspecies *S. m. dresseri*, although no measurements are available.

No.	Date(s)	Age/Sex	Location	County	Latitude	Longitude	Reference
19a +^	6 May 2017	First-winter male	Huguenot Memorial Park	Duval	30.405543	-81.406508	eBird (Dailey 2017)
19b +^	6 May-11 Jun 2017	First-winter male (same bird as 19a)	Mayport Ferry slip (west side of St. Johns River)	Duval	30.395698	-81.435544	eBird (Dailey 2017, Dailey 2018a)
20+^	11 Feb 2018	2 FYM & F	N Amelia River, Fernandina Beach Marina	Nassau	30.68395	-81.460283	eBird (Dailey 2018b)
21+^	28 Dec 2018	1 FYM	Black Hammock Island, Pumpkin Hill Creek	Duval	30.519508	-81.493636	eBird

lection each observation was plotted using Google maps to render a cleaner depiction of the distribution (Fig. 1). Infographic software was then used to annotate the Google map image using labels that correspond to Table 1. The data from each report were further assessed to determine age, sex, behavior, and use of habitat.

RECORDS OF OCCURRENCE

From November 1970 through December 2018 there have been 21 documented observations of Common Eider in northeast Florida, consisting of 26 individual birds (three observations were of two ducks each, together, and one record of three ducks together) (Fig. 1, Table 1). Note that in many cases, there were multiple observations of an individual bird by numerous observers and/or spanning a period of days, weeks, or even months. The continued presence of any one of these ducks over any such period of time is considered a single observation for purposes of this discussion.

Ten observations are from Duval County, eight from Nassau, and three from St. Johns. After reviewing available photographs, 14 of the 26 birds are strong candidates for the subspecies *S. m. dresseri* (Table 1), but measurements are generally required to confirm race (B. Allen, pers. comm.). Field notes regarding age or sex for one of the birds were not available, and of the remaining twenty-five birds, sixteen were reportedly male and nine were female. The majority of the observations occurred in small coastal bays, leeward inlets, and rivers.

The majority of observations are of single birds, which is consistent with most reports throughout the state of Florida (Greenlaw et al. 2014). Based on available resources, the high count of Common Eiders in Florida waters through 2017 was two, a record that occurred six times and just three times outside of the northeast Florida region. The first pair was reported 19 December 1962-January 1963 near Daytona (Volusia County), followed by two at Port Canaveral (Brevard County) November 1992 through 3 January 1993 (Stevenson and Anderson 1994), and a third report from the Fort Clinch State Park's (Nassau County) fishing pier in November 2006 (Table 1). A pair was noted at Vilano Beach (St. Johns County) on 7 February 2007 (eBird 2017). On 24 January 2011, an adult female and first-year male were photographed together at the mouth of the St. Johns River from Huguenot Memorial Park (Duval County). This pair was similar to the Vilano pair in that it consisted of a female and first-year male together; details on the other aforementioned pairs are not available. There is a recent sixth report of a pair in Florida from 29 January 2017, also at Port Canaveral (eBird 2017).

On 11 February 2018, three Common Eiders were photographed together in the northern Amelia River near the Fernandina Beach

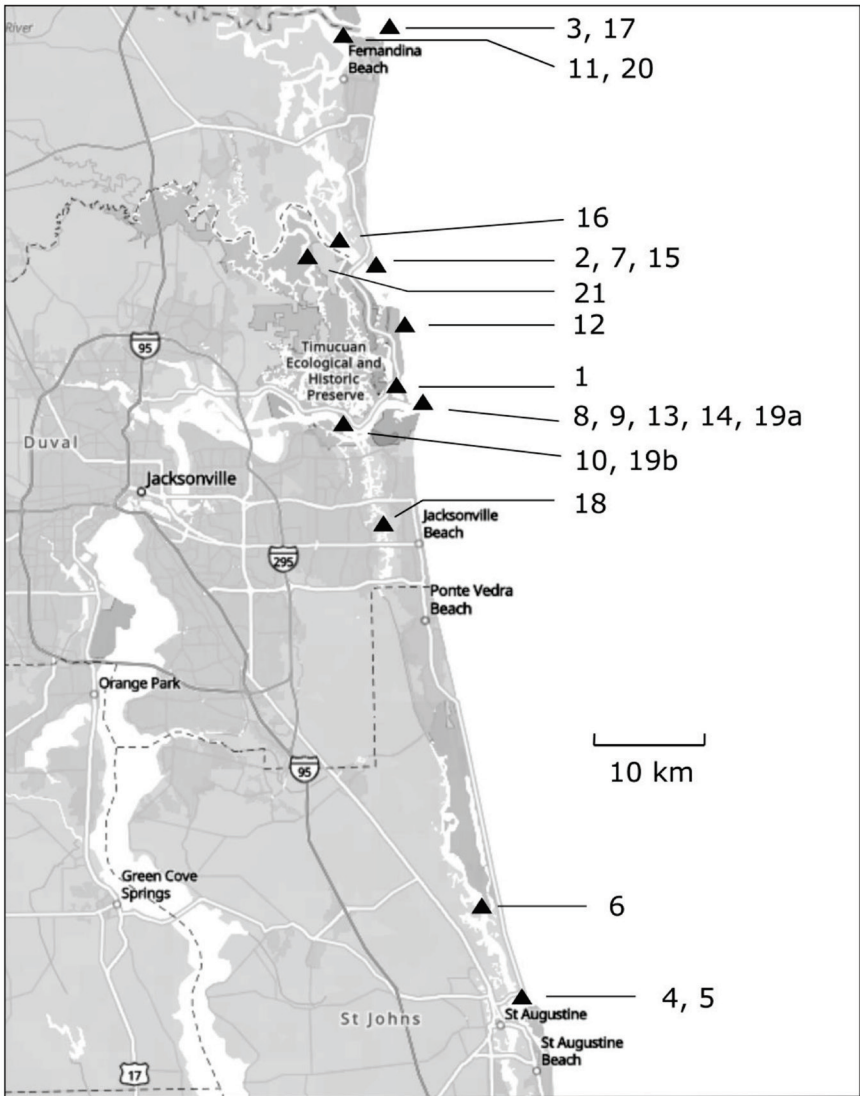


Figure 1. Distribution of Common Eiders in northeast Florida through December 2018.

marina, setting the new high count for the entire state. On 20 September 2018, three were recorded at Jetty Park in Brevard County, marking just the second state occurrence of more than two eiders together.

Duval County.—The earliest Common Eider report in Duval County was the fifth for Florida, an individual found at Fort George Inlet from 25 November 1970 through 4 February 1971 (Below 1983).

Although the bird lingered for over two months and was reported on that winter's Christmas Bird Count, details about the age and sex are not available. Forty years passed before the next Duval County observation, in the winter of 2011, a record of two birds near the extensive rock jetties at the mouth of the St. Johns River (the "Mayport jetties"). Two more records occurred in the winter of 2012; one of a first-year male in that same location followed by a differently plumaged young male about a mile farther up-river almost two weeks later (Table 1, Nos. 9 and 10). A female was reported just offshore of Little Talbot Island State Park in November 2013, and an adult female was recorded again at Huguenot Memorial Park from 15-18 May 2014 that following spring. An adult male was photographed November 2014 along the Mayport jetties and a first winter-male was well described (but not photographed) in the Intracoastal Waterway in April 2016. In May 2017, a first-winter male was first observed at Huguenot Memorial Park and very shortly up-river at the same location as No. 10 in 2012. The most recent record, from 28 December 2018, is of a male in Pumpkin Hill Creek, a tributary of the Amelia River; this latest eider is the most-inland occurrence in northeast Florida history.

Nassau County.—Of the eight reports from Nassau County, only two have come from the fishing pier that runs parallel to an extensive rock jetty at Fort Clinch State Park (November 2006 and February-March 2016). There have been three records from the Amelia River, which also serves as the Intracoastal Waterway (ICW) running through the county; two from the north end in Fernandina Beach (November 2013 and February 2018), the other from the south end near Nassau Sound (January 2016). The remaining records are from Nassau Sound, a coastal bay dividing Duval and Nassau counties at the Atlantic Ocean.

St. Johns County.—There have been just three reports of Common Eider from St. Johns County, all from winter 2006 through spring 2010, which is somewhat surprising given the county's 41 miles of coastline and the heavily trafficked bays and waterways of Matanzas and St. Johns inlets. Regardless, two of the three observations are from St. Augustine inlet, which is similar in size and sheltering conditions to Nassau Sound to the north. The most recent and third record is of a bird along the Atlantic coast at Ponte Vedra Beach, and was observed from shore by many astute observers. This bird was observed on 4 May 2010, and is the only St. Johns County report with available field notes regarding the eider's behavior: "Fed by standing on the beach, facing the waves, and waiting for the waves to reach him. Seen flapping, seemed to have full range of motion, but never saw in flight. Would slowly walk south down the beach" (eBird 2018).

IDENTIFICATION, MOVEMENTS, AND BEHAVIOR

Common Eiders are difficult to identify to age and sex except for alternately plumaged males. Fortunately, many of these observations are supported with photographs but identification is still challenging in some cases. The plumage of a female Common Eiders can vary as they age and can actually obtain color characteristics similar those of a second-year or eclipse male; this problem can become so challenging that sexing an individual may be possible only by dissection (Swennen et al. 1989).

Subspecies.—Identification to subspecies is made primarily based on the rounded shape of the frontal extension on the bill, which has some overlap with other races but is a fairly reliable field mark (Mendall 1986). Four subspecies of Common Eider occur in North America, and while none of the observations have been positively identified to subspecies, the working assumption is they are all *S. m. dresseri*, which breeds in coastal Quebec (Pyle 2008:127), New Brunswick, Nova Scotia, and New England.

Migration.—Common Eiders are known to migrate in flocks ranging from a “few individuals to thousands,” so the overwhelming majority of single observations in Florida—with just a handful of reports including two or three birds—suggests that when eiders range as far south as Florida they are truly vagrants (Goudie et al. 2000).

Habitat.—The majority of the observations occurred in small coastal bays, leeward inlets, and rivers, as opposed to the purportedly more favorable locations like the open ocean, rocky outcroppings, or in areas of moderate to extreme turbulence.

The locations of the individuals recorded in northeast Florida are consistent in terms of opportunistic food sources, as the eiders have primarily lingered around extensive jetties, bridge pilings, ferry slips, or docks where food (barnacles, mollusks, and crustaceans) are in abundance. These locations, however, challenge previously published descriptions of winter habitat preferences, according to which they “rarely enter sheltered bays and coves” and seem to prefer areas where the sea breaks against rocks (Goudie et al. 2000). While this is consistent with the habitat at Fort Clinch State Park (Nassau County) and to some extent, Huguenot Memorial Park (Duval County), the majority of local records are of birds found in more sheltered areas like the ICW, Amelia River, St. Johns River, and the protected and often placid bay of Nassau Sound.

Foraging behavior.—Available literature on the foraging behavior of Common Eiders is consistent in describing it as primarily a diving species that will occasionally dabble, and that will often bring prey to the surface to consume (Goudie et al., 2000). There is no mention of an eider foraging or obtaining food from the surface or any structure above the water’s surface. Several of the eiders observed in northeast Florida have exhibited behavior inconsistent with this notion, beginning with the St.

Johns County bird in 2010 (Table 1, No. 6), which was studied “waiting for the waves” to reach him on shore where it gleaned some sustenance from the surge.

The fifteenth northeast Florida bird, from Nassau Sound (Table 1, No. 15), wintered at the base of the George Crady Bridge Fishing Pier, which is immediately adjacent to the newer concrete Highway A1A bridge spanning Nassau Sound. This was a first-year male that was observed on multiple occasions scraping barnacles off the concrete pilings while floating on the surface; a behavior occasionally observed around piers in Maine where barnacles and periwinkles are present (B. Allen, pers. comm.).

In May 2017, a first-year male (Table 1, No. 19b) was observed at the Mayport Ferry slip (Duval County) taking barnacles off the slip’s structure while floating (Fig. 2) and subsequently consuming them while swimming. On 30 December 2018, another first-year male (Table 1, No. 21) was recorded exhibiting the same behavior of scraping sustenance from the edge of a floating dock while swimming; the bird was not diving under the surface to search for food. This foraging behavior has not been previously described, and despite the small number of observations it is noteworthy for being so different from previously recorded behaviors.

Locomotion.—Common Eiders are strong swimmers that also exhibit a degree of grace and balance when walking on land, in large



Figure 2. A first-year male Common Eider pulling exposed barnacles from a dock piling. Photo by Kevin Dailey

part due to the more centrally located placement of their legs (Goudie et al. 2000). Based on personal observation and accounts from others, the locomotion of the northeast Florida eiders has been fairly consistent with published accounts, whereby they rarely leave water in winter but will rest on land as spring commences (Goudie et al. 2000), or come ashore to nest or roost.

All 26 of the eiders across the 21 observations have been observed in the water, either loafing, swimming, or actively diving. In addition, three of these birds have been recorded resting on land; two of those were in the month of May, but there is one outlier in the first year male that lingered at Nassau Sound from November 2014 through 9 March 2015 (Table 1., No. 15). No. 15 was actually observed walking or loafing on shore more often than in the water. Since the species is thought to rarely visit land in winter, this is perhaps a trait of young birds that are out of range, out of sorts, and likely ill.

Postural displays.—Johnsgard (1964) describes in great detail the courtship displays and behavior of all the eider species, including one referred to as the “Upward-stretch” in which the male pauses, rises out of the water to display the chest, and may shake the head before going back to a normal posture in the water. Various descriptions of these behaviors are based on observations of adult, sexually mature males but have not included reference to immature males exhibiting the behavior, or in the absence of a female (or other competing males) (Johnsgard 1964, Goudie et al. 2000). In Nos. 15, 19b, and 21, each of these first-year males exhibited this behavior often and in the absence of any other waterfowl (Figs. 3 and 4). While No. 19b did not extend the wings as part of this behavior, No. 15 did often add to the “Upward-stretch” the “Wing-flapping” portion of the courtship display (Fig. 4), which is a sequence of two to three flaps of the opened wings while in the raised position with the bill held at about a 45 degree downward angle (Johnsgard, 1964). The St. Johns County eider from May 2010 was observed “flapping” as it stood on shore, but unfortunately no further detail is available to suggest whether the behavior could be associated with Johnsgard’s account of how the species displays. Given the circumstances, “wing-flapping” eiders observed in Florida are most likely doing so as a waterproofing technique.

CONCLUSIONS

After decades without an observation, Common Eiders have been reported near annually in northeast Florida over the last decade, suggesting there may be a correlation between a wintering range expansion and climate change. Regardless, their occurrence at the southern extremes of their range has afforded the opportunity to



Figure 3. A Common Eider performing the “Upward Stretch.” Photo by Kevin Dailey.

study their behavior and suggest several conclusions that were either previously unrecorded or even challenge our existing knowledge of the species.

Based on analysis of the total population of northeast Florida reports, it can be assumed that most eiders seen in Florida arrive singularly or in small numbers (< 4), are of the race *S. m. dresseri*, and predominantly male. Despite the season (winter), these eiders



Figure 4. A Common Eider performing the “Wing-flap.” Photo by Kevin Dailey.

are predominantly found in leeward or sheltered waters (bays, inlets, and rivers), which is contrast to their favored wintering grounds of the northeast Atlantic coast where they are said to favor open ocean, rocky shorelines, and turbulent waters.

The northeast Florida eiders seem to be opportunistic foragers; at least three of the individuals were photographed taking sustenance directly from bridge or dock pilings above the surface, while another seemed to skim food from the backwash of breaking waves. Additionally, these Florida ducks were observed loafing on shore for extended periods of time, a trait rarely documented for the species within their normal winter range.

Lastly, the young male eiders in northeast Florida have exhibited displaying behavior that is more consistent with spring-time courtship displays near their breeding grounds.

The Common Eider is still considered a fairly rare species to occur in Florida waters, and future occurrences should be carefully observed and documented to perhaps add to our growing understanding of these vagrant ducks in Florida waters.

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