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Returns from Steller's Eiders banded in Izembek Bay, Alaska

ROBERT D. JONES, Jr.

Aleutian Islands National Wildlife Refuge

Summary

The author has recorded observations of a large wintering population of Steller's Eiders in Izembek Bay for eight years. From 1957 through 1962 the birds arrived in early fall to complete the post nuptial moult in the Bay. Advantage was taken of the flightless period to band 833 of the eiders. Methods are described along with observations of the bird's behaviour. In 1963 and 1964 the moult was completed elsewhere on the migration route and the population arrived nearly three months later than before. Returns from the Soviet Bird-Ringing Centre indicate the moult to have taken place in Siberia, the principal nesting ground of the Steller's Eider. The remarkable fact is that in some years many of these birds migrate upwards of 3,200 kilometres before the post nuptial moult.

Wintering populations of Steller's Eiders *Polysticta stelleri* are known from the waters of Kodiak Island west along the south coast of the Alaska Peninsula and the eastern Aleutian Islands (Gabrielson and Lincoln, 1959). This writer has observed them in the area of the western half of the Alaska Peninsula where they are known colloquially as 'Scotchies'. A considerable segment of this population, aggregating roughly 200,000 birds at its peak, moves in and out of three large lagoons on the north coast of the Peninsula, dependent on freezing and thawing conditions. These are Nelson Lagoon, Izembek Bay, and Bechevin Bay (at the north end of Isanotski Strait). These, together with the intervening coast form the western end (about 125 miles) of the Alaska Peninsula. McKinney (1959) has recorded his observations of waterfowl in these areas. The peak population of the little Steller's Eider is reached in this area in April, when about half of them are in Nelson Lagoon and the other half are divided between Izembek Bay and Bechevin Bay. The peak occurs on the eve of spring migration when these lagoons are ice-free and all other water areas farther north are still frozen. In Nelson Lagoon these birds are associated in April with even larger numbers of King Eiders *Somateria spectabilis*, and several thousands of Common Eiders *Somateria mollissima v-nigra*, Scoters *Melanitta nigra americana* and *M. fusca dixonii* and Old Squaw Ducks *Clangula hyemalis*. In Izembek Bay and Bechevin Bay they are associated in April

with about 30,000 Emperor Geese *Anser canagicus* and 70,000 Black Brant *Branta bernicla orientalis*.

The arrival date of the Steller's Eider population in Izembek Bay in fall has proven strikingly variable. Some years most, if not all, of these birds arrive in August to perform the post nuptial moult in the three lagoons of this area, while other years they arrive almost three months later, having completed the moult at some other point on their migration route. For six years, 1957 through 1962, the moult was conducted in these lagoons but in 1963 and 1964 only about 5% of the population appeared until after the moult. We do not have a record of the arrival date for 1963, but in 1964 between sunset 6th November and midmorning of 9th the population appeared in Izembek Bay in an avalanche migration.

In 1961 we began banding these birds during the flightless period. At low tide Izembek Bay becomes a pattern of exposed mud and sand bars with channels running between them. We found that the flocks of flightless eiders could be driven up these channels from the deeper portions where they normally rest, into the shallow water at the channel's head. Here they could be held in a compact flock while a trap was installed, generally upchannel. When all was ready, the flock could usually be driven into the trap. Anyone who has engaged in this type of endeavour will recognise that there is no certainty in capturing wild birds. These were day to day operations, taking

into account suitable weather, and scheduled to complete the drive at about low water. Large numbers of birds could not be handled because the returning tide would flood trap and crew. The largest number we ever captured was about 250, not all of which were banded. The flocks are often much larger, but we 'cut out' a group of suitable size.

We found that the males and females tended to segregate in the moult, and our catches were therefore predominantly of one sex or the other. We also found a distinct difference in behaviour under these conditions between the two sexes. The males proved relatively easy to handle, for they generally did not struggle and remained almost completely silent. The females on the other hand struggled vigorously, squawking outrageously. When we handled a flock of females our hands became severely scratched by their struggling.

A modest total of 833 birds was banded in 1961 and 1962, but little was accomplished in the next two years because there were few birds available in the moult. Accustomed as we were to very large numbers of Steller's Eiders in Izembek Bay during late August and early September we were dismayed when only about 10,000 appeared to moult in 1963. This might seem to be enough for banding on our scale of operations, and indeed it would if they were all in one channel conveniently located for our purposes. But the Bay is large and the birds did not make themselves available. They did, however, appear in time for the Christmas Bird Count and were present in April 1964 about 100,000

strong in Nelson Lagoon and a roughly equal number divided between Bechevin Bay and Izembek Bay, the latter having the larger number.

In the fall of 1964 when again the large numbers failed to materialise for the moult we were more curious than concerned. By this time we had received returns from the Bird-Ringing Centre in Moscow, USSR indicating that the bulk of the population of Steller's Eiders wintering in the Alaska Peninsula area nest on the coast of the Arctic Ocean in Siberia, some of them as far west as the delta of the River Lena. This is not particularly remarkable in itself for we have Nelson's (1883) account of large numbers about Cape Wankarem, Siberia, but it does seem remarkable that in six of the eight recorded years some of these birds should travel upwards of 3,200 kilometres before the post nuptial moult. It also seems remarkable that this behaviour is not constant from year to year.

Thus far seventeen returns have been received here, not counting our own recaptures (numbering 43) or those taken by hunters in the immediate banding area. Of these seventeen, one was recovered at Point Barrow, Alaska and the remainder came from Siberia (Table I). The locations of these recoveries in relation to the banding site are shown in the map opposite.

Fourteen of the Siberian returns are from birds taken in June and July, two in 1962, one in 1964 and the rest in 1963. The remaining two were killed at Cape Wankarem 15th September, 1963. These two are of especial interest because by this date in the six preceding years the Steller's Eiders in Izembek Bay were nearing

Table I. Recoveries in Siberia of Steller's Eiders marked in Izembek Bay, Alaska. All banded as moulting adults.

<i>Date marked</i>	<i>sex</i>	<i>recovery site</i>	<i>date recovered</i>
Sept 3, 1961	M	Near Nizhniye Kresty. 69°N, 157°E.	June 13, 1963
Sept 3, 1961	M	100 kilometres west of Khazach'ye. 71°N, 136°E.	June 19, 1963
Sept 5, 1961	F	Delta of the River Lena. 73°N, 127°E.	June 13, 1963
Sept 5, 1961	M	Delta of the River Lena. 73°N, 127°E.	June 13, 1963
Sept 5, 1961	F	Delta of the River Lena. 73°N, 127°E.	June 16, 1963
Sept 6, 1961	F	Delta of the River Lena. 73°N, 127°E.	June 16, 1963
Sept 6, 1961	M	Near Nizhniye Kresty. 69°N, 157°E.	July 10, 1963
Sept 6, 1961	M	Chetyrekstolbowyy Island, Ostrova Medvezh'i, East Siberian Sea. 71°N, 161°E.	June 7, 1964
Sept 19, 1961	M	About 100 km east of Ambarchik, Magadan. 70°N, 162°E.	July 4, 1962
Sept 19, 1961	M	Cape Schmidt, Magadan. 69°N, 179°W.	July 9, 1962
Sept 7, 1962	M	Near Provideniya. 65°N, 174°W.	July 5, 1963
Sept 7, 1962	M	Near Wankarem. 68°N, 178°W.	July 24, 1963
Sept 7, 1962	M	80 kilometres east of Pevék. 70°N, 170°E.	June 00, 1963
Sept 10, 1962	F	Cape Wankarem. 68°N, 178°W.	Sept 15, 1963
Sept 10, 1962	F	Cape Wankarem. 68°N, 178°W.	Sept 15, 1963
Sept 10, 1962	F	Delta of the River Lena. 73°N, 127°E.	June 12, 1963



completion of the post nuptial moult.

These returns suggest that the eiders were moving eastward either slower or later than in the earlier years, but offer no clue as to why this disparity in behaviour should occur. In Alaska winter was slow to release its grip in the spring of 1964 and waterfowl nesting was consequently two to four weeks

late. One might suppose that this was also true of Siberia. If so, it would explain the late migration in 1964, but offers no explanation for the late one in 1963. Clearly, if we are to answer these unknowns we must look to a Soviet observer in Siberia.

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The prospects for wild geese in the Netherlands

T. LEBRET

Summary

During their stay in winter quarters most species of wild geese are dependent upon the presence of suitable roosts. Various types of roosts, the factors responsible for their presence, and their prospects are discussed. Several State programmes (the 'Delta Project' and various drainage plans) will endanger a number of roosts in the Netherlands within the next 25 years.

White-fronted, Pink-footed and Bean Geese choose those localities where they may feed undisturbed rather than select special types of vegetation. Only the Brent Goose mainly feeds on the vegetation of the tidal zone of salt waters. The Greylag Goose shows a strong preference for tidal *Scirpus* fields along fresh and brackish estuaries.

Drainage and reallocation schemes tend to open up the regions concerned for agricultural development, which invariably leads to an increase of disturbance and to the departure of the wild geese. In the Netherlands great numbers of wild geese feed on well-drained fields, provided they are left undisturbed. The effect of drainage and reallocation schemes can be partly offset by the institution of disturbance-free sanctuaries elsewhere.

Since increasing numbers of wild geese will be concentrated on a decreasing acreage, the carrying capacity of the refuges must be in the focus of the protection plan for the wild geese in the Netherlands.

In the Veerse Meer, the first estuary closed as a part of the Delta Project, a nature reserve will be managed as a special goose refuge by the sowing of grasses. Further refuges of this type will be urgently required as the Delta Project goes on.