

GENERAL NOTES

Band Wear in Stilt Sandpipers -- A Warning. While studying the biology of shorebirds at Churchill, Manitoba, in 1966, I noticed that many Fish and Wildlife aluminum bands placed on Stilt Sandpipers (*Micropalama himantopus*) in 1965 showed extreme deterioration. Although the bands were not noticeably thinner than new bands, nearly all were highly discolored, some were heavily pitted, several had holes corroded entirely through the metal, and one was completely illegible. When removed, the worn bands snapped in two, and often small fragments crumbled away. No abnormal wear was evident in bands of some other species (Semipalmated Plover, *Charadrius semipalmatus*; Hudsonian Godwit, *Limosa haemastica*; Red-backed Sandpiper, *Calidris alpina*; Least Sandpiper, *Calidris minutilla*) that were retrapped up to two years after the original banding.

In an effort to reduce band wear in 1966, I banded many Stilt Sandpipers above the tibiotarsal joint, but recoveries in 1967 indicated that this method failed to reduce wear significantly. In all, bands on eight of 19 birds had to be replaced after only one year of wear.

The cause of this extreme wear can only be surmised. The corrosive effects of salt water can be eliminated for two reasons: 1) the interval between banding and recovery is too short, and 2) Stilt Sandpipers, unlike Red-backed Sandpipers and Semipalmated Plovers, tend to avoid salt water habitats. In migration, however, Stilt Sandpipers frequent stagnant ponds and actually seem to prefer those in which sewage is discharged. The high acidity of these ponds is sufficient to account for the observed corrosion.

My studies indicate that even though the bands of some returning birds were badly eroded, it is unlikely that any band loss occurred in the first year. It is obvious, however, that many bands must be lost between the first and second year. Banders who capture large numbers of Stilt Sandpipers or who may intend prolonged studies of this interesting species should plan to use anodized bands. The use of standard aluminum bands is almost pointless and should be discontinued.—Joseph R. Jehl, Jr., Natural History Museum, P. O. Box 1390, San Diego, California 92112.

Longevity Record for a Breeding Great Frigatebird.—On 15 June 1968 on Jarvis Island (0°23'S, 160° 01' W.), Line Islands, we captured an incubating female Great Frigatebird (*Fregata minor*) wearing band number 39-722380. The band, which was clearly legible and not badly worn, had been placed on the bird by James E. A. Kinney, one of the colonists who banded birds on the American equatorial islands for George C. Munro. Five hundred and eleven frigatebirds were banded on Jarvis from August 1938 through May 1940, but this is the only one recaptured during six surveys made by personnel of the Pacific Ocean Biological Survey Program (POBSP).

This frigatebird, banded as an adult on 3 or 4 August 1939, must be nearly 34 years old, since unpublished POBSP data indicate that this species takes at least five years to reach maturity. This bird is, thus, one of the oldest to be recaptured in the wild. No other longevity records for frigatebirds have been reported.

We are grateful to the Hawaii Audubon Society for permission to publish this record.—Roger B. Clapp and C. Douglas Hackman, Paper Number 47, Pacific Ocean Biological Survey Program, Smithsonian Institution, Washington, D. C. 20560.

Blue Jays and Blueberries.—While making bird damage assessments on highbush blueberries (*Vaccinium corymbosum*, various cultivated varieties) at Glastonbury, Connecticut during the summer of 1968, an opportunity was afforded to capture relatively large numbers of various bird species, including the Blue Jay (*Cyanocitta cristata*). Interest concerning the Blue Jay relative to the apple has previously been reported (Mitterling, L. A. 1968. Bird-Banding 39: 23-31). Continuation of the above research relates to obtaining a breeding population. Therefore, captured Blue Jays were placed in a holding cage used for raising fledglings (Mitterling, L. A. 1967. Bird-Banding 38: 77-78). Four Blue Jays currently "Second Year" (or Sub-adult) birds had been raised from nestlings and

maintained on a standard food diet (sunflower and other plant seeds plus conditioners and other supplements such as oyster shells) in that holding cage over the previous winter (1967-68). In June 1968 they had been transferred to the *beta confinement* (semi-wild) enclosure (Mitterling, L. A. 1966. Bird-Banding 37: 123-125).

Captured Jays were moved from Glastonbury where they were captured at the blueberry patch to the University of Connecticut, and released in the holding cage. Each Jay was given water and a vitamin supplement, plus some of the food from the feeding troughs or platforms, after identifying leg tags had been attached to them. At the time when blueberry damage assessment was started, many adult Jays were plucking berries from the bushes, and apparently returning to the nesting site with them, presumably to feed nestlings or fledglings. All of the captured Jays used were classified as "Hatching Year" (or immature).

The first four birds taken to the holding cage all died within 72 hours. It was assumed that more than the normal stress and strain, associated with handling and transporting, caused their death. Also, such a simple explanation as moisture deficit did not seem to be responsible.

The next 11 Jays captured were placed into two groups. Five were placed in the holding cage with an ample supply of blueberries mixed with the standard food. The remaining six Jays were placed in the *beta confinement* enclosure with Homer an adult Jay, and only the standard food although apples were present on the trees in that enclosure.

The five Jays in the holding cage were alive and had adapted to confinement 10 days later when mixing fresh blueberries with the standard food ceased. Within 72 hours all six Jays released in the *beta* enclosure had died.

Following the above experience, another 11 Jays were captured and moved to the University of Connecticut. One escaped before tagging and another after. A third died while putting leg tags on it. The remaining eight were placed in the *beta* enclosure with the Second Year or adult Jay with an abundance of blueberries mixed with the standard food. Two of the remaining eight died; one within 8 hours and the second within 48 hours. Fresh blueberries were provided daily to this group for one week after placing them in the enclosure.

Four of the five placed in the holding cage are alive as of this writing and have adapted to confinement. The one which died, did so about three weeks after being taken off the blueberry diet, so it is assumed that it too had adapted. Five of the eight placed in the *beta* enclosure are presumably still alive. Two of them died as previously noted and the third was found dead about six weeks after confinement and after it had been taken off the blueberry diet. The word "presumably" used above relates to the fact that vandals entered the premises and threw apples on top of the 20' enclosure causing one section to break away from its retaining stringer. All five birds, plus Homer, escaped.

Two factors were involved in the decision to discontinue the study when the second or latter group had been placed in the *beta* enclosure. First, the limited number of cages, and, second, the majority of Jays available for capture would have been exposed to a much greater variety of foods other than blueberry. It is probable that some in the last group had been anyhow.

The evidence, however, would indicate that many of the young Jays from the Glastonbury, Conn. location, were sufficiently "familiar" with the blueberry that when it was mixed with a "strange" food source they could or would adapt to that "strange" food. Without the blueberry as a "familiar" feed to entice them to adapt, they did not survive. Whether it was basically a factor concerned with moisture, food or its combination is still unresolved and open to question. Very possible the adverse effect resulted from going to a diet of dry seeds from a diet of fruit, rather than resulting from deprivation of blueberries as such.—Lloyd A. Mitterling, Plant Science Department, University of Connecticut, Storrs, Connecticut 06268.

A Nest-Box Trap for Starlings.—During the spring of 1968, we used nest boxes to study the breeding behavior of Starlings (*Sturnus vulgaris*) in Denver, Colorado. Because the study required that individual Starlings be marked early in their nesting cycle, an effective means of capturing the birds was needed. Kessel (1957) and others caught them by hand while they roosted in boxes during winter and early spring. Royall (1966) and Collins and de Vos (1966) also caught