

eventually allow detailed analyses of longevity and mortality in these populations. We report here longevity records that resulted from the earlier banding in both colonies.

Twelve of the Brown Noddies banded on Manana before 1948 were recaptured dead or alive before 1960, the longest interval from banding to recapture being 13 years. On 23 May 1972 Brown recaptured on Manana a Brown Noddy (423-30840) that had been banded there as a juvenile on 12 June 1947, and thus was 25 years old. On 12 July 1960 banders on Bush Key, Dry Tortugas, recaptured a Brown Noddy (39-354548) banded there as an adult by G. D. Robinson on 7 June 1939, an interval of 21 years from banding to recapture. The Dry Tortugas individual was at least one year old when banded. Available data indicate that Brown Noddies of the Dry Tortugas population do not breed until they are at least three years old, but many two-year-olds and occasional yearlings frequent the colony area during the nesting season. These subadults are recognizable as such by details of plumage color and molt, but they might be considered adult unless examined closely.

Kennard (*Bird-Banding*, 46: 63, 1975) gave 7 years, 7 months as the maximum natural longevity of this species. Both of the aged Brown Noddies appeared to be in good physical condition and were evidently breeding. Both incubation patches of the Manana individual were bare of down, and the Dry Tortugas bird was caught as it flew from a nest containing a half-grown juvenile. WILLIAM Y. BROWN, 23 Hudson Street, Cambridge, Massachusetts 02138; and WILLIAM B. ROBERTSON, JR., Everglades National Park, Homestead, Florida 33030. Received 2 March 1975, accepted 8 April 1975.

Dirt-bathing by a Pileated Woodpecker.—Dirt-bathing has not been described for any species of woodpecker as far as I am aware, and Simmons (*in* A new dictionary of birds, A. L. Thomson (ed.) New York, McGraw Hill, 1964) does not include the Piciformes among birds for which the habit of dusting is known. Therefore the following observations on a male Pileated Woodpecker (*Drycopus pileatus*) are noteworthy.

Near a wooded swamp in Luray, South Carolina, at 1640 on 12 April 1974, I heard the "cuks" of an approaching Pileated Woodpecker. The "cuks" continued for 3 min as a male Pileated flew to the base of a tree and paused to look about. It then moved to a mound of clay-like earth, 30 cm in height, thrown up where a pit had been dug some years previously, settling down in a scooped out place with motions like a hen settling on a nest. Its back was toward my wife and me. With body feathers fluffed and wings held slightly out, the Pileated poked its bill repeatedly in a small, hollowed bank of earth in front of it, while continually raising its head to look around. Some dirt was thrown onto its back, perhaps by accident. The Pileated made no effort to tuck dirt into its plumage, as it might have done in anting. After 3 to 4 min it flew to a nearby tree with some dirt falling from its plumage.

The dirt of the mound was damp except for a thin outer crust. Little sun penetrated through the woods, thus making it unlikely that the mound could have ever become dry enough to be dusty. The place where the Pileated settled, hollowed to a depth of about 8 cm at the end adjacent to the center of the mound, looked as though it had been used many times before. At this end that I saw marks made as the Pileated had driven its bill repeatedly into the earth. There were no signs of ants or other insects.

It rained hard on the following day. On the day after, at 0940 and again at 1637 (almost exactly the time of its afternoon visit on 12 April) I heard "cuks" and saw the male Pileated come to the dirt pile. On each occasion it jabbed the earth only 4 to 5 times, then flew off. The earth was still soaking wet, and I presumed that the Pileated no longer found it suitable.

Because much of what Simmons (*op. cit.*) states about dusting applies well to what we observed for the Pileated Woodpecker, there is no need to repeat it here. My feeling is that body and feather parasites of woodpeckers, as presumably is true for many other birds, have breeding cycles that synchronize with those of their hosts, as indicated by the greatly increased amounts of preening and scratching done by all woodpeckers that I have studied. It is conceivable that dirt bathing may be related to increased activity of parasites. Contact with dirt could act both to alleviate irritation directly and, if parasites were on the move, as a way of removing at least some of them. What seems unusual is that whereas

most birds use dry dust on the ground in sunny places, this Pileated used a scoop of damp earth in shady woods next to a swamp. LAWRENCE KILHAM, *Department of Microbiology, Dartmouth Medical School, Hanover, New Hampshire 03755*. Received 7 February 1975, accepted 20 May 1975.

A method for marking young gulls for individual identification.—

Recognition of individual offspring is often desirable in studies of colonial, ground-nesting, semi-precocial birds that may travel some distance from the nest or mix with other broods. A variety of marking techniques has been used for this purpose (e.g., numbered leg bands, color bands, paints and dyes). The effectiveness of these techniques is limited by such factors as bands being obscured except when a bird is captured or standing, a limited number of color combinations or poor retention times.

During a recent study of individual recognition between parent Ring-billed Gulls (*Larus delawarensis*) and offspring, we used a cattle marking product, called F-F Brands (Victor Business Forms Company, 2105 Y Street, Lincoln, Nebraska), that was not limited by these restrictions. The "brands" are 1.86-inch-diameter (75 mm) yellow tags that are consecutively numbered 0 to 999 with large black numerals. The tags are made of a specially bonded rubberized fiber, guaranteed to withstand all weather conditions. They were attached to the natal down of the synsacral region of recently hatched chicks with F-F Cement. The glue was not noted to cause adverse effects to either the skin or juvenal plumage. Tags also were glued to rocks to designate nest sites at which marked chicks hatched. We were able to monitor several nests and chicks at one time, as the bright yellow tags contrasted well with the grayish back of chicks and drab gravel substrate (Fig. 1). Tag numbers were read easily with the naked eye or 7 x 35 binoculars at approximately 10 and 53 m respectively. Tagged chicks also received Fish and Wildlife Service bands for verification of identity if tags were lost.

In 1971 and 1972, we applied 378 F-F Brands to Ring-billed Gull chicks. After 14 days, 92.2% of the tags were still attached to chicks. Three factors contributed to tag loss: removal by adults, substrate type and amount of vegetation in a nest territory, and replacement of natal down by juvenal plumage.

A few tags (2.2% of total) were pulled off by adults. Particular adults consistently removed tags from their chicks. We are unable to explain why these adults would not tolerate tags on their offspring.

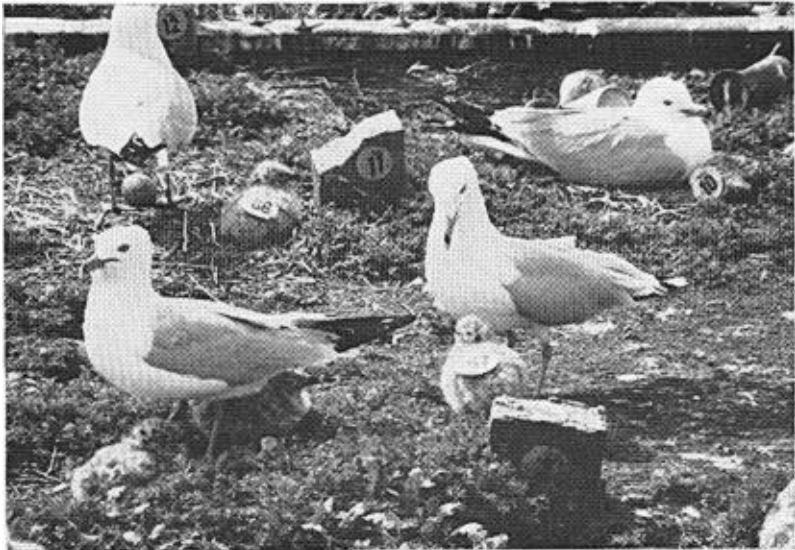


FIGURE 1. Young Ring-billed Gulls and nest sites tagged with F-F Brands.