GENERAL NOTES

Patagial streamers as markers for Red Grouse chicks.—We needed to mark wild Red Grouse (*Lagopus lagopus scoticus*) chicks soon after hatching, without distressing them or reducing their survival. This note evaluates a miniature variation of a plastic patagial streamer (Hewitt and Austin-Smith, *J. Wildl. Manage.*, **30**: 625-7, 1966) as a marker.

We used colored streamers measuring 3 x 70 mm, cut from tough, light, flexible plastic cloth (Safety Flag Co. of America, Pawtucket, R. I.). With a large darning needle, we threaded the streamer through the prepatagium, taking care to miss the tendon that runs along its leading edge. The length of the streamer was adjusted so that the ends met when reflected over the dorsal side of the wing. The two ends were then stapled about 8-9 mm from the leading edge and excess plastic was cut off to within 10 mm of the staple. When fixed, the streamer was adjusted to follow the contours of the dorsal aspect of the wing. Different individuals in a brood were marked distinctively by punching small holes (from 0 to 6, but more would be possible) in the streamer's free end. Each brood was given a distinct color or color combination. When in place, the markers were easily visible with 7 x 35 binoculars from 100 meters.

We had hoped to put a metal leg band on each bird handled, but many chicks were so small that the diameter of their heel joints or closed toes was not yet sufficient to prevent the movement of the band beyond these points. Such chicks received patagial streamers. Most chicks could be banded at 12 days old but a few were not large enough until 18 days. We did not put wing tags on chicks younger than 3 days old because their patagia were very small. The tag weighed 0.23 g or less than 1% of the body weight at 3 days old.

Chicks that we marked with streamers and older chicks that we leg-banded were all from the same population and study area. Of the 46 chicks marked only with patagial streamers, 20% were retrapped in the autumn (13% cocks, 7% hens), and of the 949 slightly older chicks that we only leg-banded, the figure was again 20% (15% cocks, 5% hens). Of the 46 tagged chicks, 11% occupied territories in early winter (9% cocks, 2% hens), and of the 949 banded chicks, the figure was similar at 9% (8% cocks and 1% hens). This shows that survival until autumn and success in establishing a territory were no worse among patagial-tagged chicks than among leg-banded chicks. In addition, when tagged chicks were later retrapped as chicks or adults, the skin around the puncture had always healed leaving feather arrangement normal and flight unimpeded.

Thus there was no evidence that patagial streamers harmed the birds or reduced their subsequent performance as compared with the standard techniques of leg-banding. As the method worked so well with Red Grouse, it would probably be of use for marking very young chicks of other species of Tetraonidae and Phasianidae.—D. A. Boag (*present address: Dept. of Zoology, Univ. of Alberta, Edmonton, Canada*), A. Watson, and R. Parr, *Institute of Terrestrial Ecology, Blackhall, Banchory, Scotland.* Received 24 September 1974, accepted 10 April 1975.

Capturing and marking Oldsquaws.—The migration routes of the Oldsquaw (*Clangula hyemalis*) are at present unknown. Unfortunately, due to low harvest rates, published recoveries of banded birds are negligible. It is therefore necessary to rely almost exclusively on sightings of marked birds in migration investigations.

Published accounts describing capture techniques suitable for diving waterfowl, especially sea ducks, are rare. At Churchill, Manitoba and in Northumberland County, Ontario from 1967 through 1974, Oldsquaws were trapped and marked with nasal saddles (Fig. 1) constructed of polyvinylchloride tape similar to those described by Sugden and Posten (*J. Wildl. Manage.*, **32**, 1969). The structures were fastened to the bill by means of 1.5 mm diameter "Linde 60" stainless steel welding rod pins bent to form an angle of 150° to accommodate the nasal openings. Washers, 4.8 mm in diameter and constructed from 27 gauge stainless steel, prevented loss of the pins, which were also crimped at both ends. Each saddle was numerically coded.

In May and June, pairs of Oldsquaws were captured in 10 cm mesh mist nets placed horizontally over holes in the ice on inland tundra lakes at Churchill. The birds, while attempting to dive for food in the holes, were invariably en-