

A TECHNIQUE FOR CAPTURING EARED GREBES (*PODICEPS NIGRICOLLIS*)

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Abstract.—In 1985–1986, we banded 469 Eared Grebes (*Podiceps nigricollis*) at Mono Lake, California, by following their movements underwater with a small boat and catching them with a dip net as they surfaced to breathe. This technique allowed us to monitor molt, weight gain, and other aspects of the grebes' biology in the post-breeding season and may increase our knowledge of the migrations of this rarely-banded species.

METODO PARA CAPTURAR ZARAMAGULLONES (*PODICEPS NIGRICOLLIS*)

Sinopsis.—Utilizando un pequeño bote (4.5 m) con un motor de 20–25 cf. y una red de pesca de 0.5 m de diámetro unida a una vara de 2.8 m, se desarrolló un método para capturar a *Podiceps nigricollis*. Este consiste en perseguir las aves que se encuentran en aguas poco profundas, dirigiéndose directamente al lugar en donde estas se sumergen. Una vez localizada el ave bajo el agua, se sigue a una distancia de 3–5 m, cuando se nota que el zaramagullón va a emerger, se le tira la red para cubrirlo y capturarlos.

Hundreds of thousands of Eared Grebes (*Podiceps nigricollis*) use Mono Lake, California, as a major molting and staging area during the fall migration (Storer and Jehl 1985, Winkler and Cooper 1986). In order to study the age and sex composition, molt condition, and weight changes of the grebe population, and to gain a better understanding of the grebes' origins and destinations (Jehl and Yoichem 1986), we undertook a banding program at Mono Lake. Because individual grebes are flightless for nearly all of their sojourn at Mono Lake—which for most birds ranges from 2 to 6 mo—diving is their only effective means of escaping danger, although they may skitter across the water for short distances if pursued in a boat. We took advantage of their flightlessness to develop a capture technique that was effective for several other species of diving birds as well.

We used a small (4.5 m) boat equipped with a 20 or 25 hp outboard to trail grebes swimming underwater and a 0.5 m diameter fishing net attached to a 2.8 m pole. Upon sighting a grebe in shallow water we approached it rapidly, proceeding directly to the spot where it dived. Once the bird was spotted underwater, we stayed 3–5 m behind while following it. When it showed signs of tiring and coming up for air (e.g., looked up, made a start for the surface often preceded by an upward-tilt of the rump, swam in a tight circle, or stopped forward motion to tread water), we closed in to netting range and captured it as it surfaced to breathe.

Fleeing grebes dive vertically, then hug the bottom as they swim rap-

idly away. Initial dives typically lasted 60–80 s, and the birds' movements were strong and erratic, so that quick captures were unusual. Sometimes a grebe would rise to within a few cm of the surface and dive again without breathing, particularly if the net were allowed to touch the water or otherwise was visible to the surfacing grebe. In most cases, however, dive durations and evasive actions diminished as the bird tired, increasing the probability of capture after several dives.

Evasive maneuvers were unpredictable. Two of the commonest were zig-zag swimming and doubling back under the boat to hide beneath the wake. We also observed grebes to hide under rock ledges and concentrations of brine shrimp. Some spun in circles with their bills buried in the sediment, as though attempting to corkscrew into the bottom of the lake, even though they were barely able to cover the bill or forehead. Although they often stirred up small clouds of mud in this process, we think that the behavior represented a panic response rather than an attempt to conceal themselves from our view.

Mono Lake's clarity in summer and early autumn, lack of aquatic vegetation, and relatively clean, sandy bottom were the major factors allowing the use of this capture technique, which may be effective at other highly saline or exceptionally clear lakes. The best conditions for capturing grebes were near midday on calm and cloudless days, when the sun's rays penetrated most deeply into the lake.

Under ideal conditions we have been able to capture 10–12 grebes in an hour. However, because grebes flee shallow-water areas immediately as a boat appears, high rates of capture were unsustainable, and 4–6 per hour was a more typical rate. Nevertheless, in two seasons we were able to band 469 Eared Grebes. Inasmuch as only 4076 Eared Grebes had been banded by other researchers through 1984 (Jehl and Yochem 1986), and then mostly as a by-product of waterfowl banding programs, this technique may greatly increase information on the movements of this species. The technique worked equally well with three other grebe species (*P. auritus*, *Aechmophorus occidentalis*, *Podilymbus podiceps*), several ducks (*Anas strepera*, *A. platyrhynchos*, *A. clypeata*, *Oxyura jamaicensis*), and a coot (*Fulica americana*).

In 1985 we placed flexible yellow plastic collars (12–25 mm high, 18 mm diameter) on approximately 100 Eared Grebes, which made them conspicuous at distances up to 1000 m. However, this species is extremely skittish, at least while molting, and even though we successfully tested the collars on several captives maintained at the Sea World park in San Diego, we found several wild grebes dead with their bills snagged in the collars. Consequently, we discontinued the process. Although a higher collar (38 mm) likely would have prevented this problem, it also would have restricted preening, a continual behavior that is essential for plumage maintenance in grebes. Therefore, we recommend that collars not be used on Eared Grebes, and that they be tested on other species before being employed.

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