loose and not enforced, and that the upland plover was one of the favorite foods served in many restaurants. It had in fact replaced the Eskimo curlew as a table delicacy. A recent letter from Dr. Wetmore indicates that he knows of no change in these conditions.

Assuming that the census in Lancaster County properly represents conditions in its extensive breeding range, which I think it does, the general numerical status of the upland plover seems to be stabilized today. While there has been a notable increase since 1914, the rate of production in the northern zone now seems to be balanced by the rate of destruction in the southern zone. Possible increase is dependent upon improvement and enforcement of the game laws in countries along the migration route, and in Argentina and Uruguay. It can scarcely be hoped that the numbers will ever return to those of 1906. On July 16 of that year, according to my diary of field-sports, there were 250 to 300 plovers on tract D alone.

I was assisted in 1947 by Leo A. Luttringer, Jr., Frank T. Thurlow, Barton L. Sharp, Russell Markert, George H. Pennypacker, Charles H. Regennas, Jr., Donald Ruhl and John D. Kendig.—HERBERT H. BECK, *Franklin and Marshall College, Lancaster, Pennsylvania.*

Flock of northern phalaropes at Daytona Beach, Florida.—On the night of September 2, 1948, people attending a baseball game on City Island, in the Halifax River about one mile west of the Atlantic Ocean, saw a flock of 50 to 100 birds fly out of the darkness and dash into the brilliant lights which illuminate the field. This continued for several minutes, in the course of which some 20 birds fell to the ground. Observers were uncertain whether the same flock was circling about, to appear and re-appear, or whether several flocks came in quick succession. Two of the birds were picked up alive and brought to me the next day for identification; they were northern phalaropes, *Lobipes lobatus*. The boys who picked up these birds reported that about 20 more were lying on the ground. I visited the ball park the next afternoon and found eight mangled bodies. One of the captured birds died during the night; the other was released in the Halifax River. This would seem to be the first record for a flock of northern phalaropes in Florida, and the third record for the species in this state.—R. J. LONGSTREET, *Daytona Beach, Florida.*

Glaucous gull in South Carolina.—On November 22, 1947, on the Cooper River waterfront of Charleston, S. C., I saw a gull which from its white wings and large size, I took to be the glaucous, *Larus hyperboreus*. Two days later the bird was secured by Mr. E. B. Chamberlain and was found to be *hyperboreus*.

It is the first specimen to be taken in South Carolina. Measurements are as follows: wing, 462 mm.; tail, 186 mm.; exposed culmen, 56 mm. (the tip of the bill was shot off); height of bill, 20 mm.; and tarsus, 65 mm. Previously, the only instance of a "white-winged" gull being seen on the South Carolina coast was the report by W. W. Humphreys of a bird in November, 1943, near the same place. Efforts to secure it failed. In February, 1931, Ivan R. Tomkins secured a specimen of the glaucous gull at the Savannah River entrance, on the Georgia side.—ALEXANDER SPRUNT, IV, *Davidson, N. C.*

"Puddling"—A method of feeding by herring gulls.—On October 23, 1947, herring gulls, *Larus argentatus*, were observed feeding in shallow tide pools on the sandy beach at Belliveau Cove, St. Mary Bay, Nova Scotia, in a fashion that was new to the writer. The birds stood in water one-fourth to three-fourths of an inch deep and worked their feet up and down with a pumping motion for about 30 seconds

until they stood "knee-deep" in a water-sand mixture. Meanwhile, sand washed forward under the webbed feet and built up a raised arc just below the breast. This produced a nearly saucer-shaped depression in the sand approximately nine inches across and two inches deep, the deepest part being where the gull's "heels" rested.

After pumping, the gull stepped back onto firm ground, waited a few seconds, presumably for the water to clear, and then picked out certain items from the assortment which had been washed to the surface of the arc in front of it.

The gulls seldom worked close together. In some cases they wandered about making widely-spaced single "puddles," presumably prospecting for a good feeding area. In other cases, possibly where "pickings" were good, instead of making individual puddles they extended those already made. This seemed to be done by slowly edging backwards during the pumping. In this fashion sometimes six or eight puddles were created and successively obliterated, except for the last which remained to mark the site of the working. The position of each of the earlier ones was usually indicated by a semicircular arc of sand raised about one-half inch above the general level of the flat. After about five minutes' effort such a working was in several instances 20 to 24 inches long and the soil in it churned to the consistency of gruel to a depth of three and one-half inches. Previously, the writer had often encountered such workings during examinations of clam flats in other parts of Nova Scotia but did not know what they were.

The tide flat at Belliveau Cove is sandy throughout and when fully exposed is one mile long and one-half mile wide. About half its area below half-tide mark is covered by tide pools with an average area of four square yards and seldom deeper than two inches. That day the cove was occupied by 1000 to 1500 gulls, and puddling was very popular. Half the pools had puddles in them, although very few had more than one. They were seldom "singles," most had been extended until the total length of the working measured 18 inches.

The puddles were easy to recognize, not only because of their characteristic saucer shape but also because the sub-soil brought to the surface by the puddling was darker than the regular surface sand. Presumably all these features would be obliterated by the rising tide, except on very calm days.

Exactly what the gulls were eating could not be determined because they would not permit close inspection, and the writer had no gun to collect specimens. The beach is heavily populated with small soft-shelled clams, *Mya*, and clam drills, *Polinices*, and both these live in the upper few inches of sand during the day. Remnants of both these mollusks were found in regurgitated gull "pellets" collected from the beach on several occasions during the past summer. Obviously, the birds had access to food from below the surface—probably through the device of puddling just described.

The only record of similar behavior of gulls that has come to the writer's attention is that of Witherby *et al* (Handbook of Brit. Birds, 5: 86, 1941). In discussing the herring gull, they state that it exhibits "feeding habits common to several other species—tramping with both feet on wet sand of shore to bring up worms (also sometimes on turf, especially after rain: A. F. J. Portielje)." No detailed observations are given.

Puddling may be regarded as analogous with scratching which is so significant in the feeding of some of the gallinaceous species.—J. C. Medcof, *Atlantic Biological Station, St. Andrews, New Brunswick, Canada.*

Black-headed gull in Florida.—On March 2, 1948, while crossing Tampa Bay, Florida, on the St. Petersburg ferry we came upon a large concentration of gulls