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THE OSPREYS OF SMITH'S POINT, VIRGINIA.

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Plates XI-XIV.

ON APRIL 28 and 29, 1934, R. Bruce Overington and the writer spent a very delightful day-and-a-half in a cabin of Mr. Overington's, at Smith's Point, Virginia. The object of the trip was to secure some photographs of Ospreys. About forty nests of the birds were located on that short visit. This prompted the suggestion to the Biological Survey that there was a possibility of banding a considerable number of nestling Ospreys, in a comparatively small area. The suggestion was favorably considered by Dr. W. B. Bell and Mr. F. C. Lincoln. So, on June 15, 1934, accompanied by Mr. Edward McColgan and my twelve-year-old son Arthur, I proceeded to Smith's Point for a ten days stay.

Smith's Point is a point of land extending into Chesapeake Bay on the south, or Virginia, side of the Potomac River. The Little Wicomico River, with its many coves, enters into the Bay also at Smith's Point, while the Great Wicomico with its numerous creeks enters about six miles farther south. A glance at the U. S. Topographical map will show the extent to which the country is cut into by these many waterways. Anyone at all familiar with Ospreys will realize the possibilities for finding their nests in such a region. The country round about is used for general farming, although along most of the creeks and water courses there is considerable woodland, composed chiefly of evergreens.

The areas over which we worked with their seventy-six nests will be considered separately.

The first and most important we shall call, for convenience, the Smith's Point Area. The mouth of the Little Wicomico River was formerly about three-quarters of a mile to the north and west of the present mouth, which is now at the Point. The original mouth was closed some years ago by a storm, after which the present mouth opened and has since been deepened



OSPREYS (*PANDION HALIAETUS CAROLINENSIS*) FLYING OVER THEIR NEST IN A DEAD PINE TREE.

by dredging. There, on a wooded knoll, is Mr. Overington's cabin in which we lived. The trees here are all evergreens, pitch pine (*Pinus rigida*) with a few red cedars (*Juniperus virginiana*), twenty to twenty-five feet high, in places so thickly tangled with poison ivy (*Rhus toxicodendron*), trumpet flower vines (*Tecoma radicans*), and green brier (*Smilax rotundifolia*) that it is difficult to get through to the wide, sandy beach beyond. The knoll slopes away to the south and there the trees are larger. One, about three hundred yards from camp, has an Osprey nest forty-two feet from the ground. For about three-quarters of a mile from there, pitch pines give way to scrub pine (*Pinus virginiana*) which in places are not ten feet high. Beyond, to the south and west, the pitch pines predominate. Here also is found Adam's needle (*Yucca filamentosa*) and the prickly pear (*Opuntia vulgaris*). Farther back are a few low growing blueberries (*Vaccinium virgatum*) with an abundance of poison ivy and green brier. The ground near the beach and among the scrub pines is mostly of clean sand, although under the low hanging branches of the pines there is usually a bed of needles. In this region, no less than twenty-seven nests were located, twenty-five of which were occupied.

Across the channel the growth is similar to that about the cabin—a dense growth of almost impenetrable pines, the jagged dead branches of which played havoc with our clothes. At the edge of this tangle, about the coves, are several nests. Farther up the river and along the wooded banks of all the coves and creeks visited we found more nests. In this area most of our work was done, and here fifty-six nests were located.

The Owen's Pond area was visited one afternoon at the invitation of the owner, who piloted us around. There the pines which surrounded the pond reached an estimated height of sixty or seventy feet and Osprey nests were in the tops of several. We located twelve nests in all and looked over less than half of the area.

The third region visited, but not the least interesting, was Ingram Bay at the mouth of the Great Wicomico River. There we went with a motor boat to nine Duck blinds at varying distances from the shore. On the top of four were occupied Osprey nests; on a fifth was a Green Heron's nest; and on a sixth was a nest, probably a Crow's. While going to these various blinds we saw several nests on the shore, but only visited two of these. This description, I hope, will help to visualize the region.

On the afternoon of June 15, 1934, we arrived at Reedville—the nearest town of any size to Smith's Point—too late to do any work. On the morning of the 16th, in the first three nests visited we found young too small to band, and then after establishing ourselves in camp we visited eleven more nests, in none of which were birds found big enough to band, while in some of the nests there still were eggs. It was not until the 19th of June, after

visiting twenty-seven nests, that we found birds large enough to band. The first nest contained four young, three of which were banded. This, by the way, was the only nest in which four young were found. Five more birds were banded that afternoon. From then on birds were banded each day, until on the last day, the 24th of June, sixteen birds were banded when we revisited a number of nests. In all, fifty-seven nestling Osprey and three nestling Great Blue Herons were banded. This represented but a small percentage of the actual number of young birds in the region. With more time, and better facilities for getting over the water—we had only a skiff—I believe one could band two or three times as many birds.

Of the seventy-six nests found, one was located on the roots of a tree, which had been washed up on the beach; four were on top of Duck blinds in the Great Wicomico River and all the others were in trees, varying from nine feet six inches high to an estimated height of sixty or seventy feet. The highest one climbed and measured was nest No. 45, which was 44 feet from the ground.

The nests of the Osprey are bulky structures, which are added to each year and used year after year, usually by the same pair of birds. They are composed mostly of rough sticks, though all manner of other materials are picked up and brought to the nest. Pieces of nets and rope were very common, clods of earth, sand-coated eel grass, corn stalks, small boards, parts of crabs, and almost any object that could be found along the beach. One of the most unusual things which was found was an old blackberry stalk, thick with thorns, about six feet long.

The nest is usually lined with eel grass, which in hot weather is frequently renewed to help keep the nestlings cool. Several times I watched adults either pick up eel grass out of the water and carry it dripping to the nest, or take bunches which had been washed up on the beach. One nest was bedded with fresh-cut clover hay from a nearby field.

The young show a considerable variation in color at about the same age, but the pattern is uniform. Birds a few days old are covered with a thin, light-colored down, with the pulpy feather sheaths showing as darker patches. This gives the appearance of a light streak from the head to the tail. There is a black patch around the eye extending to the bill. The cree and feet are pinkish. The navel is conspicuous as a comparatively large, naked, circular patch. As the bird develops, the general appearance is dark bluish, the feathers of the head developing first, with the other feathers showing as tufts of light-colored down. The navel is obscured by the growing feathers, the cree darkens, and the feet begin to have the characteristic color of the adult. The birds develop quite rapidly, being large enough to band at about ten days. During our stay we found birds from newly hatched and still wet, to those which we believed to be about half grown.

The action of the young in the nest is for the most part to feign death, although at times they did rise and with mouths wide open begged for food. But generally, even when handled, they lie limp, and we were usually unable to get them to "perk up." Some of this inactivity may have been due to the intense heat, which made the birds pant heavily, even when lying still.

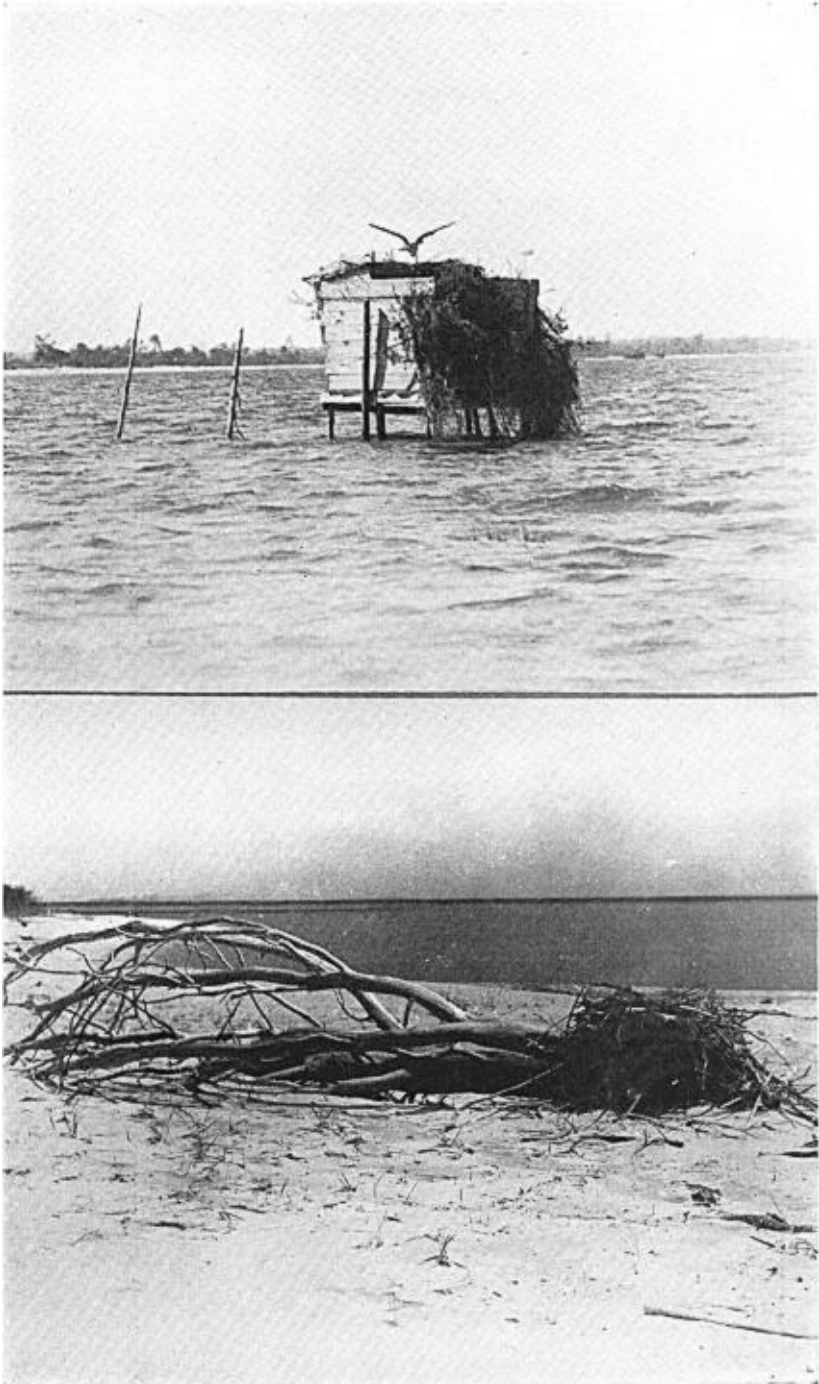
In banding the young it was usually necessary to lower them to the ground where the bands, which were rather difficult to manipulate, could be put on to better advantage.

The mortality of the young did not seem to be great. Two nests which each contained one young, at the first visit, were later found empty—possibly the work of Crows. A young man with whom I talked told of finding a dead, young bird, which from his description I believe must have been an Osprey. He said he found it in the corn field where he was working, its back torn away and half eaten. In nest No. 11, two of the young birds died, I believe, from the excessive heat. In nest No. 3, one young, the smallest of the three, was found dead; it may have been accidentally killed by the two larger birds.

The attitude of the adults towards our intrusion was varied, a good deal of individuality being shown. Generally, as we approached the nest, the birds flew off, crying excitedly, circling and swooping as we climbed nearer the nest. Their excitement often attracted others, until there were at times several pairs in the air above us. At three nests the birds swooped too close for comfort, one coming within two feet of Arthur's head.

The parental instinct in the old birds was strong; one let Arthur get within about ten feet of the nest before leaving. When we were finished at the nest, and had started down, they were soon back, shading the young with half spread wings, from the intense heat of the sun. Two nests from which old birds flew, with their usual excitement, proved to be empty, though still guarded. Always, on close approach to one of the nests near camp (from which the one young had disappeared), we were sure of a volley of abuse from the parent birds, which clung tenaciously to and protected the empty nest.

The action of the Osprey while fishing was exceedingly interesting. We had ample opportunity to watch them, for the splashing thud of the bird as it hit the water could be heard at all times of the day in the channel beside camp. As they fly along you can see the head move from side to side, watching any moving object in the water. At times they will hover over a spot, where they no doubt see a fish, circle, and hover again. In hovering they arch the body, spread the tail and seem to beat backwards with the wings, at the same time extending the legs. Suddenly, with wings half spread, feet and claws extended, they drop almost head first, hit the



UPPER.—OSPREYS' NEST IN A DUCK BLIND.
LOWER.—OSPREYS' NEST ON THE BEACH.

water with a splashing thud, and amid the spray almost completely disappear below the surface. With a few vigorous wing beats they rise—their prey dangling beneath them. Before flying far they give one or two convulsive shakes of the body to rid themselves of the surplus water and then, adjusting the fish beneath them—they always carry it head first, parallel to the body, fly off to their nest or some favorite perch to feed.

Often they sit on the stakes of nets near shore, and take fish out of the nets. Regardless of this, the fishermen have a high regard for them, never molest their nests and seldom kill a bird. We could not ask for better coöperation than we received from the people of the neighborhood. They were always ready and willing to give us information and help us in any way they could, as long as they knew that we were not going to harm or molest the Ospreys. We are especially grateful to Capt. Evan Gough, and his mother, Mrs. Retta A. Page, for their hospitality and coöperation.

NESTS

76 nests located	15 nests—contained 2 young
25 nests—in which young were banded	6 nests—contained 1 young
13 nests—climbed to more than once	all other nests contained 3 eggs each
6 nests—found empty	67 nests located in pine trees
2 nests—contained young, later missing	4 nests located on Duck blinds
6 nests—contained 2 eggs each	2 nests located in gum trees
1 nest—contained 4 eggs	1 nest located in a cherry tree
1 nest—contained 4 young	1 nest located in an oak tree
12 nests—contained 3 young	1 nest located on the ground

TABLE OF NESTS WITH NOTES REGARDING EACH.

1. June 16, on the edge of the Little Wicomico River, near Mrs. Page's home, in a dead and half rotten cherry limb, not reached, though young could be heard in the nest.
2. June 16, to the west of No. 1, on an unnamed cove, in a pitch pine, three young too small, banded on June 24—701255, 56, 57.
3. June 16, across the cove from No. 2, on the broken top of a pine, three young of unequal size too small to band. Banded on the 24th of June.—701258, 59, 60.
4. June 16, Smith's Point, one of the nearest nests to camp, from which three eggs were taken on April 29. Two eggs, nest often visited and still contained eggs on the 24th of June, probably not fertile.
5. June 16, near No. 4 in a scrub pine, three young too small to band. Banded on the 24th of June. 701238, 39, 40.
6. June 16, near No. 5 in a dead pine, three eggs were taken on the 29th of April, empty. (Pl. XI.)
7. June 16, near No. 6 in a scrub pine, not occupied.
8. June 16, near No. 7 in a scrub pine, one egg which hatched but young were too small to band on the 24th of June.
9. June 16, near No. 8 in a scrub pine, two eggs. Nest from which a set of 3 was taken on April 28. Hatched, but too small to band on the 24th.

10. June 16, near No. 9 in a scrub pine, two eggs. Nest from which a set of 3 was taken on April 28. Hatched, but too small to band on the 24th.

11. June 16, near No. 10. This nest, less than half a mile from camp, was the lowest occupied nest found. Therefore more work was done here than at any other nest. It was in the top of a scrub pine, nine feet six inches from the ground; was somewhat elliptical in shape with a long axis of five feet four inches, and a short axis of four feet. It was one foot six inches deep. On April 29 this nest contained one egg; on June 16 there were three newly hatched young. On June 17 a photograph was taken of the young as they lay panting in the nest. On the 19th they had changed but little, being darker and somewhat more active. By June 21—an exceedingly hot day—they had grown considerably, and their color had changed to the dark bluish so characteristic of the young of about the same age. (Pl. XIV, fig. 1.) On the 23d of June they were very dark, with a light brown streak down the back, eyes deep orange and bill nearly black. On June 24 two of the birds were dead from the heat and the third nearly so. (Pl. XIV, fig. 2.) The remaining bird was banded. 701252.

12. June 16, near No. 11, in a scrub pine, two young and one egg, June 23 the egg was gone; banded the two young. 701248, 49.

13. June 16, near No. 12, in a scrub pine about fifteen feet high contained one young, which was gone on the 18th.

14. June 16, near No. 13, in a pine, three young too small to band. Two young banded on June 24, 701250, 51. One still too small. This nest, the last visited on the 16th, was about a mile from camp.

15. June 17, nest in a large pitch pine about 300 yards from camp. Forty-one feet ten inches high, with a diameter of three feet seven inches, and two feet nine inches deep, contained one young only a day or two old. From this nest one could get a beautiful view up the Little Wicomico River.

16. June 17, about a mile from camp, just beyond nest No. 14, in a pitch pine, two young too small to band. Banded on June 23. 701231, 32.

17. June 17, near No. 16, in a pitch pine, one from which a set of three eggs was taken on April 28, contained one small young, which was gone on the 23d.

18. June 17, near No. 17, in a pitch pine, two young of unequal size and one egg, old birds very bold, flying close. Banded the two young on the 23d. 701229, 30.

19. June 17, near No. 18 in a dead and half-rotten pine, did not climb.

20. June 17, near No. 19. This nest, the farthest from camp in the continuous stretch of woods to the south, was a little more than a mile away. From this nest, which contained two eggs, a set of three was taken on the 28th of April.

21. June 17. This abandoned nest was found on the roots of a tree which had been washed up on the shore, when we returned to camp by way of the beach. Two broken eggshells were found at the side of the nest. (Pl. XII, fig. 2.)

22. June 18, to the west and south of camp, in a pitch pine, three young of unequal size too small to band. Two in the nest on the 24th, still too small.

23. June 18, near No. 22, in a half-dead pine, empty.

24. June 18, near No. 23, Nest forty-two feet six inches from the ground in a large pitch pine, contained two eggs. A set of three eggs was taken from this nest on April 28. From this next six Osprey nests and one Great Blue Heron nest could be seen.

25. June 18, near No. 24, abandoned.

26. June 18, Nest in a pitch pine, contained two eggs. A set of three eggs was taken from this nest on April 28.

27. June 19, This nest was on the edge of the first pond to the west of camp on the north side of the Little Wicomico River. It was on the top of a very thickly branched pitch pine, contained four young; three of which were old enough to band. 701205, 06, 07. These were the first Ospreys we banded. The old birds were very bold, coming very close to my head.

28. June 19, near the mouth of Tabs Creek, on top of a tall pine, climbed to the nest but could not reach the young, which I could hear.

29. June 19, near No. 28, nest on top of a tall dead pine stub, too rotten to climb, in which there were several Flicker nests.

30. June 19, near No. 29, nest in a small white oak, two young banded. 701203, 04. Adults swooped close to Arthur, who climbed the tree.

31. June 19, nest No. 30, nest in a low pine, three young banded. 701300, 701201, 02.

32. June 20, nest across the channel in a pine tree, two young too small to band. Banded on the 24th. 701253, 54.

33. June 20, nest on top of a Duck blind in the Great Wicomico River, near Sandy Point. One young too small to band and one egg. (Pl. XIII, fig. 1.)

34. June 20, nest on top of a Duck blind to the south of No. 33. Two young banded, 701212, 13.

35. June 20, nest on top of Duck blind to the south of No. 34, one young just hatched, still wet, and one egg. (Pl. XX, fig. 1.)

36. June 20, nest on top of Duck blind to the south of No. 35, one young banded, 701214, one added egg.

37. June 20, nest in a pine on the south side of the mouth of Mill Creek, contained three young about one-third grown, banded. 701215, 16, 17.

38. June 20, nest near No. 37, in a pine, two well developed young, banded, 701218, 19.

39. June 21, nest in a pine on the edge of the second little cove to the north and west of camp on the north shore of the Little Wicomico River. A difficult tree to climb, nest empty, though an adult flew from the nest at our approach, broken eggs at the base of the tree, probably by Crows.

40. June 21, on the same cove as No. 39. A most difficult tree to climb, nest overhung the water. Two young too small to band.

41. June 21, another nest in a pine on the same cove as No. 40, empty.

42. June 21, nest in a pine on the edge of a cove about a mile and a half from camp, on the north shore of the Little Wicomico River, to the east of Ellyson Creek. Three young large enough to band, 701220, 21, 22. (Pl. XIII, fig. 2.)

43. June 21, in the same cove as No. 42, nest in a pine containing one young large enough to band. 701223.

44. June 21, on the opposite shore from No. 43, nest in a pine containing two young too small to band.

45. June 21, near No. 44, nest forty-four feet from the ground in a large pitch pine, two young large enough to band, 701224, 25.

46. June 22, nest in a pine on the east shore of Tabs Creek, three well developed young, banded. 701241, 42, 43. Very hot and the female reluctant to leave her young, coming within two feet of Arthur's head. Covered young with expanded wings as soon as he was out of the tree.

47. June 22, nest about twenty-five feet high, in a large pitch pine, nine feet in circumference, two young banded. 701245, 47. Near the head of Tabs Creek.

48. June 22, near No. 47 in a pine, seemed to be abandoned, not climbed.

49. June 22, near No. 48, in a tall, spindly pine, doubtful if the nest could be reached. Not climbed.

50. June 22, near No. 49, nest in a pine the trunk of which was covered with poison ivy. Not climbed.

51. June 22, near No. 50; too much poison ivy; not climbed.

52. June 22, Arthur climbed to a nest in a scrub pine, near the mouth of Bridge Creek, and the female did not leave the nest until he was about ten feet from it. Two young too small to band.

53. June 22, near No. 52, nest in a pine, two young old enough to band. 701244, 46.

54. June 22, near No. 53, nest in pine, climbed to; but empty.

55. June 22, to the east of Sunnybank, too tired to climb a difficult tree.

56. June 23, nest near camp, not previously found, three young well developed, banded. 701226, 27, 28.

57. June 23, nest on top of a pine whose trunk was covered with trumpet flower vines, on the edge of Rock Hole, about a mile and a half from camp. Fresh clover hay in the nest—three half-grown young, banded. 701233, 34, 35.

58. June 23, south of nest No. 57, on the edge of a little pond, on a lateral branch of a large gum tree. Not climbed.

59. June 23, north of No. 57, in a pine tree. Two young that are the furthest developed of any we have yet seen. Banded. 701236, 37.

60 to 73. June 23, thirteen nests on the shore of Owens Pond, all but one located in pine trees, some estimated to be sixty or seventy feet high. One on the top of a broken limb of a gum tree. Two nests were climbed to but they were both empty. With a little more time many other nests could be located, no doubt, for we only covered about half of the pond.

74. June 24, nest in a pine near No. 3, it was too late in the day to try to climb it.

75. June 20, near No. 40, on the lateral limb of a pine—inaccessible.

76. June 20, near the original mouth of the Little Wicomico River, in a tall, isolated pine, difficult of access—not visited.

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UPPER.—YOUNG OSPREY, A DAY OR TWO OLD, AND EGG IN DUCK BLIND NEST.
LOWER.—YOUNG OSPREYS ABOUT FIVE DAYS OLD. BACK-BONE OF LARGE FISH
BEHIND THEM.



UPPER.—YOUNG OSPREYS ABOUT SEVEN DAYS OLD.
LOWER.—ONE OF ABOVE YOUNG ABOUT TEN DAYS OLD.