

OPERATION RECOVERY AT DUXBURY BEACH 1964

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Since 1955 barrier beach thickets along the Atlantic Coast have been focal points for this country's first large-scale, coordinated cooperative bird-banding project. Originated by James Baird and known as the "Operation Recovery Program," or "OR," this cooperative venture has grown each year under the sponsorship of the U. S. Fish and Wildlife Service. (Baird, 1958, 1959). Totals for 1964 are not yet available, but in 1963 there were 36 stations in operation at least part of the fall migration season, which is considered to be August through October. A total of more than 72,000 birds were banded. The stations are no longer limited to the Atlantic Coast, but now operate in limited numbers across the continent to the Pacific, generally along known migration routes or at points of avian concentration.

The Encephalitis Field Station, operated originally by the U. S. Public Health Service under the name of the Taunton Field Station, and currently operated by Massachusetts Department of Public Health, has been studying the ecology of avian encephalitis since 1957 (Hayes, et al., 1962; Anderson and Maxfield, 1962). The work has centered about the Hockamock Swamp area of southeastern Massachusetts, involving studies of local breeding birds, as well as of mosquitoes, mammals, reptiles, and climatology. It is still not known for certain whether this arthropod-borne virus is present all year in Massachusetts, or is introduced seasonally from the north or south. Realizing that detection of antibodies in the blood of immature birds making their first flight south might give evidence of viral outbreaks during the past summer in sparsely settled areas of the far north, where no research work has been undertaken, the Encephalitis Field Station looked about for a known "migrant trap" reasonably near to Taunton. There they would hope to capture a statistically significant number of migrants, ageing and banding all of the birds, but taking minute blood samples only from those individuals known to be immature and of northern origin.

"High Pines" on Duxbury Beach fitted the need perfectly. Nine years of autumnal bird-banding at Operation Recovery Stations from Nova Scotia to Georgia has shown that the majority of the birds found in coastal thickets and on offshore islands are immatures (Baird, 1960). The

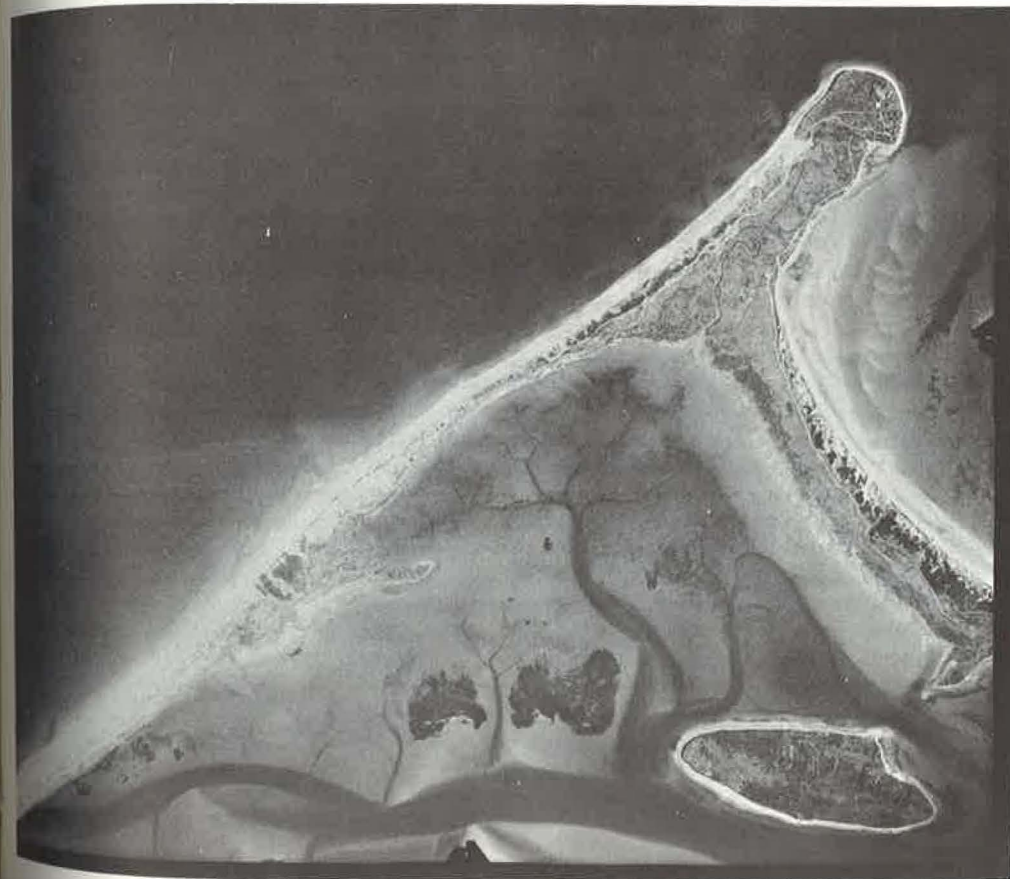
*This study was supported in part by the Massachusetts Department of Public Health and by Contract No. PH 108-64-37 of the Communicable Disease Center, United States Public Health Service.

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At left: K. S. Anderson explains trapping operation (Photo by Dr. Joseph Kenneally)

Below: Duxbury Beach (Coast Guard photo)



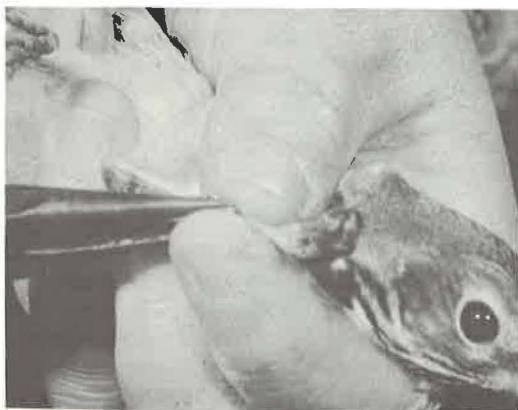


At left: Dr. Tonn at the microscope

Below left: Banding an Ovenbird

Below right: Dr. Tonn examining a Swamp Sparrow for parasites

(Photos by Dr. Joseph Kenneally)



Encephalitis Field Station, with limited personnel and a limited budget, could not undertake the project outlined above without outside assistance. Once again, as they had during the 1960 Spring Migrant Survey (Anderson, 1961), they turned to the Massachusetts Audubon Society. The response was immediate and encouraging. A beachbuggy owned by the Society was loaned to the Encephalitis Field Station and Allen H. Morgan, Executive Vice-president, promised help in every possible way. Mr. and Mrs. Edward Frame, owners of the cottage at High Pines, were most cooperative and hospitable, allowing the research team to make this charming spot a headquarters. Their generosity in permitting the workers to store equipment, warm themselves at the fireplace, and use the kitchen for quick meals, contributed immeasurably to the comfort and convenience of the project. On very short notice 14 members of the Massachusetts Audubon Society and the South Shore Bird Club were recruited to lend a hand where needed. Five advanced biology students from Hanover High School, under the direction of Dr. Robert P. Fox, Hanover High School Principal, mapped the area, assisted with a mammal trapping project, and made a complete survey of the vegetation and abundance of natural food in the area. The enthusiastic and competent assistance of all these volunteers, given at much personal inconvenience and without pay, is gratefully acknowledged.

Twelve to 16 Japanese mist-nets were erected Monday mornings, set along trails through the thickets and along the edges. They were left up overnight and lowered the following afternoon. The nets were checked frequently through the day and the final careful check was made after dark when the birds had stopped moving about. On two afternoons a few nets were used at the Gurnet, some at the water's edge for shorebirds, and some beside a hedge frequented by passerines.

"OR" was a memorable experience for all the people involved. The hard work and occasional discomfort were more than offset by an unique opportunity to assist in operating mist-nets and to work with a variety of species of birds, learning to recognize the subtle variations of plumage that distinguished adults from immatures and the techniques of handling, banding, weighing and measuring. Many species were banded and released at once, for their breeding ranges were known to include southern New England or states to the south. Rarities were just frequent enough to reward volunteers becoming weary with the delicate and slow work of removing "ordinary" birds from the fine netting. When time permitted, hippoboscids (bird louse flies), lice, and ticks were collected from the birds. Rather few mammals were trapped, but those obtained were marked, searched for ectoparasites, and a small blood sample taken.

In 12 days, during a five-week period between September 21 and October 21, 1964, 263 blood samples were collected from a total of 463 birds of 54 species. (Table 1.) The majority of birds sampled were juncos, whitethroats and myrtle warblers. The blood sample, a few drops taken from the jugular vein with a hypodermic needle, required only seconds

to obtain and did not harm the bird. Each sample, the few drops of blood mixed with a diluent, was refrigerated in a labelled vial and will be tested for viremia and antibodies for EE and WE virus by the Virus Laboratory operated by the Massachusetts Department of Public Health.

This cooperative project of the Encephalitis Field Station, the Massachusetts Audubon Society, and the South Shore Bird Club was an "Operation Recovery" in two meanings of that phrase. It is hoped that the interests of the "OR" program have been served and that the possibility of the future recovery of one or more of the banded birds will add to knowledge of bird migration. It is also to be hoped that recovery of antibodies from the blood samples may provide some of the first clues to eastern and western encephalitis virus activity among wild birds from the north. Not the least of the results of this project is the proof provided that a joint endeavor by four groups as different as a public health research facility, a state-wide conservation organization, a local bird club, and a high school science class can function smoothly and efficiently in a mutual effort to obtain needed scientific information. The potential of this kind of cooperation in the event of an arthropod-borne virus epidemic is incalculable.

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