



*Figure 1. Double-crested Cormorant colony site in Home Pond, Gardiner's Island, Suffolk Co., NY. Photo taken June 1984 looking east.
Photo by Paul Buckley*

EXPANDING DOUBLE-CRESTED CORMORANT AND LAUGHING GULL POPULATIONS ON LONG ISLAND, NY

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When we reported on our detailed aerial censusing of Long Island's breeding colonial waterbirds each June from 1974 to 1978 (Buckley and Buckley 1980), Double-crested Cormorant (*Phalacrocorax auritus*) was not breeding and we had only once found one pair of Laughing Gulls (*Larus atricilla*). In the intervening years, both species have surprisingly established substantial Long Island breeding populations.

Safina, Peterson and Scheibel (1983) and Buckley and Buckley (*in press*) independently discovered cormorants nesting on Gardiner's Island, Suffolk Co., near Montauk in 1983; and Buckley, Gochfeld and Buckley (1978) recorded Long Island's first breeding Laughing Gulls since about 1900, in Great South Bay near Jones Beach in 1978. That site was abandoned the next year, but a small colony was found in 1979 some 16.5 miles (26.5 km) west in Jamaica Bay (Post and Riepe 1980). We have monitored these populations since their arrival and here report our findings, plus some additional pertinent information. A recent, detailed review of the status of these two species, as well as of other seabirds along the Atlantic Coast from North Carolina to New Brunswick, Canada, is presented elsewhere (Buckley and Buckley *in press*), but brief synopses are in order.

Double-crested Cormorant

This species is expanding in New England and the Maritime Provinces, and has been steadily pushing southward for some time, reaching well into Long Island Sound (all but undetected) by 1972. It first nested in Virginia, near Richmond, in 1978, and inland, on the New York and Vermont sides of Lake Champlain in 1982 and 1983, respectively. The date of the first nesting on Fisher's Island, New York (off New London, Conn.) remains unknown, but it probably was in the early 1970's. Birds carrying sticks toward likely up-creek nesting sites have been seen in Barnegat Bay, NJ, in recent years, and proven breeding is confidently expected there soon. In view of the large number of breeding-plumaged adults we were seeing each June in the mid to late 1970's in and around Gardiner's Island, the establishment of a colony there in 1983 was hardly unexpected. We can confidently state that they were not breeding there any June between 1974 and 1982.

We found the Gardiner's Island colony at Home Pond, on the island's n.w. shore, on 6 June 1984 (Fig. 1), and censused it again on 9 July; both times we recorded about 130 nests and about 250 birds. This nest number was confirmed by counting nests in a series of photographs

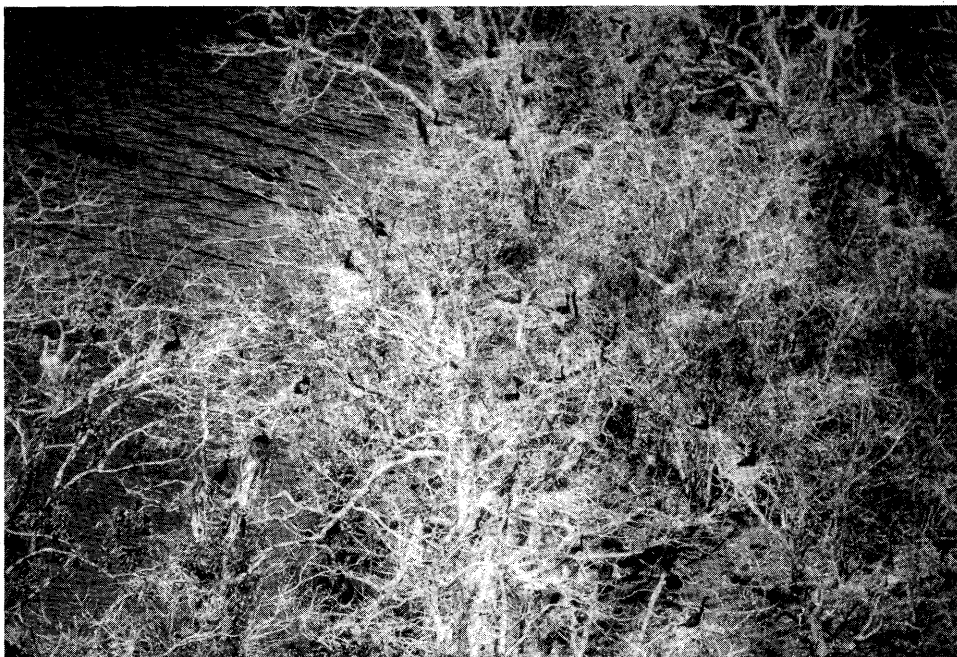


Figure 2. Close-up of Gardiner's Island cormorant colony in June 1983.
Photo by Paul Buckley

(Fig. 2) taken from several sides of the colony through zoom telephoto lenses while the helicopter hovered a sufficient distance away to prevent eggs from being thrown from the nest by fleeing adults – a common problem in cormorant colonies. It is understandable that Safina *et al.* were able to count only 60 nests, as many were hidden behind vegetation, or visible only from certain angles, and they undoubtedly did not approach very closely on the ground for fear of disturbing incubating birds. All nests we saw had eggs but no nestlings. We censused this colony next on 13 June 1984, finding it somewhat greater in extent than in 1983, with about 225 nests. Over 300 birds were in the area, and several thousand adult-appearing cormorants were elsewhere on the island, notably on Tobaccolot Pond, where similar aggregations since the mid 1970's led us to believe first nesting would occur.

Although summering adult or near-adult cormorants have been seen at many locations around the periphery of Long Island in recent years,

we were totally unprepared to find Long Island's second colony – and New York City's first – in trees on South Brother Island in the middle of the East River, almost under the Triboro Bridge (Fig. 3). But on 15 June 1984, there it was – 68 nests in 3 clusters, near but not actually in the heronry that was equally surprising when we first found it in 1978. As we approached the island some 40 cormorants flew from the narrow shoreline on South Brother Island; we thought nothing of it until we looked down onto incubating adults. We censused the nests carefully and examined adjacent North Brother Island for more, but found none. These birds represent, at present, the southernmost known breeding Double-crested Cormorants likely belonging to the subspecies *P. a. auritus*, as the few Virginia and North Carolina breeding birds have been ascribed to *P. a. floridanus* (although this assumption may be unwarranted: see Clapp and Buckley *in press*).



Figure 3. Double-crested Cormorant colony on South Brother Island, East River, New York City. Photo taken June 1984, looking southwest: small arrow marks Empire State Bldg., large arrows indicate cormorant nest clusters among breeding herons and gulls.

Photo by Paul Buckley

Judging from the numbers of summering birds we see each year, new breeding sites could appear almost anywhere on Long Island and indeed we were momentarily expectant when we found cormorants in an *Ailanthus* tree on the small island in the East Pond at Jamaica Bay Wildlife Refuge on 6 June 1984. However, they seemed to be only roosting. We suspect that the next most likely colony sites are Hoffman and Swinburne Islands (in lower New York Bay south of the Verrazano Bridge), Plum Island off Orient Point, and perhaps islands in Long Island Sound like Huckleberry off Westchester. As both of the present sites are in or near heronries, Huckleberry and Plum Islands seem especially promising.

Laughing Gull

Laughing Gulls until recently bred in salt marshes along the Atlantic Coast north to mid-New Jersey, and then, in upland island habitat similar to that occupied by Herring Gulls, from the Nantucket Islands northward sporadically into Maine. The status of this declining or marginal population was reviewed by Nisbet (1971), and updated by Buckley and Buckley (*in press*), along with the thriving New Jersey-Virginia birds. Once the Long Island population had reestablished itself at Jamaica Bay in 1979, we censused it by helicopter each year from 1980-1984, during its period of rapid growth. Table 1 presents annual populations and rates of growth. The colony is so far restricted to three main islands (Fig. 4) in the eastern end of Jamaica Bay – JoCo Marsh, East High Meadow, and Silver Hole Marsh – about one mile (1.6 km) off the end of the J. F. Kennedy International Airport landfill for Runway 4L/22R's extension. Laughing Gulls are breeding only in this small portion of Jamaica Bay Wildlife Refuge, Gateway National Recreation Area, where reduced tidal flux and delayed bay water retention times (now on the order of 30 days) have produced large areas of short-form *Spartina alterniflora*, interspersed with *S. patens* and *Distichlis spicata* (Fig. 5). As most of this area is characterized by shallow salt pools (pannes), sinuous tidal creeks and an absence of the scars of parallel-grid mosquito-control ditching, it provides optimal Laughing Gull habitat, the only such in Jamaica Bay.

The accelerating population growth that was producing a doubling of breeding pairs each successive season (Table 1) has now begun to taper off (Fig. 6), and as most population growth curves tend to be symmetrical, it appears that Jamaica Bay's Laughing Gull population should stabilize at about 4000-5000 pairs by 1986 or 1987. That number compares favorably with the largest colonies in New Jersey in recent years (*cf.* Buckley 1978; Kane and Farrar 1976), but is smaller than maxima from North Carolina southward (Clapp and Buckley *in press*).

Table 1. Breeding population of Laughing Gulls at Jamaica Bay Wildlife Refuge, Gateway National Recreation Area, from colony inception to the present.

YEAR	BREEDING PAIRS	PERCENT INCREASE
1978	0	n/a
1979	15	n/a
1980	235	n/a*
1981	325	38%
1982	715	120%
1983	1805	152%
1984	2802	55%

* 1979 census was not aerial and therefore possibly incomplete.



Figure 4. Laughing Gull colony site in eastern Jamaica Bay. Large island in foreground is Silver Hole Marsh, that in background is JoCo Marsh (each marked with two small arrows indicating main gull nesting areas). Photo taken June 1982, looking north; large arrow marks J. F. Kennedy Intl. Airport.

Photo by Paul Buckley



Figure 5. Close-up of tidal creek/panne area where Laughing Gulls nest in JoCo Marsh. Small arrows mark East High Meadow colony site; large arrow the East Pond at Jamaica Bay Wildlife Refuge. Photo taken June 1982, looking northwest.

Photo by Paul Buckley

The rate of growth between 1980 and 1984 was too steep to be intrinsic (although by 1982 or 1983 some locally raised birds were probably breeding), and most likely resulted from immigration by New Jersey birds. Certainly through 1983, and probably 1984 as well, the only breeding Laughing Gulls on Long Island (hence in New York State) were those in the Jamaica Bay Wildlife Refuge colony, a finding that still amazes us, considering that colony's population size.

One closing observation. In a fascinating juxtaposition, the Double-crested Cormorants chose to locate their first colony on Long Island's closest thing to a truly unspoiled wilderness not greatly different from what it was a few hundred years ago, while placing their second in the middle of New York City. Not to be outdone, Laughing Gulls' only

Long Island bastion is also in New York City within sight of both the Empire State Building and World Trade Towers. These incidents provide further evidence of the health and diversity of the area's colonial waterbird populations in the face of ever-increasing development.

Summary

Double-crested Cormorant colonized Long Island for the first time in 1983 when 130 pairs nested at Gardiner's Island, Suffolk Co. By 1984 the colony had increased to 225 pairs, and that year a second colony of 68 pairs was located on South Brother Island, in the East River, New York City, just off LaGuardia Airport. No other Long Island colonies are known at present. Laughing Gull re-colonized Long Island in 1978 (Great South Bay, a single pair), but the only viable population was established in the eastern part of Jamaica Bay Wildlife Refuge, Gateway National Recreation Area, Queens, New York City in 1979. By 1984 that site was supporting 2802 pairs, and its slowing growth rate indicates the colony should stabilize at 4000-5000 pairs by about 1986. No other Laughing Gull breeding sites are currently known from Long Island.

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Corrigendum: *Kingbird* XXXIV, No. 2, page 76 – Photograph mislabeled by editor. Instead of reading "Juv. Semipalmated Sandpiper," caption should read "Juv. Semipalmated Plover."

