

THE WILD TURKEY IN THE BRONX AND LOWER WESTCHESTER COUNTY, NEW YORK

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ABSTRACT

The Wild Turkey (*Meleagris gallopavo*), once extirpated from New York, has returned to most of the state with help from man. The recolonization by the first birds in New York City since the early 1800s demonstrates the effectiveness of restocking, presence of adequate habitat for marginal breeding populations in Bronx County and the ability of the species to largely avoid harm in heavily used urban parks. Minimal habitat quantity and quality is needed for long dispersal corridors, in this case from Westchester County to and within the city. Dispersal to small and isolated sites occurs regularly and may be human assisted. In this case, a habitat's minimum size for a resident population is 744 acres. Population estimates are made for two major Bronx parks.

INTRODUCTION

There has been little work done on the Wild Turkey in urban areas. However, there have been numerous sightings of turkeys since 1986 in southern Westchester County and in northern and central Bronx County. There are now small breeding populations in Pelham Bay and Van Cortlandt parks in The Bronx. How they may have traveled there and whether there is enough habitat in The Bronx to support a sustainable population will be examined.

STUDY AREA

The study area lies in the Manhattan Hills Ecozone. The Manhattan Hills covers virtually all of Westchester County and all of Bronx and New York (Manhattan) counties. Long Island lies in the Coastal Lowlands Ecozone (Dickinson 1979).

Bronx County has the following characteristics: Size: 28,165 acres; population: 1,203,789 (1990); density: 27,354/mi²; parkland: 6,780 acres

(1995); natural areas: 2,467 acres (1995). Westchester County has the following: Size: 288,200 acres; population: 893,412 (1996); density: 1984/mi².

Pelham Bay Park, at 2,764 acres contains about 968 acres of forest, 51 acres of scrub (City of New York/Parks & Recreation 1988) and old field, including a field of 20 acres in the main section of the park. More of these habitats are found in the isolated southern section, and both contain substantial areas of lawn. There are also 4.3 mi of roads and highways in the park and 1.1 mi of railroad.

Van Cortlandt Park, totaling 1,146 acres, consists of approximately 681 acres of forest, 14 acres of scrub, 41 acres of vineland and 308 acres of herbaceous habitats, including lawns, athletic fields and an 8-acre old field (City of New York/Parks & Recreation 1990a). These natural areas are fragmented by 2.8 mi of highways running through the park.

METHODS

Records of sightings were sought for lower Westchester and Bronx counties and elsewhere.

HISTORY AND RESTOCKING

In precolonial America, the Wild Turkey was common throughout the oak-hickory forest and much of the northern hardwood ecosystems and beyond (Wunz and Pack 1992). Daniel Denton (1845), writing of Long Island in 1670, noted that "Wild Fowl there is great store of, as Turkeys..." De Vries (1655) reported, "Land birds are also very numerous, such as wild turkeys..." referring to the vicinity of Newark Bay, New Jersey. Turkeys probably became extirpated in the New York City region from lumbering and hunting by the early nineteenth century (Bull 1964). The last birds disappeared from New York State soon after 1844 (Eaton 1910) and the last turkey in New England was collected on Mt. Tom, MA in 1847 (Yale Peabody Museum 97253). However, in recent times restocking has brought them back across much of southern New York (Eaton 1988). In New York, none was thought to exist in 1940 (Mosby 1949), 2,500 were estimated in 1958 (Mosby 1959) and 200,000-300,000 (probably closer to the former) in 1999 [Robert Sanford, New York State Department of Environmental Conservation (NYSDEC), pers. comm.]. Although Clarence Fahnestock Memorial State Park in northern Putnam County was stocked in 1959 (Bull 1985) and "several localities in northern Westchester" (Bull 1964), these were game farm-raised Wild Turkeys that did not survive in the wild.

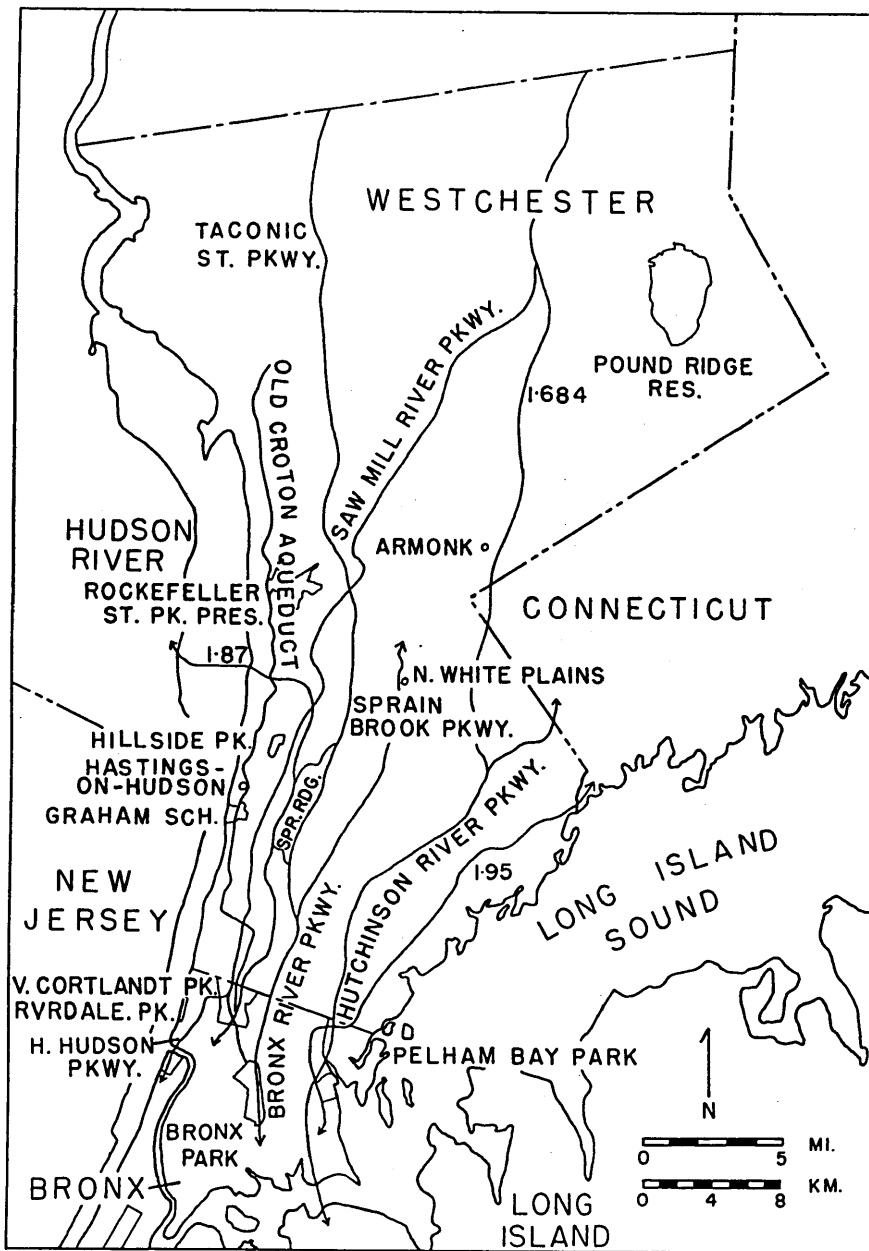


Fig. 1

In New York, restocking has been carried out by the NYSDEC, translocating wild birds in 1960, instead of farm-raised, and the results were much more successful. Only two birds were released in Ward Pound Ridge Reservation (Figure 1) in northeast Westchester County in 1981 (Glenn Cole and Robert Sanford, NYSDEC, pers. comm.) However, 17 wild birds were seen subsequently, indicating that the descendants of 10-11 birds released in 1974 near Dover Plains in eastern Dutchess County, 33 mi to the north, were moving south into Westchester (G. Cole, NYSDEC, pers. comm.). The restocking was thus terminated. In Fahnestock, 10 hens and 4 gobblers were released in 1979 and 1980 respectively, which probably did not give the birds enough time to spread to the Pound Ridge Reservation, 18.7 mi to the south. The Dover Plains translocation was likely the source of most of the earlier Westchester birds. The "Eastern" Wild Turkey (*M. g. sylvestris*), the native subspecies, was used in all translocations and was taken from New York populations.

SIGHTINGS FROM THE BRONX AND ELSEWHERE IN NEW YORK CITY

Helen Forgione (City of New York Department of Environmental Protection, pers. comm.) and Wayne Cahilly [New York Botanical Garden (NYBG), pers. comm.] probably reported the first recent Wild Turkey in New York City, a likely female, in the NYBG Forest in Bronx Park, in central Bronx (Figure 1), from the summer of 1986 into 1987. A bird was reported there (though not officially counted) on the 26 December 1988 Bronx-Westchester Christmas Bird Count. Paul and Julie Mankiewicz (pers. comm.) also saw a Wild Turkey hen in the NYBG about 1989. Two females have been in Bronx Park, including the Bronx Zoo, from ca. 1998 into 1999, and for some time before that, there was one (Eric Edler, pers. comm.). Two nests with eggs discovered on 24 April 1999 were reported by Ron Davis (pers. comm.) in the Wild Asia exhibit of the zoo. But only one hen and no toms were seen in the vicinity about that time. Some young game farm-raised turkeys were released by the zoo ca. 1995 (Davis, pers. comm.), but were recaptured when they displayed no fear of humans. Edler (pers. comm.) stated that none of this species had escaped from the zoo in recent years.

Gary Kieffer (pers. comm.) reported a turkey in April or early May, 1992, next to his yard at present day Givans Creek Woods, a park west of Pelham Bay Park and close to heavily developed areas, such as Co-op City and I-95. It remained about a week.

On 18 June 1993, a Wild Turkey hen was sighted by the author on Hunter Island, Pelham Bay Park, (Figure 1). Probably the same bird was later reported in other sections of the park. Many more sightings followed.

There were three recorded sightings of individual birds in Pelham Bay Park in 1993, eight in 1994, one in 1995, 20 in 1996, 30 in 1997, eight in 1998, 35 in 1999 and 12 in the first couple of weeks of 2000. This may indicate a substantial buildup of population, as would be expected, but there were few sightings in 1998. A total of only eleven known sightings were of males and 63 of females, a male to female ratio of about 1:5.7.

Of 121 sightings of individual birds from 1993 into just the beginning of 2000, most seem to be in the northwestern to central parts of the park with few sightings in the eastern areas. A surprising five were in the southern section, which is isolated by the Hutchinson River and Eastchester Bay from the rest of the park. It might be expected that sightings would be concentrated in areas of heavy human use. Indeed, the most sightings (68) have been in or near a focal point of park traffic at the Bartow Traffic Circle. The Split Rock Golf Course is heavily used and many people have seen turkeys there but only seven sightings have been recorded. However, the Central Woodland, the interior of which is lightly traveled, has had as many as six birds at once. But, a heavily traveled area, mature forest on Hunter Island along with the other eastern sections, has had few sightings. Finally, Gary Cullen [City of New York/Parks & Recreation (NYCDPR) pers. comm.] sighted an adult Wild Turkey with about three young on the Split Rock Golf Course at Pelham Bay Park during the summer of 1994.

On 3 April 1994, Rudolph M. Schutz (pers. comm.) sighted a gobbler flying over his car on the Major Deegan Expressway in Van Cortlandt Park (Figure 1). Well over 15 sightings in Van Cortlandt included two females in the southern section of the park, and at least one female and a male in the northeastern part. There have been no records from the relatively large, well visited and wooded northwestern section.

Additionally, about July 1994, Phillip Siefert and Paul Burfeind (formerly of the Urban Forest Ecology Program, pers. comm.) found an adult turkey with about six young "two-thirds grown" in the Croton Woods of Van Cortlandt Park.

A turkey reported 31 August 1998 on the Mosholu Parkway (Figure 1, unlabeled) 0.6 mi south of Van Cortlandt Park had a broken leg (William Hankammer, pers. comm.), was not found the next day.

A hen was recorded by David Roche and P. A. Buckley (pers. comm.) in Riverdale Park/Wave Hill (Figure 2) on 26 December 1993, and were

told by a passerby that a male and a few females had been present since May. Stephen Ely (pers. comm.) walked to within 10 ft of a bird in Riverdale Park 9 April 1994.

Sightings from Manhattan deserve mention: There was a Wild Turkey at Inwood Hill Park (Figure 1, unlabeled) 21 April 1994 (Schiff and Wollin 1994) and two hens and a tom summered in Inwood Hill in 1998, although only a hen had been present the previous winter (Timothy Wenskus, NYCDPR, pers. comm.). A bird was also in Central Park 10 May 1998 (Schiff and Wollin 1998). Two days later, a female, undoubtedly the same bird, appeared on 82nd Street between Columbus and Amsterdam avenues (Flitton, p. 20).

Another observation was that of a male heard by Timothy Wenskus (pers. comm.) in Alley Pond Park, Queens County, Long Island, 12 January 1999.

There have been unconfirmed sightings of a male and female Wild Turkey for the last two to four years in Dyker Beach Park in Brooklyn (Cerrutti and others, pers. comm.)

Of a number of sightings by the author in Pelham Bay and Van Cortlandt parks, all birds were identifiable as the "Eastern" Wild Turkey.

WESTCHESTER COUNTY SIGHTINGS

The *Atlas of Breeding Birds of New York State* (Andrle and Carroll 1988), compiled 1980 through 1985, showed regular occurrence and breeding east of the Hudson River and south through Putnam County. Only two "confirmed breeding" 3.1-mi blocks are shown in Westchester County, one in the northern Town of Somers in the north central part of the county and in the Pound Ridge Reservation area. "Possible breeding" occurred in five blocks across central Westchester from the Briarcliff Manor area east to south of the Pound Ridge Reservation. The Somers record was of a female on 17 infertile eggs 19 April 1980 (Burke 1980; Stanley Lincoln, pers. comm.) and may have been the first recent sighting in Westchester.

Turkeys had been spreading south through Westchester County (Askildsen 1992) and early sightings included a female 22 April 1992, near the dam of Tarrytown Lakes, Tarrytown (Judy Huf, pers. comm.); a female just south of Hillside Park in northern Hastings-on-Hudson, Town of Greenburgh, 8 April 1993, by J. Huf (pers. comm.); a female in a backyard near the Graham School in western Hastings-on-Hudson on 30 April 1992, by Timothy K. Barton (formerly Westchester County Department of Parks, Recreation and Conservation, pers. comm.); and a

male in Sprain Ridge Park in the towns of Yonkers and Greenburgh in May 1992, by Roger Frost (*vide* Michael Bochnik, pers. comm.). The Bronx-Westchester Christmas Bird Count first recorded turkeys (five) around Rye 26 December 1994.

DISCUSSION

DISPERSAL

They must hesitate little crossing roads. At the time Wild Turkeys were first seen in the north Bronx, they were regular throughout Westchester south to Armonk, North White Plains and Rockefeller State Park Preserve (John Askildsen, pers. comm.) Dispersal of turkeys from upper to lower Westchester County and Bronx County does not appear impossible when one examines a map of the area in regard to potential natural corridors. Turkeys have been known to move as far as 100 mi (Wunz 1971), but Powell (1967) found that average dispersal was 1.9 to 3.1 mi and Brown (1980), reviewing the work of others, found most dispersal to be 0.9 to 5.3 mi. In the case of Pelham Bay Park, there are the narrow corridors of the Sprain Brook Parkway from Sprain Ridge Park that connect to the Cross County Parkway via Hunt Woods Park, and finally to the Hutchinson River Parkway directly connecting with Pelham Bay. This is a total corridor distance of 7.4 mi. They seem to hesitate little crossing roads and obviously some birds move beyond the average distances.

The bird at Givans Creek Woods probably came south to Pelham Bay Park and flew west across to a narrow, weedy margin of the Hutchinson River, then through a 6 six acre highly impacted, vegetated lot and thence to the Givans Creek Woods area, 0.4 mi from the river.

The Graham School bird was also in the immediate vicinity of the Old Croton Aqueduct which is a narrow, but "natural" north-south corridor that stretches between New Croton Reservoir in the Town of Cortlandt to the north and Van Cortlandt Park to the south, the latter only 6.5 corridor miles south of the sighting. It crosses many streets but they are mostly small. The likeliest route from Sprain Ridge Park would be 5.9 mi down the Sprain Brook and Bronx River parkways to Woodlawn Cemetery, adjacent to Van Cortlandt. The Greenburgh Nature Center is less than 0.2 mi from the Bronx River Parkway and 8.3 mi from Woodlawn Cemetery. Turkeys are also known to fly some distance, such as across the Delaware River "in various places" (Bull 1964) and one mi across a valley, (Pough 1951; Pelham and Dickson 1992). Furthermore, turkeys should disperse more easily to The Bronx than White-tailed Deer

(*Odocoileus virginianus*), which sometimes wander down to Van Cortlandt Park and especially Pelham Bay Park from Westchester County (mob, pers. obs.).

Riverdale Park/Wave Hill is 0.5 mi through a neighborhood with many large trees and yards to a 0.4 mi corridor of the Henry Hudson Parkway which leads to western Van Cortlandt Park. The Bronx Park birds could have come down from Sprain Ridge Park by way of the Sprain Brook Parkway and the Bronx River, 6.4 mi to the NYBG. As the Mosholu Parkway bird shows, they might at least attempt to traverse the 1.3 mi of the Mosholu from Van Cortlandt to Bronx Park.

The Wild Turkeys in Inwood Hill and Central parks in Manhattan may have been able to survive there for some time, but these parks seem unlikely final destinations for any Wild Turkey. Inwood Hill is just across the Harlem River from Riverdale and nearby Riverdale Park, which some birds already demonstrated they could reach. But Central Park is more isolated by urban areas than almost any other place in New York State. However, if the birds did find Inwood Hill and Central parks on their own, then turkeys must be capable of colonizing almost any isolated open land even without natural corridors. The bird on 82nd Street (Flitton, p. 20) was only a block and a half from Central Park and may have been attempting to leave it, since the same bird was probably seen in the park two days before.

The bird in Alley Pond Park may have come south down the Hutchinson River Parkway corridor from Pelham Bay Park about 1.4 mi to St. Raymond's Cemetery and adjoining Ferry Point Park, 2.0 mi through this fragmented green space, 0.7 mi across the narrowest part of the East River, near the Whitestone Bridge, to Queens, then 8.0 mi south along an often narrow corridor of the Cross Island Parkway to Alley Pond Park for a total distance of 12.1 mi.

Dyker Beach Park is over 18 miles from Pelham Bay Park with almost no green corridors. This is about as far from typical habitat as one could get.

In the case of Central, Alley Pond and Dyker Beach parks, the isolated nature of these sites raises the possibility, in fact the probability, of released game farm birds. But, the timing of the sightings, which occurred after wild birds reached the general area, gives credence to these birds being truly wild. However, some odd behavior occurred on the Pelham Golf Course, Pelham Bay Park, in early April 1999. A turkey was picked up and stroked by Roberto Santana (fide Robert Musliwala and Frank Juliano, pers. comm.) and then followed him for a while, a good indication that it was game farm bred and then released in the park.

HABITAT REQUIREMENTS AND THE BRONX

Much of both Pelham Bay and Van Cortlandt parks provide turkey habitat. Optimal habitat for the "Eastern" Wild Turkey may contain roughly 90% forest and 10% grassland (Wunz and Pack 1992). Much of both Pelham Bay and Van Cortlandt parks, but not all, provide turkey habitat. Pelham Bay totals more than 1,039 acres of potentially suitable upland habitats. Sightings suggest at least a male and female in the relatively small and isolated southern section of the park, but they were probably only visiting from the main section, as may also be the case for a few other sightings. Fifteen birds were seen together in Oct 1999 (Robert Savino, pers. comm), possibly all the birds in the park at the time. Density would be moderate at 9.2 birds/mi²

Van Cortlandt Park includes about 744 acres of potentially suitable natural habitats. Two females have recently been in the southern section of Van Cortlandt Park and a female has bred in the north central part of the park. One male has been present, making a total of four birds. This would be a density of 3.4/mi². Like Pelham Bay Park, this density is very low and indicative of habitat that is not of high quality.

The Wild Turkey was formerly considered a bird of truly extensive forested areas. However, it has since made use of a wide range of ecological conditions, including lawns, preferring those near forest. Not only have they been regularly seen on Pelham Bay lawns, but they may even frequent small backyards, such as in Hastings-on-Hudson, though the latter may have been a game farm-raised bird. The turkey feeds on a great number of plant and invertebrate foods and needs a fairly large home range. Thus, it could be considered an area sensitive and edge species in our area. It may use separate 100-200-acre nesting and wintering ranges (DeGraaf and Rudis 1987) and 346-1,366 acres on an annual basis (Brown 1980). According to Wunz (1971), turkeys need more than 200 acres of habitat, perhaps less than 500 acres being sufficient to maintain a population. Schroeder (1985) determined from the literature that 2250 acres is the minimum inhabitable area.

Wunz (1971) found birds restricting themselves to an area of heavy understory where there was a great deal of human visitation along trails (as high as two parties per hour during weekends). The forests of Van Cortlandt and Pelham Bay parks often contain a dense understory and perhaps a similar amount of human disturbance.

The seeming lack of use of the Hunter Island area in Pelham Bay by Wild Turkeys may be in response to its relative isolation. Its 125 acre contiguous forest is separated by 0.1 to 0.2 miles of water and 0.6 miles of

asphalt from the rest of the park. Birds seem to disperse readily along narrow corridors containing segments of surprisingly poor habitat, but may not stop until they find relatively extensive, suitable habitat and perhaps other birds as well. The turkey on Mosholu Parkway demonstrated the heavily impacted quality of some habitat – extensive lawns in the large median and along the roadway through a densely populated area. It should be noted again, however, that the bird was reported to have a broken leg.

It appears that Wild Turkeys can disperse long distances, even in a densely populated urban area with little more than heavily impacted narrow strips of vegetation along parkways, at times not even that much. They can travel up to 12 mi or more through major portions of our largest city. This leaves almost any suitable habitat accessible and open to colonization.

Central Park is 840 acres; Bronx Park is 721 acres; Alley Pond Park is 624 acres ; Inwood Hill Park is 196 acres); Riverdale/Wave Hill, with an upland of only 106 acres (City of New York/Parks & Recreation 1990b); and the Givans Creek Woods area was 14.6-acre at the time of the sighting. Most of these parks were not easily reached by enough birds to make nesting possible due to isolation, distance from source populations and lack of time. The evidence so far indicates that the second largest park south of Westchester County, Van Cortlandt, may support a minimally self-supporting population of turkeys that would, however, require periodic migration. Pelham Bay Park, the largest park, has more turkeys and would not need often need an influx of new birds.

MANAGEMENT IMPLICATIONS

Wild Turkeys have recolonized two of New York City's largest parks in the north Bronx. Pelham Bay Park, at 1039 acres of relatively contiguous habitat contained at least 14 birds. Natural areas of 744 acres as in Van Cortlandt Park, may be able to support marginally self-sustaining populations. However, occasional immigration of Wild Turkeys from elsewhere will insure against inbreeding and extirpation from random weather and other events. Natural corridors, even of poor quality, will make this possible. They are probably important in facilitating travel for Wild Turkeys to new natural areas miles away, even in the heart of large urban areas. Vegetated highway corridors receive little or no attention from conservationists and natural resource managers. In light of their importance to the Wild Turkey and other wildlife, transportation departments should be encouraged to manage these strips for the benefit of native plants ,wildlife and maximum vegetative cover. However, one should be alert for the release of birds of dubious origins at unlikely sites.

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