

BIRDS OF TINICUM

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The two hundred and five acres comprising Philadelphia's only wildlife preserve is a relatively small remnant of the once extensive area known as Tinicum. Before the Swedes settled here in 1643, the abundant wild life of the marshes and lowlands bordering the river and the creeks was a major attraction for the local Indian tribes. And down through the years until set aside as a sanctuary in 1955, this area in the southwestern environs of Philadelphia has been a constant mecca for naturalists and gunners. But encroached upon by the sprawling city, bisected by the Industrial Highway, and taken over in part by the International Airport, various industrial enterprises and dredging outfits, there are but few sections left in a natural state compared to the reaches of former days. The areas today most attractive to the naturalist and ornithologist are found in southwest Philadelphia (the Preserve proper) and in Darby and Tinicum Townships of Delaware County.

The recently established Tinicum Wildlife Preserve had its genesis in a special committee of the Delaware Valley Ornithological Club appointed in the spring of 1952 to study the conservation aspects of the Tinicum area which was threatened with further encroachment and possible annihilation. Under its dedicated and imaginative leadership the committee found support, both financial and political, far beyond the confines of the DVOG membership. To lend broader scope to the effort, the Philadelphia Conservationists was organized. Following the lead of this group, other conservation-alert organizations added their support, the Gulf Oil Corporation who owned the land nodded its acquiescence, and the City in December 1955 assumed responsibility for its first sanctuary dedicated to wildlife.

The Tinicum area has had a hectic ecological history since the first Europeans arrived here, and especially during the last fifty or more years. The meadowlands once supported small farms of sorts; piggeries flourished for several years; the Federal Government drained the area during the first World War; the neglected dikes in post-war years disintegrated and floods and tides were rampant; cattails, sedges, bulrushes, water-loving shrubs and other wetland cover came and went; and the bird and other animal population varied with the changing habitat. Today the marshes and wet meadows are rich with the usual alder, elderberry, buttonbush, willows, sedges, rushes, and numerous other wet-footed plants and grasses. Breeding birds have returned to the marshes, including the Least Bittern, Black Duck, King and Virginia Rails, Coot and Gallinule. Two of the marshes now support a fine wild rice cover, attracting both migrating and wintering waterfowl, rails and blackbirds. One of these marshes borders Darby Creek in Delaware County,

the other is in the Preserve. Marshes outside the Preserve are subject to the tides of the Delaware; those within the sanctuary are static with the water level under control as dictated by conditions of the season.

Bird life at Tinicum is feeling the benefits of sanctuary protection, as is attested by the observations of many qualified ornithologists. The following list is the result of authors' observations between 1948 and 1959. In this span of time, 268 species were seen, with 249 recorded within the Wildlife Preserve itself. Eighty-five species were found nesting, 50 in the Preserve. The yearly average of sight records in the area is 205, with the highest counts occurring in 1952 (218) and in 1958 (216). Complete records are in the files of the authors for those bird students desiring more specific information.

ANNOTATED LIST OF TINICUM BIRDS

The common and scientific names in the following list are those used in the Fifth Edition of the American Ornithologists' Union Check List (1957). All birds were observed in the Tinicum Wildlife Preserve except those marked with an asterisk.

COMMON LOON, *Gavia immer*. Regular spring and fall migrant; usually lone birds, although as many as 32 have been seen in one day (April 12, 1957).

RED-NECKED GREBE, *Podiceps grisegena*. Uncommon visitor, occurring at long intervals, usually in early spring.

HORNED GREBE, *Podiceps auritus*. Regular migrant, but never in large numbers.

PIED-BILLED GREBE, *Podilymbus podiceps*. Common migrant; highest count was 25 on March 23, 1955. A few nesting records.

*AUDUBON'S SHEARWATER, *Puffinus lherminieri*. On August 2, 1943 a vagrant bird was observed flying up the river, passing within 20 feet of us.

DOUBLE-CRESTED CORMORANT, *Phalacrocorax auritus*. Rather irregular, spring and fall. Never in numbers, but 40 were seen on April 20, 1958.

GREAT BLUE HERON, *Ardea herodias*. Present throughout the year, but not known to nest in the area. Common migrant.

GREEN HERON, *Butorides virescens*. Common in spring, summer and fall, with one winter record (December 20, 1952). Nests commonly throughout the area. Twelve nests found on June 27, 1957 by Miller.

LITTLE BLUE HERON, *Florida caerulea*. Regular visitor from late spring into fall. High count: 25 on August 4, 1958.

CATTLE EGRET, *Bubulcus ibis*. One bird seen on May 13, 1956; remained for two weeks.

COMMON EGRET, *Casmerodius albus*. Common spring and summer. Rare nester. A nest was found June 2, 1957 with four eggs; another with two young on July 24, 1958; both outside the Preserve in Tinicum Township. A few wintering records. High count in one day: 300 birds (July 27, 1956).

SNOWY EGRET, *Leucophoyx thula*. Regular visitor from middle of May through late summer. Forty birds seen on July 18, 1957.

LOUISIANA HERON, *Hydranassa tricolor*. Uncommon visitor. One bird, May 15, 1953; one in the Preserve from July 25 to August 13, 1958.

BLACK-CROWNED NIGHT HERON, *Nycticorax nycticorax*. Very common in spring, summer and fall, with some wintering individuals. Nests in Delaware County; upwards of 80 nests found on May 29, 1957.

YELLOW-CROWNED NIGHT HERON, *Nyctanassa violacea*. Regular visitor from May, and sometimes into October. Never more than one or two at a time.

LEAST BITTERN, *Ixobrychus exilis*. Fairly common breeder in the Preserve. Twenty-seven nests found from June to August 1958; thirty-nine young banded in these nests. Has been seen as late as October 28 (1958).

AMERICAN BITTERN, *Botaurus lentiginosus*. Rather common migrant, with a number of winter records. Nests in the area; at least one pair in the Preserve in June 1958.

GLOSSY IBIS, *Plegadis falcinellus*. One or more observed each spring and summer recently. A bird seen on April 7, 1958 remained in the Preserve until July 22.

WHITE IBIS, *Eudocimus albus*. A rare visitor, one having been identified in the Preserve on August 1, 1959.

MUTE SWAN, *Cygnus olor*. Occasionally seen. One on March 22, 1958 remained in the Preserve until the end of April.

WHISTLING SWAN, *Olor columbianus*. Uncommon transient. Seventy-five flew over the area on November 4, 1954.

CANADA GOOSE, *Branta canadensis*. Common migrant in varying numbers up to 200 or more.

BRANT, *Branta bernicla*. Two records: 20 on June 1, 1951; 5 on June 21, 1953.

SNOW GOOSE, *Chen hyperborea*. Uncommon transient. 250 here on March 28, 1954.

BLUE GOOSE, *Chen caerulescens*. Rare transient. Nine birds on April 8, 1954.

MALLARD, *Anas platyrhynchos*. Fairly common breeder in the area. Present through winter.

BLACK DUCK, *Anas rubripes*. Common nester and wintering duck. Several hundred every winter, with our highest count of over 1500 on December 31, 1955.

GADWALL, *Anas strepera*. A regular spring and fall visitor in small numbers, with a few winter records.

PINTAIL, *Anas acuta*. The most abundant winter duck here, great numbers dropping in from December on. On one day in December 1952, we estimated 35,000 birds, our highest count.

COMMON TEAL, *Anas crecca*. One record for this foreigner: March 11, 1951.

GREEN-WINGED TEAL, *Anas carolinensis*. A common migrant, with numbers remaining into the winter. Several nesting records: a female with 15 young on June 14, 1953; a breeding pair in the Preserve in 1956 and 1957; in 1958 a nesting pair outside the Preserve and young swimming in Preserve waters in July. High migrant count: 600 on November 20, 1957.

BLUE-WINGED TEAL, *Anas discors*. A fairly frequent migrant and breeder in the Tinicum area, with a few wintering birds occasionally. In migration we have had as high as 300 birds here (September 24, 1954).

AMERICAN WIDGEON, *Mareca americana*. A regular spring, fall and winter visitor in moderate numbers up to 50 or more.

SHOVELER, *Spatula clypeata*. A dozen or more birds drop in during migration each season.

- WOOD DUCK, *Aix sponsa*. A regular migrant in small numbers and an occasional nester. A female with young (7) was seen in the Preserve on June 19, 1955.
- REDHEAD, *Aythya americana*. An uncommon migrant, usually singles.
- RING-NECKED DUCK, *Aythya collaris*. A fairly regular spring and fall migrant. All records have been of doubles only.
- CANVASBACK, *Aythya valisineria*. Seen fairly regularly during migration, but singles only.
- GREATER SCAUP, *Aythya marila*. A regular, spring, fall and winter visitor, but in numbers only once: 500 on April 1, 1958.
- LESSER SCAUP, *Aythya affinis*. An uncommon migrant, and rarely more than a single bird.
- COMMON GOLDENEYE, *Bucephala clangula*. Occasionally a bird or two during spring, fall or winter.
- BUFFLEHEAD, *Bucephala albeola*. Uncommon migrant, and occasionally a single bird is seen in the winter.
- *WHITE-WINGED SCOTER, *Melanitta deglandi*. One record for this bird in the area: 25 on October 7, 1951.
- RUDY DUCK, *Oxyura jamaicensis*. A common spring, fall and winter bird, and a few may sometimes be found in the summer. Winter counts vary from a few hundred individuals to the high count of 2000 (December 31, 1955).
- HOODED MERGANSER, *Lophodytes cucullatus*. A regular spring, fall and winter visitor in small numbers.
- COMMON MERGANSER, *Mergus merganser*. A regular migrant in small flocks up to a hundred or more.
- RED-BREADED MERGANSER, *Mergus serrator*. An uncommon spring and fall visitor, rarely more than a dozen seen at a time.
- TURKEY VULTURE, *Cathartes aura*. Might be seen at any time of the year. Ten birds seen above area on September 20, 1952.
- GOSHAWK, *Accipiter gentilis*. Rare. Two records: an immature bird, September 27, 1953; a young bird on November 23, 1957 (Lamb and J. Miller).
- SHARP-SHINNED HAWK, *Accipiter striatus*. A regular migrant, and fairly regular winter species; never in numbers.
- COOPER'S HAWK, *Accipiter cooperii*. Same status as the Sharpie but not seen quite as frequently.
- RED-TAILED HAWK, *Buteo jamaicensis*. Common migrant and winter resident. Some years plentiful: 82 seen on December 20, 1952; 45 on Jan. 1, 1955.
- RED-SHOULDERED HAWK, *Buteo lineatus*. One or two birds seen regularly during migration season and into the winter.
- BROAD-WINGED HAWK, *Buteo platypterus*. Regularly recorded as a migrant. High count: 40 on September 17, 1950.
- ROUGH-LEGGED HAWK, *Buteo lagopus*. Fairly regular winter resident, usually single birds.
- GOLDEN EAGLE, *Aquila chrysaetos*. One record: an adult bird flying over the Tinicum Preserve on October 15, 1958.
- BALD EAGLE, *Haliaeetus leucocephalus*. Once reasonably common, now uncommon. A sporadic visitor, usually lone birds, but three seen on September 20, 1952. Except for one observation in April (1952), all records have been in late fall or winter.

- MARSH HAWK, *Circus cyaneus*. Resident, more common in winter. There are about 8 pairs nesting in the Tinicum area. We have counted as high as 25 in one day (December 31, 1950), and 18 on December 21, 1957.
- OSPREY, *Pandion haliaetus*. Regular migrant. Never more than 8 seen in one day (September 20, 1952).
- PEREGRINE FALCON, *Falco peregrinus*. An uncommon resident and migrant. One or two birds seen in a day, usually in spring or fall.
- PIGEON HAWK, *Falco columbarius*. Regular but not common migrant. Records of singles only.
- SPARROW HAWK, *Falco sparverius*. Seen in all seasons. About 20 pairs nest in the area. Also a common migrant.
- BOBWHITE, *Colinus virginianus*. Formerly resident, now rare. One bird heard calling in the Preserve, September 3, 1958.
- RING-NECKED PHEASANT, *Phasianus colchicus*. Fairly abundant permanent resident.
- KING RAIL, *Rallus elegans*. A regular breeding species here, with a few birds wintering. Seen every year. Three nests found June 9, 1953.
- VIRGINIA RAIL, *Rallus limicola*. A regular nester, and common in migration. High count: 35 on September 11, 1955. A good number in the Preserve in 1958 from July into the fall.
- SORA, *Porzana carolina*. A few breeding records in the area, and an abundant bird in migration. A good flight in the fall of 1958.
- YELLOW RAIL, *Coturnicops noveboracensis*. One bird heard calling in the Preserve on September 18, 1955.
- BLACK RAIL, *Laterallus jamaicensis*. Miller saw one bird in the Preserve on August 27, 1950.
- COMMON GALLINULE, *Gallinula chloropus*. A common nester here, with a few birds staying into the winter. Miller found 32 nests in 1951 in a marsh which is now part of the Preserve; in 1957 it was estimated that about 50 pairs were nesting there. (Cf. "The Florida Gallinule" by Richard F. Miller, *Cassinia*, XXXVI, 1946, p. 4).
- AMERICAN COOT, *Fulica americana*. A regular migrant, with a few pairs nesting each year.
- SEMI-PALMATED PLOVER, *Charadrius semipalmatus*. Common migrant, spring and fall. High count: 800 on August 12, 1954.
- PIPING PLOVER, *Charadrius melodus*. One record: 4 birds on August 1, 1950.
- KILLDEER, *Charadrius vociferus*. Common resident, seen throughout the year. On January 1, 1955, we counted 300 in a scattered flock.
- GOLDEN PLOVER, *Pluvialis dominica*. Varies from year to year, but fairly regular and sometimes abundant as a fall migrant. On October 3, 1957, we noted 230 birds; in 1958, we saw but 12.
- BLACK-BELLIED PLOVER, *Squatarola squatarola*. Never many, up to 10 or 15, but seen in most springs and falls.
- RUDDY TURNSTONE, *Arenaria interpres*. Uncommon: 4 birds on May 23, 1950; 28 on May 25, 1952.
- AMERICAN WOODCOCK, *Philohela minor*. Fairly regular migrant, with a few pairs nesting.
- COMMON SNIFE, *Capella gallinago*. A common migrant and fairly regular winter resident. 200 birds recorded on November 24, 1950.
- WHIMBREL *Numenius phaeopus*. One bird on May 14, 1958, and one on August, 22, same year, both in the Tinicum Preserve.

- UPLAND PLOVER, *Bartramia longicauda*. A regular migrant; also a breeder here. A number of records in August with a high count of 18 on August 7, 1953.
- SPOTTED SANDPIPER, *Actitis macularia*. Regular breeder here and common migrant.
- SOLITARY SANDPIPER, *Tringa solitaria*. A common migrant, with as many as 10 seen at one time.
- EASTERN WILLET, *Catoptrophorus semipalmatus semipalmatus*. Rare. One bird on September 23, 1950, and one on September 4, 1954.
- WESTERN WILLET, *Catoptrophorus semipalmatus inornatus*. One record only: a single on August 13, 1958.
- GREATER YELLOWLEGS, *Totanus melanoleucus*. Always present during migration, sometimes in great numbers. Occasionally winters.
- LESSER YELLOWLEGS, *Totanus flavipes*. About the same status as the preceding; has appeared in flocks of 200.
- PECTORAL SANDPIPER, *Erolia melanotos*. An abundant migrant, with a few winter records. On September 26, 1954, we recorded 500 birds.
- WHITE-RUMPED SANDPIPER, *Erolia fuscicollis*. Fairly regular migrant, seen mostly in May and from late August into early November.
- BAIRD'S SANDPIPER, *Erolia bairdii*. Rare. One record: August 2, 1952, one bird.
- LEAST SANDPIPER, *Erolia minutilla*. Abundant migrant, spring and fall.
- CURLEW SANDPIPER, *Erolia ferruginea*. Our only record is a single individual in spring plumage on May 16, 1953 in the area now encompassed by the Preserve.
- DUNLIN, *Erolia alpina*. A regular migrant, with a number of May records.
- SHORT-BILLED DOWITCHER, *Limnodromus griseus*. A regular migrant, more common in the fall, but never in numbers.
- LONG-BILLED DOWITCHER, *Limnodromus scolopaceus*. Regular fall migrant, usually up to 10 or more at a time.
- STILT SANDPIPER, *Micropalama himantopus*. A few seen every fall, the highest number being 45 on October 28, 1958.
- SEMPALMATED SANDPIPER, *Ereunetes pusillus*. An abundant migrant, spring and fall, sometimes dropping in by the thousands. On August 7, 1953, we estimated 20,000 of this species to be in the area; on August 21, 1957, we estimated the number to be 4000.
- WESTERN SANDPIPER, *Ereunetes mauri*. A common fall migrant, in small flocks of a few dozen and upward.
- *BUFF-BREASTED SANDPIPER, *Tryngites subruficollis*. One record only: a single individual among a flock of Golden Plover at the Philadelphia International Airport on September 19, 1955.
- MARbled GODWIT, *Limosa fedoa*. Rare transient. Two birds on August 15, 1951.
- HUDSONIAN GODWIT, *Limosa haemastica*. An unusual fall migrant. Eight birds on September 3, 1951; two birds on November 4, 1958; reports also of singles in 1950 and 1954.
- RUFF, *Philomachus pugnax*. According to our observations, the Ruff has become a regular migrant since 1953, especially in the fall. Usually single birds, occasionally two. A bird wintered both in 1954 and 1958.
- SANDERLING, *Crocethia alba*. An uncommon migrant, with very few birds at one time.

- AMERICAN AVOCET, *Recurvirostra americana*. We have two records for this western species: one bird, August 30, 1951; one on October 10, 1959.
- WILSON'S PHALAROPE, *Steganopus tricolor*. Uncommon. One female on May 26, 1950; one on September 6, 1954, and one on September 22, 1954.
- NORTHERN PHALAROPE, *Lobipes lobatus*. Rare. A female, May 9, 1956, in the Preserve.
- GLAUCOUS GULL, *Larus hyperboreus*. An unusual winter visitor. One adult on December 20, 1958, first known record for area.
- GREAT BLACK-BACKED GULL, *Larus marinus*. Regular migrant, with a few wintering each year, and increasing. High count: 67 on December 21, 1957.
- HERRING GULL, *Larus argentatus*. A common migrant, present through the summer, and much in evidence in the winter.
- RING-BILLED GULL, *Larus delawarensis*. A fairly common migrant and winter bird.
- LAUGHING GULL, *Larus atricilla*. Present in small numbers in spring and fall. One winter record: an immature bird on December 21, 1957.
- BONAPARTE'S GULL, *Larus philadelphia*. A regular migrant, but rarely in numbers.
- FORSTER'S TERN, *Sterna forsteri*. A fall migrant, from a few individuals to a high count of 120 on October 3, 1957.
- COMMON TERN, *Sterna hirundo*. Seen regularly during migration.
- LEAST TERN, *Sterna albifrons*. Uncommon in the area. Miller discovered a nest with two eggs (the first for Pennsylvania) at Tinicum on June 17, 1950. The authors have counted as many as 22 birds at a time (July 30, 1958).
- CASPIAN TERN, *Hydroprogne caspia*. A regular migrant, but rarely more than two or three birds.
- BLACK TERN, *Chlidonias niger*. A regular migrant, spring and fall, but never in large numbers.
- MOURNING DOVE, *Zenaidura macroura*. A common breeding bird, with a few wintering each year, sometimes in large flocks.
- YELLOW-BILLED CUCKOO, *Coccyzus americanus*. Breeds here. Also seen in migration.
- BLACK-BILLED CUCKOO, *Coccyzus erythrophthalmus*. Breeds in the area but not as common as the preceding.
- BARN OWL, *Tyto alba*. Regular permanent resident. Miller discovered a nest on February 1, 1952, containing three eggs.
- SCREECH OWL, *Otus asio*. A common permanent resident.
- SNOWY OWL, *Nyctea scandiaca*. An irregular and rare winter visitor. Noted here usually in years of the species' invasion.
- BARRED OWL, *Strix varia*. An unusual bird in the area, although two were known to have wintered in 1949-1950.
- *LONG-EARED OWL, *Asio otus*. Two records for this area are one bird on December 12, 1951, and one on March 16, 1958.
- SHORT-EARED OWL, *Asio flammeus*. Reported every winter. Forty to fifty birds wintered here in 1958, with about 25 of the number in the Preserve proper. There was evidence in June 1953 of a pair nesting, but the nest could not be found.

- SAW-WHET OWL, *Aegolius acadicus*. A regular migrant and winter resident, arriving here often in October, and in one instance remaining into spring (April 23, 1958). Miller found four birds in December 1957, and successfully banded two of them on January 10, 1958.
- *WHIP-POOR-WILL, *Caprimulgus vociferus*. A regular migrant.
- COMMON NIGHTHAWK, *Chordeiles minor*. Common migrant. On September 6, 1950, an estimated 300 birds passed over.
- CHIMNEY SWIFT, *Chaetura pelagica*. A common migrant as well as a summer resident. On September 11, 1955, 200 were counted in the air over the Preserve.
- RUBY-THROATED HUMMINGBIRD, *Archilochus colubris*. Regular migrant, with a few nesting.
- BELTED KINGFISHER, *Megaceryle alcyon*. Permanent resident, with four or five pairs usually in the area.
- YELLOW-SHAFTED FLICKER, *Colaptes auratus*. Common migrant and nesting bird, with a few wintering each year.
- RED-BELLIED WOODPECKER, *Centurus carolinus*. Three records for the area: one, December 23, 1954; two, May 13, 1956; one, April 9, 1958.
- RED-HEADED WOODPECKER, *Melanerpes erythrocephalus*. Three recent records: three, September 10, 1949; one, June 13, 1952; one, May 8, 1958.
- YELLOW-BELLIED SAPSUCKER, *Sphyrapicus varius*. Fairly regular migrant, commoner some years than others.
- HAIRY WOODPECKER, *Dendrocopos villosus*. Not too common permanent resident.
- DOWNY WOODPECKER, *Dendrocopos pubescens*. Permanent resident.
- EASTERN KINGBIRD, *Tyrannus tyrannus*. Common migrant and breeder here.
- GREAT CRESTED FLYCATCHER, *Myiarchus crinitus*. Regular migrant. A few have been known to nest each year.
- EASTERN PHOEBE, *Sayornis phoebe*. Regular migrant and nester.
- *YELLOW-BELLIED FLYCATCHER, *Empidonax flaviventris*. Two records for the area; one, May 26, 1956; one, September 5, 1957.
- *ACADIAN FLYCATCHER, *Empidonax virescens*. Regular migrant. about five pair nest here each year.
- TRAILL'S FLYCATCHER, *Empidonax traillii*. Common migrant and breeder. Between 100 and 150 pairs nest in the area.
- LEAST FLYCATCHER, *Empidonax minimus*. A regular migrant. Rare nester.
- EASTERN WOOD PEWEE, *Contopus virens*. Fairly common in migration; no known breeding records.
- *OLIVE-SIDED FLYCATCHER, *Nuttallornis borealis*. An unusual migrant. Miller noted one in the area in May 1951.
- NORTHERN HORNED LARK, *Eremophila alpestris alpestris*. A common winter bird. High count: 100 on December 18, 1955.
- PRAIRIE HORNED LARK, *Eremophila alpestris praticola*. A permanent resident, more abundant in winter. 405 were counted on December 17, 1956.
- TREE SWALLOW, *Iridoprocne bicolor*. An abundant migrant and regular breeder. On October 12, 1957, 4000 were estimated to be in the area. The April northern flights are fewer in number, up to 300.
- BANK SWALLOW, *Riparia riparia*. A common migrant, sometimes in flocks numbering hundreds.
- ROUGH-WINGED SWALLOW, *Stelgidopteryx ruficollis*. Common migrant.

- BARN SWALLOW, *Hirundo rustica*. Common migrant and breeder. Highest number counted at one time, 200 on July 12, 1957.
- CLIFF SWALLOW, *Petrochelidon pyrrhonota*. Uncommon migrant, usually seen in the spring.
- PURPLE MARTIN, *Progne subis*. Common in migration. A few nest in the area.
- BLUE JAY, *Cyanocitta cristata*. Common permanent resident. In some years large flocks migrate through here both in spring and fall.
- COMMON CROW, *Corvus brachyrhynchos*. Common permanent resident, becoming more common in the winter.
- FISH CROW, *Corvus ossifragus*. Permanent resident.
- BLACK-CAPPED CHICKADEE, *Parus atricapillus*. Common winter resident in years of abundance.
- CAROLINA CHICKADEE, *Parus carolinensis*. An uncommon bird here. A nest with four young found on April 24, 1954.
- TUFTED TITMOUSE, *Parus bicolor*. Common permanent resident.
- WHITE-BREADED NUTHATCH, *Sitta carolinensis*. An uncommon permanent resident.
- RED-BREADED NUTHATCH, *Sitta canadensis*. Occasional migrant.
- BROWN CREEPER, *Certhia familiaris*. Fairly common migrant. Some winter.
- HOUSE WREN, *Troglodytes aëdon*. Common breeder, and recently a regular winter resident. Six birds were seen on December 17, 1957.
- WINTER WREN, *Troglodytes troglodytes*. Fairly regular migrant, with a few staying through the winter.
- CAROLINA WREN, *Thryothorus ludovicianus*. Common permanent resident.
- LONG-BILLED MARSH WREN, *Telmatodytes palustris*. Very common nesting bird. One winter record: a single found in the Preserve on December 6, 1957 and again on the 21st.
- SHORT-BILLED MARSH WREN, *Cistothorus platensis*. Uncommon and at least a one-time breeder. Two nests, each with three eggs, found on June 27, 1950. No short-bills seen since 1954.
- MOCKINGBIRD, *Mimus polyglottos*. A permanent resident, becoming more in evidence each year.
- CATBIRD, *Dumetella carolinensis*. A common breeding bird, with a few wintering some years.
- BROWN THRASHER, *Toxostoma rufum*. A regular nester, and an occasional winter resident.
- ROBIN, *Turdus migratorius*. A common breeder, and occasional winter resident.
- WOOD THRUSH, *Hylocichla mustelina*. A regular nester here, and fairly common migrant.
- HERMIT THRUSH, *Hylocichla guttata*. A regular migrant in small numbers. A rare winter bird.
- SWAINSON'S THRUSH, *Hylocichla ustulata*. Fairly common migrant, spring and fall.
- GRAY-CHEEKED THRUSH, *Hylocichla minima*. Regular spring and fall migrant.
- VEERY, *Hylocichla fuscescens*. Seen every spring and fall during migration.
- EASTERN BLUEBIRD, *Sialia sialis*. Fairly common migrant in the fall, less so in the spring. No recent nest records.
- BLUE-GRAY GNATCATCHER, *Poliotilta caerulea*. A regular migrant with a few nesting records.

- GOLDEN-CROWNED KINGLET, *Regulus satrapa*. Common migrant, and rare during the winter.
- RUBY-CROWNED KINGLET, *Regulus calendula*. Fairly common migrant with occasionally a few in the winter.
- WATER PIPIT, *Anthus spinoletta*. Common in migration in large numbers. A few winter each year.
- CEDAR WAXWING, *Bombycilla cedrorum*. Common migrant, with occasionally a few remaining through the summer.
- NORTHERN SHRIKE, *Lanius excubitor*. One record: an adult bird first seen in the Preserve on November 14, 1954 remained until March 24, 1955.
- LOGGERHEAD SHRIKE, *Lanius ludovicianus*. A regular migrant. One wintered in 1957-1958.
- STARLING, *Sturnus vulgaris*. Abundant permanent resident.
- WHITE-EYED VIREO, *Vireo griseus*. A regular migrant and occasional breeder.
- *YELLOW-THROATED VIREO, *Vireo flavifrons*. A regular migrant.
- *SOLITARY VIREO, *Vireo solitarius*. Passes through in migration. Three birds observed on May 13, 1956.
- RED-EYED VIREO, *Vireo olivaceus*. Usually a summer resident, and common in migration.
- PHILADELPHIA VIREO, *Vireo philadelphicus*. An uncommon migrant, usually seen in September, usually singles.
- WARBLING VIREO, *Vireo gilvus*. Observed regularly during migration. A few nest each year.
- BLACK AND WHITE WARBLER, *Mniotilta varia*. A common migrant, usually in small numbers. Forty were seen, however, on September 6, 1954.
- *WORM-EATING WARBLER, *Helmitheros vermivorus*. Regular migrant.
- *GOLDEN-WINGED WARBLER, *Vermivora chrysoptera*. Regular migrant.
- *BLUE-WINGED WARBLER, *Vermivora pinus*. A regular migrant in small numbers.
- TENNESSEE WARBLER, *Vermivora peregrina*. An annual migrant, sometimes in groups up to 10 or more.
- *ORANGE-CROWNED WARBLER, *Vermivora celata*. An uncommon visitor. One seen on November 2, 1959 in the town of Tincum.
- NASHVILLE WARBLER, *Vermivora ruficapilla*. Fairly common in migration in small numbers.
- PARULA WARBLER, *Parula americana*. Observed yearly during migration.
- YELLOW WARBLER, *Dendroica petechia*. A common breeder and migrant. An estimated 100 birds were counted on April 30, 1951, and 50 on May 12, 1957.
- MAGNOLIA WARBLER, *Dendroica magnolia*. Regular migrant.
- CAPE MAY WARBLER, *Dendroica tigrina*. Seen oftener during the fall migration than in spring.
- BLACK-THROATED BLUE WARBLER, *Dendroica caerulescens*. A regular and common migrant.
- MYRTLE WARBLER, *Dendroica coronata*. An abundant migrant.
- BLACK-THROATED GREEN WARBLER, *Dendroica virens*. Common migrant.
- BLACKBURNIAN WARBLER, *Dendroica fusca*. A regular migrant.
- CHESTNUT-SIDED WARBLER, *Dendroica pensylvanica*. Common migrant.
- BAY-BREASTED WARBLER, *Dendroica castanea*. Fairly common migrant.
- BLACKPOLL WARBLER, *Dendroica striata*. Regular during migration.

- ROSE-BREADED GROSBEAK, *Pheucticus ludovicianus*. Common migrant.
- BLUE GROSBEAK, *Guiraca caerulea*. An uncommon visitor. Single birds observed on August 2, 1951, March 12, 1952, July 17, 1952, October 1, 1957, and June 13, 1958.
- INDIGO BUNTING, *Passerina cyanea*. Fairly common nester and migrant.
- DICKCISSEL, *Spiza americana*. Rare visitant. One seen at the Airport on April 7, 1958, and another on October 10, 1958 in the Preserve.
- EVENING GROSBEAK, *Hesperiphona vespertina*. An uncommon visitor in late fall and during the winter, in small numbers. Eight appeared here on December 10, 1955, and five were seen on October 26, 1957.
- PURPLE FINCH, *Carpodacus purpureus*. Often a common migrant, but varying in numbers from year to year.
- COMMON REDPOLL, *Acanthis flammea*. Unusual winter visitant. Records show 25 on February 12, 20 on February 14, and 15 on March 13, 1953; and 39 on March 23, 1958.
- PINE SISKIN, *Spinus pinus*. Fairly common in migration and during the winter, varying from year to year. High count has been 150 on December 10, 1956.
- AMERICAN GOLDFINCH, *Spinus tristis*. Permanent resident, often fairly abundant during the winter. Six hundred were counted on January 23, 1955.
- RUFOS-SIDED TOWHEE, *Pipilo erythrophthalmus*. A common migrant, with a few nesting and wintering.
- SAVANNAH SPARROW, *Passerculus sandwichensis*. A fairly abundant migrant, some wintering, and some usually nesting. In May and June of 1950, Miller found 10 nests in the area.
- GRASSHOPPER SPARROW, *Ammodramus savannarum*. Formerly a regular migrant with a few nesting each year; has not been seen in the area in the last several years. A nest with four eggs found on June 25, 1950 by Miller.
- HENSLOW'S SPARROW, *Passerherbulus henslowii*. An uncommon fall migrant. No spring records, although it passes through several miles inland.
- VESPER SPARROW, *Pooecetes gramineus*. A common migrant with a few occasionally wintering.
- *WHITE-WINGED JUNCO, *Junco aieni*. A rare vagrant, with one known record. On December 11, 1955, Miller trapped an adult female at his feeding station. Price confirmed the identification. Both authors were familiar with the species in its western habitat. The bird was banded (#55-70164) and released.
- SLATE-COLORED JUNCO, *Junco hyemalis*. An abundant migrant, with large flocks wintering in the area. As high as 500 were estimated on December 24, 1954.
- *OREGON JUNCO, *Junco oregonus*. Casual visitor, with one known record: a single bird observed in a flock of native Juncos on November 23 and 30, 1952.
- TREE SPARROW, *Spizella arborea*. Migrates through here and winters in large numbers, up to several hundred in a scattered flock.
- CHIPPING SPARROW, *Spizella passerina*. Regular migrant and resident.
- FIELD SPARROW, *Spizella pusilla*. Permanent resident, becoming quite evident in fall and winter, appearing in numbers.
- WHITE-CROWNED SPARROW, *Zonotrichia leucophrys*. Fairly regular migrant, with a few found here each winter.

- WHITE-THROATED SPARROW, *Zonotrichia albicollis*. Abundant in spring and fall, with large flocks wintering. December flocks often number in the hundreds; high count was 700 on December 20, 1952.
- FOX SPARROW, *Passerella iliaca*. A common migrant, with a few birds wintering. Rarely seen in very large numbers.
- LINCOLN'S SPARROW, *Melospiza lincolni*. Single birds occasionally seen in migration: May 10 and September 27, 1953; two on May 13, 1956; one each in October of 1956 and 1957.
- SWAMP SPARROW, *Melospiza georgiana*. A common permanent resident. On December 22, 1956, 212 were counted.
- SONG SPARROW, *Melospiza melodia*. Common permanent resident, with several hundred in evidence during the winter.
- LAPLAND LONGSPUR, *Calcarius lapponicus*. Single birds seen in the area every winter. Four were present on December 31, 1955.
- SNOW BUNTING, *Plectrophenax nivalis*. Small flocks observed each winter, the largest number being 105 on January 20, 1952.

Species Observed in the Tinicum Area by Others.

RED-THROATED LOON, <i>Gavia stellata</i>	D. Cutler
GANNET, <i>Morus bassanus</i>	J. Gillespie
EUROPEAN WIDGEON, <i>Mareca penelope</i>	G. Lamb
OLDSQUAW, <i>Clangula hyemalis</i>	P. DeAoun
SURF SCOTER, <i>Melanitta perspicillata</i>	D. Cutler
COMMON SCOTER, <i>Oidemia nigra</i>	D. Cutler
PURPLE GALLINULE, <i>Porphyryla martinica</i>	Fryburger
KNOT, <i>Calidris canutus</i>	G. Abbott
BLACK-NECKED STILT, <i>Himantopus mexicanus</i>	Carl Lorup
ICELAND GULL, <i>Larus glaucoides</i>	D. Cutler
ROYAL TERN, <i>Thalasseus maximus</i>	N. Hoy
DOVEKIE, <i>Plautus alle</i>	P. DeAoun
WESTERN KINGBIRD, <i>Tyrannus verticalis</i>	D. Cutler
COMMON RAVEN, <i>Corvus corax</i>	Moore and Daly
CERULEAN WARBLER, <i>Dendroica cerulea</i>	P. DeAoun
SHARP-TAILED SPARROW, <i>Ammospiza caudacuta</i>	E. Finkle

