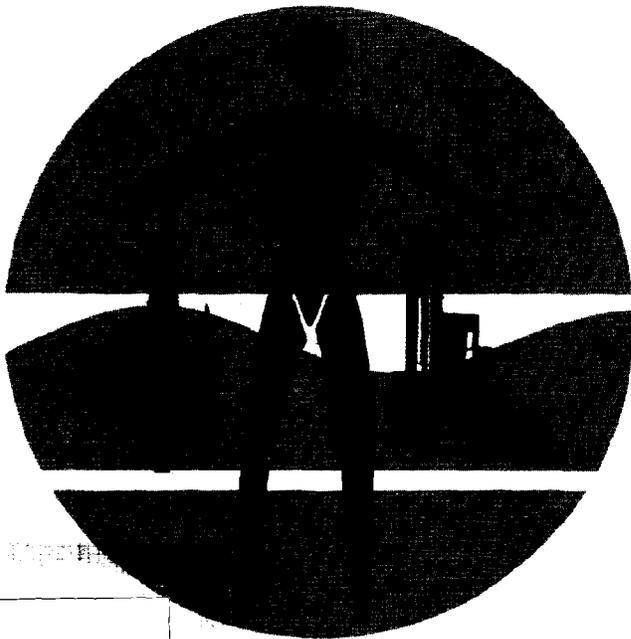


E. ZONE  
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MEMORANDUM  
ON  
SIGNIFICANT FISH AND WILDLIFE HABITAT  
HUDSON RIVER - NYC TO TROY DAM  
  
(TASK 7.3)

*New York State Dept. of Environmental Conservation*



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1976

COASTAL ZONE  
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## Introduction

This report identifies and briefly describes significant coastal related fish and wildlife habitats in the Hudson Valley from the federal dam at Troy to New York City. It consists of a series of individual map reports keyed to a marked set of USGS 7½' topographic maps covering the lower Hudson River. It is intended primarily for use as one of several in-house reference documents contributing to the completion of the Department of Environmental Conservation's contractual obligations in the Coastal Zone Management program.

Several procedures were to (1) develop a list of habitat categories of interest, (2) locate and establish the boundaries of each habitat unit considered significant and (3) suggest an outer limit for a coastal zone boundary which would encompass each habitat as a functional unit. Areas were identified through review and analysis of all available information; consultation with knowledgeable individuals and field checks as appropriate.

Categories mapped as individual units include:

1. Tributaries- from mouth to first impassable barrier to fish movement.
2. Wetlands - General. Detailed mapping and inventory is the subject of a separate task.
3. Mudflats
4. Littoral zone - low tide line to a depth of 18 feet at mean low water.
5. Deepwater - areas greater than 50 feet in depth at mean low water.
6. Unique ecological areas.
7. Public access sites.

Criteria used to establish significance were:

1. Habitat for species classified as rare, endangered or threatened.
2. Ecologically unique
3. Habitat essential to a critical phase in the life cycle of a species.
4. High productivity.
5. Supports high level of recreational and/or commercial use.
6. Provides public access

Specific areas were assessed as significant based on existing documentation whenever possible. Mostly, however, subjective judgments were made based on the assessment of professionals, the credentials of lay observers and an accrual of similar assessments of individual areas.

COASTAL ZONE MAP REPORT #1  
Troy North Quad (1954)

Introduction

The Troy dam marks the upper extent of the tidal influence in the Hudson. Land use in the coastal zone portion of this quad is primarily industrial and residential, encompassing the cities of Troy and Green Island.

Habitat Types

1. Tributaries

Tributary #237 (no Name) and its trib., the Salt Kill are accessible for 3.7 miles. Utilization of this tributary system by anadromous species is unknown, but potentially could serve as spawning stream for alewife, blueback herring and white perch. Marsh areas along this trib. as indicated on the USGS quad are non-existent today due to extensive landfill and waste disposal that has occurred here.

2. Wetlands

None

3. Mudflats (exposed at low tide)

None

4. Littoral zones (18' depth contour and less)

The main river immediately below the Troy dam has a small, but important section of rocky shoals and channel areas, which are a concentration area for several fish species. Some spawning of striped bass, American shad, alewife, blueback herring and white perch is known to occur in this area. The main channel below the dam is also used sporadically by rafting waterfowl. Fishing pressure by boat and shore anglers is heavy during the spring and early summer when the stripers are abundant.

5. Deepwater Habitat

None

6. Unique Ecological Areas

None

7. Public Access

The only known points of access to the coastal zone resource are the banks of the river, immediately below the dam. While these lands are not public, fishermen are able to get to the banks. There are no boat launching facilities in this area. Boat anglers either come from considerable distance up or down river, or represent local people with boats docked in the immediate area.

COASTAL ZONE MAP REPORT #2  
Troy South Quad (1953)

Introduction

This area is urban in nature encompassing the cities of Green Island, Troy, Watervliet, Menands, Albany and Rensselaer. There is an area of relatively natural habitat between Rensselaer and Troy along the east bank of the river. The west bank between Albany and Watervliet in no way resembles the 1953 quad. Construction of I-787 and encroachment of the Albany waterfront industries has resulted in filling of nearly the entire course of the Little River and substantial areas of marsh.

Habitat Types

1. Tributaries

Tributary #237 (no name) was described in Map report #1.

The Poesten Kill is a well known spawning stream for alewives and blueback herring. The stream is accessible for 1.3 miles. Some scap netting of herring occurs in the spring on this stream.

The Wynants Kill, although not accessible for a substantial distance, may provide additional spawning habitat for herrings.

The Little River is accessible for approximately 1.5 miles. Use by anadromous species of fish is unknown.

Mill Creek is accessible for 1.3 miles. Use by anadromous fish is unknown.

2. Wetlands

A small plot of marsh in fairly natural condition exists along T-237, just to the west of Green Island. The marsh supports a minimal number of migratory waterfowl and receives sporadic hunting. The fringes of this marsh are being used for some dumping of trash.

A substantial area of lowlands and wetlands exists between the Little River and Albany City limit. Although in a state of severe deterioration, this area probably supports limited numbers of migratory waterfowl and upland game birds.

A small plot of marsh occurs along an embayment to the east shore of the main river at North Greenbush, which supports minimal numbers of waterfowl. Occasional waterfowl hunting occurs in this area.

Papscaene Marsh, indicated in the extreme lower left corner of the overlay, will be described in Map Report #5.

3. Mudflats (exposed at low tide)

None

4. Littoral zones (18' depth contour and less)

The navigation channel occupies nearly the entire width of the river in this section. Littoral zone is restricted to the fringe areas between the channel and shoreline areas.

The area from the northern edge of the map, south to Starbuck Island and the mouth of T-237, is the only significant area of littoral zone on this quad. These shoals are known as a spawning ground for striped bass, American shad, alewife, blueback herring, and white perch. Fishing pressure by boat and shore anglers is heavy during the spring and early summer when the stripers are abundant.

5. Deepwater Habitat

None

6. Unique Ecological Areas

Papscaene Marsh, to be discussed in Map Report #5.

7. Public Access

Three major access points on this quad, are both banks of the river immediately below the Troy dam, the mouth of the Poesten Kill, and from the railroad service road between Rensselaer and the Troy City line. None of these areas are publicly owned.

COASTAL ZONE MAP REPORT #3  
Albany Quad (1953)

Introduction

Both banks of the river are developed with heavy industrial installations. No significant shoreward wildlife habitat is available. The main channel serves as a rafting area for a very few waterfowl and as a migratory path for anadromous fish, but is not a significant spawning area.

Habitat types

1. Tributaries  
None
2. Wetlands  
None
3. Mudflats (exposed at low tide)  
None
4. Littoral zone (18' depth contour and less)  
Minimal, and not considered significant.
5. Deepwater habitat  
None
6. Unique Ecological Areas  
None
7. Public Access  
None

COASTAL ZONE MAP REPORT #4  
Delmar Quad (1953)

Introduction

Substantial portions of significant coastal related habitat exist in the segment. The only developed areas are the Port of Albany, tank farms at Albany and Rensselaer, and the Village of Castleton-on-Hudson.

Habitat Types

1. Tributaries

Normans Kill Creek is accessible to anadromous fish for 4.0 miles, and is probably utilized as a spawning stream by alewives and blueback herring. Cabbage and Beacon Islands form a part of the stream mouth complex. These lowlands and small plots of wetland provide some habitat for waterfowl, upland game birds and an occasional deer.

The Vloman Kill (accessible for 1.1 miles), Binnen Kill (4.6 mi.), Muitzes Kill (1.9 mi. ) and Vlockie Kill (0.8 mi.) may all be spawning streams for herrings.

The Moordener Kill and Papscaanee Creek system are discussed in Map Report #5.

2. Wetlands

Small plots of wetlands exist along the west bank at the mouth of the Normans Kill, at the mouth of Trib. 221, on Schemerhorn Island, and at the junction of the Muitzes Kill and Schodack Creek. Of these, the most important are at the mouth of Trib 221, and the junction of Muitzes Kill and Schodack Creek. Both areas support small numbers of waterfowl and some hunting pressure.

3. Mudflats (exposed at low tide).

Two small mudflats occur on this quad , one along the east bank, just north of Castleton-on-Hudson and one on the west bank south of Trib 221. These flats are important feeding areas for waterfowl, shorebirds and songbirds.

4. Littoral Zones (18' depth contour and less)

Substantial areas of littoral zone occur between the channel boundaries and shoreline. This type of habitat in this region serves as nursery area for young herrings, shad, striped bass and white perch, and as spawning and feeding areas for most of the resident freshwater species in the river.

5. Deepwater Habitat

None

6. Unique Ecological Areas

The Hudson River Valley Commission listed the "Cliffs west of Shad and Schemerhorn Islands" as an area of biological significance. This area was noted for rare plants, rare animals, areas of rare ecological niches, and areas with landscape values.

7. Public Access

No developed access sites are available, however the access situation is considered good through private lands. There are no known fishermen concentration points. Marshes at Trib 221 and at the Muitzes Kill/Schodack Creek junction are focal points for hunters.

COASTAL ZONE MAP REPORT #5  
East Greenbush Quad (1953)

Introduction

The dominant ecological feature is the Papscaanee Marsh. The only developed areas in this segment are the tank farms and railroad yards at the City of Rensselaer, and the Village of Castleton-on-Hudson.

Habitat Types

1. Tributaries

The Papscaanee Creek System encompasses 11.8 miles of accessible streams which may be used as spawning grounds for herrings and white perch, and supports large numbers of freshwater resident fish species. This system has the largest amount of accessible mileage of all the Hudson tributaries.

The Moordener Kill is accessible for 1.5 miles and may also be a spawning stream for herrings.

2. Wetlands

Papscaanee Marsh is the northernmost large marsh in the study area. The marsh is approximately 5 miles long, and  $\frac{1}{2}$  mile wide at the widest point. It is rated as one of the most valuable and productive marshes in the Upper Hudson Valley by regional wildlife biologists. Large numbers of waterfowl, upland game birds, muskrats, rabbits and occasional deer utilize this area. Much of this use by wildlife is attributed to the availability of domestic corn and vegetable crops grown on Papscaanee Island. Considerable hunting of waterfowl occurs.

3. Mudflats (exposed at low tide)

None

4. Littoral Zone (18' depth contour and less)

The first two miles of Papscaanee Creek upstream from its mouth has a broad backwater which is entirely littoral zone. This type of habitat serves as spawning, nursery and feeding grounds for alewife, blueback herring, shad, white perch, striped bass and most of the freshwater resident fish species.

5. Deepwater Habitats

None

6. Unique Ecological Areas

The Hudson River Valley Commission lists the Papscaanee Marsh as an area of biological significance, citing it for rare ecological niches, areas useful for the maintenance of bird migration stopovers, river life study areas, educational uses, and for the presence of rare plants.

7. Public Access

No developed public access sites are available, however the access situation is considered good through private lands. Most of the marsh is accessible via the N.Y.C.R.R. bed.

COASTAL ZONE MAP REPORT #6  
Ravena Quad. (1953)

Introduction

This area is largely undeveloped with the exception of the Villages of Coeymans and New Baltimore. Substantial areas of upland relate to the coastal zone and are included within the proposed boundary.

Habitat Types

1. Tributaries

Four important tributaries occur in this stretch. Coeymans Creek (accessible for 0.3 mi.), Hannacroix Creek (1.9 mi.), Mill Creek (2.7 mi.) and Cocksackie Creek (2.2 mi.) all may be significant spawning streams for alewife, blueback herring, white perch, and freshwater residents. The mouths of each of these tributaries encompass areas of several important habitat types, primarily wetlands and tidal mudflats.

2. Wetlands

No large wetland area is present, but numerous small plots add up to a substantial acreage. The most important wetland areas exist on Lower Schodack Island, at the mouth of Hannacroix Creek, at the mouth of Mill Creek, and on Bronck Island. Upland areas adjacent to wetland plots that are of importance to upland game birds, small game animals and deer include all of Houghtaling and Lower Schodack Islands, Bronck Island, and the mouths of Hannacroix Creek and Mill Creek. These areas are considered the major hunting locations.

3. Mudflats (exposed at low tide)

Fairly substantial areas of mudflats are present. Largest and most important are mudflats at the mouth of Hannacroix Creek, along Schodack Creek, along Bronck Island, at the mouth of Cocksackie Creek, at the mouth of Mill Creek and at the mouth of Trib. 207.

4. Littoral Zones (18' depth contour and less)

Large expanses of littoral zone exist. This region of the Hudson encompasses the northernmost areas of shad spawning concentrations. Littoral zone north of here is severely limited by the navigation channel which covers nearly the entire width of the river. Aside from serving as spawning grounds for shad, these littoral zones are spawning grounds, nursery areas and feeding grounds for striped bass, white perch, alewife, blueback herring, and most resident freshwater species.

5. Deepwater habitats

None

6. Unique Ecological Areas

Two areas were listed in the Hudson River Valley Commission's report on areas of biological significance. The mouth of Coeymans Creek was cited for rare plants, rare ecological niches and areas useful for the maintenance of bird migration stopovers, river life study areas and educational uses. Bronck Island and cliffs west of Bronck I. were cited for these same values.

## 7. Public Access

There are no developed public access points, however access through private lands is considered good. Access is obtained via the railroad property along the east shore. Hunting activity is concentrated at Houghtaling and Lower Schodack Islands, at the mouth of Hannacroix Creek, Bronck Island and the mouth of Mill Creek. Fishing areas include Schodack Creek and the mouths of the major tributaries.

## COASTAL ZONE MAP REPORT #7

Hudson North Quad (1953) and Stottville Quad (1953)

### Introduction

Large expanses of nearly all types of coastal related habitats occur in this region. The river widens considerably here allowing for very large areas of littoral zone and mudflats. Numerous "spoil islands" occur in mid-river as a result of channel dredging. The City of Hudson and the Villages of Athens and Coxsackie are the only developed areas.

### Habitat Types

#### 1. Tributaries

There is one tributary of major significance, Stockport Creek. This large tributary is formed by the junction of Kinderhook and Claverack Creeks. This system provides 5.0 miles of accessible waters, which are utilized as spawning grounds for alewife, blueback herring, white perch and striped bass, plus resident species. This is one of the very few streams large enough to attract striped bass and as such is a major focal point for fishermen.

Tributary 207 is accessible for 3.9 mi. and Murderers Creek for 0.5 mi. Both may be of some significance as spawning grounds for herrings.

#### 2. Wetlands

Several large wetlands and numerous scattered small plots of wetland are located here. The most important are Vosburgh Swamp, mouth of Stockport Creek, Hudson North Bay, Hudson South Bay and "Powerline" Marsh at Athens. All of these areas are frequented by waterfowl hunters. Fairly abundant wetland areas, combined with protected off-channel open water areas make this section attractive to waterfowl. Of particular note is the fact that redhead and canvasback ducks winter in this area, both species presently receive special protection because of low population levels.

#### 3. Mudflats (exposed at low tide)

Extremely large areas of this type habitat are available. These flats serve as feeding grounds for waterfowl, shorebirds and song birds.

#### 4. Littoral Zones (18' depth contour and less)

Large expanses of littoral zone occur. A heavy concentration of American shad utilize these shallows for spawning. The northernmost commercial shad fishing occurs in the off-channel areas at Middle Ground Flats and Stockport Middle Grounds. These areas are utilized as spawning grounds, nursery grounds and feeding areas by striped bass, shad, alewife, blueback herring, white perch, and most of the resident freshwater species.

5. Deepwater Habitats

None

6. Unique Ecological Areas

Two areas were listed by the Hudson River Valley Commission as significant.

Vosburgh Swamp was recommended as a priority site for preservation. The area was cited for rare plants, rare animals and areas useful for the maintenance of bird migration stopovers, river life study areas and educational uses.

The mouth of Stockport Creek was cited by Hudson River Valley Commission for rare plants, scenic values, and areas useful for the maintenance of bird migration stopovers or river life study areas and educational uses.

Other unique habitats are the spoil bank islands and shoreline spoil deposits, which through erosion, have created vertical sand banks that have been colonized by bank swallows. While these birds are not rare, this area is the only one in the Hudson Valley where they are found.

7. Public Access

There are two public boat launch facilities; one at Murderers Creek in Athens and one in the City of Hudson. Access through private lands is considered good. Prime hunting areas are located at the mouth of tributary 207, around the spoil bank islands, Hudson North and South Bays, Vosburgh Swamp and "Powerline Marsh." Prime fishing areas are at the mouth of Stockport Creek, mouth of Murderers Creek, and off-channel areas adjacent to Middle Ground Flats, Stockport Middle Grounds, and Cocksackie-Rattlesnake Islands.

## COASTAL ZONE MAP REPORT #8

Hudson South Quad (1963) and Clermont Quad (1963)

### Introduction

This area also contains large expanses of diverse and important habitat types. The most important features include Hudson South Bay, Rogers Island and surrounding flats, Catskill Creek, Ramshorn Marsh and the Roeliff-Jansen Kill. The only developed areas are the Cities of Catskill and Hudson.

### Habitat Types

#### 1. Tributaries

Two extremely important tributaries enter the Hudson in this section. Catskill Creek is accessible for 9.5 miles to anadromous fish and is utilized as a spawning stream by alewife, blueback herring, white perch, striped bass and possibly shad and smelt, as well as most resident freshwater species. The Roeliff-Jansen Kill is accessible for 9.7 miles and offers the same habitat to fish as the Catskill Creek. It is a known smelt spawning stream. A pearl roach was taken from the mouth of this stream, the only record of this species from New York State.

#### 2. Wetlands

Two major wetland areas appear in this section, Ramshorn Marsh south of Catskill Creek and South Hudson Bay, south of the City of Hudson.

Ramshorn Marsh is by far the more valuable in terms of natural conditions and diversity of species. The National Audubon Society controls a portion of this marsh as a bird sanctuary. The marsh supports large numbers of waterfowl and is hunted extensively. The least bittern, a rare species, has been reported from this marsh.

#### 3. Mudflats (exposed at low tide)

Very large areas of tidal mudflats occur here, the most significant being located along Ramshorn Marsh at the mouth of the Roeliff-Jansen Kill, surrounding Rogers Island, and opposite Hudson South Bay. Perhaps the most significant of these are the mudflats around Rogers Island. These flats are a particularly important feeding area for waterfowl, shorebirds and songbirds. Among the waterfowl food plants such as wild celery and wild rice, are at least two regionally rare or unusual plant species; approximately 10 acres of golden club which has declined from some 25 acres in the past, and the only plot of floating yellow heart in the Hudson Valley. Rogers Island is owned by the Department of Environmental Conservation and an attempt is being made to acquire an access site to the area at Tributary 195.

4. Littoral Zones (18' depth contour and less)

Large areas of littoral zone are present, of major importance in this region of the river as spawning grounds for the shad. These areas also serve as spawning, nursery, and feeding grounds for striped bass, white perch, herrings, smelt, and most of the resident freshwater species.

5. Deepwater Habitat

The northernmost areas of 50 foot depth in the river occur in this area. Deepwater habitat may be required as wintering grounds for the endangered shortnose sturgeon.

6. Unique Ecological Areas

The Hudson River Valley Commission listed the Catskill Creek Marshes (Ramshorn Marsh) as an area of biological significance in that it contains rare plants, rare animals and areas useful for the maintenance of bird migration stopovers, river life study and educational purposes.

The Rogers Island area, including the surrounding flats and wetlands, harbors rare plants and an abundance of waterfowl and other bird species.

7. Public Access

No developed public access sites are present, however access is considered good through private lands. There may be a few private marinas along the lower Catskill Creek where boats can be launched for a fee. Prime fishing areas are at the mouths of Catskill Creek and the Roeliff-Jansen Kill. The most important hunting areas are Ramshorn Marsh and Rogers Island.

COASTAL ZONE MAP REPORT #9  
Cementon Quad (1963)

Introduction

This area is characterized by an extensive littoral zone and tidal mudflats. Dominant features are Duck Cove - Inbocht Bay and the southern half of Ramshorn Marsh. While the area is not extensively developed, three large cement plants are located around Duck Cove - Inbocht Bay.

Habitat Types

1. Tributaries

No significant tributaries enter the Hudson in this section.

2. Wetlands

The most important wetland is Ramshorn Marsh which was discussed in Map Report #8. Additional areas of wetland exist around the periphery of Duck Cove - Inbocht Bay, south of Silver Point and at Wanton Island. Waterfowl are particularly abundant in the Duck Cove - Inbocht Bay area.

3. Mudflats (exposed at low tide)

A wide band of mudflats exists around the periphery of Ramshorn Marsh and Duck Cove - Inbocht Bay and may be the main reason for the high numbers of waterfowl and other birds present in the area. Large concentrations of muskrats and snapping turtles are known from this area as well as waterfowl species.

4. Littoral Zones (18' depth contour and less)

Areas of littoral zone are of greatest importance to shad as spawning grounds in this region. This is particularly so in the case of mid-river shoals with adjacent off-channel deeper waters, such as Silver Point Flats and Cheviot Flats.

5. Deepwater Habitat

A small area of over 50 feet in depth occurs off Wanton Island. Deepwater habitat may be of importance as wintering areas for shortnose sturgeon.

6. Unique Ecological Areas

Duck Cove - Inbocht Bay was cited by the Hudson River Valley Commission for rare plants and areas useful for the maintenance of bird migration stopovers, river life study and educational uses.

7. Public Access

No developed public access exists in this area, although access through private lands is considered good. Prime hunting areas are Duck Cove - Inbocht Bay, Ramshorn Marsh and Wanton Island. Prime fishing areas are Catskill Creek and Duck Cove - Inbocht Bay. Also commercial shad fishermen work the off - channel areas of the main river.

COASTAL ZONE MAP REPORT #10  
Saugerties Quad (1963)

Introduction

Major features include very extensive areas of shoals in mid-river, Esopus Creek and Estuary, North and South Tivoli Bays and Cruger Island. Developed areas are Malden-on-Hudson, Saugerties and Glasco.

Habitat Types

1. Tributaries

The Esopus Creek, while minimal in accessible mileage (1.3 mi), is extremely important to the fisheries resource. The stream serves as a spawning ground, nursery area and feeding ground for striped bass, white perch, shad, alewife, blueback herring, smelt, and most of the resident freshwater species, in particular large and smallmouth bass.

The tidal portion has been subjected to heavy development on both banks, including residences, marinas, derelict factory buildings and industrial operations. Fishing pressure is heavy on this stream during the entire season.

The Stony Kill and Saw Kill Creek, flowing into North and South Tivoli Bays respectively, while not accessible beyond their mouths, are both utilized by alewife, blueback herring, white perch and smelt as spawning areas. South Tivoli Bay, in particular, is noted for fair populations of striped bass in the spring, and large populations of large and smallmouth bass year round.

2. Wetlands

The significant marsh area encompassing North and South Tivoli Bays and Cruger Island has been the subject of several studies. Twenty-six species of fish have been collected from the area, the most important being the alewife, eel, carp, goldfish, killifish and striped bass. Diversity of reptiles and amphibians is low, but an extremely large population of snapping turtles exists in North Bay. Since 1970, 135 species of birds have been observed in the area. Rare or unusual species observed include the osprey, great blue heron, black-crowned night heron, American bittern and marsh hawk. Mammal species diversity is low, but muskrats are abundant.

There is a small area of wetland at the mouth of Esopus Creek which supports small numbers of migratory waterfowl and receives minimal hunting pressure.

3. Mudflats (exposed at low tide)

Relatively small areas of mudflats are located in mid-river at Greens Flats, at the mouth of Esopus Creek and at North and South Tivoli Bays.

4. Littoral Zones (18' depth contour and less)

Large expanses of littoral zone here and to the south serve at the central spawning-grounds for the majority of the Hudson River shad. This is attributed to the availability of shallows for spawning directly adjacent to off-channel deepwater resting areas.

Again, the littoral zones serve as spawning nursery and feeding grounds for striped bass, white perch, herrings, smelt and resident freshwater species.

5. Deepwater Habitats

Three areas in this region exceed 50 feet in depth; off Greens Flats, off the mouth of Esopus Creek, and off Cruger Island. These deepwater zones may serve as wintering habitat for the shortnose sturgeon.

6. Unique Ecological Areas

Two areas were listed by the Hudson River Valley Commission as significant, Esopus Estuary and Cruger Island - North Tivoli Bay.

Esopus Estuary was cited for rare plants, rare ecological niches and areas useful to the maintenance of bird migration stopovers, river life study and educational purposes.

Cruger Island - North Bay was cited for rare plants, scenic values and areas useful for the maintenance of bird migration stopovers, river life study and educational uses. South Bay and Magdalen Island should be included in this ecological unit as they are integral parts of it.

7. Public Access

No developed public access is available, however access through private lands is good. Concentration points for hunters are the Esopus Estuary and North Tivoli Bay. Some hunting also is done in the Greens Flats - Upper Flats area. Prime fishing areas are in the Esopus Creek, off Cruger Island, South Tivoli Bay and at Barrytown. Commercial shad fishermen work the off-channel areas adjacent to the flats.

COASTAL ZONE MAP REPORT #11  
Kingston East Quad (1963) and Kingston West Quad (1964)

Introduction

Dominant features are "The Flats" in mid-river, the mouth of Rondout Creek numerous tidal embayments along the east shore, and Esopus Meadows. Developed areas include the City of Kingston and Villages of East Kingston, Port Ewen, and Rhinecliff.

Habitat Types

1. Tributaries

Rondout Creek, the major tributary, is one of the most important in the entire Hudson Valley. It is accessible to anadromous fish for 5.4 miles, and utilized as a spawning, feeding, and nursery ground by striped bass, white perch, shad, alewife, blueback herring, and smelt. Resident freshwater species that are particularly abundant are large and smallmouth bass, walleyes and sunfishes. Several industries are located along its banks, including a barge manufacturing yard, a gravel operation and a junk car processing and shipping facility. Marinas and residential developments are numerous. However, approximately 50 percent of the immediate shoreline of the Creek is still undeveloped. Fishing is excellent, particularly in the first mile below the dam at Eddyville.

The Landsman Kill and Fallsburg Creek, both emptying into Vanderburgh Cove are important spawning tributaries for smelt, alewives, blueback herring and white perch. There is considerable interest in dip-netting smelt and herrings from these streams.

The numerous coves along the east shore, while not tributaries, serve the same function as tributaries in providing spawning, nursery and feeding habitat for both resident and anadromous species. These coves are attractive to waterfowl as they offer protection from weather conditions on the main river and are frequently vegetated with stands of wild rice, wild celery and other waterfowl foods. This is particularly the case with Astor, Suckley and Vanderburgh Coves. An osprey was sighted at Astor Cove. Map turtles are present from Suckley Cove south. These turtles utilize the coves as feeding areas, and certain rock outcrops for basking and breeding areas. Jones Island is a known breeding location for map turtles.

2. Wetlands

The only area of wetland occurs at the mouth of Rondout Creek. Limited numbers of waterfowl utilize this area and some hunting occurs. A rare species of cricket has been reported from Sleightsburg, a part of this marsh area.

3. Mudflats (exposed at low tide)

The only areas of tidal mudflats also occur at the mouth of the Rondout and provide feeding grounds for waterfowl, shorebirds and songbirds.

A very small amount of wetland and mudflats occurs further up the Rondout at Gumaer Island, which may support a very limited number of waterfowl and is probably an important spawning and feeding area for some of the resident freshwater fish species of lower Rondout Creek.

4. Littoral Zones (18' depth contour and less)

The expansive, mid-river mound known as "The Flats" is considered to be at the center of the peak spawning area for the shad. Other large areas of littoral zone occur at Kingston Point, Rondout Flats, Esopus Meadows and adjacent to Suckley Cove. All of these areas are important shad spawning grounds, and also serve as spawning, feeding and nursery grounds for striped bass, alewife, blueback herring, white perch, possibly tomcod and sturgeons, and most of the resident freshwater fish species.

5. Deepwater Habitat

This is the northernmost area of the Hudson where deepwater habitat (50 feet deep or greater) is extensive. From the mouth of Rondout Creek south, there is a nearly continuous trench of this depth or greater. These deep trenches trap pockets of denser saline water which may serve as wintering habitat for shortnose sturgeon, and definitely account for the presence of greater numbers of marine species of fish than anywhere further upriver, especially during periods of low freshwater flows. The majority of both Atlantic and shortnose sturgeon taken for age-growth analysis during a 1936 biological survey came from Rhinecliff and Port Ewen. More recent fisheries investigations of the Hudson continue to indicate the presence of sturgeons in this area.

6. Unique Ecological Areas

The Hudson River Valley Commission cited the area of Sleightsburg and Kingston Points (mouth of Rondout Creek) for rare plants, rare ecological niches and areas useful to the maintenance of bird migration stopovers, river life study and educational uses.

7. Public Access

No developed public access is available, however access through private lands is considered good. Prime hunting areas include the coves along the east shore, mouth of Rondout Creek, and Esopus Meadows. The most important fishing areas are Rondout Creek and the east shore coves. Commercial fishermen work the areas adjacent to "the Flats" for shad. There are numerous marinas along the Rondout which may provide boat launching facilities for a fee.

COASTAL ZONE MAP REPORT #12  
Hyde Park Quad (1963)

Introduction

The physical character of the river changes dramatically here, from a broad relatively shallow situation from Esopus Meadows north, to a narrow, deep situation with nearly no littoral zone to the south. The most important features are Esopus Meadows, mouth of Black Creek, and a deep trench at Crum Elbow. Hyde Park is the only developed area but it is located some distance off the waterfront.

Habitat Types

1. Tributaries

The most important tributary is Black Creek. This is a known spawning stream for herrings and smelt, and there is a substantial dip-net fishery for these species during the spring spawning runs. The stream is accessible for about 1.4 miles.

Other tributaries of somewhat lesser importance as herring and smelt spawning streams are the Indian Kill (1.1 mi.), Maritje Kill (0.5 mi.) and Crum Elbow Creek (0.1 mi.).

2. Wetlands

The majority of wetland areas are too small to be mapped. Esopus Meadows, while not exhibiting the plant species diversity of a typical wetland, serves as an important rafting and feeding area for waterfowl. Species observed in this area include snow geese, blue geese, Canada geese, canvasback duck and brants.

Other small plots of wetland occur along the Indian Kill quad mouth of Black Creek.

3. Mudflats (exposed at low tide)

None

4. Littoral Zones (18' depth contour and less)

A very narrow fringe of littoral zone borders both shorelines, however the only significant expanses of littoral zone occur at Esopus Meadows, adjacent to Vanderburgh Cove, and from the mouth of the Indian Kill south for about 1½ miles.

5. Deepwater Habitat

Approximately half of the watercourse in this section is over 50 feet deep. A small area in the Crum Elbow section exceeds 100 feet in depth. Yolk-sac sturgeon larvae have been collected from this region at depths of 45 to 120 feet. Again, the importance of deepwater habitat to sturgeons is indicated. The presence of other marine fish species not found in abundance upriver is assumed to be an effect of these deep areas trapping dense saline waters. The deep "hole" at Crum Elbow has been used as a spoil dump by the Army Corps of Engineers.

6. Unique Ecological Areas

The Hudson River Valley Commission listed the F.D.R. National Historic Site as a significant area and cited it for rare animals, rare plants and as an area in existing park which in long term planning should be maintained in a natural state. This site should be expanded to include all of Crum Elbow and bordering cliffs on its west shore up to the elevation of a visual overlook of the river, and portions of the east shore to include Roosevelt Cove and the Maritje Kill.

7. Public Access

Access exists through both public and private lands. Public lands include the F.D.R. and Vanderbilt National Historic Sites and the Mills and Norrie State Parks. Prime hunting areas include Esopus Meadows and the mouth of Black Creek. Fishing areas include Black Creek, the Indian Kill, Crum Elbow Creek and Maritje Kill.

COASTAL ZONE MAP REPORT #13  
Poughkeepsie Quad (1957)

Introduction

This area is categorized by high banks for the entire length with no wetlands, no mudflats and a minimal fringe of littoral zone. Developed areas are the City of Poughkeepsie and the Village of Highland.

Habitat Types

1. Tributaries

None of significance with the exception of Casper Creek, which is discussed in Map Report #14. Three coves of importance to fish and waterfowl are present, Sunfish Cove and Cove opposite, and Barnegat Cove. The values of these coves are unknown, but it is assumed they serve as spawning grounds for some anadromous fish and most of the freshwater resident fish, and as protected feeding and resting areas for waterfowl.

2. Wetlands

None

3. Mudflats (exposed at low tide)

None

4. Littoral Zone (18' depth contour and less)

Littoral zone is at a minimum as compared to other areas in the Hudson corridor. That which is available is most likely utilized as spawning, nursery and feeding habitat for striped bass, white perch, shad, herrings, tomcod and most resident freshwater species of fish.

5. Deepwater Habitat

Approximately 80 percent of the course of the river here is over 50 feet deep. Two post yolk-sac sturgeon larvae were collected from this section in 1973. Additional estuarine and marine species begin to appear in numbers in this section, including bay anchovy, silversides, bluefish, weakfish, hog choker, and blue-claw crabs, giving further indication of the river's transitional condition at this point from a freshwater environment to an estuarine environment.

6. Unique Ecological Areas

None were listed by the Hudson River Valley Commission. An area which should be considered is the range of cliffs, rock outcrops and steep slopes along the west bank, south to the vicinity of the Village of Milton. These cliffs extend north into the Crum Elbow area described in map report #12. The area encompassed should include all lands up to the point of visual overlooks of the river.

7. Public Access

Access to the coastal resource in this area is considered poor. No public access facilities exist, steep shorelines on the west bank prevent access, and the development along the east shore prevents access at many points. There are a few private marinas which may provide boat launching facilities for a fee. Commercial fishermen work the entire section for shad and striped bass.

COASTAL ZONE MAP REPORT #14  
Wappingers Falls Quad (1956) and  
Newburgh Quad (1957)

Introduction

Habitat diversity increases substantially compared to areas to the north. Three important tributaries enter the river, a small but significant wetland occurs, and there are large expanses of littoral zone and deepwater habitat. Developed areas include the Cities of Beacon and Newburgh, and the Villages of Marlboro, New Hamburg and Wappingers Falls. Waterfront industry is substantial including the Roseton and Danskammer power plants, the Chelsea pumping station, Lone Star Industries gravel plant, and freight and oil terminals at Newburgh and Beacon.

Habitat Types

1. Tributaries

Wappingers Creek is one of the most important tributaries in the Lower Hudson Valley. It is accessible for 2.1 miles to anadromous species, and serves as spawning, nursery and feeding grounds for striped bass, white perch, alewife, blueback herring, tomcod and resident freshwater species. Largemouth bass and sunfish are particularly abundant.

Cobalt Lake and Casper Creek constitute a unique situation in the Hudson corridor in that this is the only situation where a lake is accessible from the main river. The system, including the lake, is accessible for 2.3 miles. The lake and stream support a good population of largemouth bass and sunfish. Use by anadromous species is unknown. The lake and lower stream are surrounded by a major gravel mining and washing installation. Cobalt Lake may have been originally formed from mining operations.

Tributary 103 and its first tributary form a system known as the Marlboro Estuary. The streams are accessible for 1.1 miles and are probably utilized as spawning, nursery and feeding grounds for striped bass, white perch, herrings, and tomcod.

2. Wetlands

A small amount of wetland occurs at the mouth of tributary 103 which supports minimal numbers of waterfowl. Some hunting occurs in this marsh.

3. Mudflats (exposed at low tide)

None

4. Littoral Zones (18' depth contour and less)

Large expanses of littoral zone are present particularly at the mouth of Wappingers Creek, and along the east bank from Beacon to Chelsea. Groups of rafting waterfowl have been observed over both these areas. These littoral zones serve as important spawning, nursery and feeding grounds for striped bass, white perch, shad, alewife, blueback herring, tomcod and most resident freshwater species. Sturgeon are abundant throughout this reach which may be the result of available littoral and deepwater habitats in close proximity.

5. Deepwater Habitat

Deepwater areas are fairly abundant in this region. A major area of over 50 feet in depth occurs off the mouth of Wappingers Creek. The majority of the waterway is over 40 feet deep. This type of habitat may be important as wintering area for sturgeons and as a migratory conduit for marine and estuarine species which frequently reach this area during low freshwater flow periods.

6. Unique Ecological Areas

The Marlboro Estuary was listed by the Hudson River Valley Commission as a significant area cited for rare plants, rare ecological niches and areas useful for the maintenance of bird migration stopovers, river life study and educational uses.

Additionally, Dutchess County has designated a strip of cliffs and wooded steep slopes along the north shore of Wappingers Creek as a unique area.

7. Public Access

There is one developed public access in the City of Newburgh. Access through private lands is considered good. This is particularly so where the Penn Central Railroad line fronts the river. The only known hunting area is the marsh at Marlboro. Prime fishing areas are Marlboro Estuary and the mouth of Wappingers Creek. Commercial fishermen work the main course of the river for shad and striped bass.

COASTAL ZONE MAP REPORT #15  
West Point Quad (1957) and Cornwall Quad (1957)

Introduction

Habitat diversity is high in this region. Major features include two important tributaries, Fishkill and Moodna Creeks, two major wetlands, large areas of littoral zone and an abundance of deepwater habitat up to 200 feet. The dominant geographical feature of this area is the "Hudson Highlands" range of mountains which bisects the area in a NE-SW direction along a line between Beacon and Cornwall. This range of mountains causes a moderate climatic break, with areas north of the range subject to interior weather conditions and areas south of the range subject to the more moderate coastal climate. The salt front (defined as the 50 ppm isochlor) reaches this area practically every year.

Developed areas include the Cities of Newburg and Beacon and the Villages of Cornwall and Cold Spring. Industrial development is centered in the Newburg-Beacon area.

Habitat Types

1. Tributaries

Fishkill Creek is one of the most important tributaries in the Lower Hudson watershed. It is accessible to anadromous fish for 1.1 miles. The stream is utilized for spawning, nursery and feeding by striped bass, white perch, alewife, blueback herring, tomcod and most resident freshwater species. During periods of salt front intrusion marine species become abundant at the stream mouth, particularly bluefish, anchovy, silversides, weakfish, hog choker and blueclaw crab. This tributary probably marks the northern extent of the blueclaw crab fishery.

Moodna Creek is accessible for 4.4 miles and serves the same functions and has the same species and use profile as Fishkill Creek.

Quassaic Creek is accessible for 1.0 mile. Use is unknown.

2. Wetlands

Two major wetlands occur here. The mouth of Moodna Creek is a relatively small but important wetland. Waterfowl use this area for feeding and some hunting occurs. Short-billed marsh wrens are known to nest here.

Constitution Island Marsh is an Audubon sanctuary and one of the most important marshes in the Lower Hudson Valley. Bird species recorded from this marsh probably number over 200. Prickly pear cactus, a rare plant, is known from the island adjacent to the marsh itself. Fence lizards may also be present.

3. Mudflats (exposed at low tide)

This habitat type is very limited in this area. The only mudflats occur at the mouth of Fishkill Creek and at Constitution Island Marsh.

COASTAL ZONE MAP REPORT #16  
Peekskill Quad (1957)

Introduction

Habitat diversity is high in this region, the dominant features including the Hudson Highlands, Iona Island Marsh, Peekskill Bay and Annsville Creek. Developed areas are Highland Falls, Peekskill, Buchanan and Verplanck. Two major power plants are located here one at Indian Point and one at Tompkins Cove.

Habitat Types

1. Tributaries

Annsville - Sprout - Peekskill Hollow Brook system, is the most important tributary. The system is accessible for 2.7 miles, and serves as spawning, nursery and feeding grounds for striped bass, white perch, alewife, blueback herring, smelt and most resident freshwater species. Blue crabs enter the stream annually and become abundant particularly in lower Annsville Creek. The streams were formerly bounded by substantial areas of marsh but these have been mostly filled.

Popolopen Brook (0.6 mi.), and Dickey Brook (0.8 mi.) are of minor importance to herrings, white perch, smelt and freshwater species. Blue crabs become seasonally abundant and the fishery for them is at times intense from bridge crossings.

Lake Meahagh, is a tidal embayment of some significance as spawning, nursery and feeding grounds for both anadromous and freshwater fish species and blue crabs. It is one of the few locations where the rare bluespotted sunfish has been collected from the Hudson.

2. Wetlands

Three extremely important wetlands occur here, Con Hook, Iona Island and Manitou. Iona Island Marsh is the largest of the three and one of the most studied on the Hudson. Species diversity is very high including 200 species of plants, 208 species of birds, 25 species of mammals, 9 species of reptiles, 10 species of amphibians and 21 species of fish. The lists of fish, reptiles and amphibians are by no means complete. Several uncommon or unusual rare species have been recorded from the area including, 5 - lined skinks, fence lizards, bluespotted sunfish, prickly pear cactus, otter, least bittern, golden eagle, bald eagle, peregrine falcon and osprey.

Con Hook and Manitou Marshes are less well known, smaller in area, and probably less diverse in species composition. However, they are important as waterfowl feeding areas and migration stops, and some hunting occurs.

4. Littoral Zone (18' depth contour and less)

Large expanses of littoral zone are available at the mouth of Moodna Creek, and along the east shore from Demming Point to Constitution Island. Littoral zones in this area are of critical importance to the striped bass as spawning, nursery and feeding grounds. Striped bass spawning is most intense through this area and south. Other species utilizing these areas include shad, alewife, blueback herring, tomcod, sturgeons, resident freshwater species, and blue claw crabs. Additionally the area between Cold Spring and Demming Point is a concentration point for rafting waterfowl. As many as 1,000 rafting canvasback ducks have been observed.

5. Deepwater Habitat

Water depths of up to 200 feet occur in this region, and these deep zones are of extreme importance to striped bass and sturgeons. Sturgeons may require these deepwater zones as wintering and spawning habitat. Other marine species become increasingly abundant in this region due to frequent salt front intrusion. This is particularly the case with bluefish and blue claw crabs. The crab fishery becomes quite intense during the late summer and early fall, when salt intrusion is at a maximum.

6. Unique Ecological Areas

The Hudson River Valley Commission lists Constitution Island and Marsh as a significant area, citing it for rare plants, rare ecological niches, landscape values and areas useful for the maintenance of bird migration stopovers.

Bull Hill was cited by the Hudson River Valley Commission for rare plants, rare animals and scenic values.

A major hawk crossing point occurs on the Hudson between Beacon and Cornwall, parallel to the north slope of the Hudson Highlands.

7. Public Access

No developed public access occurs in this region, however access through private lands is good, particularly through the railroad properties. Prime hunting areas are the mouths of Fishkill and Moodna Creeks. Prime fishing areas are Demming Point, mouth of Fishkill Creek, Moodna Creek, Cornwall Landing, Little Stony Point, Foundary Cove and South Constitution Island Cove. Crabbers concentrate on the railroad bridges at Fishkill Creek, Moodna Creek, Cold Spring, Foundary Cove and South Constitution Island Cove. Commercial fishermen work the main river for shad and striped bass, particularly where the river widens at Beacon and Cornwall.

3. Mudflats (exposed at low tide)

Very few mudflats occur in this region, however those that are present are utilized heavily by ducks, Canada geese and swans. The presence of geese and swan is largely attributed to increasing human presence. People feed these birds regularly and as a result many are attracted and winter over. Concentration areas for geese and swans are Iona Island Marsh, Annsville Creek, Peekskill Bay Lents Cove and Lake Meahagh.

4. Littoral Zones (18' depth contour and less)

Littoral zone is rather limited in this area, the only major expanses occurring at Peekskill Bay and Iona Island. This littoral zone is particularly critical to the striped bass in this region as their major spawning grounds are located here and just to the north. Young stripers utilize the littoral zone of this area at various times of year. Maximum fish species diversity for the entire river occurs in this region.

5. Deepwater Habitat

Approximately 75 percent of the watercourse through this quad is over 50 feet deep. The importance of this type of habitat to sturgeons and other marine species has been stressed in previous map reports.

6. Unique Ecological Areas

Three sites were mentioned by the Hudson River Valley Commission for biological significance.

Anthony's Nose was cited for rare plants, rare ecological niches, scenic values and as an area useful for the maintenance of bird migration stopovers, river life study or educational uses.

Salisbury Meadow (Iona Island Marsh) was cited for rare plants, rare ecological niches and an area useful for the maintenance of bird migration stopovers, river life study or educational uses.

Dunderberg Mountain was cited for rare plants, scenic values and areas useful for the maintenance of bird migration stopovers, river life study or educational uses.

A major hawk crossing occurs along the south face of the Hudson Highlands between Dunderburg Mountain and Annsville Creek.

7. Public Access

Public access is obtained through the lands of Bear Mountain State Park. No other developed public access is available, however access through private lands is considered good. The City of Peekskill has a municipal boat launch for town residents. Hunting areas become scarcer from here south as human density increases dramatically. Con Hook and Manitou Marshes provide some hunting. Prime fishing areas include practically all railroad bridge crossing and the bays around Iona Island and Annsville Creek. Commercial shad and striped fishermen work the off-channel shallows.

COASTAL ZONE MAP REPORT #17  
Haverstraw Quad (1967) Ossining Quad (1967)

Introduction

Habitat diversity remains very high in this region, including two major tributary systems, wetlands, mudflats, tremendous expanses of littoral zone, and the beginning of the Palisades cliffs. Residential and industrial development is extensive, including the cities of Stony Point, Haverstraw, Croton-on-Hudson, and Ossining. A major electric power generating station is located at Bowline Point.

Habitat Types

1. Tributaries

Cedar Pond Brook and Minisceongo Creek form a tributary system accessible for 6.7 miles. The most important segment of the system is the extensive area of lowland meanders forming a delta entering Stony Point Bay. The streams are utilized by striped bass, white perch, alewife, blueback herring, smelt, tomcod, and many resident freshwater species for spawning, nursery and feeding grounds. Blueclaw crabs become abundant in the lower sections in the late summer and early fall, and there is an intense fishery for them, at practically every bridge crossing.

The Croton River is accessible for 3.5 miles and is one of the most important tributaries in the lower Hudson watershed. It is known to be a spawning stream for striped bass, white perch, shad, herrings, smelt, tomcod and resident freshwater species. The blue-claw crab becomes abundant in the lower section in the late summer and early fall.

2. Wetlands

Two large areas of wetland occur, one at Croton Point and one at the mouths of Minisceongo and Cedar Pond Brooks. Other small plots of wetland occur at Stony Point and Oscawana Island. These areas are important to migratory waterfowl as stopovers and feeding areas. Waterfowl species diversity and numbers are very high in this area, attributable mostly to large expanses of relatively protected rafting and feeding areas.

3. Mudflats (exposed at low tide)

A moderate area of mudflats occurs at the mouth of Croton River and into Croton Bay. This area is a concentration point for waterfowl, particularly swans and Canada geese which use the flats as feeding and resting areas. Large numbers of swans and Canada geese are found at Greens Cove, Stony Point Bay, and Croton Bay, attributed in part to the increasing human population, which often feeds these birds encouraging them to remain at these locations.

4. Littoral Zones (18' depth contour and less)

Tremendous expanses of littoral zone are present here and to the south which are of critical importance to the young of every anadromous Hudson River fish species. These shallows are the last riverine feeding ground for young anadromous species before they go to sea, and as such become a concentration area in the fall.

Historically this area was one of the greatest oyster producing grounds along the Atlantic coast. Plots labeled SF on the study area maps indicate the location of the last lease of river bottom for the production of oysters to occur in the Hudson (1952).

5. Deepwater Habitat

Water depths in excess of 50 feet are limited to the northern mile of this section. Average depth excluding the littoral zone is approximately 30 feet.

6. Unique Ecological Areas

The Hudson River Valley Commission listed two areas of biological significance.

Palisades Interstate Park (including High-Tor and Hook Mtn Parks) was cited for landscape values, rare animals, rare ecological niches, areas useful to the maintenance of bird migration stopovers or river life study areas and educational uses, and rare plants.

Croton Point was cited for rare plants, rare ecological niches and an area useful to the maintenance of bird migration stopovers, river life study and educational uses.

7. Public Access

Public access to the coastal zone resource is considered good in this region. Waterfront parks include Stony Point, Georges Island, Croton Point and Hook Mtn. Access through private lands is also good. Some hunting may occur in the Minisceongo-Cedar Pond Brook marshes, Oscawana Island Marsh and at Croton Point, but it is minimal. Fishermen concentration points include Stony Point and Bay, Greens Cove, Croton River and Bay and Croton Point. Commercial stake gill netters work the littoral zone areas extensively for striped bass and shad.

COASTAL ZONE MAP REPORT #18  
Nyack Quad (1957) White Plains Quad (1967)

Introduction

Habitat diversity is somewhat reduced in this stretch as a result of increasing shoreline residential and industrial development. Natural areas include Hook Mountain and Tallman Mountain State Parks. Urban centers include the Cities of Nyack, Piermont, Greenburgh, Irvington and Tarrytown.

Habitat Types

1. Tributaries

The only tributary of significance is the Sparkill Creek in Tallman State Park. It is accessible for 1.0 mile. Use by anadromous species is unknown.

2. Wetlands

Piermont Marsh, a part of Tallman State Park is the only marsh in this region. It is unique in that it is the only salt marsh in the lower Hudson. This marsh is currently under the protection of the Tidal Wetlands Act of 1974. It is an important stopover for migrating waterfowl.

3. Mudflats (exposed at low tide)

The only mudflats occurring in this region are along the fringes of Piermont Marsh. These flats are important feeding areas for waterfowl, shore and songbirds inhabiting the marsh.

4. Littoral Zones (18' depth contour and less)

Tremendous expanses of littoral zone occur in this section and are critical importance to the young of all anadromous Hudson River species. Young fish concentrate over these areas in the late summer and fall on their outmigration to sea.

Shellfish bed leases for 1952 are shown on the study area maps to indicate the available habitat for commercial shellfish.

5. Deepwater Habitat

Maximum depth in this section reaches slightly over 50 feet. The majority of the watercourse excluding littoral zones, averages 35 feet deep.

6. Unique Ecological Areas

The Hudson River Valley Commission listed two areas of biological significance.

Hook Mtn. State Park was cited for rare plants, scenic values, rare ecological niches, and areas useful to the maintenance of bird migration stopovers, river life study and educational uses.

Piermont Marsh was considered a critical site for preservation for the same reasons.

7. Public Access

Access is considered good through public lands and poor through private lands in this section. Extensive residential and industrial shoreline development is the reason for poor access through private lands. A municipal boat launch is located at Nyack. Fishing is not concentrated in any one area but generally scattered along shoreline piers. Piermont Pier is utilized fairly frequently by fishermen. Hunting is inconsequential in this region.

June 1976

