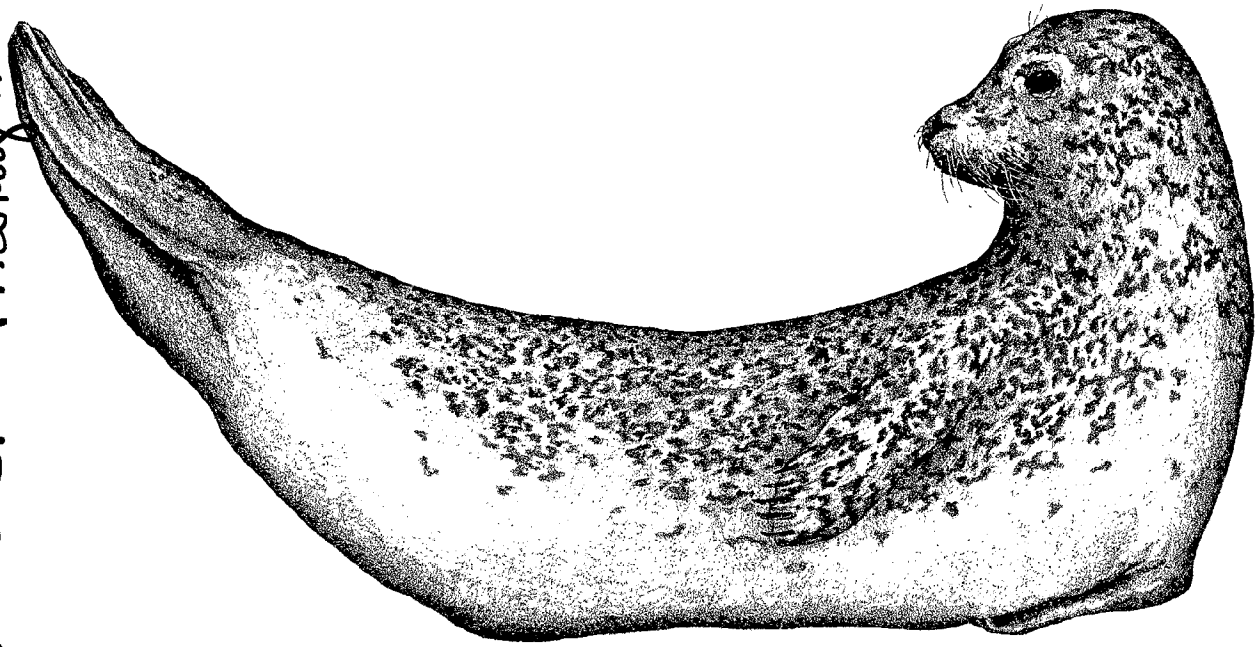
Coastal Zone Management Program

The Penobscot Bay Conservation Plan



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March 1987

THE PENOBSCOT BAY CONSERVATION PLAN

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By

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Endangered and Nongame Wildlife Project
Maine Department of Inland Fisheries and Wildlife

December 1986

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and

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EXECUTIVE SUMMARY

The Penobscot Bay Conservation Plan is the product of a 12-month study of the coastal wildlife resources of 36 towns in Penobscot Bay.

Two hundred and thirty coastal wildlife concentration areas were identified, mapped, and evaluated during this study. These areas provide significant habitats for more than 100 species of coastal birds and two species of seals. All of these animals rely on the biological productivity and physical characteristics of these areas for some portion(s) of their annual cycle.

Forty-six (20%) of these wildlife areas were determined to be of state or national significance based on the seasonal species composition and relative abundance of the wildlife using them, and are designated as Class A habitats. Seventy (30%) of the concentration areas were recognized to be of regional importance (Class B habitats). The remaining 114 (50%) areas are locally significant for coastal wildlife in Penobscot Bay and are designated as Class C habitats. Ninety-eight percent of all coastal wildlife sighted in the Bay during the aerial surveys and ground checks were located in the 230 concentration areas.

Recommendations for protecting the Class A, B, and C habitats are presented, including specific management guidelines for Special Wildlife Features, such as eagle nests, seabird nesting islands, and heron colonies. Specific applications of this information by municipal and state land-use planners, resource managers, and conservation organizations are discussed.

Maps for each of the 36 towns show the location of all Class A, B, and C coastal wildlife habitats and Special Wildlife Features. Supporting tables list the species or species groups using each area.

The geographic region evaluated in this report includes all islands, exposed ledges, tidal waters and adjacent shorelines of the area bounded by the Veazie dam on the north, Matinicus Rock on the south, Graffam Island (Muscle Ridge) on the west, and Long Island (Frenchboro) and Naskeag Point (Brooklin) on the east.

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Deer Isle (LURC)
Frankfort
Frenchboro
Hampden
Isle au Haut
Islesboro
Lincolnville
Matinicus & Criehaven
Muscle Ridge Islands
North Haven
Northport
Orland
Orrington
Owls Head
Penobscot
Prospect
Rockland
Rockport
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PROJECT DESCRIPTION

Introduction

Coastal Maine is a highly productive biological environment, providing food and shelter for 150 species of marine-related birds (Palmer 1949, Packard 1960, TRIGOM-PARC 1974) and 26 species of marine mammals (Fefer and Schettig 1980). This diverse assemblage includes seabirds, shorebirds, seals, wading birds, waterfowl, and raptors. All of these animals share a dependence on the biological and physical characteristics of Maine's coastal environment for some segment(s) of their annual cycle.

This diverse array of wildlife includes rare and endangered species, as well as species spectacular in their abundance; and represents a resource that is of international, state, and regional significance. The values of this resource are economic, aesthetic, cultural, ecological, educational, and scientific.

Coastal wildlife are an integral component of the "mystique and character of Maine", and are therefore directly related to the economic growth of the state from escalating tourism, immigration, and commercial development. The direct and indirect economic values of coastal wildlife can be measured in the millions of dollars.

Ironically, Maine's wildlife, along with many other coastal resources, are being jeopardized by the very development they have "promoted". A balance between exploitation and conservation must be achieved if we are to retain the long-term values of the wildlife resource.

The eleven core laws of Maine's Coastal Program provide a regulatory mechanism for "achieving a balance between conservation and development in the coastal area that will satisfy short-and long-term social, economic, and environmental needs" (Appendix I). However, these laws cannot be effectively implemented to conserve the habitats supporting Maine's coastal wildlife without: 1) an information base which identifies and assigns priority to significant resource areas; and 2) specific guidelines and defensible performance standards for human activities and development within and adjacent to these resource areas.

The Penobscot Bay Conservation Plan addresses these deficiencies by providing the first comprehensive, prioritized,

site-specific information on coastal wildlife populations and their habitats for Penobscot Bay. Specific recommendations for conserving the resources within these wildlife habitats are provided. These guidelines can be implemented through the eleven environmental core laws, public and private voluntary land-protection initiatives (ie. direct acquisition, conservation easements, etc), and public education programs.

Natural resource planners, managers, and conservation groups can now focus on the most significant coastal wildlife areas, facilitating efficient and effective use of limited personnel and funds.

Study Objectives

The objectives of this study were:

1. To identify all areas of concentrated use by marine birds and seals in Penobscot Bay.

2. To develop an evaluation system for these areas that orders them by their need for conservation and management.

3. To develop land and water-use guidelines for the conservation of these areas.

4. To assist state and local planners, resource managers, and conservation organizations with incorporating wildlife values into planning and development of coastal resources.

Study Area

The area evaluated in this report includes all islands, exposed ledges, tidal waters and adjacent shorelines of the area bounded by the Veazie dam on the north, Matinicus Rock on the south, Graffam Island (Muscle Ridge) on the west, and Long Island (Frenchboro) and Naskeag Point (Brooklin) on the east. NOAA marine charts 13303, 13305, 13309, 13313, and 13316 cover this area and were used to reference all geographic locations. The region encompasses more than 1,000 square miles and includes more than 600 miles of shoreline, 7,500 acres of intertidal mudflats, 1,000 acres of saltmarsh, and 900 islands and exposed ledges (Figure 1).

Figure 1. Penobscot Bay Study Area.

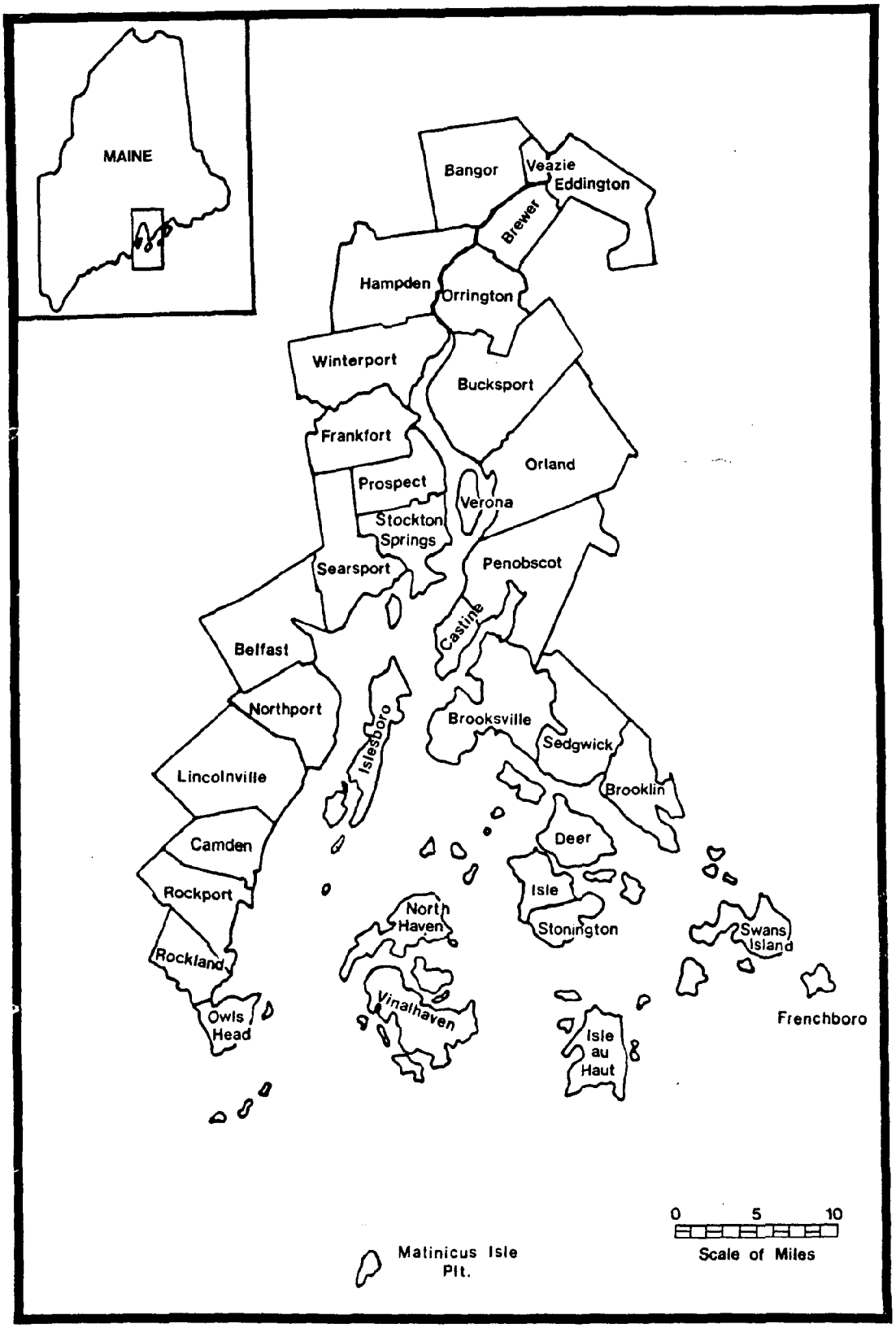


Table 1. Season and dates of Penobscot Bay aerial surveys.

Winter	December 12 and December 22, 1985 January 17 and January 19, 1986
Spring Migration	February 27 and February 28, 1986 April 1 and April 4, 1986
Nesting	May 5 and May 14, 1986 June 26, July 1 and July 2, 1986
Post-nesting	July 29, August 1 and August 6, 1986 August 14 and August 23, 1985
Fall Migration	September 16 and September 17, 1985 October 17 and October 18, 1985 November 14 and November 18, 1985

METHODS

Resource Inventory

A combination of aerial and ground surveys and censuses was used to document the species composition, geographic distribution and numbers of marine birds and seals. Low-level aerial flights served as the primary method because they provided the comprehensive, "snap-shot" overview of the Bay's wildlife, which could not be acquired by any other method. Aerial surveys were also the best method for locating the nests of bald eagles, ospreys, and great blue herons. Ground surveys and censuses complemented aerial surveys by providing accurate census information for ground-nesting waterbirds and shorebirds, and by verifying the flight data.

All ground and aerial observations were coded and mapped on NOAA 1:40,000 marine charts and transferred to computer files for data analyses.

Aerial Surveys and Censuses. Eleven aerial surveys of the Penobscot Bay study area were completed between 14 August 1985 and 6 August 1986 (Table 1). Each survey required two to three days of flying and averaged 15 hours. A Cessna Skyhawk or a dual-engine Cessna Skymaster was used for all flights. Surveys were flown at an altitude of approximately 300 feet and a speed of approximately 100 mph, and covered all tidal waters within the study area.

All sightings of marine birds or seals were recorded on voice tape and included identification to species or species group, estimated numbers and geographic location.

Ground Surveys and Censuses

Nesting Marine Birds. All islands and ledges within the study area were evaluated for the presence of nesting marine birds between 3 May and 29 July 1986. Wherever nesting was suspected, biologists landed on the island and searched all suitable cover for nests. Possible nesting was indicated by historic records, the sighting of birds, or the presence of suitable habitat. Islands found with nesting marine birds were censused using direct nest counts and/or visual estimates of adult birds. In those cases where the number of adult birds sighted substantially exceeded the numbers of nests observed, it was assumed that the excess adults were nonbreeders, and the estimate of nesting pairs was

based primarily on the nest counts. In general, survey and census methods followed Hutchinson and Ferrero (1981), Hutchinson and Lovett (1983, 1984), and Korschgen (1979).

Shorebirds. During the period 14 August through 12 September 1985, 116 intertidal sites were checked for use by feeding shorebirds. A comprehensive inventory of the Penobscot Bay area was not possible because of the tremendous amount of shoreline offering potential feeding sites and the relatively short period of time available for assessing the shorebird population. However, by combining information on the ecology of Maine's shorebirds, historic records, and intertidal substrate data from NOAA marine charts, sites likely to be of primary importance to feeding shorebirds were identified. Additional sites were surveyed when time and access permitted.

Every attempt was made to visit sites at a falling tide as the flats emerged, but before birds became dispersed. Time, tide phase, weather, and flat substrate were noted for each site. The flat was then scanned with binoculars and/or a spotting scope until reasonable species identifications and estimates of the numbers of birds could be made. Shorebird use of feeding areas is dynamic - with both species composition and abundance varying greatly throughout the tide cycle. We attempted to make observations at a time when both maximal numbers and species would occur.

Shorebird roosting areas were located primarily during the aerial surveys. Birds are more concentrated on roost sites and flush more readily than when feeding, thus facilitating aerial sightings.

Resource Evaluation and Mapping

Identification and Ranking of Wildlife Areas. Wildlife concentration areas were identified by the presence of multiple mapped observations. They were delineated by drawing a line around the clumped observations seaward to the thirty foot depth contour when possible, or a distance of approximately 300 feet from the central geologic feature with which the animals were associated. For those areas adjacent to the mainland, or islands other than seabird nesting islands, the shoreward limit of the wildlife area is 250 ft. above mean high water. All seabird nesting islands are included in their entirety within a wildlife area. Seaward limits were selected based on reported average

feeding depths for the marine birds found in Penobscot Bay (Palmer 1976 a and b, Adamus 1978). The 250 foot shoreland zone recognizes the ecological relationships between shoal-water marine systems and the adjacent terrestrial communities. Both flight and ground census data were coded by area for each species and entered into computer data files.

Five seasons were identified for this study, corresponding to the seasonal biological rhythms and major movement of marine birds and seals in northern New England. Seasonal dates were determined from the literature (Palmer 1949, TRIGOM-PARC 1974, Korschgen 1979) and from patterns of population stability and change seen during this and previous studies (Hutchinson and Ferrero 1981, Hutchinson and Lovett 1983, 1984). The dates are not absolute, but are only guides. Overlap naturally occurs from one season to the next. By compiling and analyzing the data on a seasonal basis, a conceptual framework is provided which allows for a better understanding of the resource and the development of more refined management strategies.

Approximate dates for the five seasons are:

Winter	December 1 to February 15
Spring migration	February 16 to April 30
Nesting	May 1 to June 30
Post-nesting	July 1 to August 31
Fall migration	September 1 to November 30

Both seasonal and composite ratings were calculated for each area based on the relative abundance and diversity of species found there. An area's seasonal ratings were derived by calculating, for each species, the percentage of its total population in Penobscot Bay found within that area that season. The sum of the percentages for all species found within that area, that season, was the area's seasonal rating. The area's composite rating is the average of its five seasonal ratings.

This composite rating is then used to assign the area to one of three classes: Class A (State or National Significance), Class B (Regional Significance) or Class C (Local Significance). Conservation guidelines were developed for each of the classes. Maps were prepared for each of the thirty-six towns in the study area to show the location of all Class A, B and C areas.

Identification of Special Wildlife Features. A Special Wildlife Feature is a specific site of use by coastal wildlife and is usually encompassed by a Class A, B or C Area. The Special Wildlife Features identified in this study and the criteria used for designating sites are:

1) Bald Eagle Nest Site - presence of an active bald eagle nest in 1986, or overlap of an area with any of the restricted-use buffer zones around an eagle nest (see Management Guidelines for Bald Eagle Nest Sites).

2) Osprey Nest Sites - presence of an osprey nest in 1986.

3) Colonial-nesting Seabird Islands - presence of nesting seabirds in 1986, or recurrent historical use where the habitat is still intact.

4) Shorebird Feeding or Roosting Areas - presence of an average of 20 or more shorebirds during any season.

5) Great Blue Heron Colonies - presence of a heron colony in 1986.

6) Eider Molting Sites - presence of 200 or more flightless eiders during at least three of the four aerial surveys in the period 22 July through 18 October.

7) Seal Haul-outs - presence of 5 or more adults or pups at a haul-out site.

Management guidelines were developed for each of these types of Special Wildlife Features, whose locations are shown on the town maps.

FINDINGS

Wildlife Values of Penobscot Bay

Two hundred and thirty coastal wildlife concentration areas were identified through this study (Table 2). These areas provide significant habitats for approximately 100 species of coastal birds and two species of seals (Table 3).

Ninety-eight percent of all coastal wildlife sighted in the Bay during the aerial surveys and ground checks were located in these concentration areas, which cover less than 15% of the Penobscot Bay study area.

Forty-six (20%) of these wildlife habitats, determined to be of state or national significance, were designated as Class A habitats (Table 4, Figure 2) based on the seasonal species composition and relative abundance of the wildlife using the areas. Seventy (30%) of the concentration areas, recognized to be of regional importance, were designated as Class B habitats. The remaining 114 (50%) areas are locally significant for coastal wildlife in Penobscot Bay and were designated as Class C habitats (Appendix II).

Class A habitats supported 40% of the average annual population of coastal wildlife (all species) in Penobscot Bay. Class B and C habitats supported 35% and 25% respectively (Table 5).

One hundred and eighty-three of the Class A, B and C habitats (80%) supported one or more Special Wildlife Features. These include ten active eagle nests, three of which were unknown prior to this study; five great blue heron colonies; one hundred and twenty-three colonial-nesting seabird islands; and seventy-one shorebird feeding and roosting areas.

Class A wildlife habitats alone support more than 50% of these wildlife features - additional justification for directing major protection efforts towards these areas.

Maintenance of the existing distribution, diversity and abundance of Penobscot Bay's coastal wildlife depends on the continued availability of the significant Class A, B and C habitats as undisturbed, biologically productive areas. Recognizing the escalating demands for access to and development of the coastal zone containing these areas, we recommend the following guidelines for appropriate uses and levels of activity within each habitat classification

to assist in the development and implementation of resource allocation strategies which will balance development and protection with the goal of maintaining Penobscot Bay's wildlife values.

This challenge of preserving our coastal wildlife heritage will require an exceptional level of commitment and cooperation among all Maine's citizens, but the rewards will far exceed the effort, and will be visible for generations to come.

Table 2. Significant marine wildlife habitats of Penobscot Bay by area number and location.

Area Number	Area Name	Location
P001	Hewett-Graffam-Pleasant Is.	Muscle Ridge[1], LURC[2]
P002	Andrews Island	Muscle Ridge, LURC
P003	Dix-High-Otter Islands	Muscle Ridge, LURC
P007	Ash Island	Owls Head
P008	Fisherman Island	Muscle Ridge, LURC
P009	Monroe Island	Owls Head
P010	Sheep Island	Owls Head
P011	Rockland Harbor	Rockland, Owls Head
P012	Clam Cove	Rockport
P013	Rockport Harbor	Rockport
P014	Camden Harbor	Camden, Rockport
P015	Ducktrap Harbor	Lincolnville, Northport
P016	Saturday Cove	Northport
P017	Belfast Reservoir	Northport, Belfast
P018	Belfast Harbor	Belfast, Searsport
P019	Passagassawaukeag River	Belfast
P020	Searsport	Searsport
P021	Long Cove	Searsport
P022	Sears Island	Searsport
P023	Stockton Harbor	Searsport, Stockton Springs
P024	Cape Jellison	Stockton Springs
P025	Fort Point Cove	Stockton Springs
P027	Orland River	Verona, Orland
P028	Verona Island - East	Bucksport, Verona, Orland
P029	Bucksport	Verona, Prospect, Bucksport
P030	Bowden Point	Prospect
P031	Frankfort Flats	Bucksport
P032	Marsh River	Frankfort, Prospect, Winterport
P033	Winterport	Winterport, Bucksport
P034	Bald Hill	Winterport, Hampden, Orrington
P035	Hampden	Hampden, Orrington, Brewer
P036	Bangor	Hampden, Bangor, Brewer, Veazie, Eddington
P037	Turtle Head Cove	Islesboro
P038	Sprague Cove	Islesboro
P039	Ram-Seal-Flat Islands	Islesboro
P040	Seal Harbor	Islesboro
P041	Grindel Point	Islesboro
P042	Broad Cove	Islesboro
P043	700-Acre Island - North	Islesboro

Table 2. Significant marine wildlife habitats of Penobscot Bay by area number and location (continued).

Area Number	Area Name	Location
P044	Philbrook Cove	Islesboro
P045	700-Acre Island - South	Islesboro
P046	Turtle Head	Islesboro
P047	Parker Cove	Islesboro
P048	Sabbathday Harbor	Islesboro
P049	Islesboro Harbor	Islesboro
P050	Islesboro - East	Islesboro
P051	Islesboro - South	Islesboro
P052	Lassell-Lime-Job Islands	Islesboro, North Haven, LURC
P053	Mouse-Saddle-Goose Islands	North Haven, LURC
P054	Mark Island	North Haven
P055	Robinson Rock	North Haven
P056	Oak-Burnt Islands	North Haven
P057	Sheep-Dagger Islands	North Haven
P058	Oak Hill-Mullen Head	North Haven
P059	Calderwood-Babbidge Islands	North Haven
P060	Kent-Waterman Coves	North Haven
P061	North Haven Town	North Haven, Vinalhaven
P062	Southern Harbor	North Haven
P063	Dumpling Islands	North Haven
P064	Stand-in Point	North Haven
P065	Pulpit Harbor	North Haven
P066	Mill River	Vinalhaven
P067	Carver Cove	Vinalhaven
P068	Seal Bay	Vinalhaven
P069	Stoddard-Smith Islands	Vinalhaven
P070	Narrows-Sheep-Green Islands	Vinalhaven
P071	Saddleback Ledge-Brimstone I.	Vinalhaven
P072	Roberts-Hay-Otter Islands	Vinalhaven
P073	Greens Island	Vinalhaven
P074	Vinalhaven Town	Vinalhaven
P075	Hurricane Island	Vinalhaven
P076	The Basin	Vinalhaven
P077	Lairey's-Crane-Crotch Islands	Vinalhaven
P078	White Island	Vinalhaven
P079	Medric Rock-Green Ledge	Vinalhaven
P080	Green-Dogfish Islands	Vinalhaven
P081	Crockett Point	Vinalhaven
P082	Seal Island	Criehaven, LURC
P083	Malcolm Ledge	Criehaven, LURC
P084	Wooden Ball Island	Criehaven, LURC

Table 2. Significant marine wildlife habitats of Penobscot Bay by area number and location (continued).

Area Number	Area Name	Location
P085	Matinicus Island - North	Matinicus Island Plt., LURC
P086	Matinicus Island - South	Matinicus Island Plt., LURC
P087	Ragged Island	Criehaven, LURC
P088	Matinicus Rock	Criehaven, LURC
P089	Large Green Island	Matinicus Isle Plt., LURC
P090	Little Green Island	Matinicus Isle Plt., LURC
P091	Northern Triangles	Matinicus Isle Plt., BPL
P092	Southern Triangles	Matinicus Isle Plt., BPL
P093	West Penobscot	Penobscot, Castine
P094	Wadsworth Cove	Castine
P095	Holbrook Island	Castine, Brooksville
P096	Smith Cove	Brooksville
P097	Bagaduce River	Brooksville, Castine, Penobscot
P098	Northern Bay-Bagaduce	Brooksville, Penobscot
P099	Herrick Bay-Bagaduce	Penobscot, Brooksville, Sedgwick
P100	Head of the Cape	Brooksville
P101	Weir-Horseshoe Coves	Brooksville
P102	Spectacle Island	Brooksville,LURC
P103	Stave Island	Deer Isle
P104	Thrumcap-Two Bush Ledges	Brooksville
P105	Orcutt Harbor	Brooksville
P106	Herricks	Brooksville, Sedgwick
P107	Little Deer Isle - North	Deer Isle, LURC
P108	Western-Pond-Hog Islands	Brooksville, LURC
P109	Little Deer Isle - South	Deer Isle, LURC
P110	Scott-Two Bush Islands	Deer Isle, LURC
P111	Verona Island - Southeast	Verona, Orland, Penobscot
P112	Carney Island	Deer Isle
P113	Pickering Island	Deer Isle, LURC
P114	Beach-Barred-Colt Head Islands	Deer Isle, LURC
P115	Bradbury-Crow Islands	Deer Isle, LURC
P116	Hardhead Island	Deer Isle, LURC
P117	Butter-Barred Islands	Deer Isle, LURC
P118	Great Spruce Head Island	Deer Isle, LURC
P119	Horsehead Island	Deer Isle, LURC
P120	Resolution Island	Deer Isle, LURC
P121	Little Spruce Head Island	Deer Isle, LURC
P122	Compass Island	Deer Isle, LURC
P123	Sloop-Fling Islands	Deer Isle, LURC
P124	Eagle Island	Deer Isle, LURC

Table 2. Significant marine wildlife habitats of Penobscot Bay by area number and location (continued).

Area Number	Area Name	Location
P125	Bald Island-Grass Ledge	Deer Isle, LURC
P126	Northwest Harbor	Deer Isle
P127	Southwest Harbor	Deer Isle
P128	Crockett Cove	Deer Isle, Stonington
P129	Second-Andrews-Mark Islands	Stonington
P130	Scraggy Island	Stonington
P131	Sparrow-West Halibut Islands	Isle au Haut
P132	Stonington - West	Stonington
P133	Hardwood-Ewe-Ram Islands	Isle au Haut
P134	Farrel Island	Stonington
P135	Crotch Island	Stonington
P136	John Island	Stonington
P137	Stonington	Stonington
P138	Green Island	Stonington
P139	Russ Island	Stonington
P140	Camp Island	Stonington
P141	St. Helena-George Head Islands	Stonington
P142	Bare Island	Stonington
P143	McGlathery-Round-Gooseberry Is.	Stonington
P144	Egg Rock	North Haven
P145	Merchant Island	Isle au Haut
P146	Bills-Pell-Burnt Islands	Isle au Haut
P148	No Man's Island	Stonington
P149	Coombs Islands	Stonington
P150	Spruce Island	Stonington
P151	Devil-Bold Islands	Stonington
P152	Webb Cove	Stonington
P153	Grog Island-Humpkins Ledge	Stonington
P154	Saddleback-Enchanted Islands	Stonington
P155	Sheldrake-Haskell Ledges	Stonington
P156	Shingle Island	Stonington
P157	Sheep Island	Stonington
P158	Eastern Mark Island	Stonington
P159	Shabby Island	Deer Isle
P160	Long-Green Ledges	Deer Isle
P161	Whitmore Neck	Stonington
P162	Inner Harbor	Stonington, Deer Isle
P163	Long Cove	Deer Isle
P164	Freese Island	Deer Isle
P165	Stinson Neck - South	Deer Isle
P166	Stinson Neck - North	Deer Isle

Table 2. Significant marine wildlife habitats of Penobscot Bay by area number and location (continued).

Area Number	Area Name	Location
P167	White Island	Deer Isle
P168	Black-Bear Islands	Deer Isle
P169	Conary Island	Deer Isle
P170	Greenlaw Neck	Deer Isle
P171	Greenlaw Cove	Deer Isle
P172	Campbell Island-Fish Creek	Deer Isle
P174	Isle au Haut - Northeast	Isle au Haut
P175	Isle au Haut - Southeast	Isle au Haut
P176	York Island	Isle au Haut
P177	The Cow Pen	Isle au Haut
P178	Great Spoon Island	Isle au Haut
P179	Little Spoon Island	Isle au Haut
P180	White-Black Horse Islands	Isle au Haut
P181	Eastern Ear Island	Isle au Haut
P182	Head Harbor	Isle au Haut
P183	Western Head	Isle au Haut
P184	Duck Harbor	Isle au Haut
P185	The Brandies	Isle au Haut
P186	Moores Harbor	Isle au Haut
P187	Bald Mt.	Isle au Haut
P188	Isle au Haut	Isle au Haut
P190	Kimball-Flake Islands	Isle au Haut
P191	White-Green Ledges	Isle au Haut
P192	Fog Island	Isle au Haut
P193	Southern Mark Island	Isle au Haut, Stonington
P194	Saddleback Island	Swans Island
P195	Halibut Rocks	Swans Island
P196	Spirit Ledge	Swans Island
P197	Boxam Cove	Swans Island, LURC
P198	Three Bush Island	Swans Island, LURC
P199	Ringtown Island	Swans Island, LURC
P200	Black Ledge	Swans Island
P201	Mason Ledge	Swans Island
P202	Heron Island	Swans Island
P203	Brimstone Island	Swans Island
P204	Hat Island	Swans Island
P205	Sand-Toothacher Coves	Swans Island
P206	High Sheriff-Gooseberry Is.	Swans Island
P207	Burntcoat Harbor	Swans Island
P208	Harbor Island	Swans Island
P209	Scrag-Green Islands	Swans Island

Table 2. Significant marine wildlife habitats of Penobscot Bay by area number and location (continued).

Area Number	Area Name	Location
P210	Baker Islands	Swans Island
P211	Swans Island - Southeast	Swans Island
P212	John's Island	Swans Island
P213	Sister Islands	Swans Island
P214	Crow Island	Frenchboro, LURC
P215	Deep-West Coves	Frenchboro, LURC
P216	Long Island - West	Frenchboro, LURC
P217	Long Island - East	Frenchboro, LURC
P218	Sand Cove	Swans Island, LURC
P219	Ram Island	Swans Island
P220	Swans Island - Northeast	Swans Island
P221	Mackerel Cove	Swans Island
P222	Seal Cove	Swans Island
P223	Orono-Phinney Islands	Swans Island
P225	Egg Rock	Swans Island
P226	Opechee Island-Long Ledge	Swans Island
P227	Pond Island	Frenchboro
P228	Black-Sheep-Eagle Islands	Swans Island
P229	Naskeag Point	Brooklin
P230	Babson Island	Brooklin
P231	High Head	Brooklin
P232	Torrey Islands	Brooklin
P233	Brooklin	Brooklin
P234	Benjamin River	Brooklin, Sedgwick
P235	Sargentville	Sedgwick
P236	Mahoney Island	Brooklin
P237	North Deer Isle	Deer Isle
P238	Reach-Oak Point	Deer Isle

[1]The Muscle Ridge is not an official township, but is a recognized major geographic area, and is treated like a town for presentation of mapped information in this report.

[2]Indicates that all or part of this area is under the jurisdiction of the Land Use Regulation Commission (LURC).

[3]The Bureau of Public Lands (BPL) has jurisdiction over all submerged lands.

Table 3. Marine birds and seals of Penobscot Bay.

Common Name[1]	Scientific Name[1]
Marine Birds	
Common loon	Gavia immer
Red-throated loon	Gavia stellata
Pied-billed grebe	Podilymbus podiceps
Red-necked grebe	Podiceps grisegena
Horned grebe	Podiceps auritus
Northern fulmar	Fulmarus glacialis
Greater shearwater	Puffinus gravis
Sooty shearwater	Puffinus griseus
Manx shearwater	Puffinus puffinus
Leach's storm petrel	Oceanodroma leucorhoa
Wilson's storm petrel	Oceanites oceanicus
Northern gannet	Sula bassanus
Great cormorant	Phalacrocorax carbo
Double-crested cormorant	Phalacrocorax auritus
Great blue heron	Ardea herodias
Green-backed heron	Butorides striatus
Snowy egret	Egretta thula
Black-crowned night heron	Nycticorax nycticorax
Glossy ibis	Plegadis falcinellus
Canada goose	Branta canadensis
Atlantic brant	Branta bernicla
Snow goose	Chen caerulescens
Black duck	Anas rubripes
Mallard	Anas platyrhynchos
Blue-winged teal	Anas discors
Green-winged teal	Anas crecca
Gadwall	Anas strepera
Pintail	Anas acuta
American wigeon	Anas americana
Ring-necked duck	Aythya collaris
Lesser scaup	Aythya affinis
Greater scaup	Aythya marila
Common eider	Somateria mollissima
King eider	Somateria spectabilis
Harlequin	Histrionicus histrionicus
Old squaw	Clangula hyemalis
White-winged scoter	Melanitta fusca
Surf scoter	Melanitta perspicillata
Black scoter	Melanitta nigra
Common goldeneye	Bucephala clangula
Barrow's goldeneye	Bucephala islandica
Bufflehead	Bucephala albeola

Table 3. Marine birds and seals of Penobscot Bay (continued).

Common Name[1]	Scientific Name[1]
Marine Birds	
Hooded merganser	Lophodytes cucullatus
Red-breasted merganser	Mergus serrator
Ruddy duck	Oxyura jamaicensis
Bald eagle	Haliaeetus leucocephalus
Osprey	Pandion haliaetus
Semipalmated plover	Charadrius semipalmatus
Lesser golden plover	Pluvialis dominica
Black-bellied plover	Pluvialis squatarola
Ruddy turnstone	Arenaria interpres
Whimbrel	Numenius phaeopus
Spotted sandpiper	Actitis macularia
Solitary sandpiper	Tringa solitaria
Willet	Catoptrophorus semipalmatus
Greater yellowlegs	Tringa melanoleucus
Lesser yellowlegs	Tringa flavipes
Red knot	Calidris canutus
Purple sandpiper	Calidris maritima
Baird's sandpiper	Calidris bairdii
Pectoral sandpiper	Calidris melanotos
White-rumped sandpiper	Calidris fuscicollis
Western sandpiper	Calidris mauri
Least sandpiper	Calidris minutilla
Semipalmated sandpiper	Calidris pusilla
Sanderling	Calidris alba
Dunlin	Calidris alpina
Common snipe	Capella gallinago
Short-billed dowitcher	Limnodromus griseus
Long-billed dowitcher	Limnodromus scolopaceus
Marbled godwit	Limosa fedoa
Hudsonian godwit	Limosa haemastica
Red phalarope	Phalaropus fulicaria
Northern phalarope	Phalaropus lobatus
Wilson's phalarope	Phalaropus tricolor
Pomarine jaeger	Stercorarius pomarinus
Parasitic jaeger	Stercorarius parasiticus
Great skua	Catharacta skua
Glaucous gull	Larus hyperboreus
Iceland gull	Larus glaucoides
Great black-backed gull	Larus marinus
Herring gull	Larus argentatus
Ring-billed gull	Larus delawarensis
Black-headed gull	Larus ridibundus
Laughing gull	Larus atricilla
Bonaparte's gull	Larus philadelphia
Little gull	Larus minutus

Table 3. Marine birds and seals of Penobscot Bay (continued).

Common Name[1]	Scientific Name[1]
Black-legged kittiwake	*Rissa tridactyla*
Common tern	*Sterna hirundo*
Arctic tern	*Sterna paradisaea*
Roseate tern	*Sterna dougallii*
Razorbill	*Alca torda*
Common murre	*Uria aalge*
Thick-billed murre	*Uria lomvia*
Dovekie	*Alle alle*
Black guillemot	*Cepphus grylle*
Common puffin	*Fratercula arctica*
Seals	
Harbor seal	*Phoca vitulina*
Gray seal	*Halichoerus grypus*

[1]The common and scientific names of all birds are from American Ornithologists' Union, 1983, *Checklist of North American Birds, 6th Edition*.

CLASS A WILDLIFE AREAS

CLASS A WILDLIFE HABITATS OF PENOBSCOT BAY

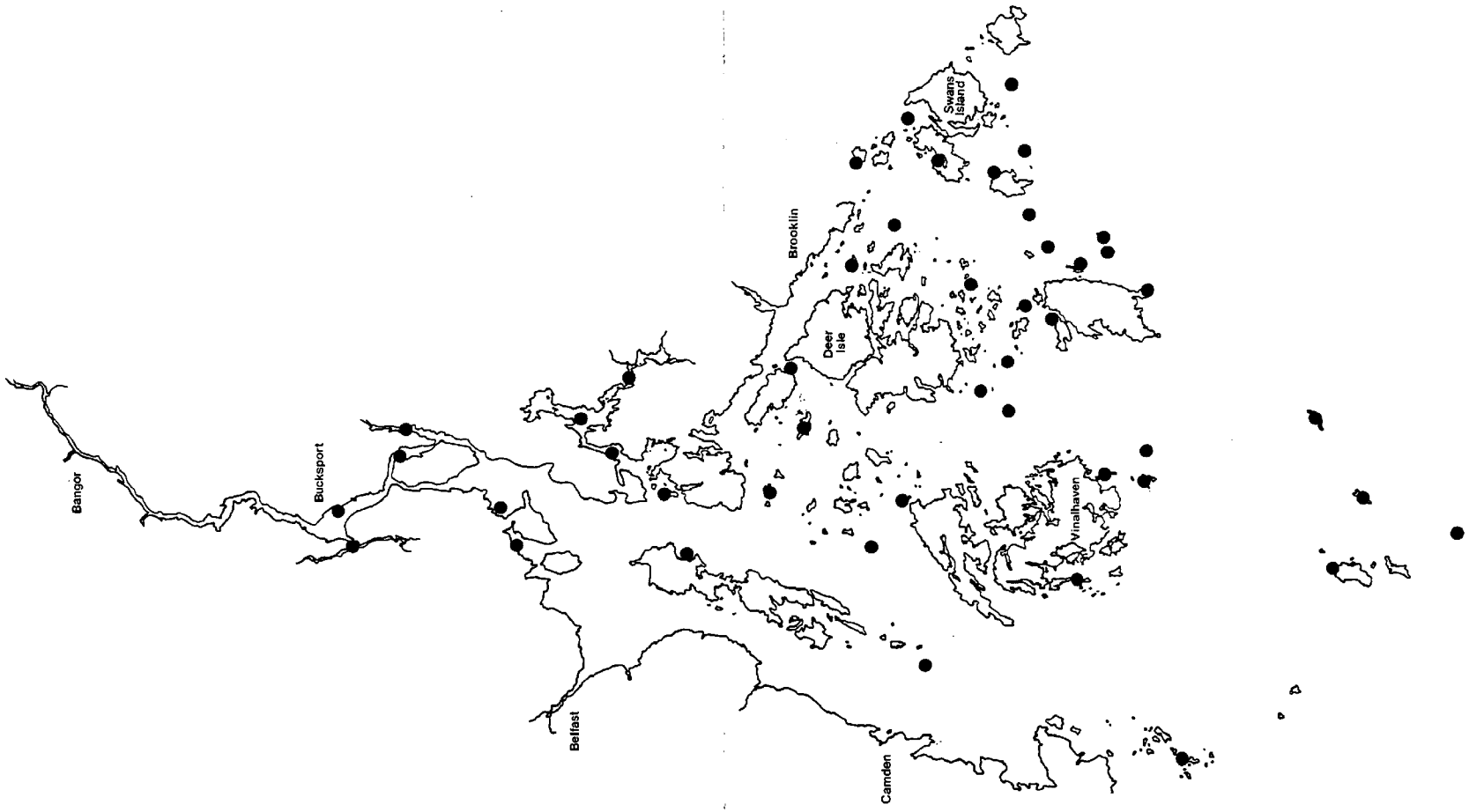


Table 4. Class A Wildlife Habitats of Penobscot Bay by town.

Town Name	Area Number	Area Name
Brooksville	P95	Holbrook Island
	P97	Bagaduce River
	P98	Northern Bay-Bagaduce
	P99	Herrick Bay-Bagaduce
	P108	Western-Pond-Hog Islands
Bucksport	P28	Verona Island-East
	P31	Frankfort Flats
Castine	P95	Holbrook Island
	P97	Bagaduce River
Criehaven	P82	Seal Island
	P84	Wooden Ball Island
	P88	Matinicus Rock
Deer Isle	P112	Carney Island
	P113	Pickering Island
	P122	Compass Island
	P160	Long-Green Ledges
Frankfort	P32	Marsh River
Frenchboro	P227	Pond Island
Isle au Haut	P131	Sparrow-West Halibut Is.
	P146	Bills-Pell-Burnt Islands
	P177	The Cow Pen
	P178	Great Spoon Island
	P179	Little Spoon Island
	P181	Eastern Ear Island
	P190	Kimball-Flake Islands
	P191	White-Green Ledges
Islesboro	P47	Parker Cove
Matinicus Island Plt.	P85	Matinicus Island-North
Muscle Ridge	P01	Hewett-Graffam-Pleasant Is.
North Haven	P54	Mark Island
	P56	Oak-Burnt Islands

Table 4. Class A Wildlife Habitats of Penobscot Bay by town (continued).

Town Name	Area Number	Area Name
Orland	P27	Orland River
	P28	Verona Island-East
Penobscot	P97	Bagaduce River
	P98	Northern Bay-Bagaduce
	P99	Herrick Bay-Bagaduce
Prospect	P32	Marsh River
Searsport	P23	Stockton Harbor
Sedgwick	P99	Herrick Bay-Bagaduce
Stockton Springs	P23	Stockton Harbor
	P25	Fort Point Cove
Stonington	P129	Second-Andrews-Mark Is.
	P130	Scraggy Island
	P150	Spruce Island
	P157	Sheep Island
Swans Island	P196	Spirit Ledge
	P199	Ringtown Island
	P202	Heron Island
	P212	John's Island
	P221	Mackeral Cove
	P222	Seal Cove
Verona	P27	Orland River
	P28	Verona Island-East
Vinalhaven	P70	Narrows-Sheep-Green Is.
	P71	Saddleback Ledge-Brimstone I.
	P72	Roberts-Hay-Otter Islands
	P77	Lairey's-Crane-Crotch Is.
Winterport	P32	Marsh River

Table 5. Percentages of Penobscot Bay's marine wildlife populations and their habitats in each significance class by season.

Class	% of all Habitats	Winter	Spring Migration	Nesting	Post Nesting	Fall Migration	Annual Average
		% of Total Population					
A	20	35	30	50	50	34	40
B	30	35	40	35	34	34	35
C	50	30	30	15	16	32	25

Wildlife Conservation in Penobscot Bay

Conservation of the biological productivity and diversity of Class A, B, and C wildlife habitats depends on man's ability to control the types and intensities of human activities within these areas. Guidelines to assist in the identification of appropriate types and levels of use within each of the three habitat categories are presented in the following section.

Additional specific management recommendations are provided for Special Wildlife Features such as Bald Eagle Nest Sites, Great Blue Heron Colonies, and Colonial-nesting Seabird Islands.

Applications of our findings and management guidelines to coastal resource allocation problems and processes are also presented.

Conservation guidelines for Class A, B, and C wildlife habitats are as follows:

1. Class A - Definition: An area of national and/or state significance for coastal wildlife.

    a. The existing habitat should not be degraded through alteration or development of the intertidal and submerged lands, or the shoreland buffer zone (250 ft. above mean high tide). Activities within these areas should not alter the existing biological community structure and function. Indigenous species populations should be maintained at (or exceed) existing levels.

    b. A detailed land-use/wildlife conservation plan should be a required component of each town's comprehensive plan. This should be a cooperative effort by local land use planners and MDIFW personnel.

    c. In general, Class A areas should not experience any changes in the type or increases in the intensity of existing use.

    d. The most significant Class A areas should be targeted for special protection through inclusion in the MDIFW Coast of Maine Wildlife Management Area and/or Maine Coast Heritage Reserve.

2. Class B - Definition: An area of regional significance for coastal wildlife.

   a. The existing habitat should be maintained in sufficient quality and quantity to support all coastal wildlife species indigenous to the area.

   b. Types of activities and development within the area should not be modified; however, the intensity of use or development may be increased. A 40% increase in the intensity of compatible uses is suggested as an upper limit.

   c. A land-use/wildlife conservation plan should be developed detailing specific wildlife values and identifying compatible human uses of the area.

3. Class C - Definition: An area of local significance for coastal wildlife.

   a. Both the types and intensities of existing uses could be modified. However, the general character of the area should remain intact. An increase of 75% in compatible uses is probably acceptable. Activities in these areas should not alter the structure and function of the resident biological community.

   b. A land-use/wildlife conservation plan should be developed.

MANAGEMENT GUIDELINES FOR SPECIAL WILDLIFE FEATURES

MANAGEMENT GUIDELINES FOR BALD EAGLE NEST SITES

Introduction. Bald eagles are the largest bird in Maine, having a wingspan of 7 to 8 feet and weighing between 8 to 15 pounds. They attain their adult plumage (a white head and tail) at 5 years of age, at which time they choose a mate for life. Bald eagles build large stick nests usually in prominent white pines or spruces located within one mile of marine habitats, shallow lakes and ponds, or along larger rivers. A pair of eagles returns to the same nest site yearly and will sometimes maintain up to 7 nests within their nesting territory. Bald eagles eat primarily bottom-dwelling fish during the summer months, but shift their diet to birds (primarily waterfowl and gulls) and carrion during the winter. Adult eagles remain near their nest year-round, however, young eagles may wander as far south as Chesapeake Bay before returning to Maine to nest. Eagles from Maine and the region from the Maritime Provinces and Ontario to Saskatchewan are known to winter in Maine. In addition to nesting areas, bald eagles require perch sites and winter roost sites located near feeding areas.

Status. The bald eagle was declared an Endangered Species on the Federal Register in Maine and 43 other states in 1978, and is listed as endangered on the State of Maine Endangered Species List. Maine has the only nesting population of bald eagles in New England. In 1986, 85 pairs of eagles were found nesting in Maine and produced 75 young. Penobscot Bay has 10 active and 4 historic bald eagle nesting territories (Table 6). Reproductive rates in Maine remain lower than other populations in North America. However, because of the increased survival of young eagles, due in part to a winter feeding program, the population is still increasing. Protection of traditionally used nesting territories is a key factor in the long-term recovery of Maine's bald eagle population.

Problems. Human influences such as disturbance around nest sites, shooting, environmental pollution, and habitat alteration have affected bald eagle populations. Bald eagle numbers in Maine began a slow but steady decline in colonial times, primarily as the result of habitat loss and human persecution. This decline was greatly accelerated in Maine after 1945, when DDT and other organochlorine pesticides were used extensively for spruce budworm and agricultural

Table 6. Active and historic[1] bald eagle territories of Penobscot Bay.

Area Number	Location	1986 Status Use - Production	Last Year of Eagle Residency	Suitable Habitat/ Management Strategy
P032	Bowden Point	Active - 3	1986	Yes - Cooperative Agreement
P054	Mark Island	Active - 0	1986	Yes - Cooperative Agreement
P056	Burnt Island	Active - 1	1986	Yes - Cooperative Agreement
P059	Calderwood Neck	Unoccupied	1965	Yes - Habitat Maintenance
P068	Stimpson Island	Unoccupied	1964	Yes - Habitat Maintenance
P076	Folly Pond	Unoccupied	1966	Yes - Habitat Maintenance
P077	Crane Island	Active - 2	1986	Yes - Cooperative Agreement
P098	Youngs Island	Active - 1	1986	Yes - Cooperative Agreement
P099	Bear Head	Active - 1	1986	Yes - Modif. Coop. Agreement
P150	Ram Island	Active - 1	1986	Yes - Cooperative Agreement
P181	Isle au Haut	Active - 0	1986	Yes - Cooperative Agreement
P199	Ringtown Island	Active - 1	1986	Yes - Cooperative Agreement
P213	East Sister Island	Unoccupied	1982	Yes - Habitat Maintenance
P227	Pond Island	Active - 2	1986	Yes - Cooperative Agreement

[1]Historic sites are presently inactive, but have been active at some time since 1962, when the first bald eagle surveys were begun.

pest control. These pesticides caused reproductive failure in many birds of prey, and were banned from use in North America in 1972. Bald eagles and other birds of prey have since responded with improvements in their reproductive success. Because of slow decomposition rates in Maine's forest soils, DDT still adversely influences the production of some pairs.

Nevertheless, Maine's bald eagle population continues to produce more young each year. New breeding pairs of bald eagles in Maine have been found in recent years, and most often resume use of historic nest sites that were abandoned in the 1950's and 1960's.

Today, a tremendous increase in land development and recreation is occurring in mid and eastern coastal regions, and has already modified western coastal areas formerly occupied by nesting eagles. Habitat protection and management, particularly at the nest site, are essential to assisting the recovery of bald eagles in Maine.

Protective Legislation. Bald eagles are protected under the Bald Eagle Protection Act of 1940. Recently the law was strengthened, and is now known as the Eagle Protection Act, which prohibits anyone from "taking" any bald eagles, dead or alive, or any nest, egg, or parts of these birds. The Act defines "taking" as "to pursue, shoot, poison, wound, kill, capture, trap, collect, molest, or disturb."

A violation of the Eagle Protection Act can result in fines of $10,000 to $20,000 or imprisonment for one or two years, or both. Bald eagles are also protected under the Endangered Species Act and the Migratory Bird Treaty Act, both with restrictions and penalties similar to the Eagle Protection Act.

General Guidelines for Protection of Bald Eagle Nests.

Eagles have a prolonged nesting season during which they are extremely sensitive to disturbance. Any activities near the nesting territory may be harmful from the time adults arrive at a nest to the period when young eaglets disperse in late summer. General dates for this critical period are 1 February - 31 August in coastal Maine and 1 March - 30 September in interior Maine. The first 2 months of the nesting season (courtship, nest repair, egg-laying, incubation, and hatching) are especially critical, and disturbances may cause nesting failure or even abandonment. Adult

eagles may occupy nesting territories throughout the year, particularly in coastal regions.

Our protection recommendations consist of three concentric buffer zones which are less restrictive as the distance from the nest increases. This policy conforms with the protection suggested in national recovery plans for bald eagles. Suggested shoreland zoning districts are those defined by the Maine Shoreland Zoning Act of 1971 (Appendix I).

ZONE 1 - 0-330 feet from the nest should be maintained as an undisturbed nesting sanctuary. The natural habitat should not be modified at any time of the year unless such actions are deemed essential to site preservation by a consulting wildlife biologist. Recreational activities (hunting, fishing, hiking, boating) should not be permitted during the critical nesting period. All areas within this zone should be designated resource protection districts.

Prohibited activities year-round:
- -Timber cutting without consultation with a wildlife biologist
- -Land clearing without consultation with a wildlife biologist
- -Road, trail, or building construction
- -Repeated human visitation

Non-nesting period:
- -Activities should be kept to a minimum, but the following activities are acceptable: hiking, fishing (recreational and commercial), farming (plowing, planting, and harvesting)

ZONE 2 - 330-660 feet from the nest should be limited to light land-use activities conducted only during the non-critical period. Areas used by eagles should be preserved in a natural state. Any timber harvests should not exceed 20% of the available stand volume in this zone. Stand openings created by cutting should be distributed evenly through the stand, and each should not exceed an area of 7,500 square feet. All areas within this zone should be designated a resource protection district.

Prohibited activities year-round:
- -Clear cutting
- -Land clearing (openings greater than 7,500 square feet)
- -Building permanent structures, roads, or trails

During the critical nesting period:
- -Human activity should be minimized
- -Farming or commercial fishing is possible if wildlife biologists have found that nesting eagles are tolerant of these activities.

Non-nesting period:
- -The following activities are acceptable: hunting, fishing, hiking, farming
- -Selective thinning or maintenance of timber stands using the guidelines stated above
- -Maintenance of existing roads or trails

ZONE 3 - 660-1,320 feet from the nest should exclude new construction of roads and buildings. Specific sites valuable to eagles (perching areas or potential nest trees) should be preserved, but there are no other land use restrictions for activities conducted during the noncritical period. All areas within this zone should be designated resource protection or limited recreational-residential.

Most activities are possible in this zone outside of the critical nesting season except construction of new buildings or roads. If construction is warranted, a wildlife biologist should be consulted. Buildings and roads should be out of the line of sight from the nest and conform to at least a 75 foot setback from the shoreline. The integrity of the shoreline vegetation should be maintained by limiting cutting along the shoreline to only those trees 4 inches or less in diameter within the mandated resource protection zone.

<u>Other nest management guidelines</u>

1) A supply of mature trees should be maintained in the area since eagles prefer old-growth trees to perch and build their nests. Tall white pines are the favored nest and perch trees for eagles in Maine.

2) Nearby shorelines offering perch trees are an important component of the nesting habitat and should be preserved in a natural state. These restrictions generally conform with local Shoreland Zoning ordinances.

3) Site enhancement measures (e.g. posting, provision of food to eagles, making snags available as perch trees, structural bracing of a nest in poor condition, and even building an artificial nest) are feasible and can be evaluated on a site by site basis.

4) Winter Habitat. Wintering bald eagles are more tolerant of human activity than nesting eagles. This minimizes land-use conflicts with wintering eagles and provides unique opportunities for coexistence and direct public enjoyment of bald eagles.

5) Historic Sites. Maine's coastal bald eagle population is presently expanding westward, recolonizing historic territories. Areas with documented use by nesting bald eagles since the first systematic eagle surveys began in 1962, should therefore be protected from major habitat alterations and large scale human development.

A town's goal should be to distribute development projects in a known eagle wintering area such that development does not affect the existing levels of eagle activity. The integrity of wooded shorelines should be preserved as limited recreational-residential districts. This policy applied to all shorelines with the mandated 75 foot resource protection zone provides uniform perching areas for eagles, widespread public viewing opportunities, and retains favorable scenic and aesthetic values. Specifically, any cutting in the 75 foot shoreland protection zone should be restricted to smaller trees (e.g. 4 inches or less in diameter) and large snags should be left along the shoreline for perch trees. In known communal roosting areas, an expanded 150 foot shoreline zone as a resource protection district is warranted.

MANAGEMENT GUIDELINES FOR OSPREY NEST SITES

Introduction. Ospreys or "fish hawks" are a common bird of prey in Maine, and have a wingspan of 4½ to 6 feet. In flight, ospreys are distinguished from bald eagles by their white underparts, a dark patch at the sharp bend or "wrist" of the wings, and their habit of hovering before diving into the water to capture fish. They attain maturity at 3 years of age, at which time they choose a mate for life and begin building a large stick nest that they will return to each year. Osprey nests are typically near water, atop snags or live trees having dead, broken tops, but they occasionally nest on exposed rock ledges. Some ospreys are tolerant of human activity and build their nests on channel markers, utility poles and towers, and artificial platforms. A pair of ospreys may maintain 2 or 3 nests within their territory, selecting one to nest in each spring. At some sites in Maine, ospreys nest in colonies of 2 to 11 pairs. Ospreys feed almost exclusively on "rough" fish. In the fall, both adults and young migrate to Central and South America, going as far south as Argentina and Chile. The young birds remain in southern quarters until maturity, when they return to nest near their place of birth.

Status. The osprey population in Maine, as in many other regions of North America, is recovering from a dramatic decline. Like bald eagles, ospreys are extremely sensitive to environmental contaminants. Ospreys are still classified as endangered in 8 states and threatened in 20 others. However, because of their greater reproductive rates and higher tolerance of human activity, the osprey population in Maine has increased dramatically during the last decade. Survival of these birds depends increasingly on the species' ability to associate with humans. Suitable nesting habitat adjacent to foraging areas continues to be lost, and many birds are forced to adapt to man-altered habitats. As a result, public awareness of ospreys has increased in recent years, and entire communities are now participating in osprey management projects, including artificial nest programs and protection of natural nest sites.

Protective legislation. The osprey is protected by the Migratory Bird Treaty Act of 1918, and State of Maine Wildlife Laws which prohibit "possession, killing, transporting, selling, buying, or needlessly destroying the nest or eggs."

General Guidelines for Protection of Osprey Nesting and Feeding Areas

Nesting Areas. The strong recovery of osprey populations in most parts of Maine, the birds' versatility of nest site selection, and the large turnover rates of nest sites, somewhat diminishes the benefits of intensive site specific management. Instead, we propose a less ambitious program for all but locally depleted and colonial nesting populations. As a general rule, during the critical nesting period osprey nests should be protected by a 600 foot forested buffer from new road, trail, and building construction, logging activity, or repeated human disturbance. General dates for the critical nesting period are:

coastal Maine: April 1 to August 15
interior Maine: April 15 to August 15

The first 2 months of the nesting season (courtship, nest repair, egg laying, incubation, and hatching) are the most critical. Disturbances that cause an incubating or brooding bird to flush from the nest can cause nesting failure. Ospreys use a loud chirping call or will even attack when visitors venture too close to the nest. These behaviors should be sufficient warning to leave the nesting area. Signs warning the public to maintain respectable distances from nesting birds should be erected.

Buffer Zones. Our protection recommendations consist of a single buffer zone around a nest, or comprehensive habitat management for colonial groups of osprey nests. Osprey nest management guidelines are more stringent in other regions where ospreys are an endangered or threatened species. Suggested shoreland zoning districts are those defined by the Maine Shoreland Zoning Act of 1971 (Appendix V).

Single Osprey Nests. A forested buffer zone should be established 0-600 feet from the nest. During the critical nesting period, human activity should be minimized and should exclude new construction of major roads and buildings. Ospreys are variable in the amount of human disturbance they will tolerate. Generally, pairs that build nests in close proximity to buildings, roads, or on bridge piers, chimneys, channel markers, or utility poles have accepted human activity, and buffer guidelines may be modified after consulting with a wildlife biologist. All areas within this zone should be designated resource protection districts or limited recreational-residential.

Most activities are possible in this zone outside of the critical nesting season except construction of major roads and buildings. If construction is warranted, a wildlife biologist should be consulted. Buildings and roads within the zone and adjacent areas should be out of the line of sight from the nest and conform to a 75 foot or greater setback from the shoreline. The integrity of the shoreline vegetation should be maintained by limiting cutting along the shoreline protection zone to only those trees 4 inches or less in diameter.

Selective cutting within the 600 foot buffer zone is acceptable outside of the critical nesting period, but harvest should be limited to 40% of the stand volume. A special effort should be made to preserve snags and clumps of tall trees for alternate nest sites.

Prohibited activities year-round:
- -Clear cutting
- -Building permanent structures and major roads (see comments above concerning ospreys accepting human activity)

During the critical nesting period:
- -Human activity should be minimized
- -Farming or commercial fishing is possible if wildlife biologists have found that nesting ospreys are tolerant of these activities

During the non-nesting period the following activities are acceptable:
- -Hunting, fishing, hiking, farming
- -Selective thinning of forest stands up to 40% of stand volume
- -Maintenance of existing roads or trails

Colonial Nesting Areas. Colonial groupings of osprey nests (more than 1 pair per 200 acres) should be buffered collectively. The guidelines delineated above should be applied to each individual nest, the colony boundaries should be delineated by a wildlife biologist, and the integrity of the 250 foot shoreline zone should be maintained. Colonial nesting ospreys are rare in Maine and indicate the proximity of a unique, highly productive feeding area or a severe shortage of suitable nesting habitat. All colonies should be delineated as resource protection districts. Prohibited and acceptable activities are the same as those for single osprey nests.

Other osprey management guidelines:

1) A supply of mature trees and snags should be maintained along the shoreline for potential nest sites. Tall white pines and broken-topped spruces are favored nest and perch trees for ospreys in Maine.

2) Maintaining the integrity of wooded shorelines greatly enhances osprey nesting and perching habitat. Minimum setbacks of 75 feet or greater for building or road construction along a wooded shoreline not only complies with shoreland zoning ordinances but lessens the influence of new construction on ospreys, eagles and other wildlife.

3) In addition to maintaining a shoreland buffer, forestry operations within 1200 feet of the shoreline should adopt provisions to preserve large snags and leave isolated clumps of tall over-mature trees of low merchantable value. Ospreys and eagles will often nest in these residual trees.

4) Community artificial nest platform programs have been successful for ospreys. Artificial platforms can be used to provide a nest site in areas that lack sufficient natural sites, replace insecure natural nests, relocate nests away from excessive disturbance, and substitute nests located on hazardous or conflicting man-made structures. The design and placement of nest platforms should be under the direction of wildlife personnel.

Feeding Areas. The restoration and enhancement of fish populations, especially anadromous runs of alewives and shad, and rough fish such as suckers and bullhead, will greatly benefit ospreys, eagles, herons and a host of other wildlife. Working fish ladders should be constructed and maintained at dam sites. Environmental contaminants, especially substances known to impair the reproduction of ospreys and eagles (such as organochlorine pesticides, PCB's, mercury and lead) should not be introduced into the environment, especially near known feeding or nesting areas.

Ospreys are a high profile wildlife species and have generated tremendous public interest and awareness. Their recent population increase in Maine is an indicator of the health and well-being of their natural environment. Conversely, a decrease in a town's osprey population is an indicator of

environmental degradation. It should be a town's goal to maintain or increase their osprey population (Table 7). Because this species is more adaptable to man's activities, a variety of less stringent management options are available. Nevertheless, only careful municipal planning today will ensure a healthy population of ospreys in the future.

To answer any questions about proposed activity in the vicinity of an osprey feeding or nesting area, contact the MDIFW regional wildlife biologist.

Table 7. Number of osprey nests in Penobscot Bay by wildlife area.

Area Number	Area Name	Number of Nests
P001	Hewett-Graffam-Pleasant Islands	13
P052	Lassell-Lime-Job Islands	11
P003	Dix-High-Otter Islands	9
P113	Pickering Island	9
P002	Andrews Island	5
P010	Sheep Island	5
P024	Cape Jellison	5
P047	Parker Cove	5
P118	Great Spruce Head Island	5
P039	Ram-Seal-Flat Islands	4
P040	Seal Harbor	4
P046	Turtle Head	4
P064	Stand-in Point	4
P066	Mill River	4
P114	Beach-Barred-Colt Head Islands	4
P154	Saddleback-Enchanted Islands	4
P009	Monroe Island	3
P043	700-Acre Island - North	3
P053	Mouse-Saddle-Goose Islands	3
P065	Pulpit Harbor	3
P076	The Basin	3
P081	Crockett Point	3
P112	Carney Island	3
P115	Bradbury-Crow Islands	3
P117	Butter-Barred Islands	3
P124	Eagle Island	3
P129	Second-Andrews-Mark Islands	3
P157	Sheep Island	3
P013	Rockport Harbor	2
P022	Sears Island	2
P033	Winterport	2
P054	Mark Island	2
P059	Calderwood-Babbidge Islands	2
P061	North Haven Town	2
P073	Greens Island	2
P074	Vinalhaven Town	2
P078	White Island	2
P108	Western-Pond-Hog Islands	2
P110	Scott-Two Bush Islands	2
P121	Little Spruce Head Island	2
P135	Crotch Island	2
P158	Eastern Mark Island	2
P190	Kimball-Flake Islands	2
P007	Ash Island	1
P014	Camden Harbor	1

Table 7. Number of osprey nests in Penobscot Bay by wildlife area (continued).

Area Number	Area Name	Number of Nests
P023	Stockton Harbor	1
P025	Fort Point Cove	1
P029	Bucksport	1
P031	Frankfort Flats	1
P044	Philbrook Cove	1
P045	700-Acre Island - South	1
P050	Islesboro - East	1
P056	Oak-Burnt Islands	1
P057	Sheep-Dagger Islands	1
P058	Oak Hill-Mullen Head Island	1
P063	Dumpling Islands	1
P068	Seal Bay	1
P069	Stoddard-Smith Islands	1
P077	Lairey's-Crane-Crotch Islands	1
P080	Green-Dogfish Islands	1
P094	Wadsworth Cove	1
P107	Little Deer Isle - North	1
P109	Little Deer Isle - South	1
P119	Horsehead Island	1
P120	Resolution Island	1
P126	Northwest Harbor	1
P130	Scraggy Island	1
P133	Hardwood-Ewe-Ram Islands	1
P141	St. Helena-George Head Islands	1
P142	Bare Island	1
P143	McGlathery-Round-Gooseberry Islands	1
P146	Bills-Pell-Burnt Islands	1
P149	Coombs Islands	1
P151	Devil-Bold Islands	1
P152	Webb Cove	1
P163	Long Cove	1
P164	Freese Island	1
P166	Stinson Neck - North	1
P168	Black-Bear Islands	1
P172	Campbell Island-Fish Creek	1
P186	Moores Harbor	1
P221	Mackerel Cove	1
P222	Seal Cove	1
P229	Naskeag Point	1
P230	Babson Island	1
P232	Torrey Islands	1
P233	Brooklin	1

MANAGEMENT GUIDELINES FOR COLONIAL NESTING SEABIRD ISLANDS

Introduction. Between three and four thousand islands and exposed ledges comprise the Maine archipelago. Three hundred and fifty of these are of special significance because they are used as traditional sites by twenty species of colonial-nesting seabirds.

Many of these birds are at the northern or southern limit of their range, and for several (common eider, black guillemot, Atlantic puffin, razorbill auk, great cormorant, Leach's storm petrel), Maine is the only one of the contiguous 48 states with breeding populations.

Status. Populations of colonial nesting seabirds throughout Maine were decimated by the late 1800's from overharvest for meat, eggs, and feathers. The growing list of vanishing species sparked national interest, and was the issue of concern which prompted formation of the National Audubon Society, and led to the drafting and promulgation of the Migratory Bird Treaty Act of 1918.

Those birds which survived the excessive exploitation of the 19th century responded well to the protective legislation, which coincided with the collapse of many island-based economies. Numerous island communities were abandoned, allowing historic seabird islands to be recolonized by their former residents. It is of the utmost importance to understand that both the protective legislation and the off-island emigration of people were requisite to the rapid recovery of many species we have observed during the past six decades. Had 19th century levels of human disturbance and occupation of breeding habitat been maintained, existing legislation would have been inadequate in providing the "climate" required for this recovery.

The recent explosion of development along the coast is threatening to reverse the recovery trend through the escalating demands on islands for recreation and homesites. To maintain Maine's populations of colonial nesting seabirds, these nesting islands must be made available to the birds in an undeveloped and undisturbed state.

Penobscot Bay supports more than 26,000 pairs of nesting marine birds on 123 islands and ledges (Tables 8 and 9). Many of the seabird islands are already protected from development through acquisition or easement by state agencies and conservation organizations, and are posted with

Table 8. Nesting marine birds of Penobscot Bay.

Common Name	Scientific Name	Colonies	Nesting Pairs
Leach's storm petrel	*Oceanodroma leucorhoa*	7	941
Great cormorant	*Phalacrocorax carbo*	5	62
Double-crested cormorant	*Phalacrocorax auritus*	47	5,043
Great blue heron	*Ardea herodia*	3	71
Canada goose	*Branta canadensis*	4	4
Common eider	*Somateria mollissima*	89	8,890
Bald eagle	*Haliaeetus leucocephalus*	10	10
Osprey	*Pandion haliaetus*	69	110
Great black-backed gull	*Larus marinus*	83	2,831
Herring gull	*Larus argentatus*	73	5,804
Laughing gull	*Larus atricilla*	2	48
Terns'	*Sterna spp.*[1]	17	1,016
Razorbill	*Alca torda*	1	15
Black guillemot	*Cepphus grylle*	53	1,918
Common puffin	*Fratercula arctica*	1	125
Total			26,887

[1]Includes Common terns (*Sterna hirundo*) and Arctic terns (*Sterna paradisaea*).

signs describing permitted activities and periods of use. The most important nesting islands under LURC jurisdiction have been zoned as resource protection areas. Development on islands remaining in private hands is regulated by municipal zoning ordinances, state environmental laws and the goodwill of the owners.

Protective Legislation. The Migratory Bird Treaty Act of 1918, and State of Maine Wildlife Laws provide limited protection through the regulation of harvest, and prohibition of harassment outside designated hunting seasons, including needless destruction of nests or eggs.

Management Guidelines

Colonial-nesting marine birds are extremely vulnerable to the effects of human disturbance during the nesting season, which extends from 1 April through 15 August for most species. Disruption of nesting birds at this critical time can result in excessive mortality of chicks and eggs from predation and exposure. During this period, all human use of the islands should be prohibited. Activities around the islands should be conducted far enough off shore to prevent flushing birds from the nest, or approximately 1/4 mile.

Development or building should not be allowed on seabird nesting islands, except in very rare cases where the nesting colony is located in a relatively small area of a large island, and adequate visual buffers can be maintained to prevent disturbance. Limited construction may be permitted only after review and approval by a wildlife biologist.

All seabird nesting islands should be posted with signs identifying the island as a nesting sanctuary, and explaining prohibited activities and periods of use. Boaters should be able to interpret signs at 200 feet from the shore. Periods of restricted use may vary somewhat from the 1 April to 15 August guidelines for islands with late-nesting species such as Leach's storm petrels, black guillemots and terns. Prohibited activities will also vary depending on the nesting species. Guidelines for human use of any seabird nesting island should be developed by the appropriate MDIFW biologist, and implemented through cooperative agreements with private land owners and state agencies having ownership of, or jurisdiction over, seabird islands. In general, low intensity recreational use, such as picnicking and hiking can be permitted outside the nesting season. The building of fires should be prohibited at all times.

All seabird nesting islands in Penobscot Bay (Table 9) should be zoned resource protection districts, and MDIFW recommendations should be incorporated into the land-use guidelines for these districts. Variances should not be granted without review and approval of the application by MDIFW personnel.

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town.

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
Brooklin				
P232	Torrey Island West	59-758	Common Eider	45
			Herring Gull	2
P236	Mahoney Island	59-933	Herring Gull	200
			Black-backed Gull	25
			Double-crested Cormorant	65
			Common Eider	175
			Guillemot	12
	Smuttynose Island	59-931	Common Eider	30
			Herring Gull	3
			Black-backed Gull	3
			Guillemot	6
Brooksville				
P101	Buck Island	59-672	Common Eider	6
			Black-backed Gull	2
P102	Spectacle Islands	63-688/ 63-673	Terns	2
			Common Eider	100
			Herring Gull	600
			Black-backed Gull	5
P104	Thrumcap Island	59-669	Common Eider	33
			Terns	120
			Black-backed Gull	1
			Herring Gull	1

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
P108	Fiddlehead Island	59-680	Common Eider	2
	Green Ledge	59-674	Double-crested Cormorant	29
			Black-backed Gull	19
	Western Island	59-675	Common Eider	40
			Guillemot	75
	Little Pond Island	59-676	Common Eider	20
			Guillemot	6
Criehaven				
P082	Seal Island	63-923	Leach's Storm Petrel	335
			Double-crested Cormorant	27
			Common Eider	200
			Black-backed Gull	200
			Herring Gull	200
			Guillemot	200
P084	Wooden Ball Island	63-917	Leach's Storm Petrel	25
			Common Eider	164
			Black-backed Gull	35
			Herring Gull	60
			Laughing Gull	8
			Terns	65
			Guillemot	200

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
P087	Brig Ledge	63-934	Double-crested Cormorant	15
	Green Ledge	63-929	Double-crested Cormorant	107
			Common Eider	90
			Black-backed Gull	13
			Herring Gull	10
			Guillemot	15
	Pudding Island	63-924	Leach's Storm Petrel	2
			Common Eider	350
			Black-backed Gull	4
			Herring Gull	18
			Guillemot	5
	Seal Ledge	63-931	Guillemot	2
	Shag Ledge	63-925	Guillemot	2
P088	Matinicus Rock	63-940	Leach's Storm Petrel	550
			Common Eider	40
			Black-backed Gull	75
			Herring Gull	125
			Laughing Gull	40
			Terns	400
			Razorbill	15
			Guillemot	175
			Puffin	125

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
Deer Isle				
P110	Scott Island-West	59-709	Common Eider	138
	Two Bush Island	59-681	Common Eider	15
			Black-backed Gull	35
			Double-crested Cormorant	225
P113	Bar Island	59-724	Common Eider	17
P114	Barred Island	59-684	Common Eider	4
	Beach Island	59-687	Common Eider	5
	Colthead Island	59-685	Common Eider	40
			Black-backed Gull	56
			Herring Gull	36
			Double-crested Cormorant	145
			Guillemot	20
P116	Hardhead Island	59-782	Common Eider	90
			Double-crested Cormorant	153
			Herring Gull	30
			Black-backed Gull	150
			Guillemot	32
P117	Barred Island	59-783	Canada Goose	1

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
P118	Scrag Island	59-788	Double-crested Cormorant	35
			Herring Gull	70
			Black-backed Gull	127
			Common Eider	20
P119	Horsehead Island	59-770	Common Eider	14
P120	Resolution Island	59-686	Common Eider	4
P121	Little Spruce Head	59-772	Common Eider	500
			Black-backed Gull	1
P122	Compass Island	59-790	Common Eider	600
			Herring Gull	85
			Black-backed Gull	15
			Guillemot	35
			Canada Goose	1
	Grass Ledge	59-789	Common Eider	230
			Herring Gull	2
			Guillemot	20
			Black-backed Gull	21
P123	Channel Rock	59-792	Common Eider	4
			Black-backed Gull	1
			Terns	1
	Sloop Island	59-795	Common Eider	31
			Black-backed Gull	8

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
	Sloop Island Ledge	59-796	Herring Gull	2
			Black-backed Gull	11
	Spoon Ledge	63-011	Black-backed Gull	7
			Double-crested Cormorant	127
			Common Eider	25
			Herring Gull	10
			Guillemot	8
P125	Bald Island	59-803	Herring Gull	45
			Black-backed Gull	4
			Common Eider	60
			Guillemot	2
	Grass Ledge	59-802	Double-crested Cormorant	355
			Black-backed Gull	150
			Herring Gull	50
			Common Eider	15
P159	Shabby Island	59-996	Common Eider	75
			Black-backed Gull	40
			Herring Gull	200
			Guillemot	3
P160	Green Ledge	59-949	Black-backed Gull	10
			Double-crested Cormorant	127
Frenchboro				
P227	Lamp Island	59-346	Black-backed Gull	1
Isle au Haut				
P131	Sparrow Island	63-200	Double-crested Cormorant	175
			Common Eider	34
			Black-backed Gull	72
			Herring Gull	26

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
	West Halibut Ledges	63-206	Double-crested Cormorant	224
			Black-backed Gull	4
P177	The Cow Pen	63-283	Terns	58
P178	Great Spoon Island	63-287	Terns	328
			Herring Gull	215
			Black-backed Gull	200
			Guillemot	9
			Common Eider	36
			Double-crested Cormorant	13
			Great Cormorant	4
P179	Little Spoon Island	63-289	Herring Gull	20
			Black-backed Gull	5
			Double-crested Cormorant	25
			Common Eider	100
			Great Cormorant	37
			Guillemot	20
P180	Black Horse Island	63-294	Double-crested Cormorant	25
			Great Cormorant	5
	White Horse Island	63-293	Double-crested Cormorant	32
			Great Cormorant	9
P191	Green Ledge	59-266	Common Eider	38
			Black-backed Gull	50
			Double-crested Cormorant	104
			Herring Gull	50

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
	White Ledge	63-267	Double-crested Cormorant	75
			Black-backed Gull	7
			Herring Gull	20
			Common Eider	100
P192	North Popplestone Ledge	63-261	Herring Gull	1
	Little I. NE of Fog I.	63-263	Herring Gull	10
			Black-backed Gull	14
			Common Eider	11
	S. Popplestone Ledge	63-265	Guillemot	1
			Common Eider	13
			Herring Gull	2
			Black-backed Gull	7
			Terns	4
P193	Southern Mark Island	63-260	Black-backed Gull	60
			Herring Gull	30
			Double-crested Cormorant	130
			Common Eider	63
			Guillemot	23
Islesboro				
P039	Flat Island	77-047	Double-crested Cormorant	228
			Common Eider	474
			Herring Gull	900
			Black-backed Gull	25
P044	700-Acre Island	77-054	Great Blue Heron	54

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
Matinicus Island Plt.				
P085	No Man's Land	63-900	Leach's Storm Petrel	20
			Double-crested Cormorant	108
			Common Eider	800
			Black-backed Gull	60
			Herring Gull	50
			Guillemot	100
	Two Bush Island	63-901	Common Eider	75
			Black-backed Gull	20
			Herring Gull	50
			Guillemot	15
P086	Ten Pound Island	63-920	Common Eider	125
			Black-backed Gull	16
			Herring Gull	42
			Guillemot	35
P089	Large Green Island	63-655	Common Eider	65
			Black-backed Gull	18
			Herring Gull	15
			Terns	20
			Guillemot	40
P090	Little Green Island	63-654	Common Eider	300
			Black-backed Gull	50
			Herring Gull	150
			Double-crested Cormorant	390
			Guillemot	1
			Terns	4

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
Muscle Ridge				
P001	Nettle Island	63-222	Common Eider	15
	Hurricane Island	63-626	Common Eider	35
			Herring Gull	60
			Double-crested Cormorant	42
	Hewett Island	63-628	Guillemot	3
	Graffam Island	63-634	Great Blue Heron	25
	Crow Island	63-651	Common Eider	5
	Little Two Bush Island	63-652	Common Eider	5
	Two Bush Island	63-653	Common Eider	75
			Herring Gull	10
P002	Andrews Island	63-432	Guillemot	4
	Crescent Island	63-411	Double-crested Cormorant	19
			Herring Gull	3
			Guillemot	10
P003	Oak Island	63-421	Common Eider	12
			Herring Gull	25
	Otter Island	63-410	Common Eider	75
			Black-backed Gull	2
			Herring Gull	5
P008	Fisherman Island	63-402	Common Eider	225
			Black-backed Gull	75
			Herring Gull	150
			Double-crested Cormorant	465
			Guillemot	12

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
	Marblehead Island	63-403	Double-crested Cormorant	78
			Common Eider	30
			Black-backed Gull	30
			Herring Gull	10
			Guillemot	30
North Haven				
P053	Goose Island	63-336	Common Eider	33
			Herring Gull	3
			Black-backed Gull	4
	Mouse Island	63-330	Black-backed Gull	18
			Herring Gull	7
			Double-crested Cormorant	160
			Common Eider	157
P054	E. Goose Rocks	63-335	Guillemot	10
			Common Eider	15
			Black-backed Gull	27
			Herring Gull	8
			Double-crested Cormorant	39
P055	Robinson Rock	63-341	Double-crested Cormorant	87
			Common Eider	90
			Guillemot	25
P056	Oak Island	63-012	Canada Goose	1
			Common Eider	1

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
P057	Dagger Island	63-015	Common Eider	22
			Black-backed Gull	5
	The Downfall	63-016	Common Eider	9
			Guillemot	4
			Terns	1
P058	Hog Island	63-017	Common Eider	3
			Canada Goose	1
P063	Sugar Loaves	63-465	Common Eider	12
			Herring Gull	1
P144	Egg Rock	63-333	Double-crested Cormorant	48
Owls Head				
P010	Cutters Nubble	63-398	Common Eider	20
			Herring Gull	20
	Sheep Island	63-393	Guillemot	2
Rockport				
P012	Ram Island	63-323	Common Eider	30
			Double-crested Cormorant	76
			Herring Gull	80
			Black-backed Gull	10
P014	Goose Rocks	63-314	Herring Gull	12
			Black-backed Gull	1
			Double-crested Cormorant	74
			Common Eider	3

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
Stockton Springs				
P024	Fort Point Ledge (monument)	NN	Double-crested Cormorant	9
Stonington				
P130	Scraggy Island	59-836	Black-backed Gull	5
			Great Blue Heron	40
	South Scraggy Island	59-837	Black-backed Gull	5
P132	Moose Island Ledge	59-830	Common Eider	1
			Black-backed Gull	1
P157	Sheep Island	59-953	Great Blue heron	6
Swans Island				
P194	Saddleback Island	59-999	Common Eider	25
			Guillemot	6
			Double-crested Cormorant	19
			Herring Gull	13
			Black-backed Gull	10
P195	Halibut Rocks	59-991	Black-backed Gull	10
			Common Eider	8
			Herring Gull	1
			Double-crested Cormorant	41
P196	Spirit Ledge	59-998	Guillemot	30
			Herring Gull	6
			Double-crested Cormorant	23
			Great Cormorant	7

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
P198	Three Bush Island	59-980	Common Eider	67
			Black-backed Gull	26
			Herring Gull	17
P201	Mason Ledge	59-481	Common Eider	25
			Herring Gull	18
			Black-backed Gull	20
			Terns	1
			Guillemot	25
P202	Heron Island	59-480	Herring Gull	650
			Black-backed Gull	150
			Terns	2
			Common Eider	200
			Guillemot	7
P203	Brimstone Island	59-479	Terns	4
			Guillemot	40
			Herring Gull	20
			Black-backed Gull	5
			Common Eider	10
P206	Gooseberry Island	59-398	Common Eider	30
			Black-backed Gull	13
			Herring Gull	32
			Terns	1
P212	John's Island	59-483	Black-backed Gull	400
			Common Eider	400
			Guillemot	300
			Double-crested Cormorant	81
			Herring Gull	600

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
P221	Crow Island	59-359	Common Eider	12
			Black-backed Gull	28
			Herring Gull	5
	Roderick Head Ledge	59-367	Common Eider	3
			Black-backed Gull	1
P223	I. East of Phinney	59-356	Common Eider	1
P225	Egg Rock	59-950	Double-crested Cormorant	19
Vinalhaven				
P068	Big Smith I. Ledge	63-089	Terns	1
P070	Green Ledge	63-135	Double-crested Cormorant	68
			Black-backed Gull	25
			Guillemot	15
	Green Island	63-129	Guillemot	2
P071	Brimstone Island	63-176	Common Eider	200
			Herring Gull	80
			Black-backed Gull	10
			Guillemot	200
			Leach's Storm Petrel	5
	Little Brimstone I.	63-179	Black-backed Gull	25
			Common Eider	50
			Herring Gull	103
			Guillemot	10

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
P072	Carvers Island	63-166	Herring Gull	125
			Black-backed Gull	50
			Common Eider	500
			Guillemot	30
	Hay Island	63-169	Common Eider	60
			Herring Gull	25
			Black-backed Gull	5
			Guillemot	6
			Leach's Storm Petrel	4
	Otter Island	63-183	Guillemot	40
			Herring Gull	160
			Black-backed Gull	40
			Common Eider	200
	Roberts Island	63-174	Common Eider	700
			Double-crested Cormorant	67
			Guillemot	40
			Herring Gull	150
			Black-backed Gull	50
	Roberts Island	63-175	Double-crested Cormorant	138
			Common Eider	25
			Herring Gull	10
			Black-backed Gull	5

Table 9. Colonial-nesting seabird[1] islands of Penobscot Bay by town (continued).

Town/Area No.	Island Name	Island Registry Number	Species	Nesting Pairs
P075	Deadman Ledge	63-170	Black-backed Gull	10
	Hurricane Island Ledge	53-526	Double-crested Cormorant	34
			Common Eider	5
			Black-backed Gull	7
	Little Hurricane I. Ledge	63-516	Common Eider	5
			Black-backed Gull	1
P076	Flat Island	63-106	Common Eider	1
			Terns	4
			Guillemot	1
P079	Green Ledge	63-493	Double-crested Cormorant	337
			Common Eider	13
			Black-backed Gull	104
			Herring Gull	61
			Guillemot	2
	Medric Rock	63-496	Double-crested Cormorant	44
			Herring Gull	1
			Black-backed Gull	1
P080	Green Island	63-485	Black-backed Gull	21
			Double-crested Cormorant	2
			Common Eider	61

[1]Does not include osprey or bald eagles.

MANAGEMENT GUIDELINES FOR COASTAL GREAT BLUE HERON COLONIES

Introduction. The stately great blue herons are the largest and most well-known of Maine's wading birds. Returning to the state in March or April from their more southerly wintering grounds, adult herons reclaim nests from the previous year in colonies ranging in size from two to over two hundred nesting pairs. During the nesting season (approximately 1 April through 15 August) nests are repaired or built anew, and clutches of usually 3-4 eggs are laid and incubated until the young hatch in late May or early June. Young are fed on the nest until they fledge in July or August, at which time the birds abandon the nesting colony and disperse to coastal and inland feeding areas. Fall migration extends into November, with an occasional bird or two remaining in coastal areas during mild winters.

Coastal nesting colonies are typically located on islands or peninsulas remote from human disturbance, and are often several miles from feeding areas. Nests are built of sticks near the tops of either softwood or hardwood trees, and are typically re-used from year to year until the nest tree dies and blows down, or the colony abandons the site.

The two most important factors governing the continued presence of both inland and coastal nesting great blue herons in Maine are the availability and abundance of undisturbed nesting habitat and undisturbed, uncontaminated feeding areas. Human disturbance of a nesting colony can cause: 1) abandonment of the entire colony; 2) mortality of eggs and young on the nest from predation (gulls, ravens, eagles) and exposure; and 3) starvation and predation of young that leave the nest before they are able to fly (adults will not feed young on the ground).

Great blue herons feed on a variety of fresh and salt water organisms. Small fish and marine invertebrates are captured in tidal pools and creeks. Frogs, small fish, and the larger freshwater invertebrates are taken in shallow freshwater habitats. Because many of its prey concentrate chemicals from the water column and bottom sediments, the great blue heron is extremely vulnerable to the cumulative effects of pollutants entering the water from residential, industrial and agricultural sources. In many states, pollution of feeding areas from agricultural run-off and other sources has reduced populations to the point of extirpation.

Status. Maine has the only coastal nesting population of great blue herons in New England, and the largest population north of Virginia (Korschgen 1979). Twenty island colonies, with 1,208 active nests, were located along the Maine coast in 1983 (Gibbs and Woodward, 1984). At that time, Penobscot Bay included 7 of these colonies, with 200 nesting pairs, representing 17% of Maine's coastal nesting population. Three of these colonies have been abandoned since the 1983 survey, one as the result of human disturbance (cutting of trees), two for unknown reasons. A new colony was discovered in 1984. The present nesting population for the region is 131 pairs in 5 colonies (Table 10). Three of these colonies are located on small islands, one is on a small peninsula on a large island, and one is on a large mainland peninsula.

Protective Legislation. Great blue herons are protected by the Federal Migratory Bird Treaty Act and State of Maine Wildlife Laws, which prohibit "possessing, killing, transporting, selling, buying, or needlessly destroying the nest or eggs".

Management Guidelines

Nesting Colonies. Guidelines for activities around heron colonies are the same for both coastal and inland sites, and follow closely the guidelines for bald eagles.

Herons are sensitive to disturbance from the time adults arrive at the colony, until the young fledge. General dates for the nesting period in coastal Maine are: 1 April through 15 August. The first 2 months of this season are devoted to courtship, nest repair, egg-laying, and incubation, and are an especially sensitive period. Disturbance within or adjacent to the colony during this time can cause individual nest failures or abandonment of the entire colony.

Management recommendations around a heron colony consist of two concentric buffer zones around the colony proper (Zone 1):

ZONE 1 - is the nesting colony proper, and is delineated by the outer-most nest trees of the colony. Human activity is prohibited in this area during the above-defined nesting season. Alteration of the existing natural habitat is prohibited at all times unless deemed beneficial to the preservation of the colony by a professional wildlife biologist. The colony area should be incorporated in a resource protection district.

Table 10. Great blue heron colonies of Penobscot Bay.

Area No.	Location	Town	Nesting Pairs
-	Fresh Pond[1]	Brooksville	6
P044	Philbrook Cove	Islesboro	54
P001	Graffam Island	Muscle Ridge	25
P130	Scraggy Island	Stonington	40
P157	Sheep Island	Stonington	6

[1]This colony, which is in the interior of Cape Rosier, is not included in a designated wildlife area.

ZONE 2 - (300-600 feet from the perimeter of the colony). Activities permitted in this zone are the same as those permitted for buffer zone 2 under the Bald Eagle Management Guidelines.

ZONE 3 - (660-1,320 feet from the colony perimeter). Activity and land use restrictions are the same as those outlined for buffer zone 3 of the Bald Eagle Management Guidelines.

Deviations from these guidelines should not be permitted without review and consent by a professional wildlife biologist.

These buffer zones are the minimum level of protection that should be provided to heronries. Because the effects of human disturbance to a colony depend on factors including stage of the nesting cycle, habituation to human activity, size of colony and type of habitat surrounding the colony, any major developments proposed within one mile of a heronry should be reviewed by a wildlife biologist to assess potential effects to the colony and to recommend appropriate buffer zones and timing of activities.

MANAGEMENT GUIDELINES FOR SHOREBIRD FEEDING AND ROOSTING AREAS

Introduction. Shorebirds are a closely related group of species that are represented in Maine by the sandpipers, plovers, turnstones, curlews, dowitchers, and phalaropes. The Maine coast is most important as a feeding and resting area for over 25 species of migratory shorebirds. Six species, including the endangered piping plover, breed along the coast, and one species, the purple sandpiper, is a winter resident.

Shorebirds should receive special management consideration because large numbers of these birds depend on coastal habitats in Maine for feeding and resting during their long migration from the Arctic breeding grounds to South American wintering areas. During their brief stay in Maine, most shorebirds feed intensively on intertidal invertebrates and nearly double their weight in fat reserves. This fat is used as fuel for the nonstop 2,600 mile transoceanic flight. Although migratory shorebirds are observed briefly in Maine (from July to September), the coastal habitats they use are critical to the continued success of their annual migrations.

Status. Shorebird populations are still recovering from tremendous population declines incurred in the late 1800's and early 1900's resulting from market hunting. Several species including the Eskimo curlew, golden plover, and whimbrel are still rare today. However, the continued recovery of all shorebird species depends particularly on conservation of fall migration areas (Maine and the Bay of Fundy region), wintering quarters (coastal South America) and spring migration stopovers (central U. S. and Canada). Today, habitat loss and degradation are a major threat to shorebird populations. The piping plover, which nests in southern Maine, was recently placed on the Endangered Species List because of habitat loss and problems associated with human disturbance near nest sites.

Protective Legislation. In 1900, the Lacey Act prevented the interstate transfer of birds and effectively stopped the exportation of shorebirds shot in Maine to markets in Boston and New York City. Now, all shorebirds are fully protected under the Migratory Bird Treaty Act. The piping plover is also protected by the federal Endangered Species Act and the Maine Endangered Species Act.

General Guidelines for Protection of Shorebird Feeding and Roosting Areas

The continued importance of the Maine coast to migrating shorebirds depends on the conservation of their feeding and roosting habitats. Commonly used feeding areas include mudflats, salt marshes, sand and gravel beaches, mussel bars, blueberry fields, and bogs. Major roosting habitats are gravel and sand beaches and bars, salt marshes, rocky ledges, fields, and pastures. Each species has preferred feeding and roosting habitats. The importance of a region to a particular species depends on the abundance of its preferred habitats in that region. In general, conservation of intertidal mud and sand flats, sand beaches and gravel bars would provide feeding and resting areas for a diversity of shorebird species.

The greatest numbers of shorebirds migrate through Maine between 10 July and 10 September. For most species, adult shorebirds leave the arctic breeding grounds before the young can fly, and juvenile birds follow three to four weeks later. Purple sandpipers are the only species that winter in Maine in substantial numbers.

Feeding Areas. Protection recommendations consist of applying the existing shoreland zoning districts (Maine Shoreland Zoning Act of 1971) to protect the most important shorebird feeding areas in Penobscot Bay (Table 11). In addition, activities should be restricted that would substantially alter the integrity of the existing shoreline or influence the abundance or species composition of the intertidal invertebrate populations that the shorebirds utilize for food (eg. dredging, filling, construction of piers, jetties, seawalls, discharge of human and industrial waste.) Shorebirds may shift to other feeding areas if excessive alterations or destruction of intertidal habitats occur. However, it should be a town's goal to protect and enhance it's existing shorebird feeding areas through wise land-use practices and informational posting of important sites during the period of peak use (see below).

Shorebird feeding areas should be zoned resource protection or limited recreational-residential. In residential or urban areas, the integrity of the existing shoreline should be maintained. Human activity should be discouraged from 10 July to 10 September, during peak migration. Activities that would diminish the intertidal invertebrate diversity or abundance should be prohibited year-round.

Table 11. Shorebird feeding and roosting sites in Penobscot Bay by town.

Town and Area Number	Area Name
Brooklin	
P236	Mahoney Island
Brooksville	
P096	Smith Cove
P097	Bagaduce River
P101	Weir-Horseshoe Coves
Castine	
P093	West Penobscot
P094	Wadsworth Cove
P097	Bagaduce River
Criehaven	
P082	Seal Island
P087	Ragged Island
Deer Isle	
P112	Carney Island
P118	Great Spruce Head Island
P122	Compass Island
P126	Northwest Harbor
P127	Southwest Harbor
P128	Crockett Cove
P160	Long-Green Ledges
P162	Inner Harbor
P163	Long Cove
P166	Stinson Neck-North
Frenchboro	
P227	Pond Island
Isle au Haut	
P131	Sparrow-West Halibut Islands
P146	Bills-Pell-Burnt Islands
P177	The Cow Pen
P183	Western Head
P186	Moore's Harbor
P190	Kimball-Flake Islands
P191	White-Green Ledges
P192	Fog Island
Islesboro	
P047	Parker Cove

Table 11. Shorebird feeding and roosting sites in Penobscot Bay by town (continued).

Town and Area Number	Area Name
Matinicus Island Plt.	
P085	Matinicus Island-North
P092	Southern Triangles
Muscle Ridge	
P001	Hewett-Graffam-Pleasant Islands
P003	Dix-High-Otter Islands
North Haven	
P053	Mouse-Saddle-Goose Islands
P055	Robinson Rock
P064	Stand-in Point
Orland	
P027	Orland River
Owls Head	
P010	Sheep Island
Penobscot	
P093	West Penobscot
P098	Northern Bay-Bagaduce
Stockton Springs	
P023	Stockton Harbor
P025	Fort Point Cove
Stonington	
P128	Crockett Cove
P129	Second-Andrews-Mark Islands
P130	Scraggy Island
P132	Stonington-West
P135	Crotch Island
P140	Camp Island
P141	St. Helena-George Head Islands
P143	McGlathery-Round-Gooseberry Islands
P148	No Man's Island
P150	Spruce Island
P151	Devil-Bold Islands
P155	Sheldrake-Haskell Ledges
P156	Shingle Island
P157	Sheep Island
P161	Whitmore Neck
P162	Inner Harbor

Table 11. Shorebird feeding and roosting sites in Penobscot Bay by town (continued).

Town and Area Number	Area Name
Swans Island	
P195	Halibut Rocks
P196	Spirit Ledge
P198	Three Bush Island
P204	Hat Island
P209	Scrag-Green Islands
P222	Seal Cove
P225	Egg Rock
P226	Opechee Island-Long Ledge
Verona	
P027	Orland River
P028	Verona Island-East
Vinalhaven	
P069	Stoddard-Smith Islands
P070	Narrows-Sheep-Green Islands
P071	Saddleback Ledge-Brimstone Island
P072	Roberts-Hay-Otter Islands
P075	Hurricane Island
P077	Lairey's-Crane-Crotch Islands
P079	Medric Rock-Green Ledge
P081	Crockett Point

During the peak migration period (10 July to 10 September):

- -Human activity should be regulated (particularly in Class A and B wildlife areas)
- -Light to moderate intensity clam or worm digging, commercial fishing (except dragging), and recreation are permitted.

Prohibited activities year-round:

- -Overboard discharge of sewage or other environmental contaminants on or near mud or sand flats used by shorebirds.
- -Activities such as dredging or filling on feeding areas, or dragging within 1/2 mile of mean low tide of feeding areas that would cause deposition of sediment should be prohibited, especially in Class A and B wildlife areas.

Most activities are possible in shorebird feeding areas outside of the migratory period, except dredging, filling, or dragging. Building and road construction, forestry and agricultural activities should be out of the line of sight from the feeding area and conform to at least a 75 foot or greater setback from the shoreline.

Roosting Areas. Roosting habitats are extremely limited and are highly traditional. The physical characteristics of a roost site offer shorebirds protection from adverse weather and predators, in addition to a place to rest at high tide. Good roost sites are limited and shorebirds will travel for miles to a well-protected roost at high tide. Many roosting areas have been used by shorebirds since colonial times. The loss of these areas would severely decrease the number of shorebirds that successfully migrate through Maine.

All shorebird roosting areas and the adjacent shoreline within 300 feet of each roosting area should be classified resource protection districts and maintained as sanctuaries. The natural habitat should not be modified at any time of the year unless such actions are deemed essential to site preservation after consulting with a wildlife biologist. Recreational activities (hunting, fishing, hiking, boating) should not be permitted during the migratory period. Within this 300 foot protection zone:

Prohibited activities year-round:

- -Land clearing without consultation with a wildlife biologist.
- -Road, trail, or new building construction.

During the migratory period:

- Human activities should be minimized. Posting of the area may be warranted.

During the non-migratory period:

- Hunting, fishing, hiking, commercial fishing, and farming are acceptable.
- Selective thinning or maintenance of timber stands within the 300 foot zone is acceptable.

MANAGEMENT GUIDELINES FOR EIDER MOLTING AREAS

Introduction and Status

Maine is the only one of the contiguous 48 states supporting a breeding population of the Common eider (Somateria mollissima), with more than 22,000 pairs nesting on 240 islands along the coast of Maine (Korschgen 1979). Penobscot Bay supports an estimated 8,805 pairs on 89 islands, representing 40% of the State's breeding population (Tables 8 and 9).

Once incubation by the females is underway, drakes (male birds) migrate to traditional sites in late June and July to undergo a complete wing molt. Females delay molting until their young have hatched and moved off the nesting islands to shoal-water brood-rearing areas, where the chicks of several hens (female eiders) combine into creches (flocks of chicks from several females).

During this molting period, which lasts approximately one month, the adult birds congregate in large flocks (more than 10,000 birds have been observed at some sites). All the primary flight feathers are lost simultaneously, leaving the birds flightless for a period of approximately three weeks. Because eiders use their wings to propel themselves underwater, they may be unable to feed during some portion of the flightless period. However, birds may feed heavily at these sites prior to the molt, in order to build up the protein and fat reserves required for body maintenance and replacement of feather tissue. High energetic demands are therefore being made at a time when birds are least able to replenish these reserves. Because the molting eiders cannot fly, they are exceptionally vulnerable to both avian and aquatic predators. This may explain why the birds congregate into large flocks - ie. "safety in numbers" reduces the chances of any individual being taken by a predator.

Eider molting sites in Maine are important not only to our own birds, but to the Canadian Maritime population, as well. The numbers of molting eiders observed along Maine's coast during the late summer and early fall (Hutchinson, personal communication) suggest that Canadian birds, probably from Nova Scotia and New Brunswick, are migrating to Maine for their molt. This migration allows males to remove themselves from areas where they would otherwise compete with females and chicks for food. Many of these sites are also important concentration areas for large wintering flocks of eiders.

The primary threats to molting eiders from human activities are: 1) disturbance of flocks by boaters; 2) depletion of their food resource through intensive harvesting for blue mussels (the eider's primary food); and 3) oil spills.

Boating activity in proximity to molting flocks causes disturbed birds to expend energy required for the molting process. For females, whose energy reserves are already severely depleted by the demands of recent egg-laying and incubation (Korschgen 1976), the additional stresses of attempting to flee disturbance may contribute to the death of birds from starvation.

Because flightless birds concentrate in large flocks during the molt, an oil spill in the vicinity of a major molting area could threaten a significant portion of Maine's breeding population.

The following recommendations for protection of eider molting areas are admittedly general in nature. As we learn more about the specific habitat requirements of molting eiders, and as human activity and demands for exploitation of marine resources increase, more specific guidelines will be developed. The locations of eider molting areas are identified on the town maps.

Protective Legislation. The Migratory Bird Treaty Act of 1918, and State of Maine Wildlife Laws provide limited protection through the regulation of harvest, and prohibition of harassment outside designated hunting seasons, including needless destruction of nests or eggs.

General guidelines for the conservation of molting eider sites.

Any human activities which would cause repeated disturbance of molting eider flocks should be prohibited. Such activities include, but are not limited to, intensive recreational boating traffic, and harvesting and mining of marine resources.

Activities within 1/4 mile of a designated eider molting area should not alter the existing biological community structure and function. Indigenous species populations should be maintained at existing levels.

Shipping lanes for the transport of petroleum products and other toxic materials should be located at a distance sufficient to ensure negligible chances for adverse impacts to nearby molting areas in the advent of a spill.

MANAGEMENT GUIDELINES FOR SEAL HAUL-OUTS

Introduction

Maine has the largest population of harbor seals (*Phoca vitulina*) of any Atlantic state, and supports the only significant breeding population in the eastern United States. Gray seals (*Halichoerus grypus*), which are much larger than the harbor seal, are uncommon but regular visitors to Maine's coast, and usually found around remote offshore ledges and islands. The gray seal does not breed in Maine, and although pups are occasionally seen, they have probably dispersed from their birthplaces around Sable Island or the Gulf of St. Lawrence in eastern Canada.

Populations of both species were severely depleted by overharvesting through the middle part of this century, but have increased dramatically during the past twenty years in response to protective legislation.

Protective Legislation

All seals are protected by the Marine Mammal Protection Act of 1972, and State of Maine Wildlife Laws, which recognize the aesthetic and economic value of seals. Under these laws it is prohibited to harass, take, import, possess, transport, sell, or offer for sale unlawfully taken seals.

Status

Maine's population of harbor seals has more than doubled since 1973, to an estimated 13,000 plus animals in 1986 (Gilbert and Stein, 1981; Wynne, personal communication). Seventeen hundred pups were sighted in 1986 (Wynne, personal communication), of which approximately 25% were born on traditionally used islands and ledges in Penobscot Bay. Estimates of Maine's gray seal population are not reliable. Only a handful were sighted during this study.

All seals use half-tide ledges and island beaches for resting and whelping, and these sites are necessary for the survival of both adults and young. Whelping or "pupping" sites are used from year to year by the same breeding females, many of which were probably born on these same ledges (Cowperthwaite, unpubl. data). These specific sites are important because of their proximity to high quality feeding areas, combined with a lack of human disturbance.

The attributes of food availability and lack of disturbance also determine selection of haul-out ledges by nonbreeding and post-breeding seals (Ronald, Selley and Heally, 1982). Adult seals undergo a complete pelage molt in mid to late summer. This is a physiological stressful period demanding additional rest to sustain the increased metabolic activity associated with skin and fur replacement.

Guidelines for Protection of Seal Haul-outs

Human disturbance and contamination from oil spills are the primary threats to seals at haul-outs. Curious boaters approaching too close to hauled-out seals, or actually landing on the islands and ledges, will force seals to flee into the water. Young pups can easily become permanently separated from their mothers, resulting in a slow death by starvation. Pups are born without a thick layer of blubber, and must rely on solar energy for thermoregulation during the first few weeks of life. Until pups have acquired a layer of blubber, long periods of immersion in Maine's cold coastal waters can cause death from hypothermia. Curious pups are also slow to avoid boats, and are therefore vulnerable to injuries from boat propellers.

The hazards to marine mammals from oil spills are well-documented. Ingestion of petroleum products, and oiling of fur can cause death. Spills in proximity to major pupping areas could be especially disastrous, affecting hundreds of seals.

Our recommendations for protection of seal haul-outs focus on minimizing both exposure to human disturbance and the potential for involvement with major oil spills.

Informational signs should be posted at major boat launching areas and marinas explaining the problems of human disturbance to seals, and requesting that boaters avoid harassment by remaining at least 200 ft. from all seals, whether hauled-out or in the water. Wildlife tour boats should be required to observe the NOAA guidelines for distances to be maintained from marine mammals.

Siting of major marinas and oil tanker shipping lanes should avoid important haul-out areas.

The location of seal haul-outs are indicated on the town maps.

Recommendations for Integrating Wildlife Values Into Coastal Resource Planning and Development.

Conservation of Penobscot Bay's wildlife depends on the judicious allocation of diverse coastal resources to minimize the negative effects of human development and use.

Following are several recommendations for using the habitat classifications and guidelines for Class A, B, and C areas, and the management guidelines for Special Wildlife Features to guide both the development and protection of the coastal resources which support Penobscot Bay's abundant wildlife.

Land-use planning and development

Site location

The prioritized, site-specific information on significant coastal wildlife habitats provided in this report should be incorporated into the site-location permit review process required by the Site Location and Development Act:

- to determine if the proposed activity is compatible with the recommended conservation guidelines for use of the area.

- to propose and/or evaluate alternate site locations based on the relative significance of each site to coastal wildlife.

- to make recommendations for mitigation of unavoidable development-related reductions in the wildlife value of a site, and for compensation through in-kind protection of coastal wildlife concentration areas supporting a similar species composition and abundance in the same geographic region.

Shoreland and Municipal Zoning and Planning

The ranking of wildlife areas and specific recommendations for protecting highest-priority sites included in this report will serve to guide towns in the allocation of coastal resources through land-use zoning. Towns containing all or part of a Class A area should be required to develop and implement specific strategies (not limited to zoning) for conservation of the sites within their comprehensive town plans. Minimum protection levels should be those outlined under the

management guidelines for Class A areas. For sites/towns with multiple special wildlife features, the most conservative buffer zones and human use restrictions should be implemented. All requests for development permits or the granting of variances within the recommended protection zones around Class A and B sites and special wildlife features should be reviewed by the Department of Inland Fisheries and Wildlife.

Coastal Public Recreation and Access

Evaluation of proposed sites for coastal public recreation and access should incorporate the preceding information on important coastal wildlife areas and the recommendations for permitted human activities within these zones.

For many of these sites, recreational activities are compatible with conserving the wildlife value of the area. The presence of wildlife usually enhances the value of an area for public recreation, and for appropriate sites, can provide an opportunity for public education about wildlife and other coastal resources.

Prioritizing sites for protection by public and private conservation organizations.

This is perhaps the most obvious application of the information contained in this report. Identification of the relative statewide, regional, or local importance of sites to individual species on a seasonal basis, as well as the composite ranking of areas, allows conservation organizations to focus acquisition and other protection efforts on the most valuable wildlife areas (i.e. Classes A and B). This expedites efficient use of limited manpower and funds to provide maximum levels of protection.

Marine Resource Planning

Aquaculture site location

Aquaculture of a variety of marine species is expanding along the Maine coast, and demand for sites is expected to escalate rapidly during the coming decade. The relationships between aquaculture activities and marine bird and seal use of an area have not been adequately addressed in Maine. Information from other states and

countries where aquaculture is well-established indicates that some animals may benefit from certain types of aquaculture operations. However, increased human disturbance, alteration of the original habitat, and "crop" depredation by wildlife make other aquaculture activities incompatible with existing wildlife use of an area. The wildlife concentration areas identified in this report should help identify potential wildlife conflicts at proposed aquaculture sites.

Current criteria for granting of aquaculture lease sites do not adequately address potential and predicted conflicts with marine birds and seals. As a first step towards incorporating conservation of these animals into marine resource allocation plans, MDIFW should be involved in the permit review process for aquaculture sites. Permits for aquaculture leases in Class A and B areas should not be granted without MDIFW approval.

Research must be initiated to evaluate the effects of various aquaculture activities on marine systems and the coastal wildlife the support. Only then can specific management strategies be developed and implemented to resolve conflicts.

Prioritizing areas for comprehensive marine resource conservation and management.

The Class A and B coastal wildlife areas identified in this report are, for the most part, shoal-water areas of high invertebrate productivity. While it has not been scientifically analyzed, it is probable that the distribution of those areas supporting the largest populations of marine birds correlates well with the value of these areas to commercial fisheries resources. This value may be related directly through the presence of commercially harvestable fin and shellfish, or indirectly through the importance of these sites as nursery areas for commercial species and production areas for other organisms in the food web of commercial species.

Evaluating and ranking marine fisheries production areas, and overlaying these on ranked coastal wildlife areas, will help clarify the location and overall ecological importance of specific coastal habitats.

Those sites which are identified as the most ecologically productive should be protected through inclusion in a coastal biological reserve system. Multiple use of these areas need not be excluded, but long-term conservation and management of biological resources should not be compromised by any proposed or ongoing activity.

Oil spill contingency planning, and siting of petroleum storage and transport facilities.

The ranking procedures used in this report were originally developed, in part, to identify important wildlife habitats for incorporation into oil-spill contingency planning. For a complete discussion of this application for ranked coastal wildlife information, the reader is referred to the Casco Bay Coastal Resources Inventory, 1981, published by the Department of Environmental Protection.

Knowledge of the location of habitats of greatest significance for coastal wildlife, and the seasonal distribution and abundance of species within and among these sites, enables oil spill response teams to direct their efforts towards these highest priority areas, thereby reducing the losses to wildlife in the event of a spill.

Petroleum storage and transport facilities, and traffic lanes for oil tankers should not be expanded in Penobscot Bay because of the state and national significance of the region for marine wildlife. Traffic lanes should avoid Class A, B, or C areas as much as possible, particularly those supporting marine bird nesting islands, molting eider flocks, and major seal haul-outs.

The eleven core laws of Maine's Coastal Program govern human activities in the coastal zone (Appendix I) and provide a mechanism through which the guidelines for conserving Penobscot Bay's marine wildlife habitats can be implemented. However, regulation alone is inadequate for long-term conservation of Penobscot Bay's marine wildlife habitats and the species they support. Certain particularly unique or vulnerable areas will require absolute protection from human development activities and general disturbance. This will require unprecedented levels of commitment, cooperation, and compromise by local residents, state agencies and private conservation organizations.

The Penobscot Bay Conservation Plan is but one small part of this initiative for conservation of Maine's wildlife heritage. Through this plan, the Department of Inland Fisheries and Wildlife has provided information which we hope will be integrated into existing programs and policies for natural resource conservation, and which will promote the development of new programs and policies, both at the local and state levels, to improve the ability of Maine's citizens to protect their wildlife heritage.

The Penobscot Bay Plan is a pilot project, and the authors encourage constructive comment and criticism by all interested individuals. All comments should be directed to the authors at the following address:

Maine Department of Inland Fisheries and Wildlife
Endangered and Nongame Wildlife Program
P.O. Box 1298
Bangor, Maine 04401-1298

(Telephone: 207-941-4466)

REFERENCES

Albright, J. L. 1981. Behavioral and physiological responses of coastal-wintering black ducks (Anas rubripes) to changing weather in Maine. M.S. Thesis, University of Maine, Orono, ME. 72pp.

Adamus, P. 1978. In An oil pollution prevention, abatement and management study for Penobscot Bay, Maine. Maine Department of Environmental Protection, Augusta, ME.

Bayne, B. L. 1976. Marine mussels: their ecology and physiology. International Biological Program 10, Cambridge Univ. Press.

Bertrand, D. E. 1977. Seasonal succession of the plankton of Penobscot Bay, Me. M.S. Thesis, University of Rhode Island.

Bigelow, H. B. and W. C. Schroeder. 1953. Fishes of the Gulf of Maine. Fish Bull. No. 74, Museum of Comp. Zoology, Harvard Univ., Cambridge, Mass.

Born, J. W. 1977. Significant breeding sites of the horseshoe crab in Maine and their relevance to the Critical Areas Program of the State Planning Office. Planning Report #28, State Planning Office, Augusta, ME. 44pp.

Bourget, A. A. 1973. Relation of eiders and gulls nesting in mixed colonies in Penobscot Bay, ME. Auk 90(4):809-820.

Bourne, W. R. P. 1976. Seabirds and pollution. Pages 403-494 in R. Johnston, ed., Marine Pollution. Academic Press, New York.

Choate, J. S. 1966. The breeding biology of the American eider in Penobscot Bay, Maine. M.S. Thesis, University of Maine, Orono, ME. 173pp.

Clark, S. H. 1968. The breeding ecology and experimental management of the American eider in Penobscot Bay, Maine. M.S. Thesis, University of Maine, Orono, ME. 169pp.

Energy Resource Co., Inc. 1978. An ecological characterization of Maine's coast north and east of Cape Elizabeth. Off. Biol. Serv., U. S. Fish Wildl. Serv., Newton Corner, MA.

Environmental Studies Center. 1972. The ecological base. in Penobscot River Study, Vol. 1. University of Maine, Orono, ME.

Erwin, R. M. and C. E. Korschgen. 1979. Coastal Waterbird Colonies: Maine to Virginia, 1977. An atlas showing colony locations and species composition. U. S. Fish and Wildlife Service, Biological Services Program. FWS/OBS-79/08.

Fefer, S. I. and P. A. Schettig (Eds.). 1980. An ecological characterization of coastal Maine. Off. Biol. Serv., U.S. Fish Wildl. Serv., Newton Corner, MA.

Gibbs, J. and S. Woodward. 1984. Breeding colonies of great blue herons on Maine coastal islands. Report to: The Nature Conservancy, Brunswick, ME. 36pp.

Gilbert, J. R. and J. L. Stein. 1981. Harbor seal populations and marine mammal-fisheries interactions. Annual rept. to NMSF, U. S. Dept. Comm., Woods Hole, MA. 45pp.

Groves, S. 1978. Age-related differences in ruddy turnstone foraging and aggressive behavior. Auk 95(1):95-103.

Haefner, P. A. 1967. Hydrography of the Penobscot River Estuary. J. Fish. Res. Bd. Canada, 24(7):1553-1571.

Hartman, F. E. 1960. Ecology of black ducks wintering in the Penobscot Estuary. Unpubl. M.S. thesis, University of Maine, Orono, ME. 142pp.

Hatch, R. W. 1971. Temperature, dissolved oxygen and salinity data for the Penobscot River and Estuary, 1966-1970. Maine Water Resources Center, Orono, ME. 19pp. (Mimeographed).

Hebard, F. V. 1959. Waterbirds of Penobscot Bay. Portland Soc. of Nat. Hist. 36pp.

_____. 1960. The land birds of Penobscot Bay. Portland Soc. of Nat. Hist. 39pp.

Horton, D. B., M. P. Morris, P. J. Beves, and D. Littleton-Taylor. 1976. An assessment of the past, present and future of commercial and recreational fishing in the vicinity of Sears Island, Maine. TRIGOM, publication No. 11.

Hunt, J. H. 1948. The Atlantic harbor seal in the coastal waters of Maine. ME. Dept. of Sea and Shore Fisheries, Augusta, ME.

Hunt, G. L., Jr. 1972. Influence of food distribution and human disturbance on the reproductive success of herring gulls. Ecology 53(6):1051-1061.

Hutchinson, A. E. 1977. An appraisal of the fishery and wildlife resources of the Bangor Area Coastal Planning Unit. State Planning Office, Augusta, ME. 13pp.

_____, and H. E. Spencer, Jr. 1975. An appraisal of the fishery and wildlife resources of the Upper Penobscot Bay Planning Unit. Me. Dept. of Inland Fisheries and Wildlife Report to the Coastal Planning Group, State Planning Office, Augusta, ME.

_____, and R. C. Ferrero. 1981. Casco Bay Coastal Resources Inventory.. Maine Department of Environmental Protection, Augusta, ME.

_____, and S. J. Lovett. 1983. Marine Wildlife Inventory of Sheepscot Bay, Maine. Dept. Inland Fisheries & Wildlife, Augusta, ME. 147pp.

_____, and _____. 1984. Muscongus Bay Marine Wildlife Inventory and Evaluation. Maine Department of Inland Fisheries and Wildlife, Augusta, ME. 103pp.

Kadlec, J. A. and W. H. Drury. 1968. Structure of the New England herring gull population. Ecology 49:644-476.

Katona, S., W. Steiner and H. Winn. 1977. Marine mammals. in A summary and analysis of environmental information on the continental shelf from the Bay of Fundy to Cape Hatteras. Center for Natural Areas Report to the U. S. Bureau of Land Management, New York.

Knight, O. W. 1908. The birds of Maine. C. H. Glass, Bangor. 693pp.

Korschgen, C. E. 1976. Breeding stress of female American eiders. PhD. Thesis, University of Maine, Orono, ME. 110pp.

_____, 1979. Coastal waterbird colonies:Maine. U.S. Fish Wildl. Ser., Biol. Ser. Prog., FWS/OBS-79-09. 83pp.

Lynch, M. P. (Ed.). 1985. Gambling with the shore. Proc. of the Coastal Soc. 9th Annual Conference. 426pp.

Maine Department of Environmental Protection. 1978. An oil pollution prevention, abatement and management study for Penobscot Bay, Maine. Maine Department of Environmental Protection, Augusta, ME.

Maine State Planning Office. 1972. The Penobscot Bay resource plan. Maine State Planning Office, Augusta, ME.

_____. 1977. Maine coastal inventory. Handbook and resource maps. Maine State Planning Office, Augusta, ME.

McGilvrey, F. B. 1967. Food habits of sea ducks from the Northeastern United States. Wildfowl 18:142-145.

McIntyre, J. W. 1978. Wintering behavior of common loons. Auk Vol. 95 Pages 396-403. April 1978.

Mendall, H. L. 1949. Food habits in relation to black duck management in Maine. J. Wildl. Manage. 13(1):64-101.

Minot, E. O. 1976. American eider rearing ecology in the Grand Manan Archipelago, N.B. Unpubl. M.S. Thesis, University of Maine, Orono, ME. 90pp.

Newcombe, C. L. 1935. A study of the community relationships of the sea mussel, Mytilus edulis. Ecology, 16(2):234-243.

Ostericher, C., Jr. 1965. Bottom and subbottom investigations of Penobscot Bay, Maine, 1959. U. S. Naval Oceanog. Office Tech. Rept. 173. 177pp.

Packard, C. M. 1960. Check list and calendar graph. Pg. 58-67 in G. S. Pettingill, ed. Enjoying Maine birds, Maine Aud. Soc., Falmouth, ME.

Palmer, R. S. 1949. Maine birds. Bull. Mus. Comp. Zool., Vol. 102., Harvard College, Cambridge, MA.

_____. 1962. Handbook of North American Birds, Vol. 1. Loons. Yale University Press, New Haven and London. 569pp.

_____. 1976a. Handbook of North American Birds, Vol. 2. Waterbirds, Part 1. Yale University Press, New Haven and London. 560pp.

_____. 1976b. Handbook of North American Birds, Vol. 3. Waterbirds, Part 2. Yale University Press, New Haven and London. 560pp.

Pierson, E. C. and J. E. Pierson. 1981. A Birder's Guide to the Coast of Maine. Down East Books, Camden, ME. 224pp.

Reading, C. J. and S. McGrorty. 1978. Seasonal variations in the burying depth of Macoma balthica and its accessibility to wading birds. Estuarine and Coastal Marine Science 6(2):135-144.

Richardson, D. T. 1973. Feeding habits and population studies of Maine's harbor and gray seals. Final report, Maine Dept. of Marine Resources, Augusta, ME.

Roberts, D. 1976. Mussels and pollution. Pages 67-81 in Marine mussels, their ecology and physiology. B. L. Bayne (ed.). International Programme 10; Cambridge Univ. Press.

Rofritz, D. J. 1977. Oligochaeta as a winter food source for the oldsquaw. J. Wildl. Manage. 41(3):590-591.

Ronald, K., J. Shelley and P. Healey. 1982. Seals. Pages 769-827 in J. A. Chapman and G. A. Feldhamer, eds. Wild Mammals of North America. Johns Hopkins Univ. Press. Baltimore. 1147pp.

Sarbello, W. 1973. Renesting of the American eider in Penobscot Bay colonies. M.S. Thesis, University of Maine, Orono, ME. 67pp.

Seed, R. 1976. Ecology. Pages 13-67 in Marine mussels, their ecology and physiology. B. L. Bayne (ed.). International Biol. Prog. Co. Cambridge Univ. Press. pp. 13-67.

Stalmaster, M. V. and J. R. Newman. 1978. Behavioral responses of wintering bald eagles to human activity. J. Wildl. Manage. 42(3):506-513.

Stott, R. S. and D. P. Olson. 1973. Food-habitat relationships of sea ducks on the New Hampshire coastline. Ecology 54(5):996-1007.

Timson, B. S. 1977. Coastal marine geologic environments for the Maine coast. Open file maps, Maine Geological Survey, Augusta, ME.

Townsend, W. C. 1969. Exposed cove and adjacent ocean: wintering bird survey. Am. Birds 23(3):545.

_____. 1976. Exposed cove and adjacent ocean: wintering bird survey. American. Birds 27(3):690.

TRIGOM-PARC (The Research Institute of the Gulf of Maine). 1974. A socio-economic and environmental inventory of the north Atlantic region, Vol. 1. Bk. 3. South Portland, ME.

Tyler, H. R. 1977. Wading birds in Maine and their relevance to the Critical Areas Program. Unpubl. rept. on file, State Planning Office, Augusta, Me. 52pp.

Vickery, P. D. 1978b. Northeast-Maritime region. American Birds 32(2):174-480.

Wakely, J. S. 1973. An analysis of banding and recovery data for the American eider. M.S. Thesis, University of Maine, Orono, ME. 91pp.

_____ and H. L. Mendall. 1976. Migrational homing and survival of adult female eiders in Maine. J. Wildl. Manage. 40(1):15-21.

White, H. C. 1957. Food and natural history of mergansers in salmon waters in the maritime provinces of Canada. Bull. Fish. Res. Bd. Can. p116.

APPENDICES

Appendix I

REGULATIONS GOVERNING HUMAN ACTIVITIES IN THE BIOLOGICAL SYSTEMS OF COASTAL MAINE (Adapted from Fefer, S. I. and P. A. Shettig (Eds.) 1980. An Ecological Characterization of Coastal Maine. Off. Biol. Serv., U.S. Fish Wildl. Serv., Newton Corner, MA.).

The regulations governing freshwater, (palustrine, lacustrine, and riverine systems), tidal (marine, estuarine, and riverine systems) and terrestrial habitats are summarized below.

In addition to those pertaining to habitats, numerous regulations exist concerning native species and their habitats (e.g., the Endangered Species Act, Migratory Bird Conservation Act, and Marine Mammal Protection Act).

Regulations Pertaining to Palustrine, Lacustrine, and Riverine Systems

In Maine, limited direct Federal and State controls exist over palustrine, lacustrine, and riverine systems. The federal agencies with direct regulatory authority over Maine's freshwater aquatic habitats are the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (COE). The EPA controls discharge of pollutants in all waters and wetlands of the United States. The EPA can rescind a State program. Any activities involving the discharge of dredged or fill material in United States waters, including all adjacent wetlands, are under the permit authority of the COE.

Although it has no direct regulatory authority, the U.S. Fish and Wildlife Service (FWS) plays an important advisory role in the issuing of permits by the COE and EPA. Under the Fish and Wildlife Coordination Act, the FWS assesses the impacts on fish and wildlife of all water and water-related land resource development projects that are funded by the Federal Government or are constructed under a Federal permit or license. Federal permits for water-related development are reviewed by the FWS to encourage avoidance of adverse impacts on fish and wildlife and their habitat, particularly wetlands. Also, under the Migratory Bird Conservation Program and the Land and Water Conservation Program, the FWS can acquire habitat (significant migratory waterfowl habitat, habitat for endangered species, important wildlife areas, and recreational and wilderness areas) that may include wetlands and other habitats. These acquisitions become part of the National Wildlife Refuge System.

Table 1. State Laws and Administrative Agencies Regulating Use of Coastal Maine Habitats.

System and law	Administrative agency[a]
Palustrine, Lacustrine, and Riverine	
Protection and Improvement of Waters	DEP
Site Location of Development Act	DEP and LURC
Solid Waste Management Act	DEP
Oil Discharge Prevention and Pollution Control Act	DEP
Stream Alteration Act	DEP
Mandatory Shoreland Zoning Act	DEP[b]
Subdivision Law	MPB and LURC
Land Use Regulation Law	LURC
Great Ponds Act	DEP
Estuarine and Marine	
Site Location of Development Act	DEP
Coastal Wetlands Act	DEP and LURC
Mandatory Shoreland Zoning Act	DEP
Protection and Improvement of Waters	DEP
Oil Discharge Prevention and Pollution Control Act	DEP
Marine Resources Management Law	DMR
Land Use Regulation Law	LURC
Terrestrial	
Mandatory Shoreland Zoning Act	DEP
Subdivision Law	MPB and LURC
Site Location of Development Act	DEP
Solid Waste Management Law	DEP
Land Use Regulation Law	LURC
Protection and Improvement of Air Law	DEP

[a]DEP = Department of Environmental Protection; DIFW = Department of Inland Fisheries and Wildlife; MPB = Municipal Planning Board; LURC = Land Use Regulation Commission; and DMR = Department of Marine Resources.

[b]In 1986, administrative authority for the Mandatory Shoreland Zoning Act was transferred from the State Planning Office to the Department of Environmental Protection.

Other Federal agencies that play an indirect role in the regulation of freshwater habitats in coastal Maine are the U.S. Forest Service (research and management in relation to forest practices), Soil Conservation Service (technical assistance programs in relation to resource conservation), National Park Service (acquisition and management), and U.S. Geological Survey (research). In addition, Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands) require each agency to take steps to minimize impacts on, restore, and preserve floodplain and wetland areas.

On the State level, 11 laws exist to manage coastal resources by guiding development and by conserving natural resources declared by the State municipalities to be in need of protection. Of the 11 laws, eight pertain to freshwater aquatic systems in organized townships and one pertains to these systems in unorganized townships. The laws regulate uses of lakes, rivers, streams, brooks, and wetlands adjacent to these habitats. Great ponds (lakes) as defined by the State include natural lakes larger than 10 acres (4 ha) and artificial lakes larger than 30 acres (12 ha) and owned by two or more parties. This legislation does not cover a significant number and acreage of small wetlands that do not drain or connect with lakes or streams.

The Department of Environmental Protection (DEP) administers five of the seven laws. These include: Protection and Improvement of Waters, Site Location of Development Act, Solid Waste Management Act, Oil Discharge and Prevention Control Act and the Mandatory Shoreland Zoning Act. Under Protection and Improvement of Waters, the DEP has licensing authority over all discharges of waste waters into Maine waters (this includes all aquatic systems except those that are confined and retained completely upon the property of one party and do not drain into or connect with any other waters of the State). Besides being licensed, any discharge must receive "best practicable treatment" and must not lower the quality of any classified body of water below its classification level or any unclassified body of water below the classification level that the DEP expects to adopt (see appendix B).

The Site Location of Development Act requires the Board to "...control the location of those developments substantially affecting local environment in order to ensure that such development will be located in a manner which will have a minimal adverse impact on the natural environments or their surroundings." This includes projects larger than 20 acres (8 ha) and those covering more than 60,000 sq ft. This act

requires persons proposing such development in an organized township to obtain a permit from the DEP. The permit will be either granted or denied depending upon several criteria, two of which are that no unreasonable adverse effect on the natural environment will occur and that the proposed development will be built on soil types that are suitable to the nature of the undertaking. The Land Use Regulation Commission administers this law in unorganized townships.

Administered by DEP, the Solid Waste Management Act includes certain criteria developed to protect ground and surface water resources. The major criteria include: (1) all refuse must be placed at least 5 feet (1.5 m) above the level of groundwater, (2) site sloping must be less than 15%, (3) site boundary limits must not be closer than 300 feet (92 m) to a classified body of water, (4) site boundary limits must not be closer than 1000 feet (305 m) to the nearest residence or potable water supply, and (5) surficial material must consist of well-graded granular material containing from 15% to 40% fine sands and must be relatively free of cobbles. This act is designed to protect all freshwater aquatic habitats from runoff from solid waste in organized townships.

The Oil Discharge Prevention and Pollution Control Act is designed (1) to protect the coast of Maine from damage caused by oil spillage, by prohibiting the unlicensed discharge of oil (coastal waters extending 12 miles, 19 km, seaward), and (2) to regulate the manner in which transfers of oil are conducted. Although DEP holds the major responsibility for decision-making with regard to licenses and conditions and violations of this act, several other State agencies are involved in administering it. The Division of Oil Conveyance Services of the Department of Environmental Protection is in charge of administering licenses, cleaning up oil spills, and research and development. Enforcement is the duty of the State Attorney General. The Department of Marine Resources (MDMR) and U.S. Coast Guard must be consulted for advice before any anchorage regulation is adopted.

The Stream Alteration Act applies to freshwater aquatic areas. This act, administered by the DEP protects (through issuance of permits upon approval by the Commissioner) all streams, rivers, or brooks or the adjacent land against any dredge, fill or construction activities. Any palustrine wetland adjacent to or contained within a stream, river, or brook is protected under this act. Certain lakes also are protected, as this law applies to tributaries, of which

lakes are often a part. A large number and acreage of palustrine wetlands and some lakes are not regulated under this act.

The Mandatory Shoreland Zoning Act administered by DEP requires all organized towns to establish zoning controls on all navigable ponds, lakes, rivers, and streams and ocean frontage (land 250 feet or 76 m within the high water mark). Palustrine wetlands, steep slopes, and flooplains associated with these water bodies are classified as Resource Protection Districts. Palustrine wetlands not associated with the above types of water bodies may be zoned by individual towns as Resource Protection Districts. Those towns that have failed to comply with Mandatory Shoreland Zoning Act are under State zoning jurisdiction.

The Subdivision Law requires all municipal authorities in organized townships to assure that a proposed development meets certain standards. For approval, the proposed development must have (1) a sufficient supply of water, (2) an adequate method of sewage disposal, (3) must not cause undue air and water pollution, soil erosion, or unsafe highway conditions, and (4) must not interfere with scenery. All requests for subdivision (three or more lots created within a 5-year period) approval must be reviewed by the municipal planning board. The Land Use Regulation Commission enforces the Subdivision Law in unorganized townships.

The Land Use Regulation Law promotes principles of sound land use planning in unorganized areas. The Land Use Regulation Commission has planning and zoning powers and development control over townships, plantations, and coastal islands that are unorganized. The areas under its jurisdiction are divided into protection, management, and development districts. Any activities within "protection subdistricts" must be approved by the Commission. Palustrine wetlands may be zoned under four of these protection subdistricts (Unusual Wetland, Fish and Wildlife, Shoreland, and Great Pond). Lacustrine and riverine areas may be zoned under six of these subdistricts (Flood Prone, Fish and Wildlife, Great Pond, Recreation, Shoreland, and Unusual Wetland).

The Great Ponds Act, which applies to lacustrine systems, prohibits construction without a permit of causeways, bridges, marinas, wharves, and other permanent structures, and filling and dredging in or on land adjacent to Great Ponds [natural lakes larger than 10 acres (4ha), and artifical lakes larger than 30 acres (12 ha) owned by two

or more parties]. The Great Ponds Act may apply to a limited number of open water palustrine habitats that have been classified by the State as Great Ponds. The DEP is the State agency responsible for administering the Great Ponds Act. Applications are reviewed by DEP staff with recommendations from other State departments (particularly MDIFW) and, in unorganized townships, the Land Use Regulation Commission.

The Critical Areas Program of the State Planning Office influences the regulation of aquatic habitats. This program registers the locations of unique and critical areas, such as unique bogs, rare plants, colonial waterbird colonies, and unusual plant communities.

MDIFW owns, protects, and manages palustrine and riverine wetland areas in the coastal zone. Wetlands under MDIFW ownership are ensured protection.

MDIFW and the FWS (Moosehorn National Wildlife Refuge) have been involved in marsh protection and management programs (palustrine, riverine, and lacustrine wetlands) intended to improve habitats for waterfowl. In addition, these organizations manage coastal wetlands and islands used by migratory birds (see atlas map 3).

Regulations Pertaining to Estuarine and Marine Systems in Coastal Maine

Several direct Federal and State controls exist over the estuarine and marine systems in Maine. Federal agencies with direct regulatory authority over these systems are the EPA, the U.S. Coast Guard, and the COE.

The EPA controls discharge of pollutants in all waters of the U.S., including the estuarine and marine systems. Along with the U.S. Coast Guard, EPA regulates spills of oil and hazardous substances that may occur in the estuarine and marine systems. EPA and COE (COE has the permit authority to regulate activities involving discharges of dredged or fill material in all waters of the U.S) provide the framework for reviewing proposed discharges of dredged or fill materials to evaluate their physical effects and potential for chemical contamination.

Although the FWS has no direct regulatory control over the estuarine and marine systems, it plays a direct advisory role in regulatory practices. Under the Fish and Wildlife Coordination Act, FWS must assess the impacts on fish and

wildlife of all water and water-related land resource development projects that are funded by the Federal Government or constructed under a permit or license. It provides information to federal construction or regulatory agencies and to permit applicants. Such involvement includes analyzing and reporting on construction proposals and applications for dredge and fill permits issued by the COE, ocean-dumping permits issued by the EPA, bridge and causeway permits issued by the U.S. Coast Guard, license applications submitted to the Federal Power Commission and Nuclear Regulatory Commission, and any proposed Federal construction affecting living fish and wildlife resources. FWS also plays a direct role in regulatory practices concerning the estuarine and marine systems through its acquisition of significant migratory waterfowl habitat (under the Migratory Bird Conservation Act) and of habitat for endangered species (under the Migratory Bird Conservation Act) and of habitat for endangered species (under the Endangered Species Act), and recreation and wilderness areas (under the Water Conservation Act). All acquisitions become part of the National Wildlife Refuge System.

The National Marine Fisheries Service's primary responsibility is to protect and conserve the estuarine, marine, and anadromous fish resources. Twenty Federal laws mandate NMFS involvement in fish habitat protection. NMFS also has an advisory role similar to that of the FWS in evaluating Federal permits. In addition, NMFS has primary responsibility in the designation and management of marine and estuarine sanctuaries.

Other Federal agencies that play an indirect role in regulations concerning the estuarine and marine systems in coastal Maine are the Soil Conservation Service (technical assistance programs in relation to resource conservation), National Park Service (acquisition and management), and U.S. Geological Survey (research).

On the State level, nine laws manage coastal resources found primarily in tidal water, by guiding development and by conserving natural resources identified by the State or municipality as being in need of protection. (Seven of these: the Site Location of Development Act, the Protection and improvement of Waters Act, the Mandatory Shoreland Zoning Act, the Oil Discharge and Pollution Control Act, the Land Use Regulation Act, the Critical Areas Program Act, and the jurisdiction of the MDIFW in wildlife management areas have been discussed previously, as they apply to freshwater aquatic systems as well.) The Coastal Wetland Act and

Marine Resources Management Law pertain exclusively to tidal waters (estuarine, marine, and riverine).

The Coastal Wetlands Act ensures that dredging, draining, filling, or construction of permanent structures on or over any tidal or subtidal land does not (1) unreasonably interfere with existing navigational or recreational uses, (2) cause unreasonable soil erosion, (3) unreasonably interfere with the natural flow of any waters, (4) unreasonably harm wildlife or freshwater, estuarine, or marine fisheries, or (5) lower the quality of any waters. This law is administered by the DEP or by those municipal governments to which permit authority has been granted by the DEP (e.g., Harrington and Southport).

The Marine Resources Management Law, as administered by MDMR, protects any of the renewable marine resources (including fish, shellfish, marine worms, and marine plants) of the State through enforceable regulations of the time, method, number, weight, length, and location a species is taken. Enforcement is carried out by wardens of MDMR.

Regulations Pertaining to Terrestrial Systems

Federal regulations of land-based development primarily concern discharge of pollutants (e.g., air, water, solid wastes, and hazardous wastes). If the project is funded by the Federal Government or involves federally owned land, an Environmental Assessment and/or an Environmental Impact Statement must be filed in accordance with the National Environmental Policy Act.

On the State level, 6 laws have direct regulatory control over development. (Four laws, the Mandatory Shoreland Zoning Act, the Subdivision Law, the Site Location of Development Act and the Solid Waste Management Law, are described above.) The applications of the Land Use Regulation Law and the Protection and Improvement of Air Law to the terrestrial system are summarized below. Individual towns may further control and guide development through municipal zoning and local ordinances. Under the Land Use Regulation Law, the Land Use Regulation Commission was created. This commission is instructed by the law "to extend principles of sound planning, zoning, and subdivision control for the unorganized...townships of the state..." The Commission thus exerts considerable control over development within its jurisdiction. Through zoning, development is directed to areas that have good soils and areas where building has already taken place; and fragile areas that may be unsuitable for construction are avoided.

The Land Use Regulation Commission's jurisdiction is divided into protection, management, and development districts in accordance with the following standards:

1. Protection districts: areas where development would jeopardize significant natural, recreational, and historical resources, including but not limited to floodplains, precipitous slopes, wildlife habitat, and other areas critical to the ecology of the State.

2. Management districts: areas that are appropriate for commercial forestry or agricultural uses, for which plans for additional development are not formulated presently, and in which additional development is not anticipated.

3. Development districts: areas discernible as having patterns of intensive residential, recreational, commercial, or industrial use, or commercial removal of minerals or other natural resources. Areas that are devoted to or suitable for intensive development.

The Commission may delineate such subcategories of the above classifications as may be deemed necessary and desirable to carry out the intent of the law. All major activities occurring within these major districts are under the authority of the Land Use Regulation Commission.

The Protection and Improvement of Air Law is intended to control all air emissions in order to protect public health, property, and natural resources. This law prohibits open burning and specifies the circumstances under which open burning may be conducted. (Agricultural burning, burning for the disposition of materials generated by the demolition of a building, burning to clear land prior to construction, burning to control or prevent disease, and burning for training, research, and recreational purposes all require permits.) Forest rangers or town forest-fire wardens may grant open burning permits. All permits for burning carry a requirement that the environment, public health, and property not be endangered.

Appendix II

Class A, B and C Wildlife Habitats of Penobscot Bay.

Class/ Area Number	Area Name	Location
Class A		
P01	Hewett-Graffam-Pleasant Islands	Muscle Ridge
P23	Stockton Harbor	Searsport, Stockton Springs
P25	Fort Point Cove	Stockton Springs
P27	Orland River	Verona, Orland
P28	Verona Island-East	Bucksport, Verona, Orland
P31	Frankfort Flats	Bucksport
P32	Marsh River	Frankfort, Prospect, Winterport
P47	Parker Cove	Islesboro
P54	Mark Island	North Haven
P56	Oak-Burnt Islands	North Haven
P70	Narrows-Sheep-Green Islands	Vinalhaven
P71	Saddleback Ledge-Brimstone Island	Vinalhaven
P72	Roberts-Hay-Otter Islands	Vinalhaven
P77	Lairey's-Crane-Crotch Islands	Vinalhaven
P82	Seal Island	Criehaven
P84	Wooden Ball Island	Criehaven
P85	Matinicus Island-North	Matinicus Island Plt.
P88	Matinicus Rock	Criehaven
P95	Holbrook Island	Castine, Brooksville
P97	Bagaduce River	Brooksville, Castine, Penobscot
P98	Northern Bay-Bagaduce	Brooksville, Penobscot
P99	Herrick Bay-Bagaduce	Penobscot, Brooksville, Sedgwick
P108	Western-Pond-Hog Islands	Brooksville
P112	Carney Island	Deer Isle
P113	Pickering Island	Deer Isle
P122	Compass Island	Deer Isle
P129	Second-Andrews-Mark Islands	Stonington
P130	Scraggy Island	Stonington
P131	Sparrow-West Halibut Islands	Isle au Haut
P146	Bills-Pell-Burnt Islands	Isle au Haut

Appendix II

Class A, B and C Wildlife Habitats of Penobscot Bay (continued).

Class/ Area Number	Area Name	Location
P150	Spruce Island	Stonington
P157	Sheep Island	Stonington
P160	Long-Green Ledges	Deer Isle
P177	The Cow Pen	Isle au Haut
P178	Great Spoon Island	Isle au Haut
P179	Little Spoon Island	Isle au Haut
P181	Eastern Ear Island	Isle au Haut
P190	Kimball-Flake Islands	Isle au Haut
P191	White-Green Ledges	Isle au Haut
P196	Spirit Ledge	Swans Island
P199	Ringtown Island	Swans Island
P202	Heron Island	Swans Island
P212	Johns Island	Swans Island
P221	Mackeral Cove	Swans Island
P222	Seal Cove	Swans Island
P227	Pond Island	Frenchboro
Class B		
P02	Andrews Island	Muscle Ridge
P08	Fisherman Island	Muscle Ridge
P13	Rockport Harbor	Rockport
P16	Saturday Cove	Northport
P21	Long Cove	Searsport
P22	Sears Island	Searsport
P34	Bald Hill	Winterport, Hampden, Orrington
P39	Ram-Seal-Flat Islands	Islesboro
P52	Lassell-Lime-Job Islands	Islesboro, North Haven
P53	Mouse-Saddle-Goose Islands	North Haven
P55	Robinson Rock	North Haven
P59	Calderwood-Babbidge Islands	North Haven
P60	Kent-Waterman Coves	North Haven

Appendix II

Class A, B and C Wildlife Habitats of Penobscot Bay (continued).

Class/ Area Number	Area Name	Location
P63	Dumpling Islands	North Haven
P64	Stand-In Point	North Haven
P68	Seal Bay	Vinalhaven
P69	Stoddard-Smith Islands	Vinalhaven
P73	Greens Island	Vinalhaven
P75	Hurricane Island	Vinalhaven
P76	The Basin	Vinalhaven
P79	Medric Rock-Green Ledge	Vinalhaven
P80	Green-Dogfish Islands	Vinalhaven
P86	Matinicus Island-South	Matinicus Island Plt.
P87	Ragged Island	Criehaven
P89	Large Green Island	Matinicus Island Plt.
P90	Little Green Island	Matinicus Island Plt.
P96	Smith Cove	Brooksville
P101	Weir-Horshshoe Coves	Brooksville
P102	Spectacle Island	Brooksville
P104	Thrumcap-Two Bush Ledges	Brooksville
P114	Beach-Barred-Colthead Islands	Deer Isle
P117	Butter-Barred Islands	Deer Isle
P118	Great Spruce Head Island	Deer Isle
P119	Horsehead Island	Deer Isle
P123	Sloop-Fling Islands	Deer Isle
P125	Bald Island-Grass Ledge	Deer Isle
P126	Northwest Harbor	Deer Isle
P128	Crockett Cove	Deer Isle, Stonington
P132	Stonington-West	Stonington
P140	Camp Island	Stonington
P143	McGlathery-Round-Gooseberry Islands	Stonington
P152	Webb Cove	Stonington
P155	Sheldrake-Haskell Ledges	Stonington
P159	Shabby Island	Deer Isle

Appendix II

Class A, B and C Wildlife Habitats of Penobscot Bay (continued).

Class/ Area Number	Area Name	Location
P162	Inner Harbor	Stonington, Deer Isle
P164	Freese Island	Deer Isle
P166	Stinson Neck-North	Deer Isle
P168	Black-Bear Islands	Deer Isle
P169	Conary Island	Deer Isle
P175	Isle au Haut-Southeast	Isle au Haut
P176	York Island	Isle au Haut
P180	White-Black Horse Islands	Isle au Haut
P182	Head Harbor	Isle au Haut
P183	Western Head	Isle au Haut
P185	The Brandies	Isle au Haut
P186	Moores Harbor	Isle au Haut
P192	Fog Island	Isle au Haut
P193	Southern Mark Island	Isle au Haut, Stonington
P195	Halibut Rocks	Swans Island
P200	Black Ledge	Swans Island
P205	Sand-Toothacher Coves	Swans Island
P208	Harbor Island	Swans Island
P213	Sister Islands	Swans Island
P214	Crow Island	Frenchboro
P220	Swans Island-Northeast	Swans Island
P223	Orono-Phinney Islands	Swans Island
P226	Opechee Island-Long Ledge	Swans Island
P228	Black-Sheep-Eagle Islands	Swans Island
P233	Brooklin	Brooklin
P236	Mahoney Island	Brooklin

Appendix II

Class A, B and C Wildlife Habitats of Penobscot Bay (continued).

Class/ Area Number	Area Name	Location
Class C		
P03	Dix-High-Otter Islands	Muscle Ridge
P07	Ash Island	Owls Head
P09	Monroe Island	Owls Head
P10	Sheep Island	Owls Head
P11	Rockland Harbor	Rockland, Owls Head
P12	Clam Cove	Rockport
P14	Camden Harbor	Camden, Rockport
P15	Ducktrap Harbor	Lincolnville, Northport
P17	Belfast Reservoir	Northport, Belfast
P18	Belfast Harbor	Belfast, Searsport
P19	Passagassauwakeag River	Belfast
P20	Searsport	Searsport
P24	Cape Jellison	Stockton Springs
P29	Bucksport	Verona, Prospect, Bucksport
P30	Bowden Point	Prospect
P33	Winterport	Winterport, Bucksport
P35	Hampden	Hampden, Orrington, Brewer
P36	Bangor	Hampden, Bangor, Brewer, Veazie, Eddington
P37	Turtle Head Cove	Islesboro
P38	Sprague Cove	Islesboro
P40	Seal Harbor	Islesboro
P41	Grindel Point	Islesboro
P42	Broad Cove	Islesboro
P43	700-Acre Island-North	Islesboro
P44	Philbrook Cove	Islesboro
P45	700-Acre Island-South	Islesboro
P46	Turtle Head	Islesboro
P48	Sabbathday Harbor	Islesboro
P49	Islesboro Harbor	Islesboro
P50	Islesboro-East	Islesboro

Appendix II

Class A, B and C Wildlife Habitats of Penobscot Bay (continued).

Class/ Area Number	Area Name	Location
P51	Islesboro-South	Islesboro
P57	Sheep-Dagger Islands	North Haven
P58	Oak Hill-Mullen Head	North Haven
P61	North Haven Town	North Haven, Vinalhaven
P62	Southern Harbor	North Haven
P65	Pulpit Harbor	North Haven
P66	Mill River	Vinalhaven
P67	Carver Cove	Vinalhaven
P74	Vinalhaven Town	Vinalhaven
P78	White Island	Vinalhaven
P81	Crockett Point	Vinalhaven
P83	Malcolm Ledge	Criehaven
P91	Northern Triangles	Matinicus Isle Plt.
P92	Southern Triangles	Matinicus Isle Plt.
P93	West Penobscot	Penobscot, Castine
P94	Wadsworth Cove	Castine
P100	Head of the Cape	Brooksville
P103	Stave Island	Deer Isle
P105	Orcutt Harbor	Brooksville
P106	Herricks	Brooksville, Sedgwick
P107	Little Deer Isle-North	Deer Isle
P109	Little Deer Isle-South	Deer Isle
P110	Scott-Two Bush Islands	Deer Isle
P111	Verona Island - Southeast	Verona, Orland, Penobscot
P115	Bradbury-Crow Islands	Deer Isle
P116	Hardhead Island	Deer Isle
P120	Resolution Island	Deer Isle
P121	Little Spruce Head Island	Deer Isle
P124	Eagle Island	Deer Isle
P127	Southwest Harbor	Deer Isle
P133	Hardwood-Ewe-Ram Islands	Isle au Haut

Appendix II

Class A, B and C Wildlife Habitats of Penobscot Bay (continued).

Class/ Area Number	Area Name	Location
P134	Farrel Island	Stonington
P135	Crotch Island	Stonington
P136	John Island	Stonington
P137	Stonington	Stonington
P138	Green Island	Stonington
P139	Russ Island	Stonington
P141	St. Helena-George Head Islands	Stonington
P142	Bare Island	Stonington
P144	Egg Rock	North Haven
P145	Merchant Island	Isle au Haut
P148	No Man's Island	Stonington
P149	Coombs Islands	Stonington
P151	Devil-Bold Islands	Stonington
P153	Grog Island-Humpkins Ledge	Stonington
P154	Saddleback-Enchanted Islands	Stonington
P156	Shingle Island	Stonington
P158	Eastern Mark Island	Stonington
P161	Whitmore Neck	Stonington
P163	Long Cove	Deer Isle
P165	Stinson Neck-South	Deer Isle
P167	White Island	Deer Isle
P170	Greenlaw Neck	Deer Isle
P171	Greenlaw Cove	Deer Isle
P172	Campbell Island-Fish Creek	Deer Isle
P174	Isle au Haut-Northeast	Isle au Haut
P184	Duck Harbor	Isle au Haut
P187	Bald Mt.	Isle au Haut
P188	Isle au Haut	Isle au Haut
P194	Saddleback Island	Swans Island
P197	Boxam Cove	Swans Island

Appendix II

Class A, B and C Wildlife Habitats of Penobscot Bay (continued).

Class/ Area Number	Area Name	Location
P198	Three Bush Island	Swans Island
P201	Mason Ledge	Swans Island
P203	Brimstone Island	Swans Island
P204	Hat Island	Swans Island
P206	High Sheriff-Gooseberry Islands	Swans Island
P207	Burntcoat Harbor	Swans Island
P209	Scrag-Green Islands	Swans Island
P210	Baker Islands	Swans Island
P211	Swans Island-Southeast	Swans Island
P215	Deep-West Coves	Frenchboro
P216	Long Island-West	Frenchboro
P217	Long Island-East	Frenchboro
P218	Sand Cove	Swans Island
P219	Ram Island	Swans Island
P225	Egg Rock	Swans Island
P229	Naskeag Point	Brooklin
P230	Babson Island	Brooklin
P231	High Head	Brooklin
P232	Torrey Islands	Brooklin
P234	Benjamin River	Brooklin, Sedgwick
P235	Sargentville	Sedgwick
P237	North Deer Isle	Deer Isle
P238	Reach-Oak Point	Deer Isle

Appendix III

Maine's Endangered, Threatened, and Special Concern Wildlife

CATEGORY I. ENDANGERED SPECIES

Definition: A Maine Endangered Species is a species in immediate danger of extirpation from Maine due to critically low or declining numbers brought about by habitat loss or degradation, overexploitation, pollution, disease or other factors. This definition includes any species that spends a biologically significant part of its annual or life cycle within the State of Maine and is not limited just to species that breed in Maine.

Any indigenous wildlife species that has been documented to be in danger of extirpation within the State of Maine shall be included.

Continued survival of these species within the State of Maine is unlikely without implementing special protective measures.

Any Federally listed Endangered Species occurring within the State of Maine will be included in this category.

Maine Endangered Species:

1. Bald Eagle - Haliaeetus leucocephalus*
2. Peregrine Falcon - Falco peregrinus*
3. Golden Eagle - Aquila chrysaetos
4. Piping Plover - Charadrius melodus**
5. Least Tern - Sterna antillarum
6. Sedge Wren - Cistothorus platensis
7. Grasshopper Sparrow - Ammodramus savannarum
8. Right Whale - Eubalaena glacialis*
9. Humpback Whale - Megaptera novaeangliae*
10. Finback Whale - Balaenoptera physalus*
11. Sperm Whale - Physeter catodon*
12. Sei Whale - Balaenoptera borealis*
13. Leatherback Turtle - Dermochelys coriacea*
14. Atlantic Ridley Turtle - Lepidochelys kempi*
15. Box Turtle - Terrapene carolina
16. Black Racer - Coluber constrictor

*Federally listed Endangered Species
**Federally listed Threatened Species

CATEGORY II. THREATENED SPECIES

Definition: A Maine Threatened Species is not as critically jeopardized by extirpation as an Endangered Species, but will probably become Endangered if current population levels experience further declines. This definition includes any species that spends a biologically significant part of its annual or life cycle in the State of Maine and is not limited just to species that breed in Maine.

Any indigenous wildlife species that has been documented to be rare or declining within the State of Maine and which is likely to become Endangered in Maine in the foreseeable future shall be included.

Any Federally listed Threatened Species occurring in Maine will be included in this category or in Category I, Endangered.

Maine Threatened Species:

1. Tundra Peregrine Falcon - Falco peregrinus tundrius*
2. Roseate Tern - Sterna dougallii
3. Northern Bog Lemming - Synaptomys borealis
4. Loggerhead Turtle - Caretta caretta*
5. Blanding's Turtle - Emydoidea blandingii
6. Spotted Turtle - Clemmys guttata

*Federally listed Threatened Species

CATEGORY III. SPECIAL CONCERN SPECIES

Definition: The intent of the Special Concern category is to focus attention on a species before it becomes State Threatened or Endangered. Species listed in this category include: 1) species whose populations are not in immediate danger of extirpation, but are believed to be suffering a decline that could eventually threaten the species if allowed to go unchecked, 2) rare species whose populations are relatively stable, but that occur in such small numbers or have such specialized habitat requirements or restricted distributions that they are particularly vulnerable.

Any indigenous wildlife species for which there is documentation that it could easily become Threatened or Endangered within the State of Maine because it is: 1) suffering a noncyclic population decline, or 2) occurs in precariously small numbers, or 3) has a restricted distribution or specialized habitat requirement, shall be included in this category.

Maine Special Concern Species:

1. Harlequin Duck - *Histrionicus histrionicus*
2. Common Tern - *Sterna hirundo*
3. Arctic Tern - *Sterna paradisaea*
4. Water Pipit - *Anthus spinoletta*
5. New England Cottontail - *Sylvilagus transitionalis*
6. Ribbon Snake - *Thamnophis sauritus*
7. Landlocked Arctic Charr - *Salvelinus alpinus*

RESOURCE MAPS

RESOURCE MAPS

The following series of maps delineate Class A, B and C wildlife habitats for each of the thirty-six towns evaluated in this study.

Bangor
Belfast
Brewer
Brooklin
Brooksville
Bucksport
Camden
Castine
Deer Isle (1)
Deer Isle (2)
Deer Isle (LURC)
Frankfort
Frenchboro
Hampden
Isle au Haut
Islesboro
Lincolnville
Matinicus & Criehaven
Muscle Ridge Islands
North Haven
Northport
Orland
Orrington
Owls Head
Penobscot
Prospect
Rockland
Rockport
Searsport
Sedgwick
Stockton Springs
Stonington
Swans Island
Veazie & Eddington
Verona
Vinalhaven
Winterport

The locations of Special Wildlife Features are also indicated by special symbols. A list of major marine wildlife species/species groups observed in the areas during each of the five seasonal periods accompanies each map.

LEGEND

MAP SYMBOLS:

Bald eagle nest site

Osprey nest(s)

Colonial-nesting seabird island

Shorebird feeding and roosting area

Great blue heron colony

Eider molting site

Seal haul-out

AREA CLASSIFICATION:

Class A (national and/or state significance)

Class B (regional significance)

Class C (local significance)

BANGOR

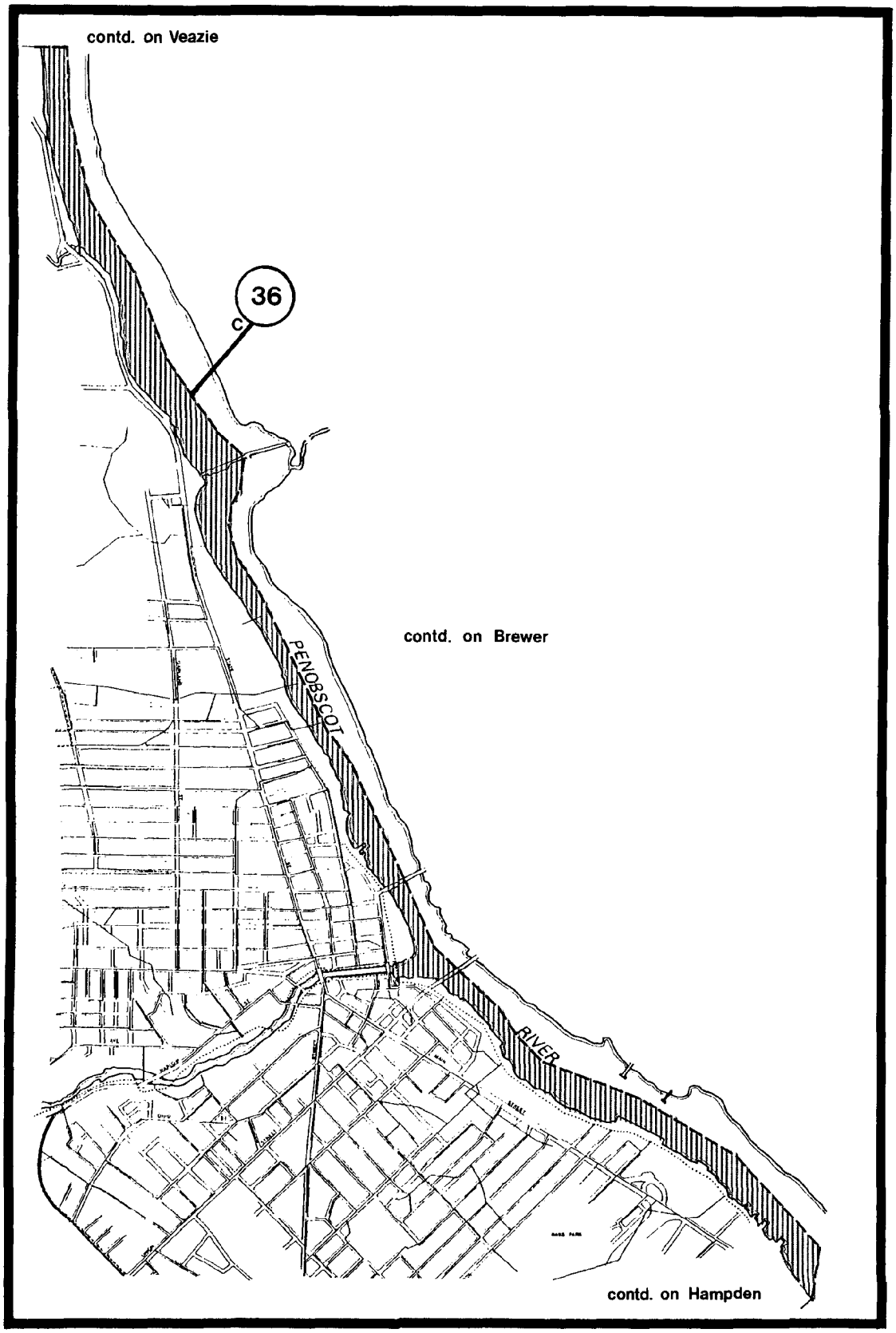
Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P036 Bangor

Bald Eagles (F*)	Black-Backed Gulls (P,F)
Cormorants (N,P,F)	Gulls (P,F*)
Goldeneye/Bufflehead (S)	Herring Gulls (W,S,N,P,F)
Ospreys (P*)	Shorebirds (P)
Small Gulls (F)	Unid. Waterfowl (W,N*,F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

BANGOR


contd. on Veazie
36
C
contd. on Brewer
PENOBSCOT
RIVER
contd. on Hampden

BELFAST

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P017 Belfast Reservoir

Black-Backed Gulls (W,S,P,F)
Eiders (S,N,F)
Herring Gulls (W*,S,N,P,F)
Loons (W,P*,F*)
Old Squaws (W,S)
Small Gulls (F)
Cormorants (N,P,F)
Goldeneye/Bufflehead (W,S,F*)
Harbor Seals (F)
Mergansers (S,N)
Shorebirds (P)
Unid. Waterfowl (W,S*,N,F*)

P018 Belfast Harbor

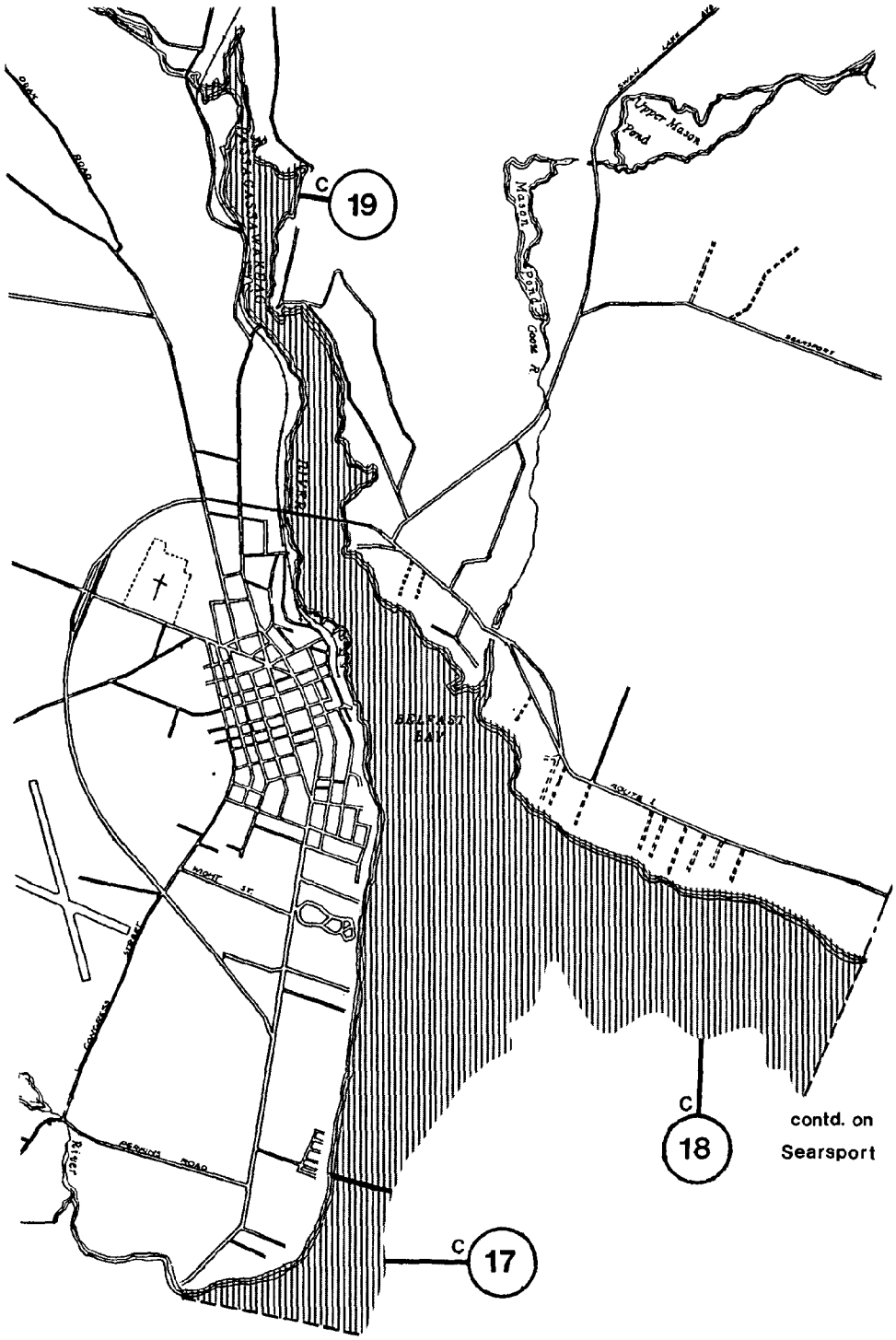
Black Ducks (W,F*)
Cormorants (N,P,F)
Gulls (S*,P*,F*)
Herring Gulls (W*,S*,N,P,F*)
Mergansers (W,S,N*,F)
Old Squaws (W,S,F)
Small Gulls (P*,F*)
Unid. Waterfowl (W,S*,N)
Black-Backed Gulls (W,S,N,P)
Eiders (S,N)
Goldeneye/Bufflehead (W*,S*,F*)
Loons (S,N*,P*)
Ospreys (P*)
Shorebirds (N)
Terns (P)

P019 Passagassawaukeag River

Black Ducks (W)
Cormorants (P,F)
Goldeneye/Bufflehead (W,S*,F*)
Shorebirds (P)
Unid. Waterfowl (W*,F*)
Black-Backed Gulls (P)
Canada Geese (S*)
Herring Gulls (W,S,N,P,F)
Small Gulls (F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

BELFAST



contd. on Searsport

contd. on Northport

BREWER

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P035 Hampden

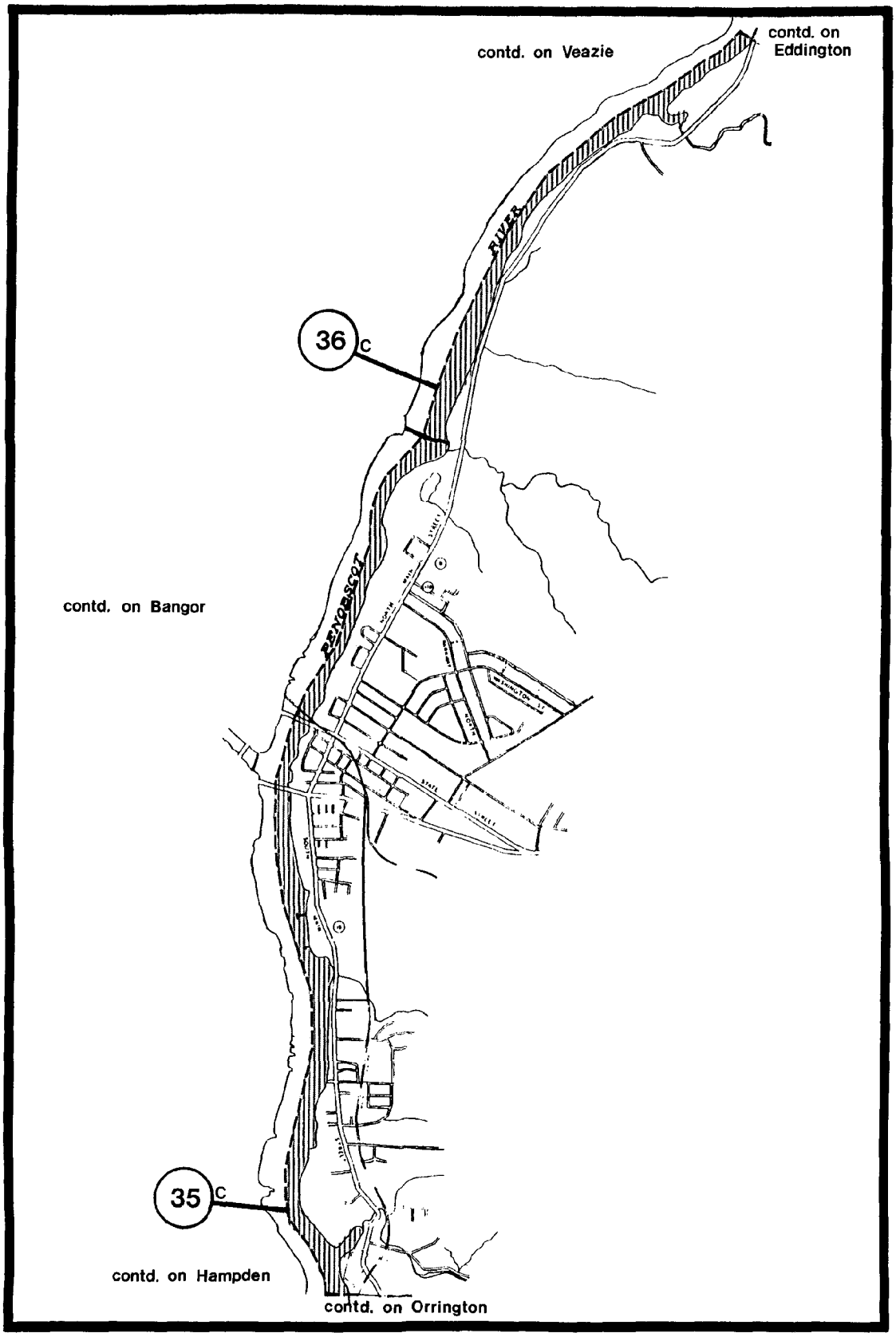
Black Ducks (P,F)
Cormorants (N,P)
Great Blue Herons (P)
Herring Gulls (W,S,N,P,F)
Small Gulls (P)
Black-Backed Gulls (N,F)
Gulls (W,P,F)
Goldeneye/Bufflehead (S)
Loons (P*)
Unid. Waterfowl (S*)

P036 Bangor

Bald Eagles (F*)
Cormorants (N,P,F)
Goldeneye/Bufflehead (S)
Ospreys (P*)
Small Gulls (F)
Black-Backed Gulls (P,F)
Gulls (P,F*)
Herring Gulls (W,S,N,P,F)
Shorebirds (P)
Unid. Waterfowl (W,N*,F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

BREWER


contd. on Veazie
contd. on Eddington
36 C
contd. on Bangor
35 C
contd. on Hampden
contd. on Orrington

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P229 Naskeag Point

Black-Backed Gulls (S,N,P,F)
Eiders (W,S,N,P,F)
Grebes (S*)
Herring Gulls (W*,S*,N,P,F*)
Mergansers (W,F)
Old Squaws (W,S)
Cormorants (N,P,F)
Goldeneye/Bufflehead (W*,S*,F)
Guillemots (N,P)
Loons (W)
Osprey Nests (N)
Scoters (W,S)

P230 Babson Island

Black-Backed Gulls (P)
Eiders (W,S,N,P,F)
Herring Gulls (W,P,F)
Loons (P*,F)
Osprey Nests (N)
Scoters (W)
Cormorants (P,F)
Goldeneye/Bufflehead (W,S)
Harbor Seals (N)
Ospreys (P*)
Old Squaws (W,S,F)

P231 High Head

Black Ducks (W)
Eiders (W,S,N,F)
Herring Gulls (W,S,N,P,F)
Mergansers (W)
Black-Backed Gulls (W,S,N,P)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (S)
Old Squaws (W)

P232 Torrey Islands

Bald Eagles (S*)
Cormorants (P,F*)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (S,F)
Mergansers (W,S,F)
Old Squaws (W,S,N,F)
Small Gulls (P)
Black-Backed Gulls (N,P,F)
Eiders (W,S,N*,P,F)
Herring Gulls (W,S,N,P,F)
Loons (W,F)
Osprey Nests (N)
Scoters (F)
Unid. Waterfowl (W)

P233 Brooklin

Bald Eagles (F*)
Cormorants (P,F)
Goldeneye/Bufflehead (W*,S,F)
Herring Gulls (W*,S,N,P,F)
Loons (S,N*,P*,F)
Osprey Nests (N)
Scoters (W)
Unid. Waterfowl (W)
Black-Backed Gulls (N,P,F)
Eiders (W,S,N,P,F)
Grebes (W*,S*)
Harbor Seals (F)
Mergansers (W,P*,F)
Old Squaws (W*,S,N*,F)
Small Gulls (P)

P234 Benjamin River

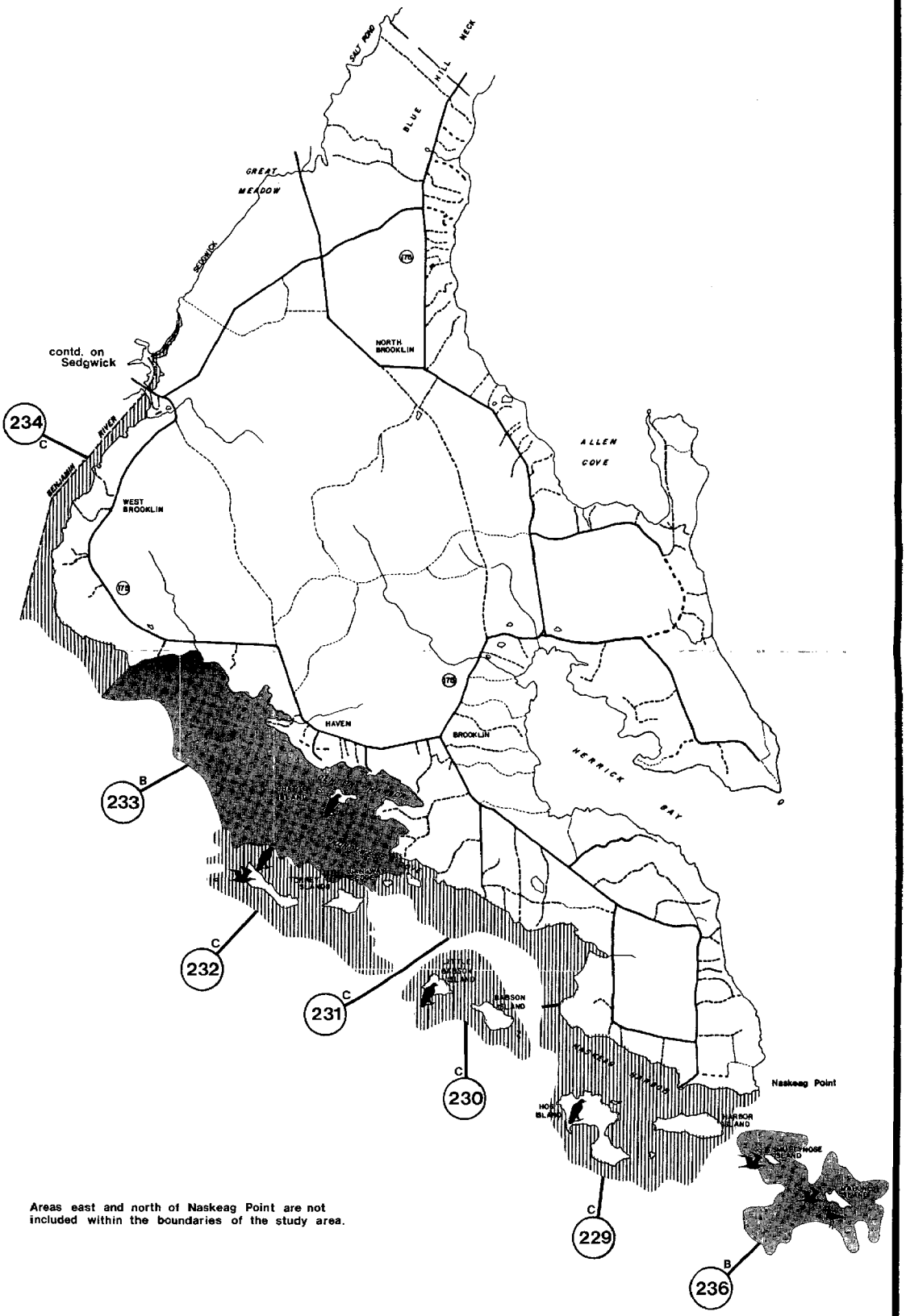
Black Ducks (W)
Cormorants (N,P,F)
Great Blue Herons (P)
Herring Gulls (W*,S,N,P,F)
Loons (N*,F)
Old Squaws (W,S,F)
Small Gulls (P)
Black-Backed Gulls (S,P)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W*,S*,F)
Harbor Seals (P,F)
Mergansers (F)
Scoters (W,S,F)
Unid. Waterfowl (N*,F)

P236 Mahoney Island

Black Ducks (W)
Black-Backed Gulls (S,N,P,F)
Eiders (W,S,N*,P,F)
Grebes (S*)
Herring Gulls (W,N*,P*,F)
Loons (W,S*,F)
Old Squaws (W,S,F)
Shorebirds (W*)
Bald Eagles (W*)
Cormorants (N*,P*,F)
Gulls (S*)
Guillemots (N,P)
Harbor Seals (N,F)
Mergansers (W,S)
Scoters (W*)
Unid. Waterfowl (N*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

BROOKLIN


SALT POND
BLUE HILL NECK
GREAT MEADOW
SEDGWICK
contd. on Sedgwick
234
C
BENJAMIN RIVER
NORTH BROOKLIN
WEST BROOKLIN
ALLEN COVE
HAVEN
BROOKLIN
HERRICK BAY
233
B
232
C
231
C
230
C
229
C
236
B
Naskeag Point
HARBOR ISLAND
Areas east and north of Naskeag Point are not included within the boundaries of the study area.

BROOKLIN

BROOKSVILLE

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P095 Holbrook Island

Black Ducks (W*,S)
Blue Wing Teal (F*)
Eiders (W,S,N,P,F)
Great Blue Herons (W*,P,F*)
Grebes (S*)
Harbor Seals (N,P)
Mergansers (S,N*,F*)
Shorebirds (S)
Black-Backed Gulls (S,N,P,F)
Cormorants (N,P,F)
Gulls (W*)
Goldeneye/Bufflehead (W,S,F*)
Herring Gulls (W,S,N,P,F*)
Loons (W,N*,P*,F)
Old Squaws (W,S*,F)
Unid. Waterfowl (W,F)

P096 Smith Cove

Black Ducks (W*,S,F)
Cormorants (N,P,F)
Eiders (W,S,N,P,F)
Great Blue Herons (F*)
Grebes (S*)
Harbor Seals (N,P,F*)
Mergansers (W,S,F*)
Scoters (F)
Unid. Waterfowl (W,S,F*)
Black-Backed Gulls (P)
Canada Geese (S*)
Gulls (W*,N*)
Goldeneye/Bufflehead (W,S*)
Herring Gulls (W,S*,N,P,F)
Loons (W*,P*)
Old Squaws (W,S*,F)
Shorebirds (P,F*)

P097 Bagaduce River

Black Ducks (W*,F*)
Black-Backed Gulls (W*,S,N,F)
Eiders (W,S,N,P,F)
Great Blue Herons (W*,P,F*)
Herring Gulls (W*,S,N,P,F)
Loons (W,S,N*,F*)
Old Squaws (W,S,F)
Small Gulls (F)
Unid. Waterfowl (W*,S*,F*)
Bald Eagles (W*)
Cormorants (N,P,F)
Gulls (W*,P*)
Goldeneye/Bufflehead (W*,S*,F*)
Harbor Seals (S)
Mergansers (W,S,N,F)
Shorebirds (W,P*)
Terns (P)

P098 Northern Bay-Bagaduce

Black Ducks (W,S*,P*,F*)
Black-Backed Gulls (W,S,N,P,F)
Cormorants (N,P,F)
Eiders (S,N,P)
Gulls (F*)
Goldeneye/Bufflehead (W*,S*,F*)
Guillemots (N)
Herring Gulls (W,S*,N,P,F)
Loons (F)
Ospreys (N*)
Shorebirds (P*)
Terns (P)
Bald Eagles (W*)
Blue-winged Teal (P*)
Canada Geese (F*)
Eagle Nests (N*)
Great Blue Herons (S*,P*,F*)
Grebes (S*)
Green-winged Teal (F*)
Harbor Seals (N,P*,F)
Mergansers (W*,S,N*,F)
Old Squaws (W,S,F)
Small Gulls (P*,F*)
Unid. Waterfowl (W)

P099 Herrick Bay-Bagaduce

Black Ducks (S*,P*)
Black-Backed Gulls (F)
Cormorants (N,P)
Eiders (P)
Gulls (W*,P)
Goldeneye/Bufflehead (W,S*,F)
Harbor Seals (P*)
Mergansers (W,P*,F)
Small Gulls (P)
Unid. Waterfowl (N*)
Bald Eagles (P*)
Blue-winged Teal (P*)
Canada Geese (S*)
Eagle Nests (N*)
Great Blue Herons (P*)
Herring Gulls (N,P,F)
Mallards (P*)
Shorebirds (P)
Terns (P)

P100 Head of the Cape

Black-Backed Gulls (W,N,P)
Eiders (S,N,F)
Great Blue Herons (W*)
Grebes (S*)
Loons (W,S,N*,F*)
Old Squaws (W,S,F)
Terns (P)
Cormorants (N,P)
Gulls (W*)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S,N*)
Shorebirds (W,P,F)
Unid. Waterfowl (W,S)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

BROOKSVILLE

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P101 Weir-Horseshoe Coves

Black Ducks (W,S*,P)
Cormorants (N,P,F)
Great Blue Herons (W*,P,F*)
Herring Gulls (W,S,N,P,F)
Loons (S)
Ospreys (F*)
Shorebirds (S,P)
Black-Backed Gulls (W,S,N,P)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (S*,P,F*)
Mergansers (W*,S,F)
Old Squaws (W)
Unid. Waterfowl (W,F)

P102 Spectacle Island

Black-Backed Gulls (S,N,P)
Eiders (S,N,P,F)
Goldeneye/Bufflehead (W)
Harbor Seals (N)
Old Squaws (S,F)
Unid. Waterfowl (W)
Cormorants (N,F)
Gulls (S*)
Herring Gulls (W,N*,P*,F)
Mergansers (W,S)
Terns (N,P*)

P104 Thrumcap-Two Bush Ledges

Black-Backed Gulls (W,N,P,F)
Eiders (S,N,F)
Goldeneye/Bufflehead (S,F)
Herring Gulls (W,S,N,P,F)
Mergansers (W*,F)
Terns (N*,P*)
Cormorants (P,F)
Gulls (S)
Grebes (S*)
Harbor Seals (N,P)
Old Squaws (W,F)
Unid. Waterfowl (W)

P105 Orcutt Harbor

Black Ducks (W,F)
Cormorants (F)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (W,S,N,P,F)
Mergansers (W*,S,F)
Terns (N)
Black-Backed Gulls (N,P,F)
Eiders (S,N,F)
Grebes (S*)
Loons (S*,N*,P*,F)
Old Squaws (W*,S,N*,F)
Unid. Waterfowl (S*,N)

P106 Herricks

Black-Backed Gulls (S,F)
Eiders (S,N,P)
Grebes (S*)
Loons (W,S,F*)
Old Squaws (W,S,F)
Cormorants (P)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N,P,F)
Mergansers (W*,S,F)
Unid. Waterfowl (W*,S)

P108 Western-Pond-Hog Islands

Black Ducks (S)
Black-Backed Gulls (W,S*,N,P,F*)
Eiders (W,S,N,P,F)
Great Blue Herons (W*,N*,F*)
Guillemots (N*,P*)
Harbor Seals (N*,P*,F)
Mergansers (W*,S)
Old Squaws (W*,S,F)
Unid. Waterfowl (W,S*)
Bald Eagles (W*,F*)
Cormorants (N,P,F)
Gulls (W*,P,F*)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,N,P,F*)
Loons (W,N*,F*)
Osprey Nests (N*)
Shorebirds (W,P,F*)

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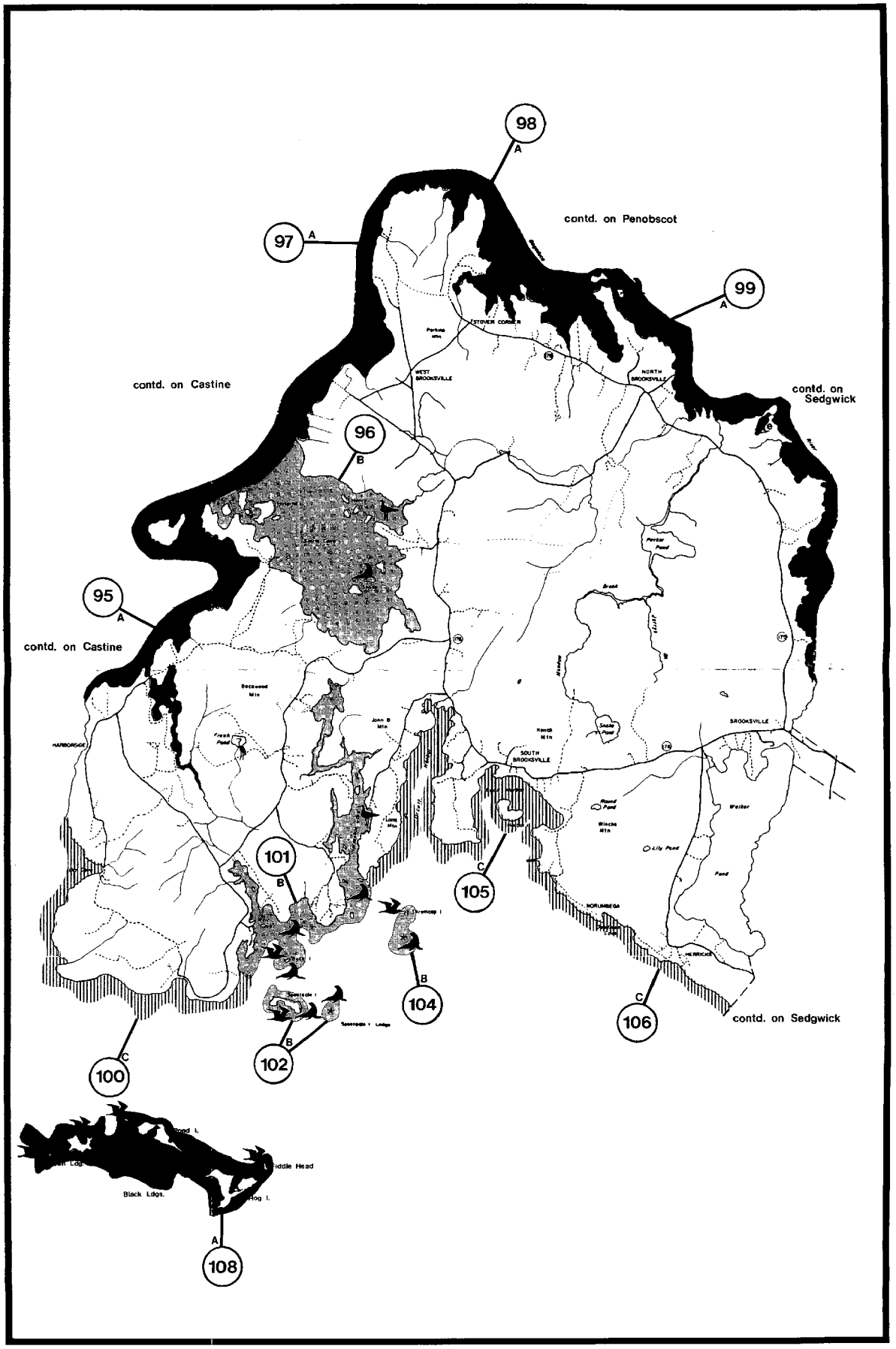
BROOKSVILLE



BROOKSVILLE

BUCKSPORT

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P028 Verona Island East

Black Ducks (W*,P*,F*)
Cormorants (N,P,F)
Great Blue Herons (N,P*,F*)
Herring Gulls (N,P,F)
Ospreys (P*)
Small Gulls (P*)
Unid. Waterfowl (W,P*)
Black-Backed Gulls (F)
Gulls (P,F*)
Goldeneye/Bufflehead (W,F)
Mergansers (N*)
Shorebirds (P*,F*)
Terns (P)

P029 Bucksport

Bald Eagles (P*)
Cormorants (N,P)
Herring Gulls (W,N,P,F)
Shorebirds (P,F)
Black-Backed Gulls (P)
Goldeneye/Bufflehead (W,S)
Ospreys (P*)

P031 Frankfort Flats

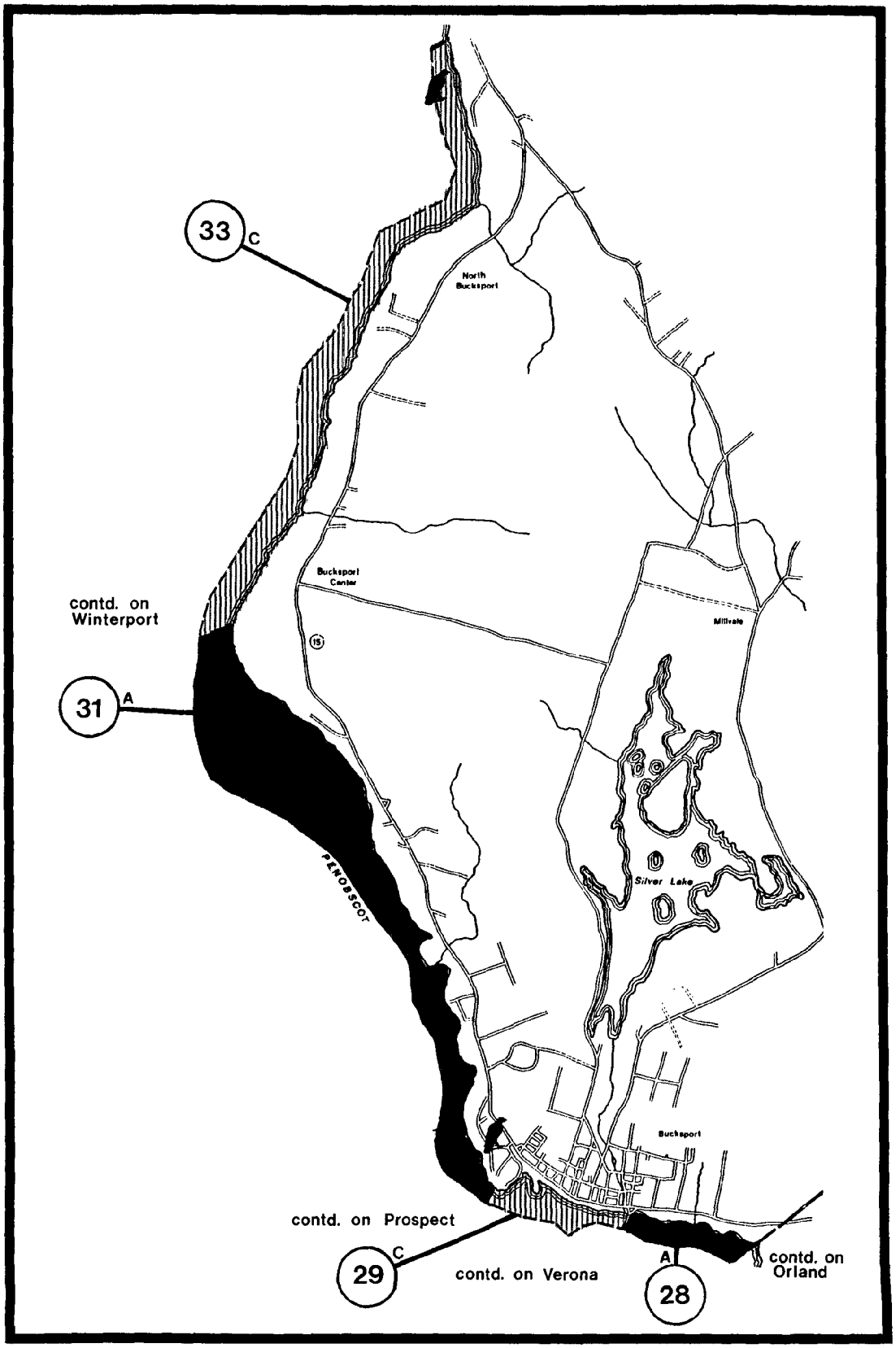
Black Ducks (W*,S,P*,F*)
Eiders (F)
Goldeneye/Bufflehead (W,S,F)
Mallards (P*)
Ospreys (F*)
Shorebirds (W,N,P,F)
Unid. Waterfowl (S,F*)
Cormorants (N,P,F*)
Great Blue Herons (F*)
Herring Gulls (W,S,N,P,F)
Mergansers (W*,F)
Osprey Nests (N*)
Small Gulls (P,F)

P033 Winterport

Black Ducks (P*,F*)
Cormorants (N,P,F)
Great Blue Herons (P)
Herring Gulls (W,S,N,P,F)
Loons (F)
Ospreys (P*,F*)
Small Gulls (P,F)
Black-Backed Gulls (W*,S,N,P,F)
Gulls (S,P*,F)
Goldeneye/Bufflehead (S)
Harbor Seals (F)
Mergansers (P*,F)
Shorebirds (N*,P,F)
Unid. Waterfowl (S*,F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

BUCKSPORT



33 C
North Bucksport
Bucksport Center
contd. on Winterport
15
Millvale
31 A
PENOBSCOT
Silver Lake
Bucksport
contd. on Prospect
29 C
contd. on Verona
A
28
contd. on Orland

CAMDEN

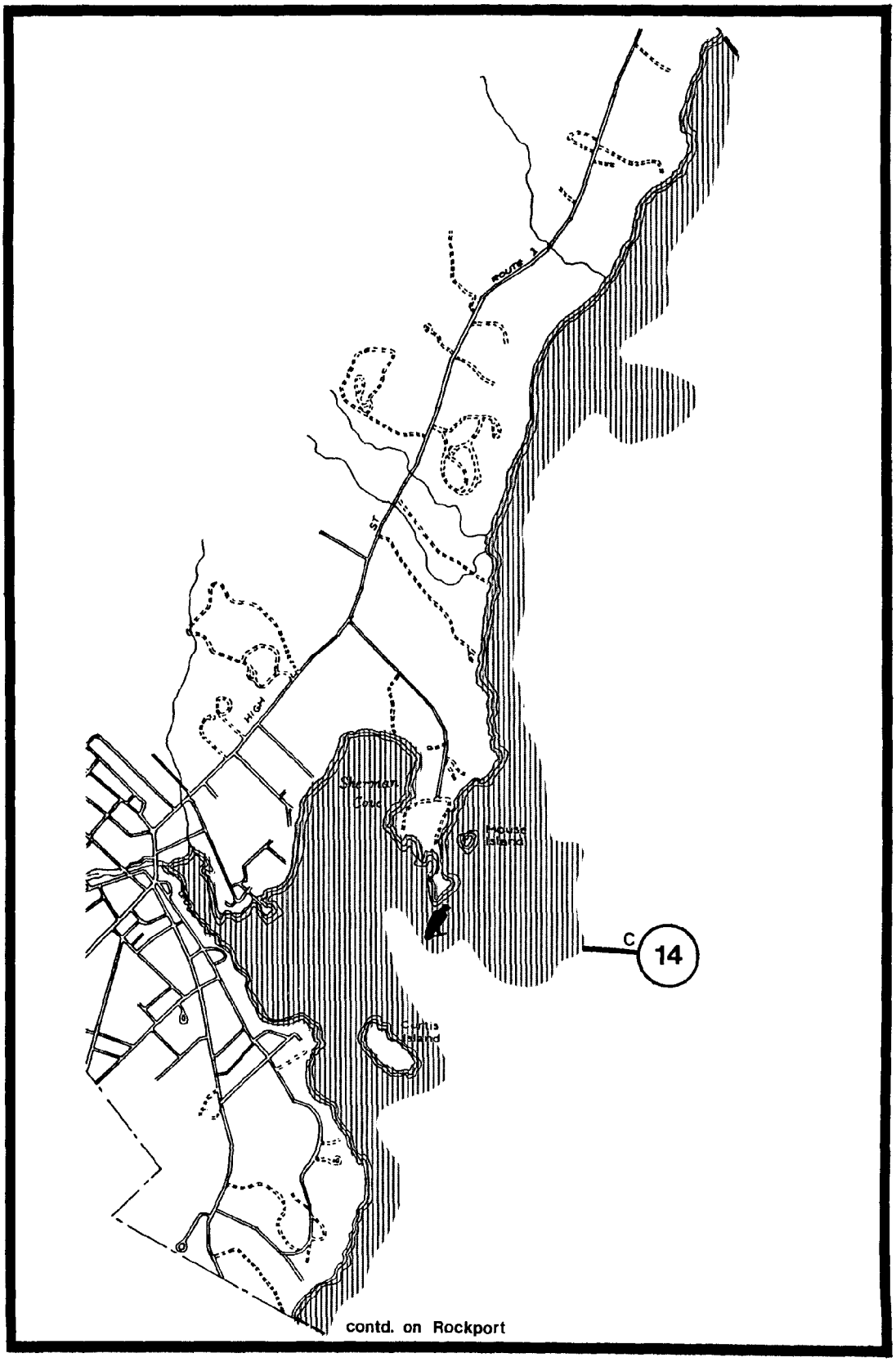
Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P014 Camden Harbor

Black Ducks (W)	Black-Backed Gulls (S,N,P,F)
Cormorants (N*,P*,F)	Eiders (W,S,N,F)
Gulls (W*,N)	Goldeneye/Bufflehead (W,S,F*)
Grebes (S*)	Herring Gulls (W,S,N,P,F)
Harbor Seals (F)	Loons (W*,N*)
Mergansers (W,N*,F)	Osprey Nests (N)
Old Squaws (W,S,F*)	Unid. Waterfowl (F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

CAMDEN



contd. on Rockport

CASTINE

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P093 West Penobscot

Black-Backed Gulls (P)
Eiders (S,N,P,F)
Goldeneye/Bufflehead (W,S,F)
Loons (S)
Old Squaws (F)
Small Gulls (P)
Cormorants (N,P,F)
Great Blue Herons (P,F*)
Herring Gulls (W,S,N,P,F)
Mergansers (S,P*,F)
Shorebirds (P,F*)
Unid. Waterfowl (N,P*,F*)

P094 Wadsworth Cove

Black Ducks (W,F)
Cormorants (N,P,F)
Gulls (W*)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (W,S,N,P,F*)
Mergansers (S,F*)
Old Squaws (W,F)
Small Gulls (P*,F*)
Black-Backed Gulls (W,P,F)
Eiders (S,N,P,F)
Great Blue Herons (F*)
Grebes (S*)
Loons (P*,F)
Osprey Nests (N)
Shorebirds (P*,F)
Unid. Waterfowl (S*,F*)

P095 Holbrook Island

Black Ducks (W*,S)
Blue Wing Teal (F*)
Eiders (W,S,N,P,F)
Great Blue Herons (W*,P,F*)
Grebes (S*)
Harbor Seals (N,P)
Mergansers (S,N*,F*)
Shorebirds (S)
Black-Backed Gulls (S,N,P,F)
Cormorants (N,P,F)
Gulls (W*)
Goldeneye/Bufflehead (W,S,F*)
Herring Gulls (W,S,N,P,F*)
Loons (W,N*,P*,F)
Old Squaws (W,S*,F)
Unid. Waterfowl (W,F)

P097 Bagaduce River

Black Ducks (W*,F*)
Black-Backed Gulls (W*,S,N,F)
Eiders (W,S,N,P,F)
Great Blue Herons (W*,P,F*)
Herring Gulls (W*,S,N,P,F)
Loons (W,S,N*,F*)
Old Squaws (W,S,F)
Small Gulls (F)
Unid. Waterfowl (W*,S*,F*)
Bald Eagles (W*)
Cormorants (N,P,F)
Gulls (W*,P*)
Goldeneye/Bufflehead (W*,S*,F*)
Harbor Seals (S)
Mergansers (W,S,N,F)
Shorebirds (W,F*)
Terns (P)

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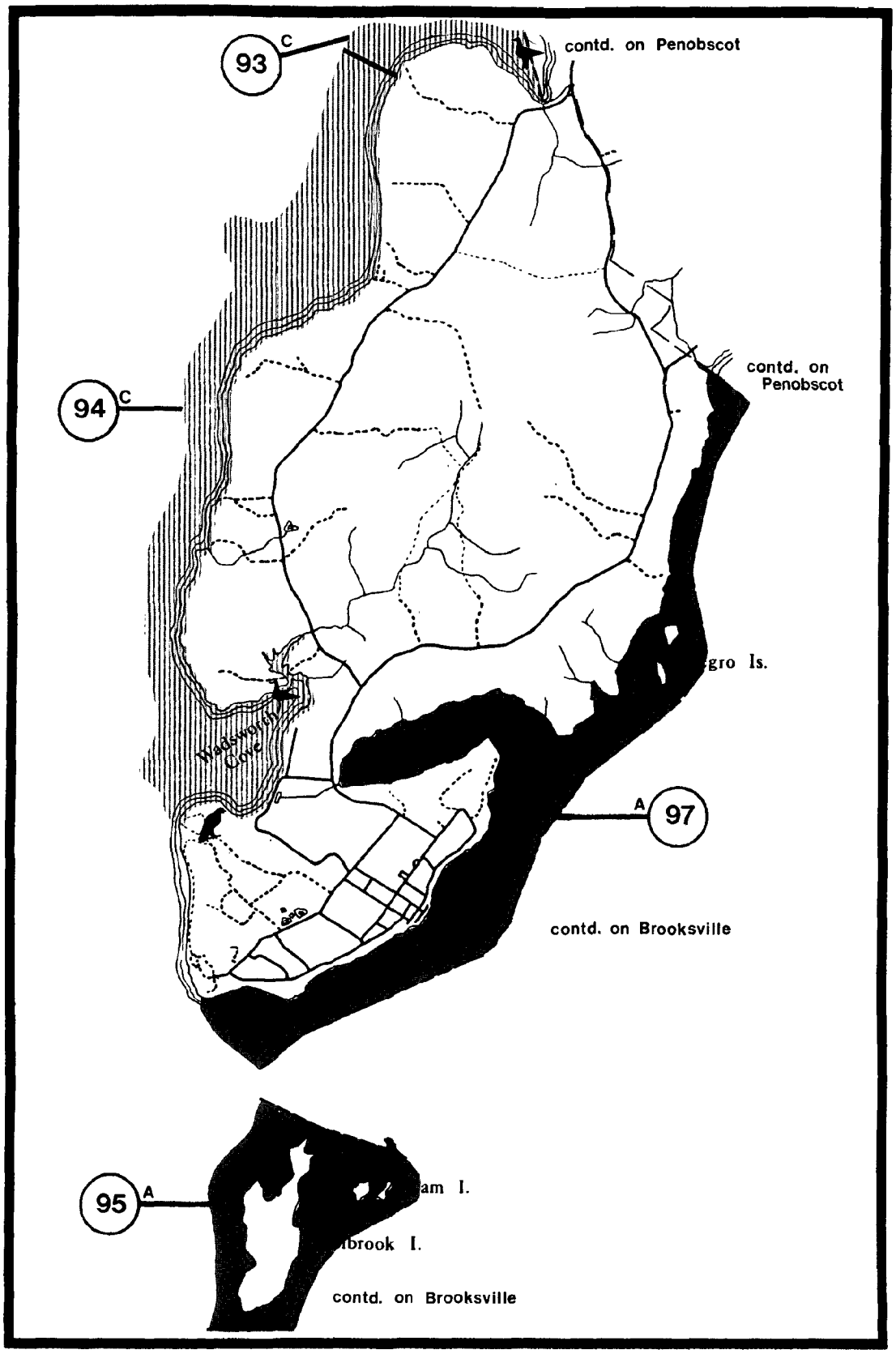
CASTINE



93
C
contd. on Penobscot
94
C
contd. on Penobscot
gro Is.
Wadsworth Cove
A
97
contd. on Brooksville
95
A
am I.
brook I.
contd. on Brooksville

DEER ISLE (1)

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P126 Northwest Harbor

Black Ducks (S)
Cormorants (N,P,F*)
Gulls (S,N*,F*)
Herring Gulls (W*,S,N,P,F)
Loons (W,F*)
Ospreys (P*)
Shorebirds (P*,F*)
Unid. Waterfowl (W*,S*,N*,F*)
Black-Backed Gulls (W*,S*,N,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S)
Harbor Seals (F)
Mergansers (W*,S)
Old Squaws (W,S*,F*)
Terns (P)

P127 Southwest Harbor

Black Ducks (W,S)
Cormorants (P,F*)
Goldeneye/Bufflehead (W,S,F*)
Herring Gulls (W,S,N,P,F*)
Mergansers (W,S,F)
Scoters (W,F)
Small Gulls (P*)
Black-Backed Gulls (N,P,F)
Eiders (W,S,N,P,F)
Grebes (W*)
Loons (W,S,F)
Old Squaws (W,S,F)
Shorebirds (P*)
Unid. Waterfowl (W,S,F)

P128 Crockett Cove

Black-Backed Gulls (S*,N,F)
Eiders (W,S,N,P,F)
Great Blue Herons (P)
Grebes (W*)
Harbor Seals (N)
Mergansers (W,S)
Old Squaws (W,S,N*,F)
Shorebirds (S,P)
Unid. Waterfowl (W*)
Cormorants (P,F)
Gulls (N)
Goldeneye/Bufflehead (W*,S,F*)
Herring Gulls (W,S*,N,P,F*)
Loons (W,S*)
Ospreys (F*)
Scoters (S)
Small Gulls (P*)

P159 Shabby Island

Black-Backed Gulls (W*,S*,N*,P*,F)
Eiders (W,S,N,P,F)
Guillemots (N,P)
Harbor Seals (S,N)
Mergansers (S,F)
Scoters (W*,S,F*)
Unid. Waterfowl (S)
Cormorants (P,F)
Gulls (P)
Herring Gulls (W,S*,N*,P*,F)
Loons (W,N*)
Old Squaws (W*,S*,F)
Shorebirds (W)

P160 Long-Green Ledges

Black Ducks (W)
Cormorants (N*,P*,F)
Gulls (S*,N*,P,F*)
Herring Gulls (W,S,N,P,F)
Loons (W,S,F)
Old Squaws (W*,S,F)
Shorebirds (W*,S*,F)
Unid. Waterfowl (S)
Black-Backed Gulls (W*,S,N,P,F)
Eiders (W*,S,N*,P*,F*)
Goldeneye/Bufflehead (S)
Harbor Seals (W*,S,N,P)
Mergansers (W,S*,F)
Scoters (W,S*,P*,F)
Terns (P)

P162 Inner Harbor

Black Ducks (W,S*,F)
Cormorants (N,F)
Goldeneye/Bufflehead (W,S*,F*)
Harbor Seals (W,N)
Ospreys (N*,F*)
Shorebirds (P*,F)
Terns (P,F*)
Black-Backed Gulls (S,F)
Eiders (W,N,P)
Herring Gulls (W*,S*,N,P,F)
Mergansers (S,F)
Old Squaws (S*,F)
Small Gulls (P*)

P163 Long Cove

Black Ducks (S*,F)
Cormorants (P,F)
Great Blue Herons (F*)
Herring Gulls (W*,S*,N,P,F)
Ospreys (F*)
Shorebirds (P*,F*)
Black-Backed Gulls (S,P,F)
Eiders (N,F)
Goldeneye/Bufflehead (W*,S*,F)
Mergansers (F)
Old Squaws (S)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

DEER ISLE (1)

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P164 Freese Island

Black Ducks (W,S,F)
Cormorants (P,F)
Gulls (S)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S,F*)
Osprey Nests (N)
Terns (P)
Black-Backed Gulls (P,F)
Eiders (S,N,P,F)
Goldeneye/Bufflehead (W*,S*,F*)
Harbor Seals (F)
Ospreys (F*)
Old Squaws (W,S)
Unid. Waterfowl (W)

P165 Stinson Neck - South

Bald Eagles (F*)
Cormorants (P,F)
Goldeneye/Bufflehead (W,F)
Herring Gulls (S,N,P,F)
Loons (W*,S*,F*)
Old Squaws (W,S*,F)
Shorebirds (P)
Black-Backed Gulls (S,N,P,F)
Eiders (S,N,P,F)
Guillemots (P)
Harbor Seals (S*,F)
Mergansers (W,F)
Scoters (W,F*)

P166 Stinson Neck - North

Black Ducks (W*,S*)
Cormorants (N,P,F)
Gulls (N,P*)
Guillemots (P)
Harbor Seals (W,S*,N,P*,F)
Mergansers (W*,S,N*,F)
Old Squaws (W*,S,N,F)
Shorebirds (P*)
Black-Backed Gulls (W,S,N,P,F)
Eiders (W*,S*,N,P,F)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (W,S*,N,P,F*)
Loons (S*)
Osprey Nests (N)
Scoters (W*,S*,N*,F*)
Unid. Waterfowl (W,F)

P167 White Island

Black Ducks (W*,S*)
Cormorants (P,F)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,P,F)
Loons (W,S,F)
Old Squaws (W*,F)
Unid. Waterfowl (W)
Black-Backed Gulls (F)
Eiders (W,S,N,F)
Grebes (W*)
Harbor Seals (S,P,F)
Mergansers (W*)
Scoters (W*,S)

P168 Black-Bear Islands

Black-Backed Gulls (F)
Eiders (S,N,P,F)
Herring Gulls (W,S,P,F)
Loons (W,S,F)
Ospreys (S*)
Old Squaws (W)
Unid. Waterfowl (W)
Cormorants (P,F)
Goldeneye/Bufflehead (S)
Harbor Seals (S,N,P,F)
Mergansers (W)
Osprey Nests (N)
Scoters (F*)

P169 Conary Island

Black-Backed Gulls (W,P,F)
Eiders (W,S,N,F)
Goldeneye/Bufflehead (W,S,N*,F)
Herring Gulls (W,S,N,P,F)
Loons (S*)
Ospreys (N*)
Unid. Waterfowl (W,S,N)
Cormorants (P,F)
Gulls (N)
Grebes (W*)
Harbor Seals (N,F)
Mergansers (W,S,N)
Old Squaws (W,S)

P170 Greenlaw Neck

Black-Backed Gulls (W,F)
Goldeneye/Bufflehead (W)
Loons (F)
Eiders (N,F)
Herring Gulls (S,N,F)
Old Squaws (W,S,F)

P171 Greenlaw Cove

Black Ducks (W*,F)
Cormorants (F)
Great Blue Herons (P,F*)
Herring Gulls (W,S,N,P,F)
Old Squaws (N*)
Small Gulls (P*)
Black-Backed Gulls (F)
Eiders (N,P)
Goldeneye/Bufflehead (W*,S,F)
Ospreys (N*)
Scoters (F)

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DEER ISLE (1)

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P172 Campbell Island-Fish Creek

Black Ducks (S*)
Eiders (S,N,F)
Herring Gulls (W*,S,N,F)
Loons (F)
Osprey Nests (N)
Scoters (W,S,F*)
Unid. Waterfowl (W*,N,F)
Black-Backed Gulls (F)
Goldeneye/Bufflehead (W*,S*,F)
Harbor Seals (F)
Mergansers (W,F*)
Old Squaws (W,N*,F)
Small Gulls (F*)

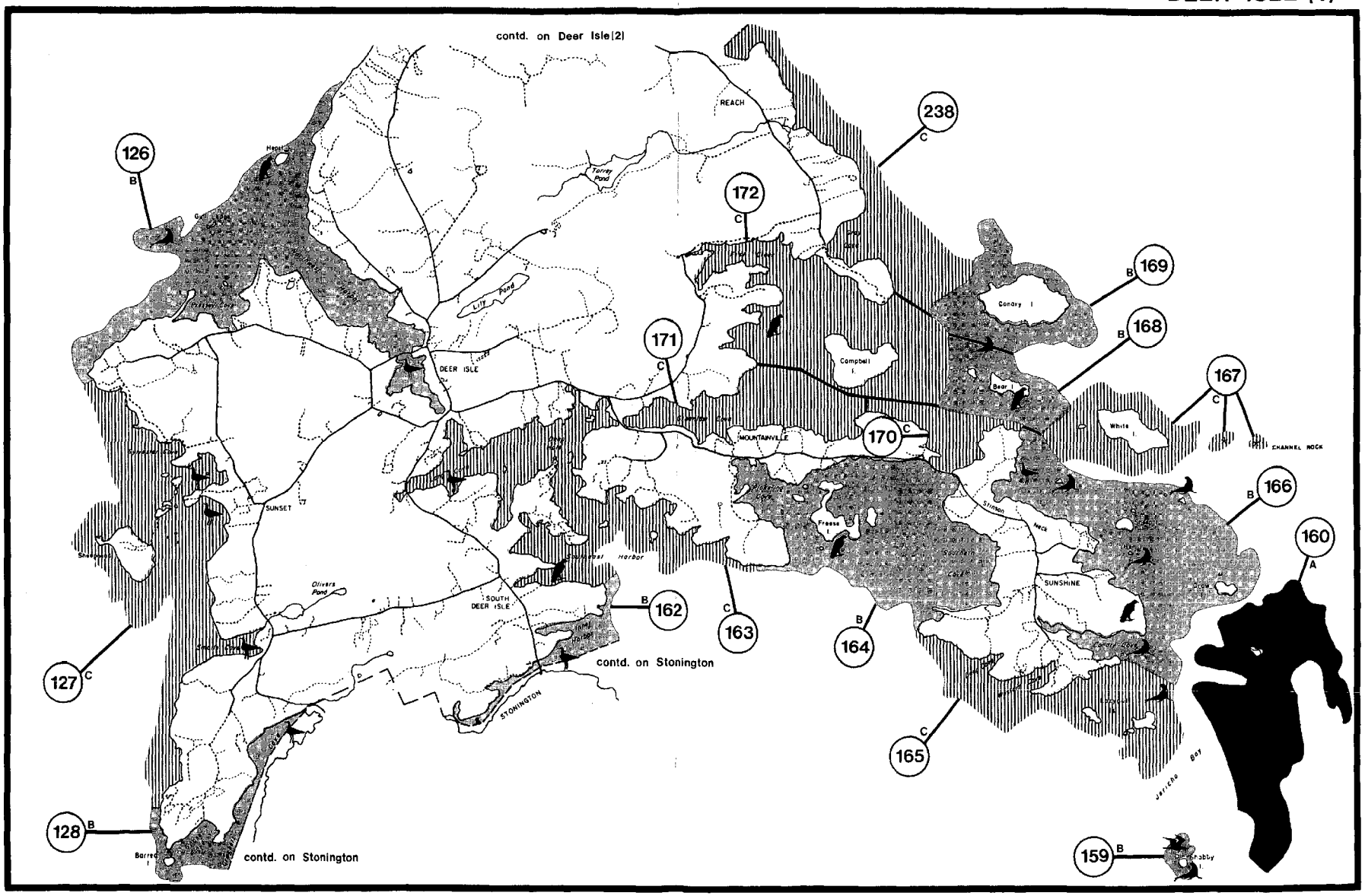
P238 Reach-Oak Point

Black Ducks (S)
Cormorants (F)
Gulls (F)
Goldeneye/Bufflehead (W*,S*,F)
Harbor Seals (F)
Mergansers (W,S,F)
Scoters (W,S,F*)
Unid. Waterfowl (W)
Black-Backed Gulls (W,S,F)
Eiders (W,S,N,P,F)
Great Blue Herons (P)
Herring Gulls (W,S,N,P,F)
Loons (W,S,P*,F*)
Old Squaws (S,F)
Shorebirds (F)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

DEER ISLE (1)

DEER ISLE [1]



contd. on Deer Isle[2]
REACH
238
C
126
B
172
C
169
B
Conary I
168
B
171
C
Campbell I
Bear I
167
C
White I
CHANNEL ROCK
DEER ISLE
MOUNTAINVILLE
170
C
166
B
160
A
SUNSET
Freese I
Stinson Neck
SUNSHINE
Olivers Pond
SOUTH DEER ISLE
162
B
163
C
164
B
contd. on Stonington
STONINGTON
127
C
165
C
128
B
contd. on Stonington
159
B

DEER ISLE (2)

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P103 Stave Island

Black Ducks (W)
Cormorants (P)
Great Blue Herons (W*)
Herring Gulls (W,P,F)
Shorebirds (P)
Black-Backed Gulls (P)
Eiders (P,F)
Goldeneye/Bufflehead (W,F)
Old Squaws (W)

P107 Little Deer Isle - North

Black-Backed Gulls (F)
Eiders (S,N,P,F)
Herring Gulls (W,S,N,P,F)
Loons (P*,F)
Ospreys (P*)
Unid. Waterfowl (W,F)
Cormorants (P,F)
Goldeneye/Bufflehead (W,S)
Harbor Seals (F)
Mergansers (W,S,F*)
Old Squaws (W,S*)

P109 Little Deer Isle - South

Black-Backed Gulls (N,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S,F)
Old Squaws (W,S)
Unid. Waterfowl (W)
Cormorants (P,F)
Great Blue Herons (P)
Grebes (S*)
Loons (W,S,N*,F)
Osprey Nests (N)
Shorebirds (W)

P110 Scott-Two Bush Islands

Black-Backed Gulls (S*,N*,P)
Eiders (W,S,N,F)
Great Blue Herons (W*)
Herring Gulls (W,S,P,F)
Loons (W,S)
Ospreys (P*)
Old Squaws (W,S,F)
Shorebirds (W,F)
Cormorants (N*,P*)
Gulls (W*)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (N)
Mergansers (W)
Osprey Nests (N*)
Scoters (F)
Unid. Waterfowl (S*)

P112 Carney Island

Black-Backed Gulls (P,F)
Eiders (P,F)
Goldeneye/Bufflehead (W,F*)
Loons (W,F)
Osprey Nests (N*)
Shorebirds (P*,F*)
Unid. Waterfowl (W*)
Cormorants (F)
Gulls (F*)
Herring Gulls (W,P,F)
Ospreys (P*)
Scoters (P*,F*)
Small Gulls (P*,F*)

P113 Pickering Island

Black Ducks (F)
Cormorants (N,P,F)
Great Blue Herons (P)
Grebes (S*)
Harbor Seals (N,P,F)
Mergansers (S,F)
Osprey Nests (N*)
Shorebirds (P,F*)
Terns (P)
Black-Backed Gulls (N,P,F)
Eiders (S,N,P,F)
Goldeneye/Bufflehead (S,F)
Herring Gulls (S,N,P,F)
Loons (P*,F*)
Ospreys (S*,P*)
Old Squaws (S,F)
Small Gulls (P)
Unid. Waterfowl (S*)

P115 Bradbury-Crow Islands

Bald Eagles (F*)
Cormorants (N,P,F)
Gulls (P)
Herring Gulls (N,P,F)
Loons (S*,N*,P*,F*)
Osprey Nests (N*)
Shorebirds (P,F)
Black-Backed Gulls (N,P,F)
Eiders (S,N,P,F)
Grebes (S*)
Harbor Seals (N*,P*,F)
Mergansers (S,F)
Old Squaws (S,F)
Unid. Waterfowl (S)

P116 Hardhead Island

Black-Backed Gulls (S*,N*,P*,F)
Eiders (S,N,P,F)
Herring Gulls (S*,N,P,F)
Old Squaws (F)
Cormorants (N*,P*)
Guillemots (N*,P*)
Loons (S)
Shorebirds (P,F)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

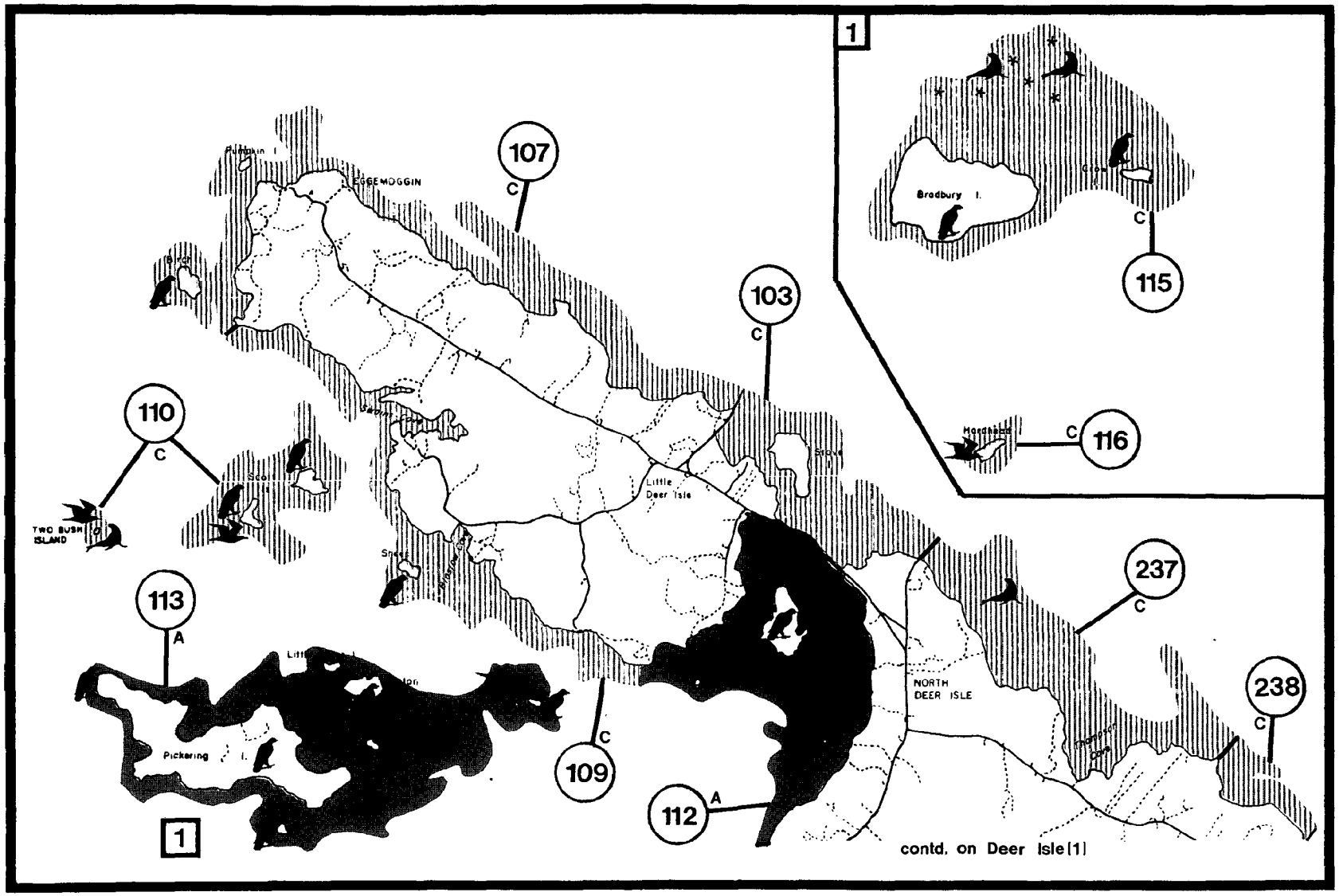
P237 North Deer Isle

Cormorants (P)
Goldeneye/Bufflehead (W,S)
Harbor Seals (P)
Mergansers (S)
Scoters (F)
Eiders (S,P,F)
Herring Gulls (W,S,P,F)
Loons (F)
Old Squaws (W)
Unid. Waterfowl (S)

P238 Reach-Oak Point

Black Ducks (S)
Cormorants (F)
Gulls (F)
Goldeneye/Bufflehead (W*,S*,F)
Harbor Seals (F)
Mergansers (W,S,F)
Scoters (W,S,F*)
Unid. Waterfowl (W)
Black-Backed Gulls (W,S,F)
Eiders (W,S,N,P,F)
Great Blue Herons (P)
Herring Gulls (W,S,N,P,F)
Loons (W,S,P*,F*)
Old Squaws (S,F)
Shorebirds (F)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.



1
Bradbury I.
115
C
116
C
107
C
103
C
110
C
TWO BUSH ISLAND
Little Deer Isle
113
A
Pickering I.
109
C
112
A
NORTH DEER ISLE
237
C
238
C
contd. on Deer Isle (1)
1

DEER ISLE (2)

DEER ISLE (LURC)

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P114 Beach-Barred-Colt Head Islands

Bald Eagles (W*)
Cormorants (N*,P*,F)
Great Blue Herons (W*)
Guillemots (N,P)
Harbor Seals (N*)
Osprey Nests (N*)
Unid. Waterfowl (W)
Black-Backed Gulls (S*,N*,P*,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S,F*)
Herring Gulls (W,S,N,P,F)
Ospreys (P*,F*)
Old Squaws (W,S,F)

P117 Butter-Barred Islands

Black-Backed Gulls (W*,N,P,F)
Canada Geese (N*,P*)
Gulls (W*)
Herring Gulls (W,S,N,P,F*)
Loons (W,S,P*,F*)
Osprey Nests (N*)
Scoters (S,F)
Terns (P)
Cormorants (N,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (N,F)
Mergansers (W,S*)
Old Squaws (W,S,F)
Shorebirds (P,F)
Unid. Waterfowl (W*,S*,N,F*)

P118 Great Spruce Head Island

Black Ducks (W)
Cormorants (N,P,F)
Gulls (W*,N*,P)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,N,P,F*)
Loons (W,S,P*,F*)
Ospreys (P*)
Old Squaws (W,S,F)
Small Gulls (P)
Black-Backed Gulls (W,N*,P*,F)
Eiders (W,S,N,P,F)
Great Blue Herons (F*)
Grebes (S*)
Harbor Seals (N*,P,F)
Mergansers (W,S)
Osprey Nests (N*)
Shorebirds (W,S*,P)
Unid. Waterfowl (W,S,F)

P119 Horsehead Island

Black-Backed Gulls (W,S,F)
Gulls (N)
Herring Gulls (W,N,F)
Mergansers (W,S,F)
Osprey Nests (N)
Eiders (W,S,N)
Goldeneye/Bufflehead (W)
Loons (W)
Ospreys (S*)
Old Squaws (F)

P120 Resolution Island

Black-Backed Gulls (W,S,N)
Eiders (S,N,F)
Herring Gulls (S,N,P,F)
Loons (S,F)
Ospreys (N*,F*)
Cormorants (P)
Goldeneye/Bufflehead (W)
Harbor Seals (P)
Mergansers (W,S)
Old Squaws (S)

P121 Little Spruce Head Island

Black-Backed Gulls (W,N,P)
Eiders (S,N*)
Goldeneye/Bufflehead (W)
Harbor Seals (S*,N*,P,F)
Mergansers (W,F)
Old Squaws (W,F)
Cormorants (F)
Gulls (N)
Herring Gulls (S,N,P,F)
Loons (F)
Osprey Nests (N*)
Unid. Waterfowl (W)

P122 Compass Island

Bald Eagles (W*)
Cormorants (F)
Eiders (W,S,N*,P*,F)
Goldeneye/Bufflehead (S,F)
Herring Gulls (W,N*,P,F)
Loons (P*)
Ospreys (N*,P*)
Shorebirds (W,P)
Black-Backed Gulls (N*,P*,F)
Canada Geese (N*,P*)
Gulls (W*,S*,N)
Guillemots (N*,P*)
Harbor Seals (N*,P*,F*)
Mergansers (W*,F*)
Old Squaws (W,F)
Unid. Waterfowl (W)

P123 Sloop-Fling Islands

Black-Backed Gulls (W,S*,N,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (F)
Herring Gulls (W,S,N,P,F)
Loons (W*,S*,P*,F)
Old Squaws (W,S,F*)
Terns (N,P)
Cormorants (N,P,F)
Gulls (W*)
Grebes (S*)
Harbor Seals (N*,P*)
Mergansers (W,S*,F)
Shorebirds (W,P,F)
Unid. Waterfowl (W,S,N*,F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

DEER ISLE (LURC)

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P124 Eagle Island

Black-Backed Gulls (W,S,N,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W)
Loons (W*,F)
Osprey Nests (N*)
Scoters (S)
Unid. Waterfowl (W*,S*,N)
Cormorants (N,P,F)
Gulls (W*)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S)
Old Squaws (W,S,F*)
Shorebirds (W,F)

P125 Bald Island-Grass Ledge

Bald Eagles (F*)
Cormorants (N*,P*,F)
Gulls (W*)
Guillemots (N,P)
Loons (W,F)
Old Squaws (W,S,F)
Shorebirds (W,F*)
Black-Backed Gulls (W*,S*,N*,P*)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (S)
Herring Gulls (W,S,N*,P,F)
Mergansers (W,S)
Scoters (S)
Unid. Waterfowl (S)

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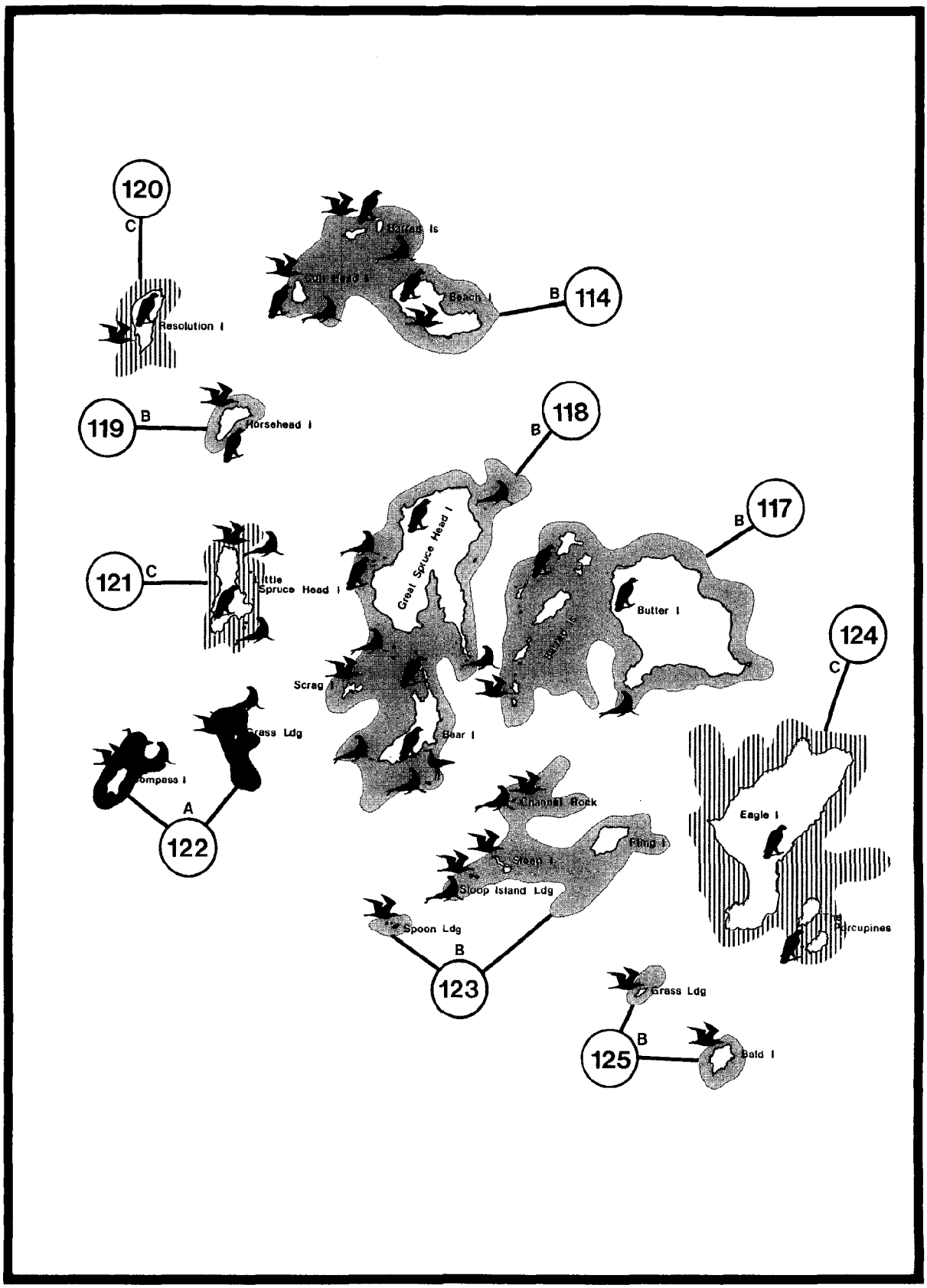
DEER ISLE (LURC)



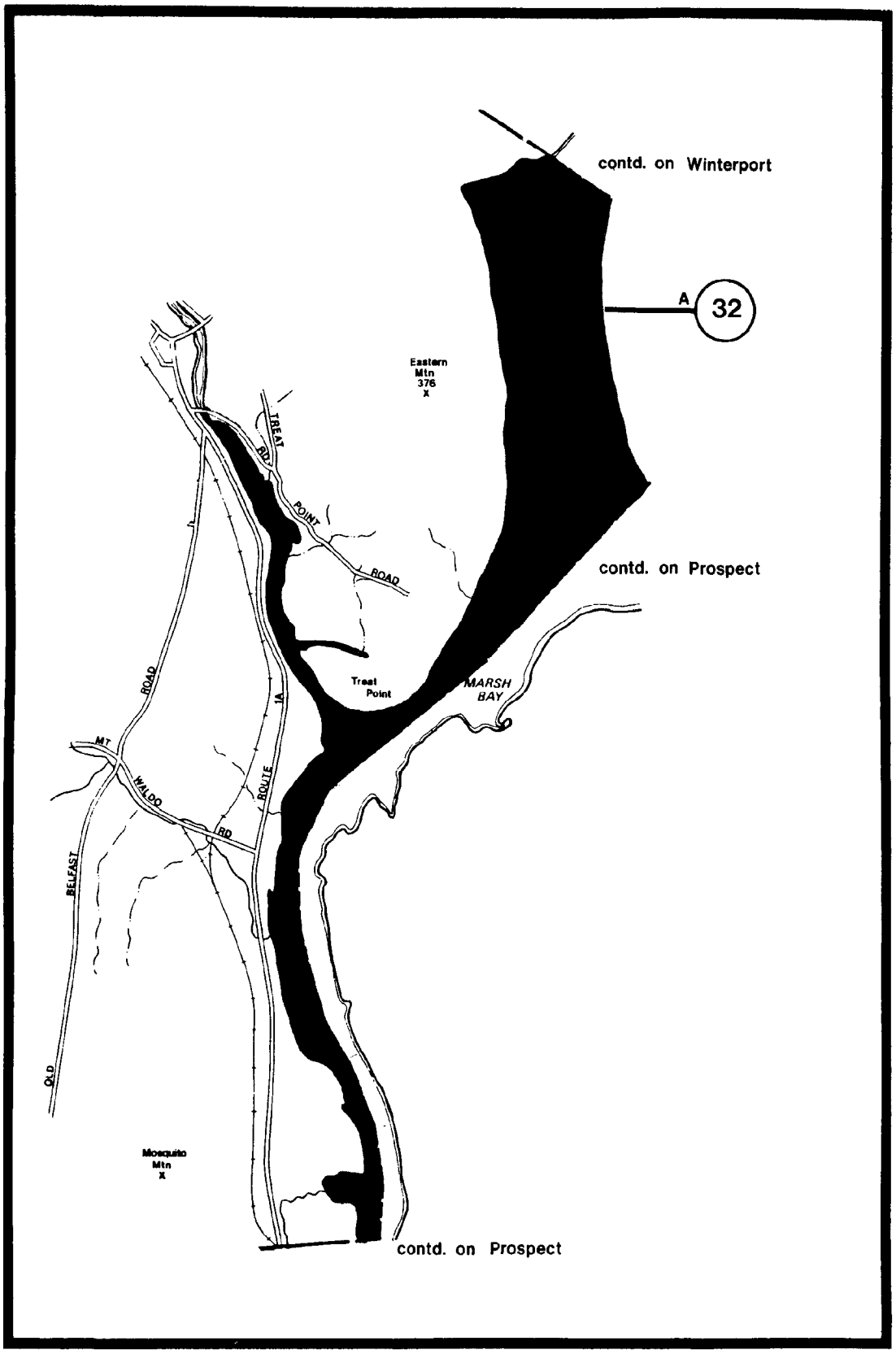
Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P032 Marsh River

Black Ducks (W,S,N*,P*,F*)
Cormorants (N,P,F)
Eiders (N)
Goldeneye/Bufflehead (W,S*,F*)
Mergansers (W*,F)
Shorebirds (N,F)
Black-Backed Gulls (N,P,F)
Canada Geese (S*,F)
Great Blue Herons (P,F*)
Herring Gulls (S,N,F)
Ospreys (P*)
Unid. Waterfowl (S,F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

FRANKFORT


contd. on Winterport
A
32
Eastern
Mtn
376
X
TREAT
RD
POINT
ROAD
contd. on Prospect
Treat
Point
MARSH
BAY
ROAD
1A
MT
WALDO
ROUTE
RD
BELFAST
OLD
Mosquito
Mtn
X
contd. on Prospect

FRENCHBORO

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P214 Crow Island

Black-Backed Gulls (S,N,P,F)
Eiders (W,S*,N,P,F)
Herring Gulls (W,S,N,P,F)
Loons (W)
Old Squaws (W,S*,F)
Small Gulls (P)
Unid. Waterfowl (P*)
Cormorants (W*,S,P,F)
Goldeneye/Bufflehead (W,S)
Harbor Seals (P,F)
Mergansers (S)
Shorebirds (P)
Terns (P*)

P215 Deep-West Coves

Black-Backed Gulls (N)
Eiders (S,N,F*)
Herring Gulls (N,F)
Loons (S*,F*)
Old Squaws (S,F)
Unid. Waterfowl (S*)
Cormorants (S*)
Goldeneye/Bufflehead (S)
Harbor Seals (S*)
Mergansers (S,F)
Scoters (S)

P216 Long Island - West

Bald Eagles (P*)
Cormorants (P)
Gulls (N)
Grebes (W*)
Loons (S,F)
Old Squaws (W,F)
Unid. Waterfowl (S*)
Black-Backed Gulls (S,F)
Eiders (W,S,N,F)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,P)
Mergansers (W,S,N*)
Terns (P)

P217 Long Island - East

Black Ducks (S)
Black-Backed Gulls (W,S,N)
Eiders (W*,S*,N,P,F*)
Grebes (W*)
Loons (W*,F)
Old Squaws (W,S,F)
Unid. Waterfowl (W,F)
Bald Eagles (F*)
Cormorants (F)
Goldeneye/Bufflehead (W,S,N*)
Herring Gulls (W,S,N,P)
Mergansers (W,S)
Scoters (N*,F)

P227 Pond Island

Black Ducks (W*,S,N*,F*)
Cormorants (P)
Eagle Nests (N*)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S,N)
Shorebirds (W*,P*)
Black-Backed Gulls (W*,N,P)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S)
Loons (W*,P*,F)
Old Squaws (W,N*)
Unid. Waterfowl (W,N)

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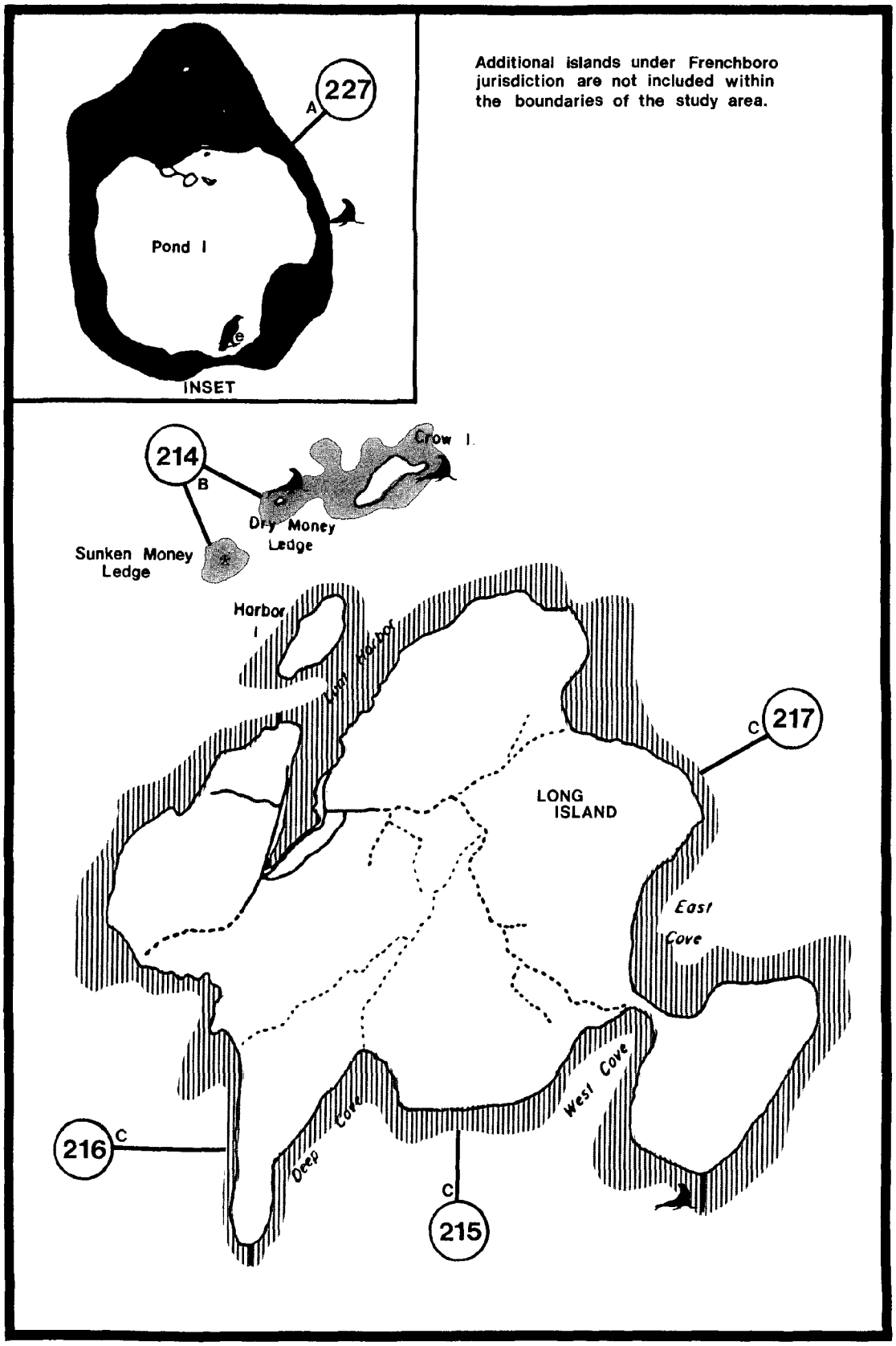
FRENCHBORO


227
A
Pond I
INSET
Additional islands under Frenchboro jurisdiction are not included within the boundaries of the study area.
214
B
Crow I.
Dry Money Ledge
Sunken Money Ledge
Harbor I
West Harbor
C
217
LONG ISLAND
East Cove
West Cove
Deep Cove
216
C
C
215

HAMPDEN

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P034 Bald Hill

Black Ducks (P,F*)
Black-Backed Gulls (N)
Canada Geese (S*)
Goldeneye/Bufflehead (W,S)
Ospreys (P*)
Unid. Waterfowl (S*)
Bald Eagles (F*)
Cormorants (P,F)
Gulls (F*)
Herring Gulls (W,S,N,P,F)
Osprey Nests (N)

P035 Hampden

Black Ducks (P,F)
Cormorants (N,P)
Great Blue Herons (P)
Herring Gulls (W,S,N,P,F)
Small Gulls (P)
Black-Backed Gulls (N,F)
Gulls (W,P,F)
Goldeneye/Bufflehead (S)
Loons (P*)
Unid. Waterfowl (S*)

P036 Bangor

Bald Eagles (F*)
Cormorants (N,P,F)
Goldeneye/Bufflehead (S)
Ospreys (P*)
Small Gulls (F)
Black-Backed Gulls (P,F)
Gulls (P,F*)
Herring Gulls (W,S,N,P,F)
Shorebirds (P)
Unid. Waterfowl (W,N*,F*)

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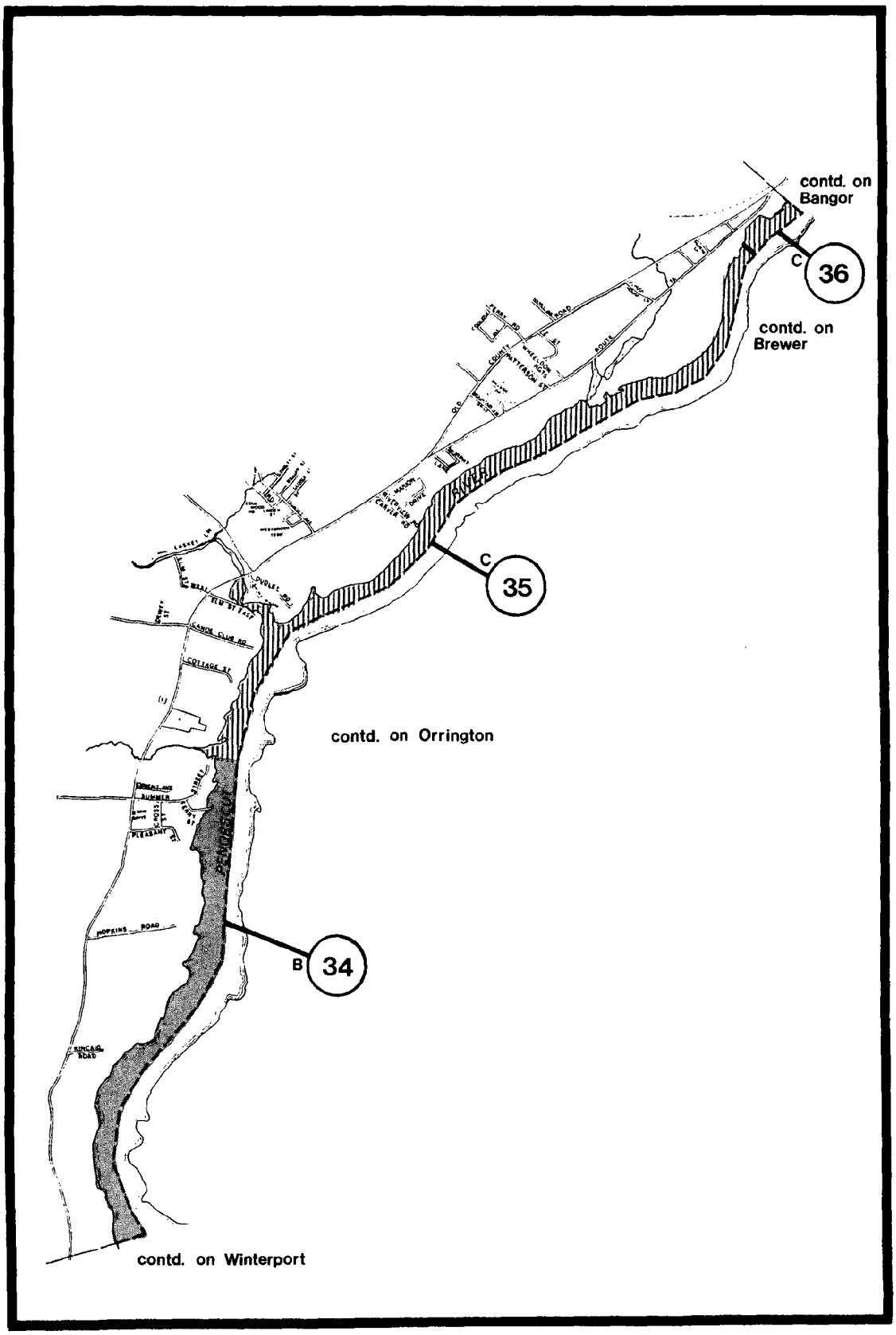
HAMPDEN


contd. on Bangor
C
36
contd. on Brewer
C
35
contd. on Orrington
B
34
contd. on Winterport

ISLE AU HAUT

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P131 Sparrow-West Halibut Islands

Black Ducks (S*)
Black-Backed Gulls (S,N*,P*,F)
Eiders (W,S*,N*,P*,F*)
Great Blue Herons (S*)
Grebes (S*)
Herring Gulls (W,S,N,P,F)
Loons (W,S*)
Old Squaws (W*,S*,F)
Shorebirds (S*,P*)
Unid. Waterfowl (S,F)
Bald Eagles (S*)
Cormorants (S*,N*,P*,F*)
Gulls (S*)
Goldeneye/Bufflehead (W)
Guillemots (P)
Harbor Seals (S*,N*,P*,F*)
Mergansers (S,F)
Scoters (W*,S*,F*)
Terns (P)

P133 Hardwood-Ewe-Ram Islands

Black-Backed Gulls (S,N,F)
Eiders (W,S*,N,P,F)
Herring Gulls (W,N,P,F)
Loons (W,N*)
Osprey Nests (N)
Scoters (W,S*)
Unid. Waterfowl (W)
Cormorants (P,F)
Goldeneye/Bufflehead (W,F)
Harbor Seals (N,F)
Mergansers (W)
Old Squaws (W,F)
Shorebirds (P)

P145 Merchant Island

Black-Backed Gulls (S,P,F)
Eiders (W,S*,N,F)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (W,S,P,F)
Loons (W,S,F)
Ospreys (N*)
Scoters (W)
Unid. Waterfowl (W,S*)
Cormorants (P,F)
Gulls (N)
Grebes (S*)
Harbor Seals (S)
Mergansers (S*,F)
Old Squaws (W*,S,F*)
Shorebirds (S,F)

P146 Bills-Pell-Burnt Islands

Black Ducks (S)
Cormorants (N,P,F*)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (W,S,N,P,F)
Loons (W,S,F)
Old Squaws (W,S*,N*,F)
Shorebirds (W*,N,P)
Unid. Waterfowl (W*,S,F*)
Black-Backed Gulls (W,S,N,P,F)
Eiders (W*,S,N,F)
Grebes (W*)
Harbor Seals (W*,F)
Mergansers (W,S,N*,F)
Scoters (W,F)
Terns (N,F*)

P174 Isle Au Haut - Northeast

Black Ducks (F)
Cormorants (P,F)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (P,F)
Mergansers (W,S*,F)
Shorebirds (P)
Black-Backed Gulls (W,S,N,F)
Eiders (W,S,N,P,F)
Herring Gulls (W,S,N,P,F)
Loons (W,S*,F)
Old Squaws (W,S,F)
Unid. Waterfowl (W,S)

P175 Isle Au Haut - Southeast

Black Ducks (W)
Cormorants (P,F)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (W,S,N*,P,F)
Loons (W*,S)
Old Squaws (F)
Unid. Waterfowl (S*)
Black-Backed Gulls (S,P*,F)
Eiders (W,S*,N,P,F)
Grebes (W*)
Harbor Seals (W*,S*,N,P)
Mergansers (W,S)
Scoters (W,S*)

P176 York Island

Black-Backed Gulls (W,S,P,F)
Eiders (W,S*,N,P*,F)
Guillemots (N)
Harbor Seals (W,P*,F)
Mergansers (W,S*,N,F)
Shorebirds (P,F)
Cormorants (S,P,F)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,P,F)
Loons (W,S,F)
Old Squaws (W,S,F)
Unid. Waterfowl (W*,S,F*)

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ISLE AU HAUT

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P177 The Cow Pen

Black Ducks (W,S)
Cormorants (F*)
Terns (N*,P*)
Guillemots (P)
Harlequins (S*)
Loons (W)
Old Squaws (W,S,F)
Shorebirds (W,S*,P)
Black-Backed Gulls (W,P,F)
Eiders (W,S*,N,P*,F)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,P,F)
Harbor Seals (P*,F*)
Mergansers (W)
Scoters (S)
Unid. Waterfowl (W,S*,F)

P178 Great Spoon Island

Black Ducks (F*)
Cormorants (W*,S*,N,P,F)
Great Blue Herons (P)
Gray Seals (N*)
Herring Gulls (W,S,N*,P*,F)
Loons (F)
Old Squaws (S,F)
Shorebirds (N)
Unid. Seabirds (F*)
Black-Backed Gulls (W*,S*,N*,P*,F*)
Eiders (W,S*,N,F)
Great Cormorants (N*,P*)
Guillemots (N,P)
Harbor Seals (N,P*)
Mergansers (W,S)
Scoters (W*,S*)
Terns (N*,P*)
Unid. Waterfowl (W)

P179 Little Spoon Island

Black Ducks (S*)
Cormorants (S*,N*,P)
Great Cormorants (N*,P*)
Guillemots (N,P)
Harlequins (W*,S*)
Mergansers (S)
Unid. Waterfowl (S)
Black-Backed Gulls (W*,S*,N,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,N,P,F)
Loons (W)
Old Squaws (W,S,F)

P180 White-Black Horse Islands

Black-Backed Gulls (S*,F*)
Eiders (W,S,N,P,F)
Guillemots (N)
Harbor Seals (S)
Cormorants (S*,N*,P*,F)
Great Cormorants (N*,P*)
Herring Gulls (W,S,N,F)
Scoters (S*)

P181 Eastern Ear Island

Black Ducks (S*)
Cormorants (P,F)
Eagle Nests (N*)
Herring Gulls (W,S,F)
Harbor Seals (S)
Mergansers (W,S)
Scoters (W,S)
Unid. Waterfowl (W)
Black-Backed Gulls (W,P)
Eiders (W*,S*,P,F)
Goldeneye/Bufflehead (W,S)
Harlequins (W*,S*)
Loons (S)
Old Squaws (F)
Shorebirds (P)

P182 Head Harbor

Black Ducks (W,S*,P)
Cormorants (P,F)
Goldeneye/Bufflehead (W,S)
Harlequins (S*)
Mergansers (W,S,N,P*)
Scoters (W,S,F)
Unid. Waterfowl (S*)
Black-Backed Gulls (S,N,P*,F)
Eiders (W*,S,P,F*)
Herring Gulls (W*,S,N,P,F)
Harbor Seals (W,F*)
Old Squaws (W,S,F)
Shorebirds (N,P,F)

P183 Western Head

Black-Backed Gulls (N,P,F)
Eiders (W*,S*,N,P,F*)
Herring Gulls (W,N,P,F)
Loons (W*,S,F)
Old Squaws (W,S,F*)
Shorebirds (W*)
Cormorants (S*,N,P,F*)
Goldeneye/Bufflehead (S,F)
Harbor Seals (N)
Mergansers (W,S)
Scoters (W,S*)
Unid. Waterfowl (S*)

P184 Duck Harbor

Cormorants (S*,N,P,F*)
Gulls (F)
Guillemots (N)
Harbor Seals (W*,S*,P)
Mergansers (W,S,F)
Unid. Waterfowl (W,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W)
Herring Gulls (W,P,F)
Loons (W,S,N*)
Old Squaws (W,F)

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ISLE AU HAUT

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P185 The Brandies

Black-Backed Gulls (P,F)
Eiders (W,S,N,P,F*)
Grebes (W*,S*)
Harbor Seals (S*,N*,P*,F)
Old Squaws (W,S,F)
Terns (P*)
Cormorants (W*,N,P,F*)
Goldeneye/Bufflehead (W)
Herring Gulls (W,P,F)
Loons (W)
Shorebirds (P)

P186 Moores Harbor

Black-Backed Gulls (N,P)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (W,S,N,P,F)
Loons (W,S,F)
Ospreys (P*)
Scoters (F*)
Cormorants (S,N,P)
Gulls (N*)
Grebes (W*,S*)
Harbor Seals (S*,N,P,F)
Mergansers (S)
Old Squaws (W,S*,F)
Unid. Waterfowl (W,N*,F)

P187 Bald Mt.

Black-Backed Gulls (S)
Eiders (S*,N,P,F)
Herring Gulls (W,S,P,F)
Mergansers (F)
Shorebirds (P)
Cormorants (F)
Goldeneye/Bufflehead (W,F)
Loons (W,S)
Old Squaws (S,F)
Unid. Waterfowl (W,S*)

P188 Isle Au Haut

Black Ducks (S)
Eiders (W,S,F)
Herring Gulls (W*,S,P,F)
Mergansers (W,S)
Old Squaws (W,S,F)
Unid. Waterfowl (W)
Black-Backed Gulls (W,P)
Goldeneye/Bufflehead (W,S,F)
Loons (S)
Osprey Nests (N)
Terns (P*)

P190 Kimball-Flake Islands

Black Ducks (S)
Cormorants (W*,S*,N,P,F)
Gulls (S)
Herring Gulls (W,S,N,P,F)
Mergansers (W*,S,F)
Scoters (S)
Terns (P)
Black-Backed Gulls (W,P)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W*,S*,F)
Loons (W*,S*,N*,P*,F*)
Old Squaws (W,S,F)
Shorebirds (S*,P)
Unid. Waterfowl (W,F*)

P191 White-Green Ledges

Black Ducks (W,S)
Cormorants (N*,P*,F)
Goldeneye/Bufflehead (S,F)
Herring Gulls (W,S,N,P,F)
Harbor Seals (S,P)
Mergansers (W,S*,F)
Scoters (W,S*)
Terns (P)
Black-Backed Gulls (W,S,N*,P*,F*)
Eiders (W*,S*,N*,P*,F)
Guillemots (P)
Harlequins (W*)
Loons (W*)
Old Squaws (W,S,F)
Shorebirds (S*)
Unid. Waterfowl (W,S,F)

P192 Fog Island

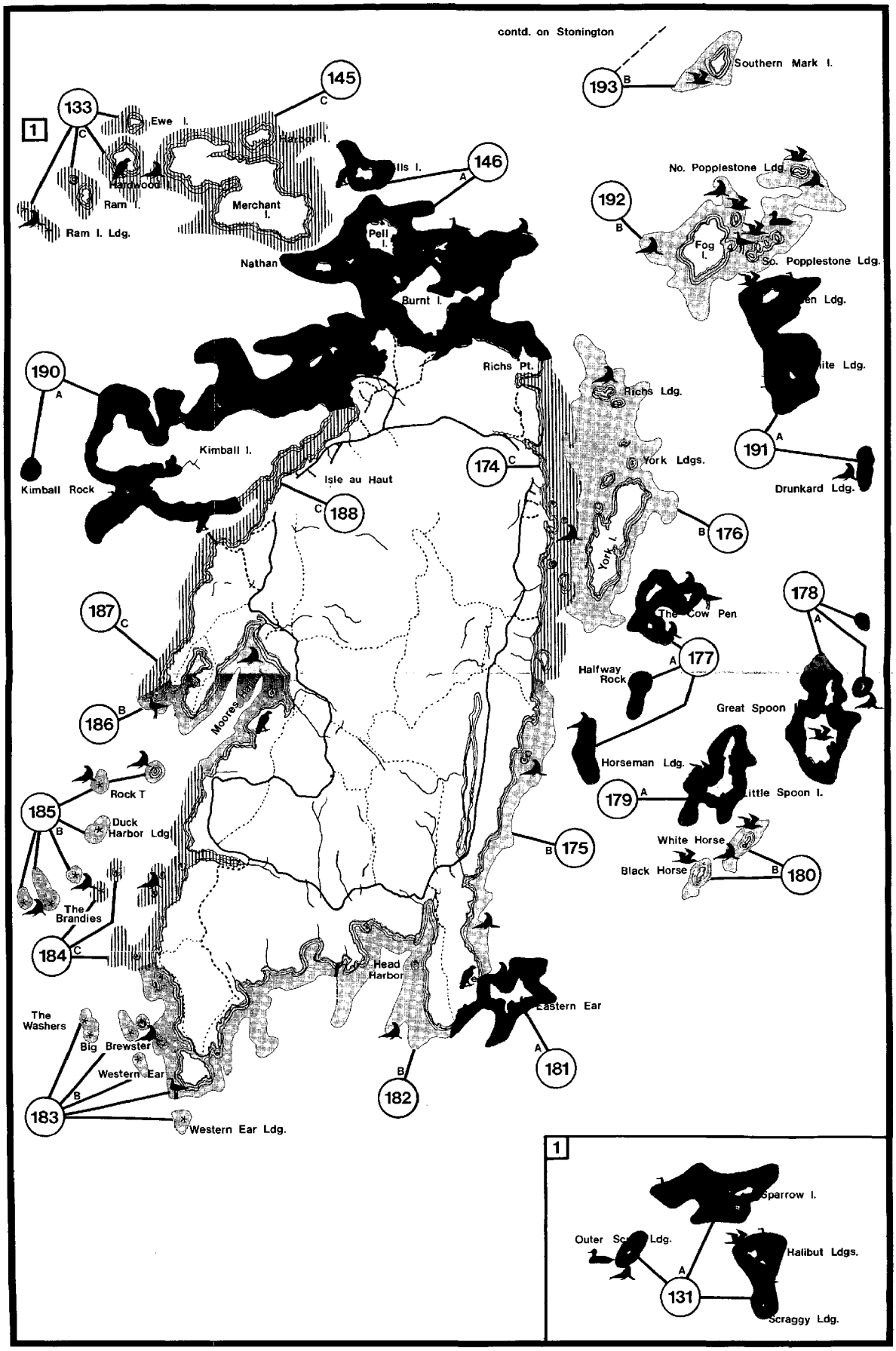
Black Ducks (S*,F*)
Cormorants (P,F)
Eiders (W*,S*,N,P*,F)
Goldeneye/Bufflehead (W,S,F)
Guillemots (N,P)
Harlequins (S*)
Loons (F)
Old Squaws (W,S,F)
Terns (N,P*)
Black-Backed Gulls (S,N,P,F*)
Canada Geese (F*)
Gulls (N,P)
Grebes (W*)
Herring Gulls (W,S,N,P,F)
Harbor Seals (N*,P*,F)
Mergansers (W*,S*,F)
Shorebirds (P*)
Unid. Waterfowl (W*,S)

P193 Southern Mark Island

Black-Backed Gulls (S*,N*,P*)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N,P)
Old Squaws (W,F)
Cormorants (N*,P*,F)
Gulls (W*,P)
Guillemots (N*,P*)
Loons (W,F)
Unid. Waterfowl (P*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

ISLE AU HAUT


contd. on Stonington
Southern Mark I.
193
145
133
Ewe I.
Harbor I.
Hardwood I.
Ram I.
Ram I. Ldg.
Merchant I.
146
Pell I.
Nathan
Burnt I.
No. Popplestone Ldg.
192
Fog I.
So. Popplestone Ldg.
190
Richs Pt.
Richs Ldg.
Kimball I.
Kimball Rock
Isle au Haut
174
York Ldgs.
191
Drunkard Ldg.
188
176
York I.
178
The Cow Pen
187
177
Halfway Rock
Great Spoon
186
Moores
Horseman Ldg.
Rock T
185
Duck Harbor Ldg.
179
Little Spoon I.
175
White Horse
Black Horse
180
The Brandies
184
Head Harbor
Eastern Ear
The Washers
Big Brewster
Western Ear
181
182
183
Western Ear Ldg.
Sparrow I.
Outer Sc Ldg.
Halibut Ldgs.
131
Scraggy Ldg.

ISLE AU HAUT

ISLESBORO

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P037 Turtle Head Cove

Black Ducks (N*)
Eiders (S,N)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (W)
Old Squaws (F)
Terns (P)
Cormorants (N,P)
Gulls (W*)
Herring Gulls (W,S,N,P)
Mergansers (S)
Shorebirds (N)
Unid. Waterfowl (S*,F)

P038 Sprague Cove

Black Ducks (S,F)
Cormorants (P)
Eiders (S,N)
Great Blue Herons (P)
Herring Gulls (W,S,N,P)
Mergansers (W,S,N)
Unid. Waterfowl (S,F)
Black-Backed Gulls (N)
Canada Geese (F)
Gulls (P)
Goldeneye/Bufflehead (W,S,F)
Loons (W,P*)
Old Squaws (W,F)

P039 Ram-Seal-Flat Islands

Black Ducks (S)
Cormorants (N*,P*)
Gulls (W,P*)
Grebes (S*)
Harbor Seals (W*,N*,P)
Mergansers (F)
Osprey Nests (N*)
Shorebirds (P)
Black-Backed Gulls (S*,N,P)
Eiders (S,N*)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S*,N*,P*)
Loons (S)
Ospreys (P*)
Old Squaws (W,S)
Small Gulls (P)

P040 Seal Harbor

Black Ducks (W,S*)
Eiders (S,N)
Herring Gulls (W,S,N,P)
Mergansers (S,F)
Osprey Nests (N*)
Shorebirds (F)
Black-Backed Gulls (W,F)
Goldeneye/Bufflehead (W,S,F*)
Harbor Seals (W)
Ospreys (N*,P*)
Old Squaws (W,S,F)
Unid. Waterfowl (S)

P041 Grindel Point

Cormorants (P)
Goldeneye/Bufflehead (W,S)
Loons (P*)
Old Squaws (W)
Eiders (W,S,N)
Herring Gulls (S,P)
Mergansers (W,S)
Unid. Waterfowl (N)

P042 Broad Cove

Black Ducks (W,S)
Eiders (W,S,N,P)
Herring Gulls (W,S,N,P,F)
Shorebirds (P)
Cormorants (N)
Goldeneye/Bufflehead (W*,S,F*)
Mergansers (S,F)
Unid. Waterfowl (N*)

P043 700-Acre Island-North

Black Ducks (W,S)
Cormorants (P,F)
Gulls (W*,S*)
Herring Gulls (W*,S,N,P)
Mergansers (W,S,N)
Old Squaws (W,F)
Unid. Waterfowl (W,N*)
Black-Backed Gulls (N,P)
Eiders (S,N,P,F)
Goldeneye/Bufflehead (W*,S)
Loons (W,F)
Ospreys (P*)
Shorebirds (P)

P044 Philbrook Cove

Black Ducks (F*)
Eiders (N)
Goldeneye/Bufflehead (W,F)
Harbor Seals (F)
Ospreys (N*)
Shorebirds (F)
Cormorants (N)
Great Blue Herons (N*)
Herring Gulls (W,N,F)
Mergansers (F)
Osprey Nests (N)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

ISLESBORO

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P045 700-Acre Island - South

Black Ducks (S*)
Cormorants (F)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (S,N,F)
Mergansers (W,S,F*)
Osprey Nests (N)
Shorebirds (N)
Black-Backed Gulls (N)
Eiders (W,S,N)
Herring Gulls (W,S,N,F)
Loons (S,F)
Ospreys (N*)
Old Squaws (W,F)

P046 Turtle Head

Black-Backed Gulls (P)
Eiders (S,P)
Herring Gulls (W,S,P)
Mergansers (F)
Shorebirds (P)
Cormorants (P)
Goldeneye/Bufflehead (W,S,F)
Loons (P*,F)
Osprey Nests (N*)

P047 Parker Cove

Black Ducks (W*,S*,F*)
Black-Backed Gulls (P,F)
Eiders (W,S,N,P,F)
Herring Gulls (W*,S,N,P*,F)
Loons (W,P*)
Osprey Nests (N*)
Shorebirds (W*,S*,P,F)
Bald Eagles (S*)
Cormorants (N,P,F)
Goldeneye/Bufflehead (W*,S,N*,F*)
Harbor Seals (N*,P)
Ospreys (P*)
Old Squaws (W)
Terns (P)

P048 Sabbathday Harbor

Black Ducks (S)
Eiders (S,N)
Goldeneye/Bufflehead (W,S)
Mergansers (W,S,N)
Terns (P)
Black-Backed Gulls (W,N)
Gulls (W)
Herring Gulls (W,S,N,P)
Old Squaws (W)
Unid. Waterfowl (W,N)

P049 Islesboro Harbor

Black Ducks (F)
Cormorants (P)
Gulls (W)
Goldeneye/Bufflehead (W,S,F*)
Harbor Seals (P)
Old Squaws (W,S,F)
Unid. Waterfowl (S*)
Black-Backed Gulls (P)
Eiders (S,N,P)
Great Blue Herons (N)
Herring Gulls (W,N,P)
Loons (W)
Shorebirds (P,F)

P050 Islesboro - East

Black-Backed Gulls (W,P)
Canada Geese (F*)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (N,F)
Mergansers (W,S,F)
Old Squaws (S)
Cormorants (P)
Eiders (S,N,P)
Herring Gulls (W,S,N,P,F)
Loons (W,F)
Osprey Nests (N)
Unid. Waterfowl (S,N,F)

P051 Islesboro - South

Black-Backed Gulls (W)
Eiders (W,S,N,F)
Goldeneye/Bufflehead (W*,S,F*)
Harbor Seals (F)
Ospreys (P*)
Shorebirds (F)
Cormorants (P,F)
Gulls (W*)
Herring Gulls (W,S,N,P,F)
Mergansers (W,F)
Old Squaws (W,F*)
Unid. Waterfowl (W)

P052 Lassell-Lime-Job islands

Black Ducks (W)
Cormorants (N,P,F*)
Gulls (W*,N,F)
Herring Gulls (W,S,N,P,F)
Loons (N*,F*)
Ospreys (F*)
Old Squaws (W,S,F)
Unid. Waterfowl (W,P*,F*)
Black-Backed Gulls (W,S,N,P,F)
Eiders (S,N,P,F)
Goldeneye/Bufflehead (W*,S*,F*)
Harbor Seals (W*,S,N,P,F)
Mergansers (W*,S*,N*)
Osprey Nests (N*)
Shorebirds (P)

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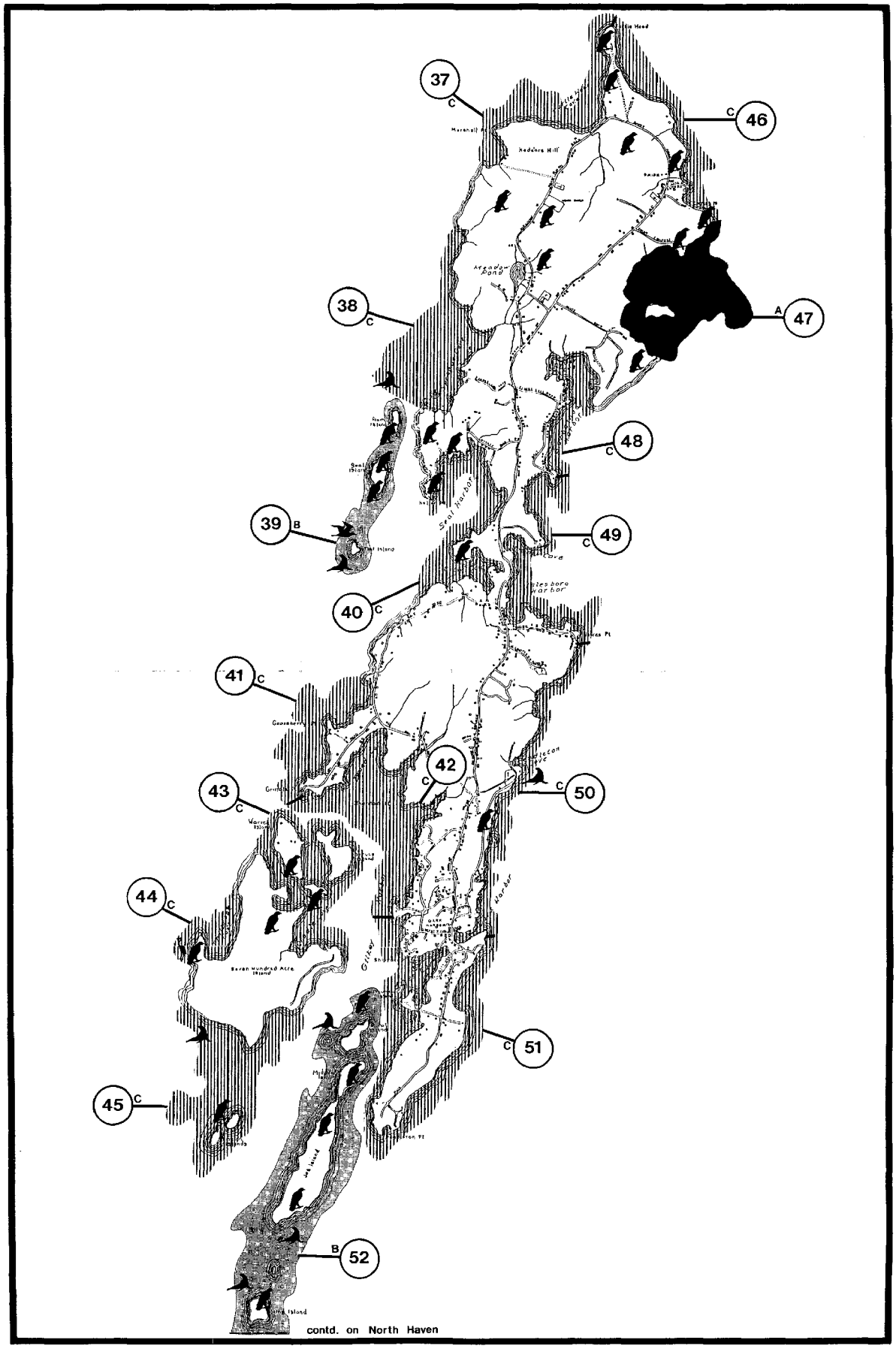
ISLESBORO


37 C
46 C
38 C
47 A
48 C
39 B
49 C
40 C
41 C
42 C
43 C
50 C
44 C
51 C
45 C
52 B
Seal Harbor
contd. on North Haven

ISLESBORO

LINCOLNVILLE

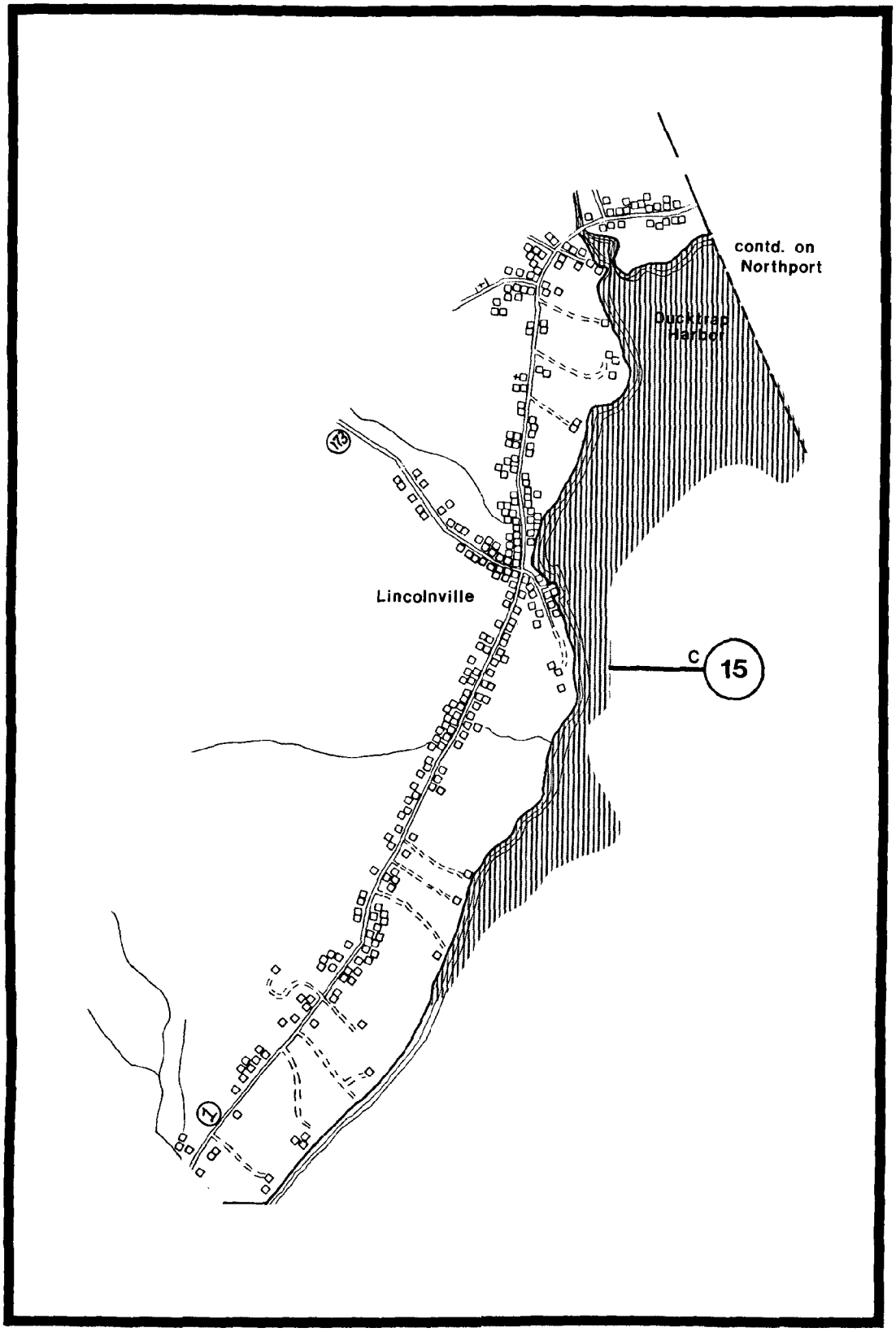
Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P015 Ducktrap Harbor

Black Ducks (W)
Cormorants (N,P,F)
Eiders (S,N)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S,N*,F*)
Old Squaws (W,F)
Unid. Waterfowl (W,N,P*,F*)
Black-Backed Gulls (W,S*,N,P,F)
Canada Geese (W*)
Goldeneye/Bufflehead (W,S*,F)
Loons (W,P*,F)
Ospreys (P*)
Small Gulls (P)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

LINCOLNVILLE



MATINICUS & CRIEHAVEN

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P082 Seal Island

Brant (W*,S*,N*)
Cormorants (W*,N,P)
Gulls (W)
Herring Gulls (W,S*,N*,P*,F*)
Old Squaws (W)
Scoters (S*)
Terns (N)
Black-Backed Gulls (W*,S*,N*,P*,F*)
Eiders (W,S,N*,P,F*)
Guillemots (N*,P*)
Harbor Seals (N,P*,F*)
Petrels (N*,P*)
Shorebirds (W*,P,F*)

P083 Malcolm Ledge

Cormorants (S)
Gulls (F)
Eiders (S,P,F*)
Herring Gulls (S,N)

P084 Wooden Ball Island

Brant (S*,N*)
Black-Backed Gulls (S*,N*,P,F)
Eiders (W,S,N*,P,F*)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S*,N*,P,F)
Old Squaws (W)
Shorebirds (W)
Terns (N*,P*)
Black Ducks (S)
Cormorants (N,P,F)
Gulls (N*)
Guillemots (N*,P*)
Harbor Seals (P,F*)
Petrels (N*,P*)
Small Gulls (N*,P*)

P085 Matinicus Island - North

Brant (S)
Cormorants (W*,S*,N*,P*)
Gulls (N*)
Herring Gulls (W,S,N*,P*,F)
Old Squaws (W)
Shorebirds (S*)
Black-Backed Gulls (W,S,N*,P*,F)
Eiders (W,S,N*,P,F*)
Guillemots (N*,P*)
Harbor Seals (N,P)
Petrels (N*,P*)

P086 Matinicus Island - South

Black-Backed Gulls (N,P,F)
Eiders (W,S,N,P,F)
Herring Gulls (W,S,N*,P,F)
Loons (W,S)
Shorebirds (F*)
Cormorants (P)
Guillemots (N*,P*)
Harbor Seals (S*,F*)
Old Squaws (W,F)
Unid. Waterfowl (S)

P087 Ragged Island

Black Ducks (S)
Cormorants (W*,S*,N*,P*,F)
Gulls (N*)
Guillemots (N*,P*)
Harbor Seals (S*,N*,P*,F*)
Mergansers (S)
Petrels (N,P)
Unid. Waterfowl (W)
Black-Backed Gulls (W,S,N,P*,F*)
Eiders (W,S,N*,P,F*)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,N,P*,F*)
Loons (W)
Old Squaws (W)
Shorebirds (W*,P)

P088 Matinicus Rock

Black-Backed Gulls (W*,S,N*,P*,F*)
Eiders (W,S,N,F*)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N*,P,F)
Puffins (N*,P*)
Shorebirds (W)
Terns (N*,P*)
Cormorants (S)
Gulls (N*)
Guillemots (N*,P*)
Petrels (N*,P*)
Razorbills (N*,P*)
Small Gulls (N*,P*)

P089 Large Green Island

Brant (S*)
Cormorants (S,N,F)
Gulls (N)
Guillemots (N*,P*)
Harbor Seals (N*,P,F*)
Unid. Waterfowl (N)
Old Squaws (W,F)
Terns (N*,P*)
Black-Backed Gulls (W,N,P,F)
Eiders (W,S,N*,P*,F)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N,P*,F)
Loons (F)
Mergansers (F)
Shorebirds (P,F)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

MATINICUS & CRIEHAVEN

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P090 Little Green Island

Brant (S*)
Cormorants (N*,P*)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N*,P*)
Terns (N,P)
Black-Backed Gulls (W,S,N*,P*)
Eiders (W,S,N*,P*)
Guillemots (N,P)
Old Squaws (W)
Unid. Waterfowl (N*)

P091 Northern Triangles

Eiders (N,F)

P092 Southern Triangles

Eiders (W,S,F)
Shorebirds (W,S*)
Herring Gulls (S)

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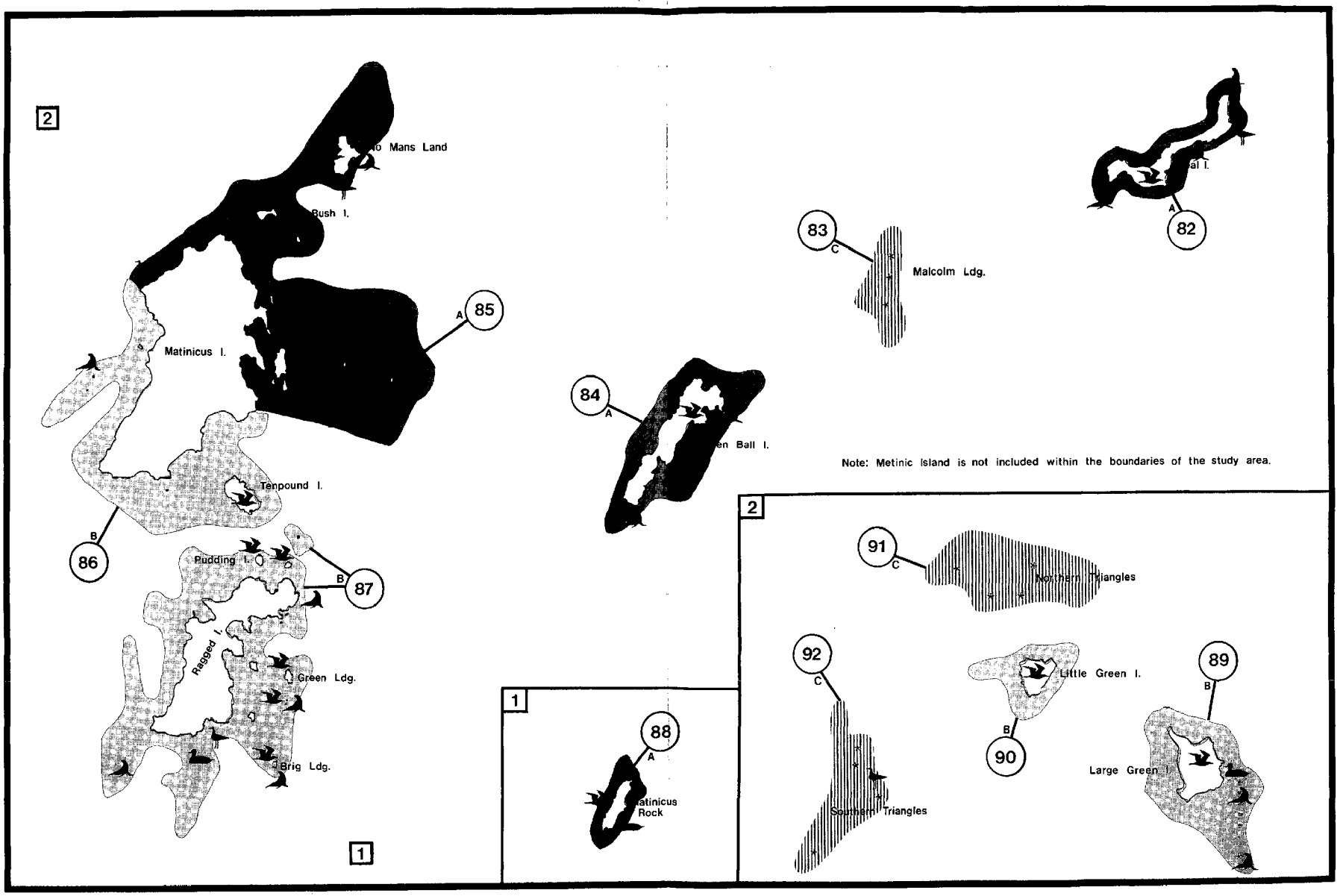
MATINICUS AND CRIEHAVEN

MATINICUS & CRIEHAVEN



MUSCLE RIDGE ISLANDS

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P001 Hewett-Graffam-Pleasant Is.

Black-Backed Gulls (W,S,P,F)
Eiders (W,S,N*,P*,F*)
Great Blue Herons (N*,P*)
Guillemots (N,P)
Harbor Seals (W*,S*,N*,P*,F*)
Old Squaws (W,S*,F)
Unid. Waterfowl (P*,F*)
Cormorants (W*,N,P,F*)
Gulls (N,P*,F)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S,F)
Shorebirds (S,P*,F)

P002 Andrews Island

Black-Backed Gulls (S,F)
Eiders (W,S,N,P,F)
Guillemots (N,P)
Harbor Seals (S,N,P,F)
Mergansers (W)
Old Squaws (W,F)
Cormorants (W*,S*,N,P,F*)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N,P,F)
Loons (S)
Osprey Nests (N*)
Shorebirds (P,F)

P003 Dix-High-Otter Islands

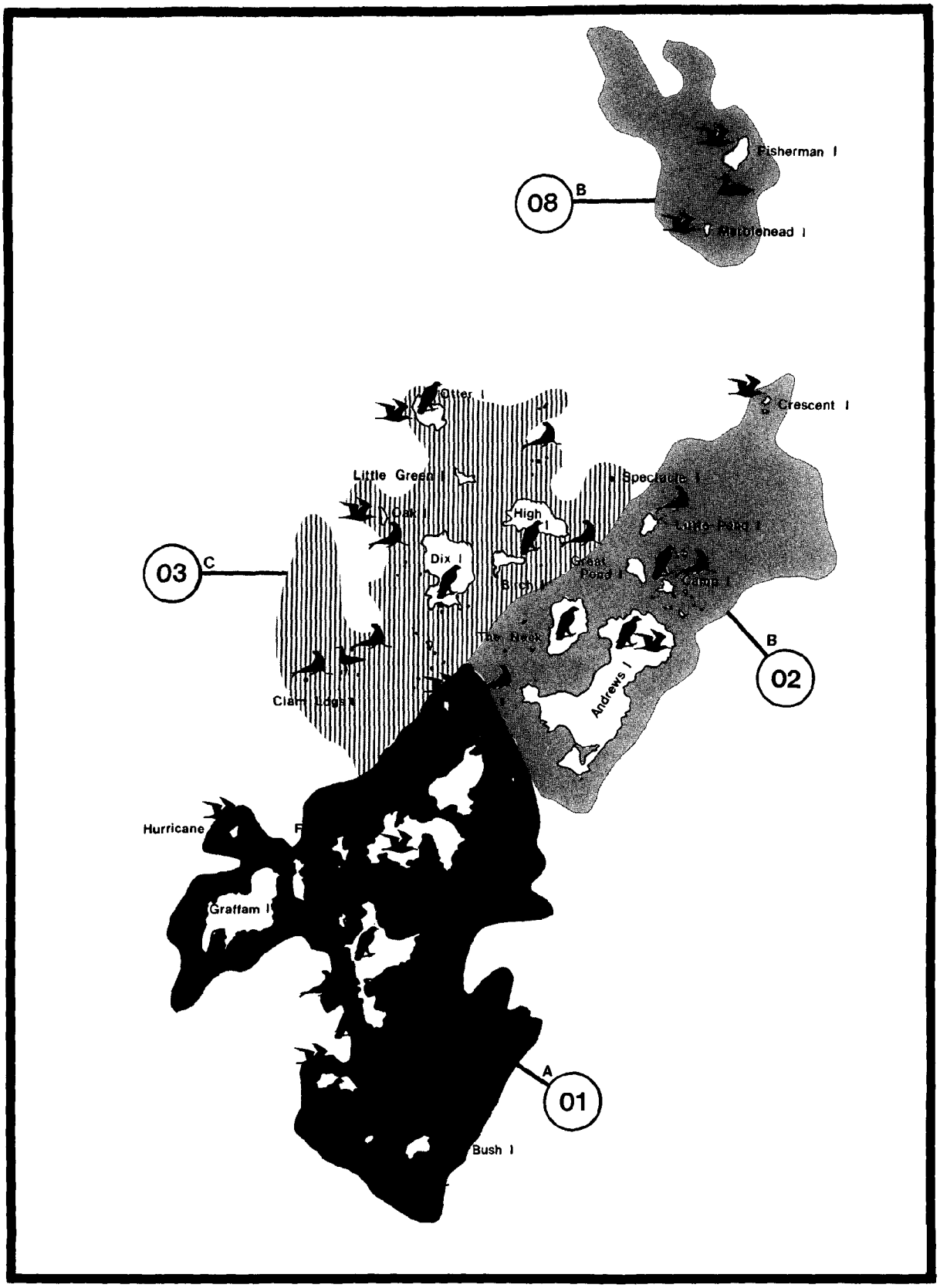
Black-Backed Gulls (S,N,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N,P)
Osprey Nests (N*)
Shorebirds (W,S,P*)
Cormorants (P,F)
Gulls (N*,F)
Guillemots (N,P)
Harbor Seals (S*,N*,P,F)
Old Squaws (W,F)
Unid. Waterfowl (P*)

P008 Fisherman Island

Black-Backed Gulls (S*,N*,P*,F)
Eiders (W,S,N*,F)
Herring Gulls (W,S,N*,P*,F)
Cormorants (S*,N*,P*)
Guillemots (N*,P*)
Loons (F)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

MUSCLE RIDGE ISLANDS



NORTH HAVEN

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P052 Lassell-Lime-Job islands

Black Ducks (W)
Cormorants (N,P,F*)
Gulls (W*,N,F)
Herring Gulls (W,S,N,P,F)
Loons (N*,F*)
Ospreys (F*)
Old Squaws (W,S,F)
Unid. Waterfowl (W,P*,F*)
Black-Backed Gulls (W,S,N,P,F)
Eiders (S,N,P,F)
Goldeneye/Bufflehead (W*,S*,F*)
Harbor Seals (W*,S,N,P,F)
Mergansers (W*,S*,N*)
Osprey Nests (N*)
Shorebirds (P)

P053 Mouse-Saddle-Goose Islands

Black Ducks (S)
Black-Backed Gulls (W,S*,N,P,F)
Eiders (W,S,N*,P,F)
Goldeneye/Bufflehead (W)
Harbor Seals (W*,N*,P*,F)
Osprey Nests (N*)
Shorebirds (P*)
Unid. Waterfowl (W)
Bald Eagles (W*)
Cormorants (N*,P*,F)
Gulls (N,P)
Herring Gulls (W,S*,N,P,F)
Mergansers (W)
Old Squaws (W,F)
Small Gulls (F)

P054 Mark Island

Bald Eagles (W*,S*,P*)
Cormorants (N,P,F)
Eagle Nests (N*)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S)
Old Squaws (W,F)
Unid. Waterfowl (P*)
Black-Backed Gulls (S*,N,P,F)
Eiders (S,N,P,F)
Gulls (W,N*)
Guillemots (N,P)
Harbor Seals (W*,S,N*)
Osprey Nests (N*)
Shorebirds (F)

P055 Robinson Rock

Black-Backed Gulls (S*,N,P,F)
Eiders (W,S,N,P,F)
Guillemots (N*,P*)
Harbor Seals (N*,P*,F*)
Mergansers (W)
Shorebirds (W*,P*)
Unid. Waterfowl (P*)
Cormorants (N*,P*,F)
Goldeneye/Bufflehead (W,F)
Herring Gulls (W,S,N,P,F)
Loons (F)
Old Squaws (W)
Small Gulls (N)

P056 Oak-Burnt Islands

Bald Eagles (P*)
Cormorants (P,F)
Eiders (W,N,P,F)
Gulls (W*,F)
Herring Gulls (W,N,P,F)
Loons (W*,N*,F)
Osprey Nests (N)
Shorebirds (P,F)
Black-Backed Gulls (N,P)
Canada Geese (W*,N*,P*)
Eagle Nests (N*)
Goldeneye/Bufflehead (W)
Harbor Seals (W,N,F)
Mergansers (N*,F)
Old Squaws (W*,F*)
Unid. Waterfowl (W)

P057 Sheep-Dagger Islands

Black-Backed Gulls (W,N,P,F)
Eiders (W,N,P,F)
Herring Gulls (W,N,P,F)
Ospreys (P*)
Old Squaws (W,F)
Terns (N,P)
Cormorants (P,F)
Guillemots (N,P)
Loons (W,F)
Osprey Nests (N)
Shorebirds (W,N,P,F*)
Unid. Waterfowl (W,N*,F)

P058 Oak Hill-Mullen Head

Black Ducks (F)
Cormorants (P)
Eiders (S,N,P,F)
Loons (P*,F)
Ospreys (P*)
Old Squaws (S*,F)
Black-Backed Gulls (S,P,F)
Canada Geese (S*,N*,P*)
Herring Gulls (S,P,F)
Mergansers (S)
Osprey Nests (N)
Shorebirds (P,F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

NORTH HAVEN

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P059 Calderwood-Babbidge Islands

Bald Eagles (W*)
Cormorants (N,P,F*)
Eiders (W*,S,N,P,F)
Gulls (W)
Goldeneye/Bufflehead (W*,S,F)
Harbor Seals (N,P)
Mergansers (W*,S*,N*,F)
Osprey Nests (N*)
Shorebirds (W,P,F*)
Black-Backed Gulls (W,S,N,P,F)
Canada Geese (F*)
Eagle Nests (N*)
Great Blue Herons (F*)
Herring Gulls (W*,S,N,P,F)
Loons (W*,S*,N*,P*,F*)
Ospreys (N*)
Old Squaws (W*,S*,F*)
Unid. Waterfowl (W*,N,P*)

P060 Kent-Waterman Coves

Black Ducks (W,F*)
Cormorants (N)
Gulls (S,N*)
Herring Gulls (W,S,N,P,F)
Loons (W,S*,N*,F)
Old Squaws (W*,S,F*)
Shorebirds (F*)
Unid. Waterfowl (S)
Black-Backed Gulls (S,N)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W*,S,F)
Harbor Seals (N,F)
Mergansers (W)
Scoters (N*)
Terns (P)

P061 North Haven Town

Black-Backed Gulls (S,N)
Eiders (W,S,P,F)
Goldeneye/Bufflehead (W,S,F)
Loons (S,F*)
Old Squaws (W,F)
Cormorants (F)
Gulls (W,N*)
Herring Gulls (W,S,N,F)
Mergansers (W)
Unid. Waterfowl (W,N*,F*)

P062 Southern Harbor

Black Ducks (W)
Cormorants (P,F)
Great Blue Herons (P)
Herring Gulls (W,S,N,P)
Loons (S,F)
Ospreys (P*,F*)
Shorebirds (F*)
Unid. Waterfowl (W)
Black-Backed Gulls (N,P)
Eiders (W,P,F)
Goldeneye/Bufflehead (W*,S,F*)
Harbor Seals (P)
Mergansers (W*,S)
Old Squaws (W,F*)
Terns (P)

P063 Dumpling Islands

Black Ducks (N*)
Cormorants (N,P,F*)
Goldeneye/Bufflehead (W,S,F*)
Harbor Seals (N,F)
Mergansers (S,N*,F)
Old Squaws (W,F*)
Shorebirds (P,F)
Black-Backed Gulls (W,N,P)
Eiders (W,S,N,F)
Herring Gulls (W,S,N,P,F)
Loons (W*,F*)
Osprey Nests (N)
Scoters (N*)
Unid. Waterfowl (F*)

P064 Stand-in Point

Black Ducks (N*)
Cormorants (N,P,F*)
Gulls (W,P*,F*)
Herring Gulls (W,S,N,P,F)
Loons (W*,S,F*)
Osprey Nests (N*)
Shorebirds (P,F*)
Unid. Waterfowl (W*,S*)
Black-Backed Gulls (S,N,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S)
Harbor Seals (N,F)
Mergansers (W,S,F)
Old Squaws (W,S*,F*)
Small Gulls (P)

P065 Pulpit Harbor

Black Ducks (W,F)
Cormorants (P,F)
Gulls (W)
Goldeneye/Bufflehead (W,S,F*)
Harbor Seals (F)
Mergansers (W)
Osprey Nests (N*)
Unid. Waterfowl (W)
Black-Backed Gulls (S,N,F)
Eiders (W,S,N,F)
Great Blue Herons (F*)
Herring Gulls (W,S,N,P,F)
Loons (N*,F*)
Ospreys (P*)
Old Squaws (W,F*)

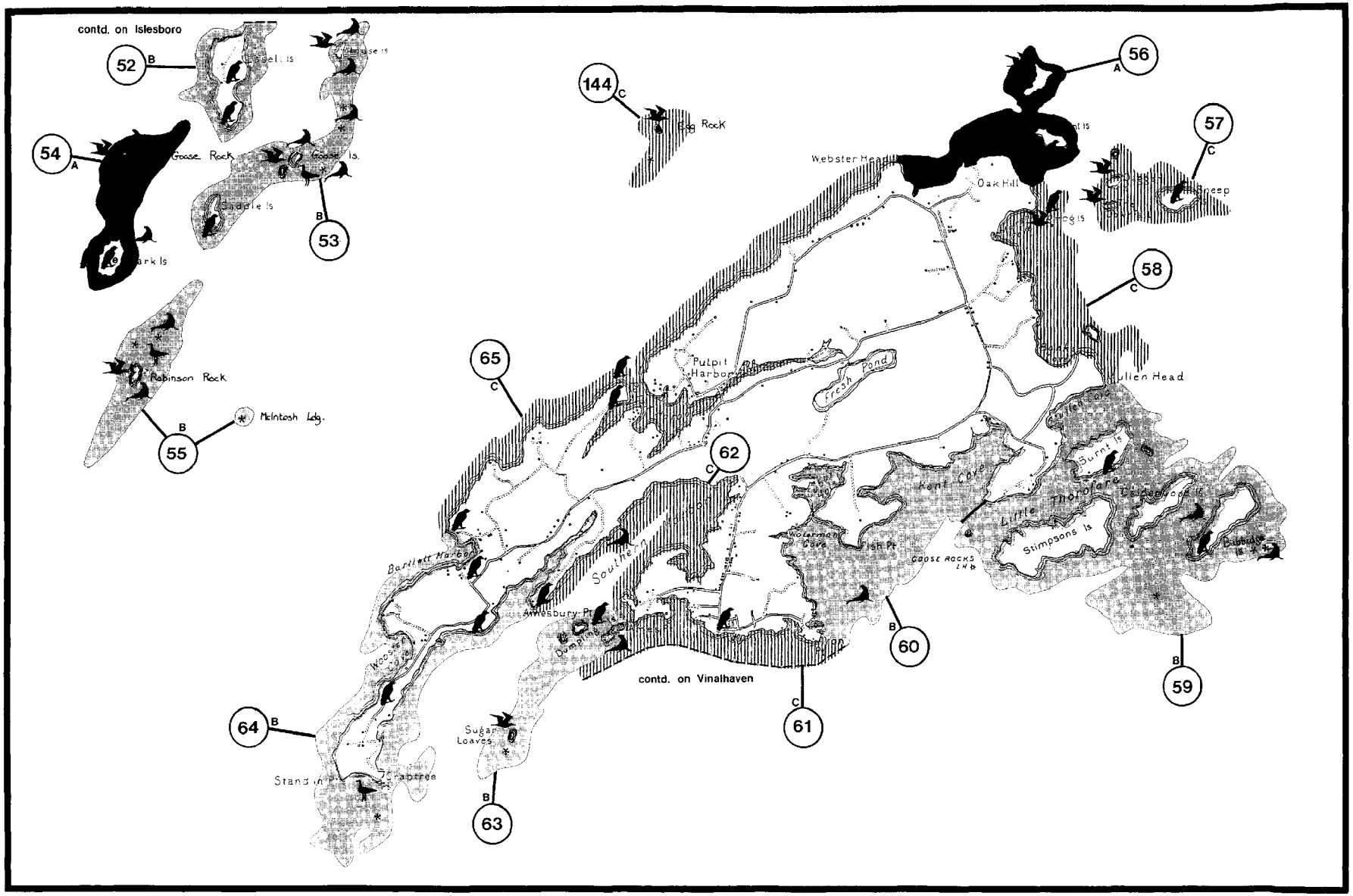
P144 Egg Rock

Black-Backed Gulls (P)
Eiders (S,P)
Harbor Seals (N)
Cormorants (N,P)
Herring Gulls (S)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

NORTH HAVEN

NORTH HAVEN


contd. on Islesboro
52
B
54
A
Goose Rock
Goose Is.
Saddle Is
53
B
Robinson Rock
McIntosh Ldg.
55
B
144
C
Egg Rock
56
A
57
C
Webster Head
Oak Hill
58
C
Pulpit Harbor
Fresh Pond
Mullen Head
65
C
62
C
Kent Cove
Burnt Is
Little Thorofare
Stimpsons Is
Goose Rocks LH
Southern
Bartlett Harbor
Amesbury Pt
Dumpling
60
B
59
B
contd. on Vinalhaven
61
C
64
B
Sugar Loaves
Stand in Pt
Crabtree
63
B

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P015 Ducktrap Harbor

Black Ducks (W)
Cormorants (N,P,F)
Eiders (S,N)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S,N*,F*)
Old Squaws (W,F)
Unid. Waterfowl (W,N,P*,F*)
Black-Backed Gulls (W,S*,N,P,F)
Canada Geese (W*)
Goldeneye/Bufflehead (W,S*,F)
Loons (W,P*,F)
Ospreys (P*)
Small Gulls (P)

P016 Saturday Cove

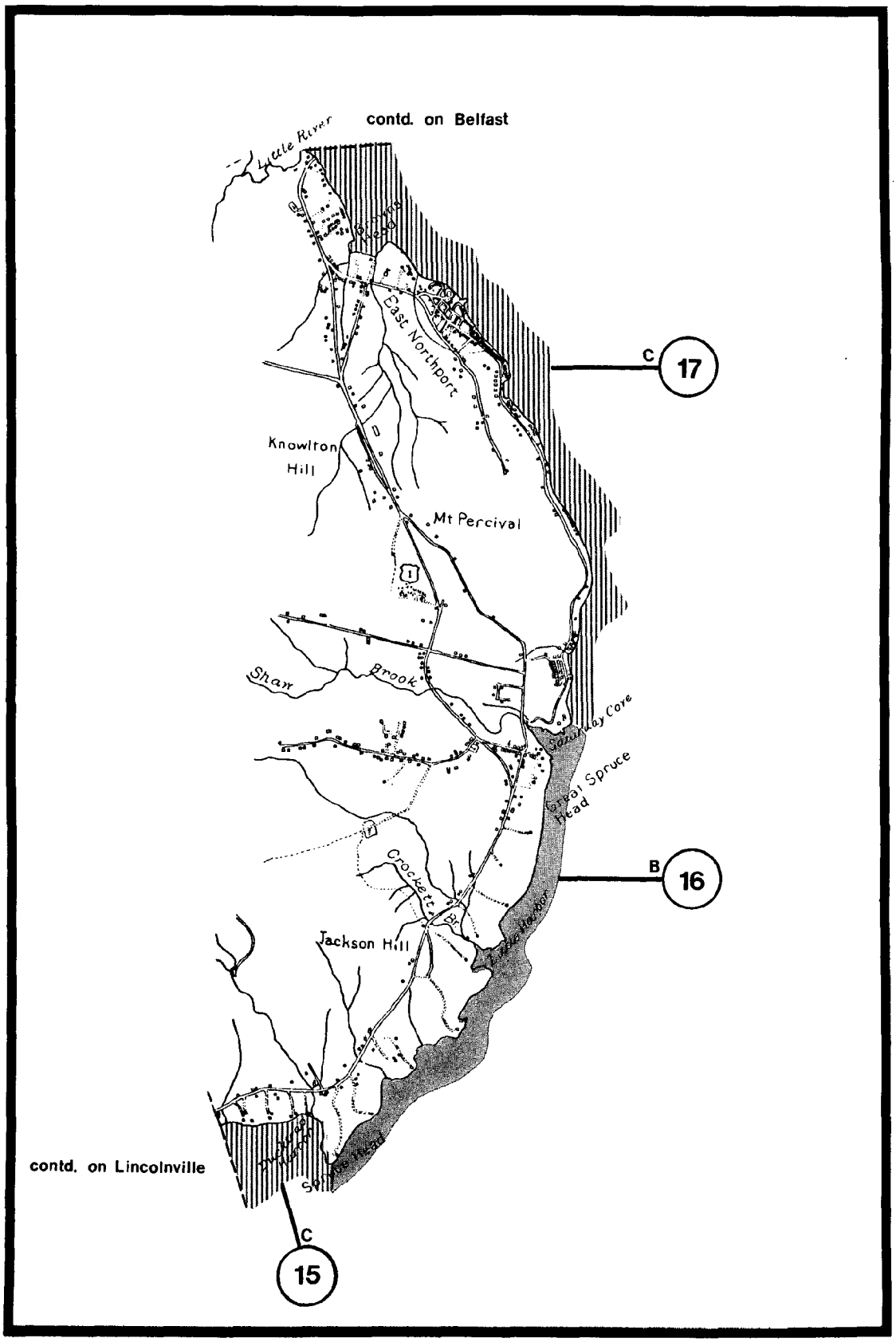
Black Ducks (W,S)
Cormorants (N,P,F)
Eiders (W,S,N,F)
Goldeneye/Bufflehead (W,S)
Harbor Seals (F)
Mergansers (W,S,N*,F)
Old Squaws (S)
Small Gulls (P)
Black-Backed Gulls (N,F)
Canada Geese (F*)
Gulls (P*,F*)
Herring Gulls (W,S,N,P,F)
Loons (W)
Ospreys (P*,F*)
Shorebirds (P)
Unid. Waterfowl (W,S,F*)

P017 Belfast Reservoir

Black-Backed Gulls (W,S,P,F)
Eiders (S,N,F)
Herring Gulls (W*,S,N,P,F)
Loons (W,P*,F*)
Old Squaws (W,S)
Small Gulls (F)
Cormorants (N,P,F)
Goldeneye/Bufflehead (W,S,F*)
Harbor Seals (F)
Mergansers (S,N)
Shorebirds (P)
Unid. Waterfowl (W,S*,N,F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

NORTHPORT


contd. on Belfast
Little River
East Northport
C
17
Knowlton Hill
Mt Percival
Shaw Brook
Great Spruce Head
B
16
Crockett Br.
Jackson Hill
contd. on Lincolnville
C
15

ORLAND

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P027 Orland River

Black Ducks (W*,N*,P*,F*)
Cormorants (N,P,F)
Great Blue Herons (P*,F*)
Herring Gulls (N,P,F)
Mallards (P*)
Ospreys (N*,P*)
Small Gulls (P*)
Black-Backed Gulls (F)
Gulls (F*)
Goldeneye/Bufflehead (W*,N*,F)
Loons (P*,F)
Mergansers (W,F)
Shorebirds (P,F*)

P028 Verona Island East

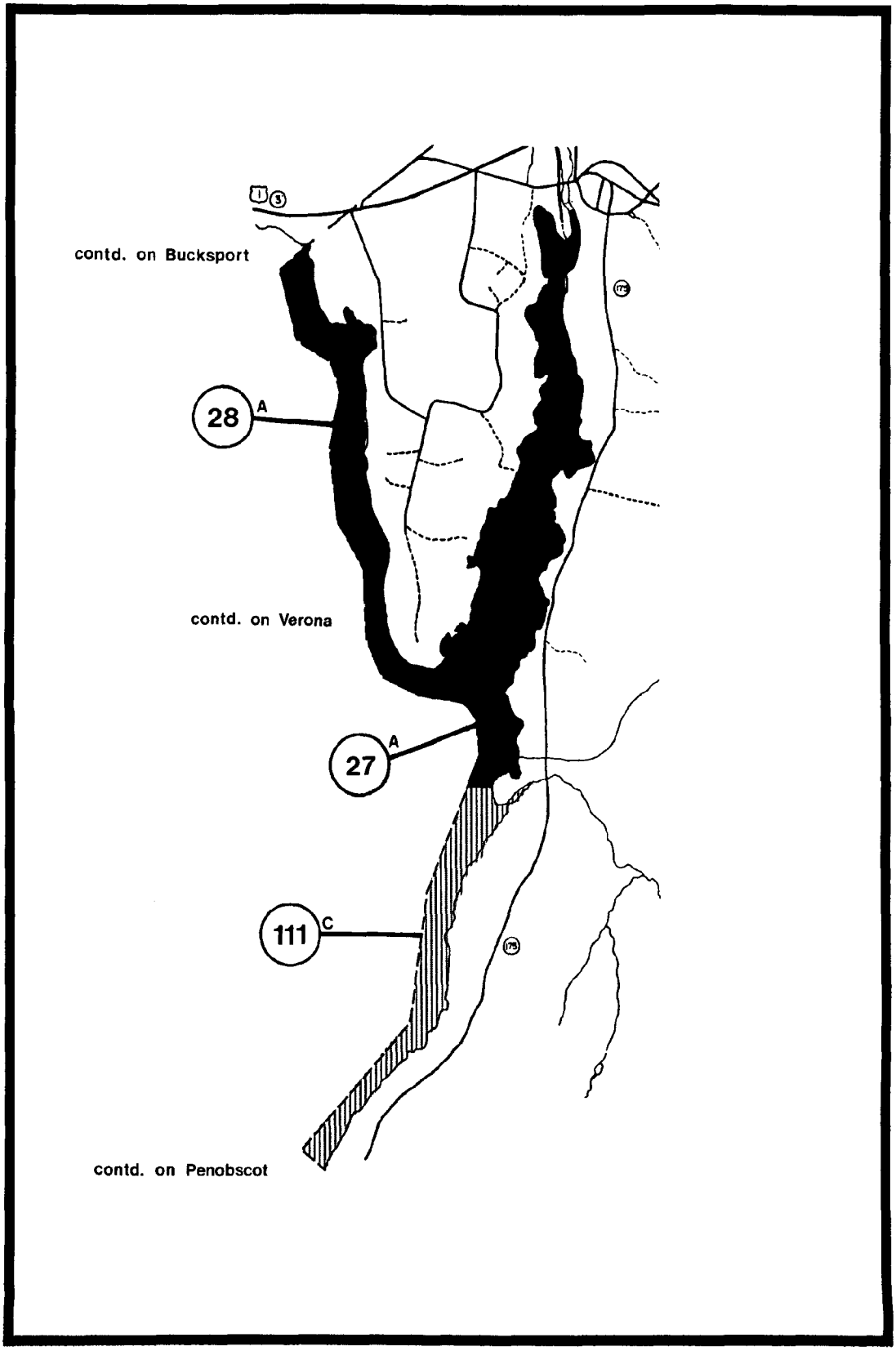
Black Ducks (W*,P*,F*)
Cormorants (N,P,F)
Great Blue Herons (N,P*,F*)
Herring Gulls (N,P,F)
Ospreys (P*)
Small Gulls (P*)
Unid. Waterfowl (W,P*)
Black-Backed Gulls (F)
Gulls (P,F*)
Goldeneye/Bufflehead (W,F)
Mergansers (N*)
Shorebirds (P*,F*)
Terns (P)

P111 Verona Island-Southeast

Black-Backed Gulls (N)
Great Blue Herons (F*)
Herring Gulls (N,F)
Unid. Waterfowl (N*)
Cormorants (N,F)
Goldeneye/Bufflehead (N*)
Small Gulls (F)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

ORLAND


contd. on Bucksport
28 A
contd. on Verona
27 A
111 C
contd. on Penobscot

ORRINGTON

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P034 Bald Hill

Black Ducks (P,F*)
Black-Backed Gulls (N)
Canada Geese (S*)
Goldeneye/Bufflehead (W,S)
Ospreys (P*)
Unid. Waterfowl (S*)
Bald Eagles (F*)
Cormorants (P,F)
Gulls (F*)
Herring Gulls (W,S,N,P,F)
Osprey Nests (N)

P035 Hampden

Black Ducks (P,F)
Cormorants (N,P)
Great Blue Herons (P)
Herring Gulls (W,S,N,P,F)
Small Gulls (P)
Black-Backed Gulls (N,F)
Gulls (W,P,F)
Goldeneye/Bufflehead (S)
Loons (P*)
Unid. Waterfowl (S*)

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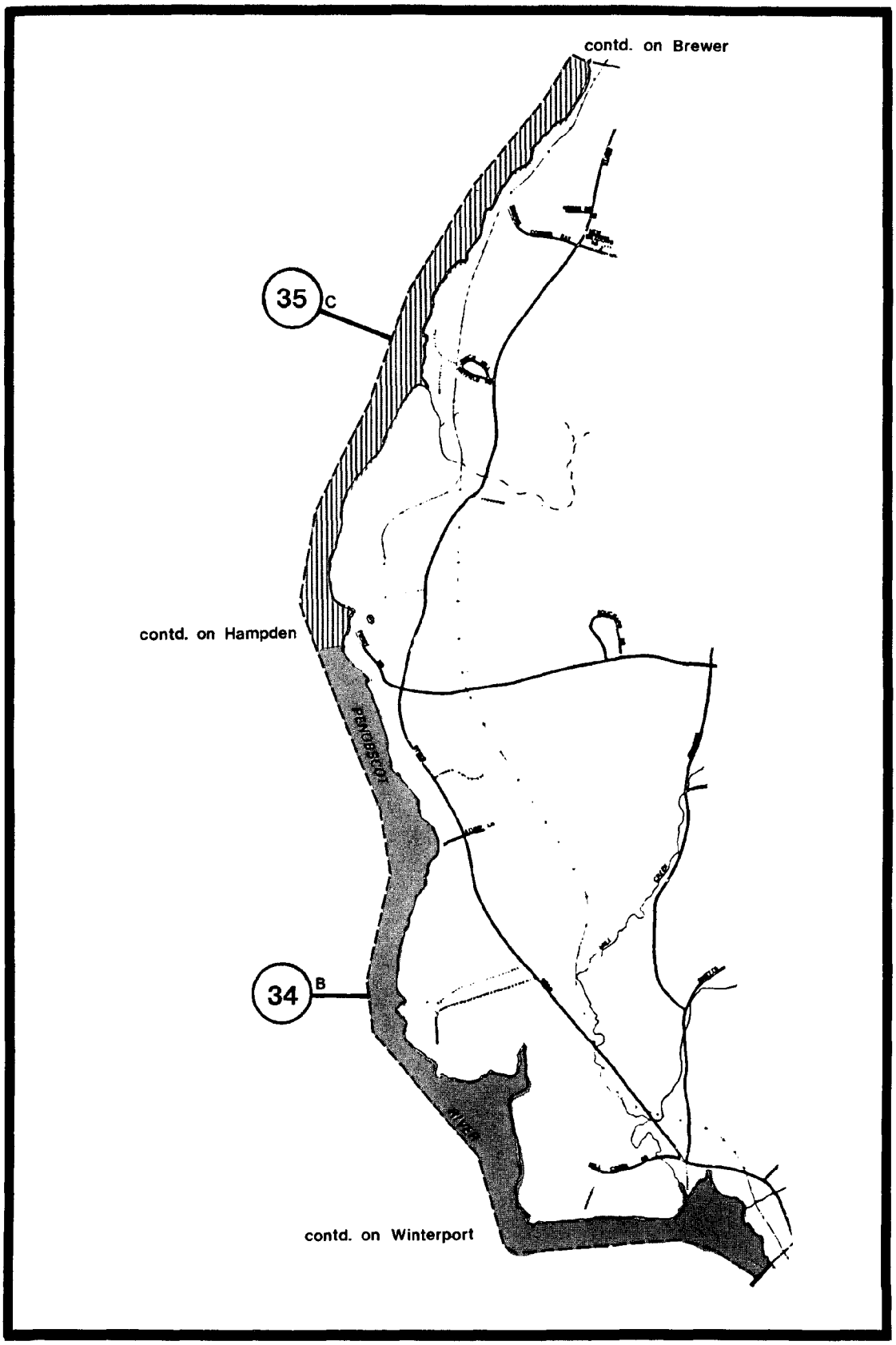
ORRINGTON


contd. on Brewer
35 C
contd. on Hampden
34 B
contd. on Winterport

OWLS HEAD

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P007 Ash Island

Black Ducks (W)
Cormorants (N,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S)
Harbor Seals (F)
Osprey Nests (N)
Shorebirds (P)
Black-Backed Gulls (W,S,P)
Canada Geese (S*)
Gulls (N*,P)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S)
Old Squaws (W,S,F)

P009 Monroe Island

Black-Backed Gulls (P,F)
Eiders (W,S,N,P,F)
Osprey Nests (N*)
Cormorants (P)
Herring Gulls (W,S,N,P,F)
Old Squaws (W*,S,F)

P010 Sheep Island

Black-Backed Gulls (W,S)
Eiders (W,S,N,P,F)
Guillemots (N,P)
Harbor Seals (P,F)
Osprey Nests (N*)
Shorebirds (W)
Cormorants (N)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N,P,F)
Loons (S)
Old Squaws (W,S)

P011 Rockland Harbor

Black Ducks (W,S,F)
Cormorants (N,P,F)
Eiders (W,S,N,F)
Goldeneye/Bufflehead (W*,S*,F*)
Harbor Seals (N,F*)
Mallards (S*)
Old Squaws (W*,N*,F)
Unid. Waterfowl (W*,N)
Black-Backed Gulls (S,N,P,F)
Canada Geese (S*)
Great Blue Herons (F*)
Herring Gulls (W*,S*,N,P*,F*)
Loons (W,F)
Mergansers (W,F)
Shorebirds (N,P)

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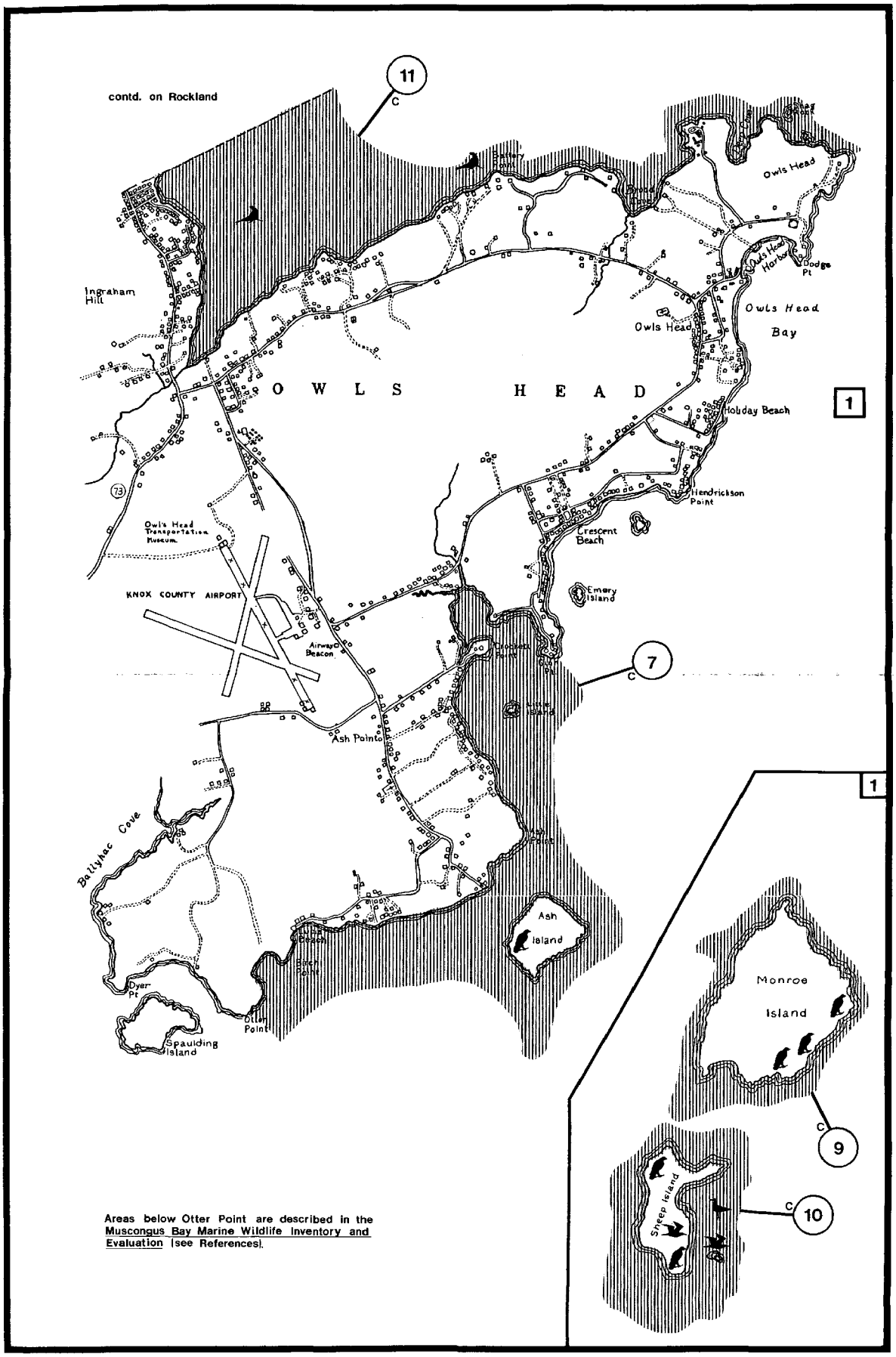
OWLS HEAD



Areas below Otter Point are described in the Muscongus Bay Marine Wildlife Inventory and Evaluation (see References).

OWLS HEAD

PENOBSCOT

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P093 West Penobscot

Black-Backed Gulls (P)
Eiders (S,N,P,F)
Goldeneye/Bufflehead (W,S,F)
Loons (S)
Old Squaws (F)
Small Gulls (P)
Cormorants (N,P,F)
Great Blue Herons (P,F*)
Herring Gulls (W,S,N,P,F)
Mergansers (S,P*,F)
Shorebirds (P,F*)
Unid. Waterfowl (N,P*,F*)

P097 Bagaduce River

Black Ducks (W*,F*)
Black-Backed Gulls (W*,S,N,F)
Eiders (W,S,N,P,F)
Great Blue Herons (W*,P,F*)
Herring Gulls (W*,S,N,P,F)
Loons (W,S,N*,F*)
Old Squaws (W,S,F)
Small Gulls (F)
Unid. Waterfowl (W*,S*,F*)
Bald Eagles (W*)
Cormorants (N,P,F)
Gulls (W*,P*)
Goldeneye/Bufflehead (W*,S*,F*)
Harbor Seals (S)
Mergansers (W,S,N,F)
Shorebirds (W,F*)
Terns (P)

P098 Northern Bay-Bagaduce

Black Ducks (W,S*,P*,F*)
Black-Backed Gulls (W,S,N,P,F)
Cormorants (N,P,F)
Eiders (S,N,P)
Gulls (F*)
Goldeneye/Bufflehead (W*,S*,F*)
Guillemots (N)
Herring Gulls (W,S*,N,P,F)
Loons (F)
Ospreys (N*)
Shorebirds (P*)
Terns (P)
Bald Eagles (W*)
Blue-winged Teal (P*)
Canada Geese (F*)
Eagle Nests (N*)
Great Blue Herons (S*,P*,F*)
Grebes (S*)
Green-winged Teal (F*)
Harbor Seals (N,P*,F)
Mergansers (W*,S,N*,F)
Old Squaws (W,S,F)
Small Gulls (P*,F*)
Unid. Waterfowl (W)

P099 Herrick Bay-Bagaduce

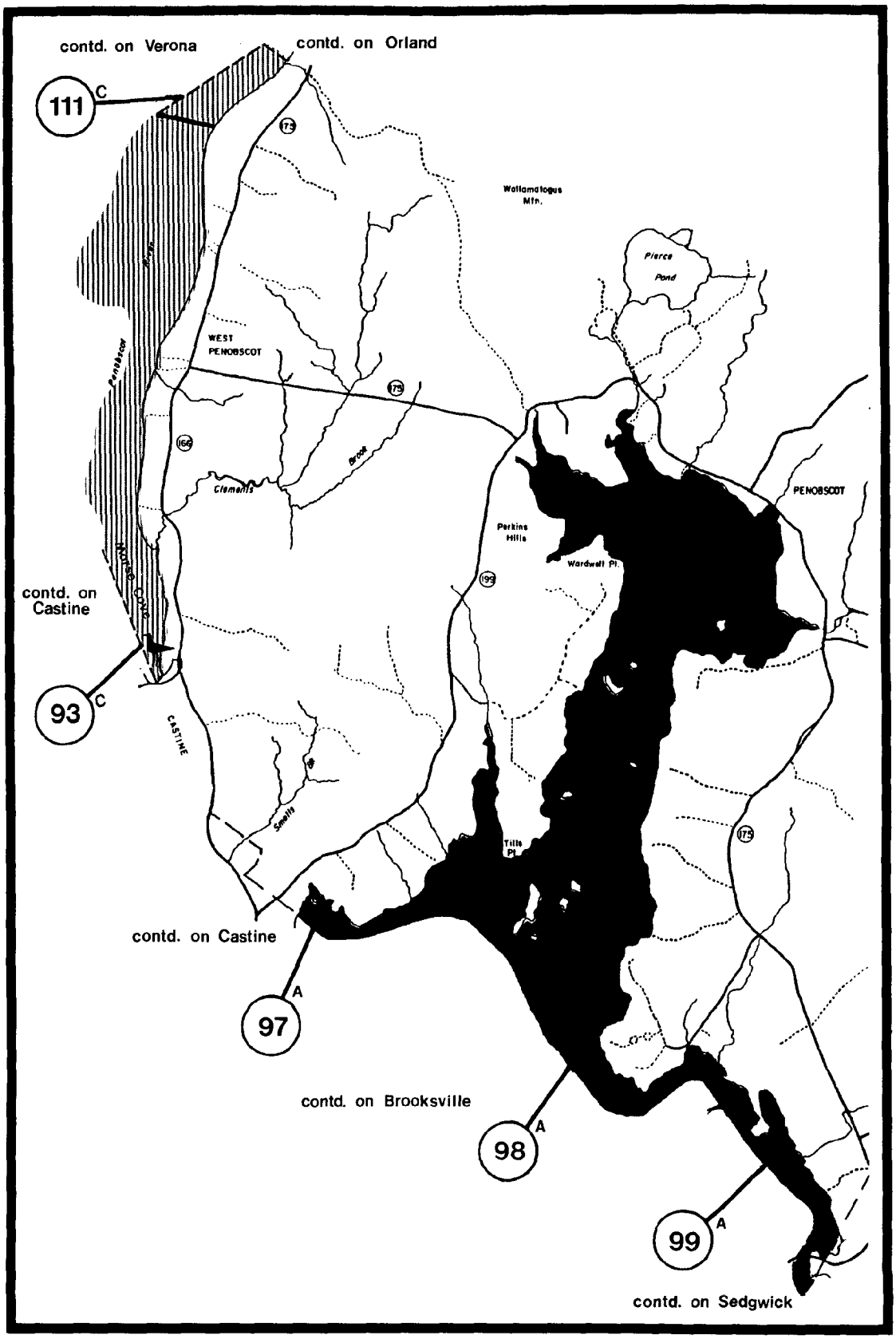
Black Ducks (S*,P*)
Black-Backed Gulls (F)
Cormorants (N,P)
Eiders (P)
Gulls (W*,P)
Goldeneye/Bufflehead (W,S*,F)
Harbor Seals (P*)
Mergansers (W,P*,F)
Small Gulls (P)
Unid. Waterfowl (N*)
Bald Eagles (P*)
Blue-winged Teal (P*)
Canada Geese (S*)
Eagle Nests (N*)
Great Blue Herons (P*)
Herring Gulls (N,P,F)
Mallards (P*)
Shorebirds (P)
Terns (P)

P111 Verona Island-Southeast

Black-Backed Gulls (N)
Great Blue Herons (F*)
Herring Gulls (N,F)
Unid. Waterfowl (N*)
Cormorants (N,F)
Goldeneye/Bufflehead (N*)
Small Gulls (F)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

PENOBSCOT


contd. on Verona
contd. on Orland
111 C
Wallamatogus Mtn.
Pierce Pond
WEST PENOBSCOT
Penobscot
Clements
Brook
PENOBSCOT
Perkins Hills
Wardwell Pt.
contd. on Castine
93 C
CASTINE
Smells
Tills Pt.
contd. on Castine
97 A
contd. on Brooksville
98 A
99 A
contd. on Sedgwick

PROSPECT

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P029 Bucksport

Bald Eagles (P*)
Cormorants (N,P)
Herring Gulls (W,N,P,F)
Shorebirds (P,F)
Black-Backed Gulls (P)
Goldeneye/Bufflehead (W,S)
Ospreys (P*)

P030 Bowden Point

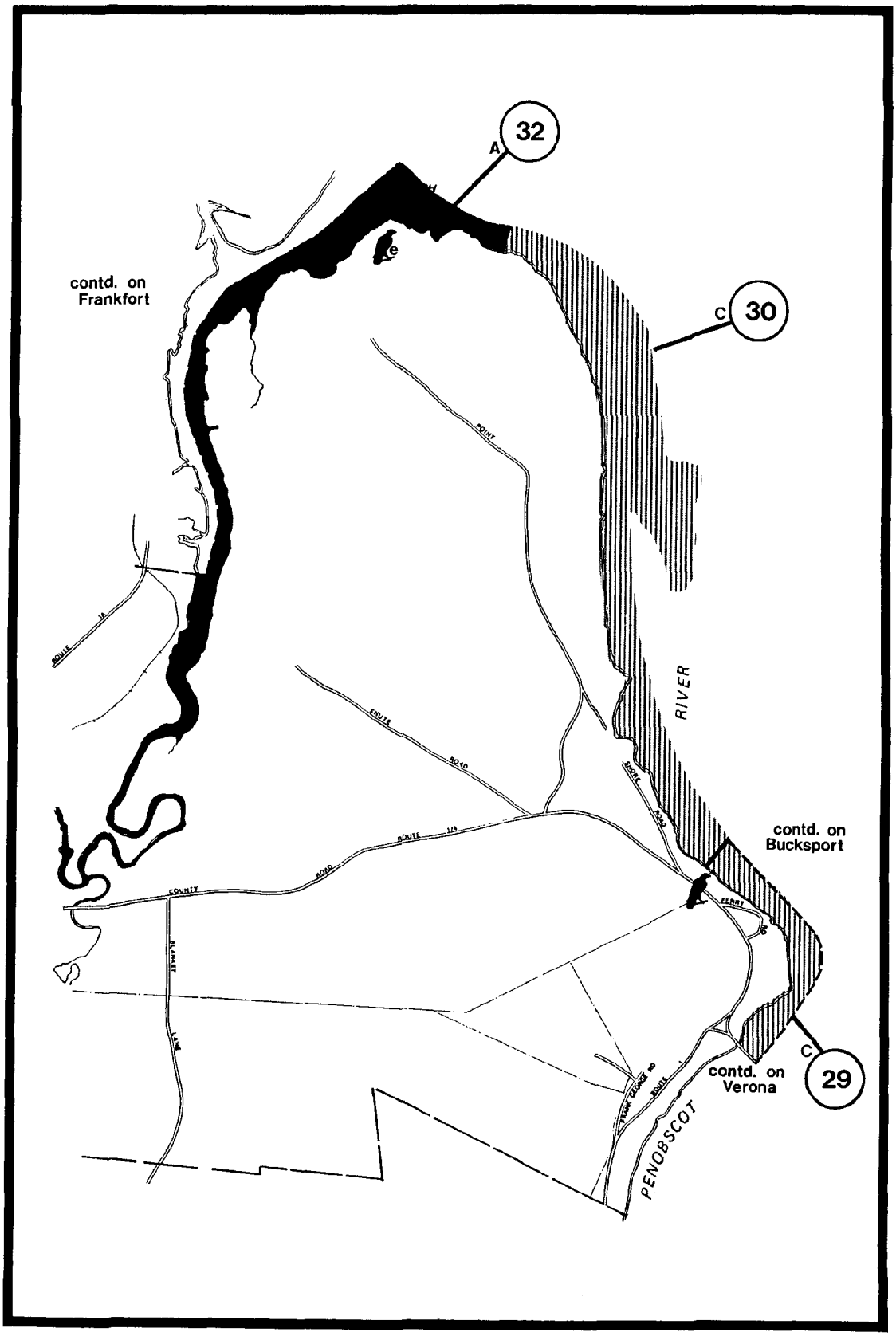
Black Ducks (W*,S,F)
Black-Backed Gulls (F)
Eiders (F)
Great Blue Herons (N,P)
Herring Gulls (W,S,N,P,F)
Mergansers (W,F)
Old Squaws (F)
Unid. Waterfowl (S)
Bald Eagles (P*)
Cormorants (N,P,F)
Gulls (P)
Goldeneye/Bufflehead (W,S)
Harbor Seals (P)
Ospreys (F*)
Scoters (F*)

P032 Marsh River

Black Ducks (W,S,N*,P*,F*)
Cormorants (N,P,F)
Eiders (N)
Goldeneye/Bufflehead (W,S*,F*)
Mergansers (W*,F)
Shorebirds (N,F)
Black-Backed Gulls (N,P,F)
Canada Geese (S*,F)
Great Blue Herons (P,F*)
Herring Gulls (S,N,F)
Ospreys (P*)
Unid. Waterfowl (S,F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

PROSPECT


32
A
contd. on
Frankfort
30
C
RIVER
contd. on
Bucksport
29
C
contd. on
Verona
PENOBSCOT

ROCKLAND

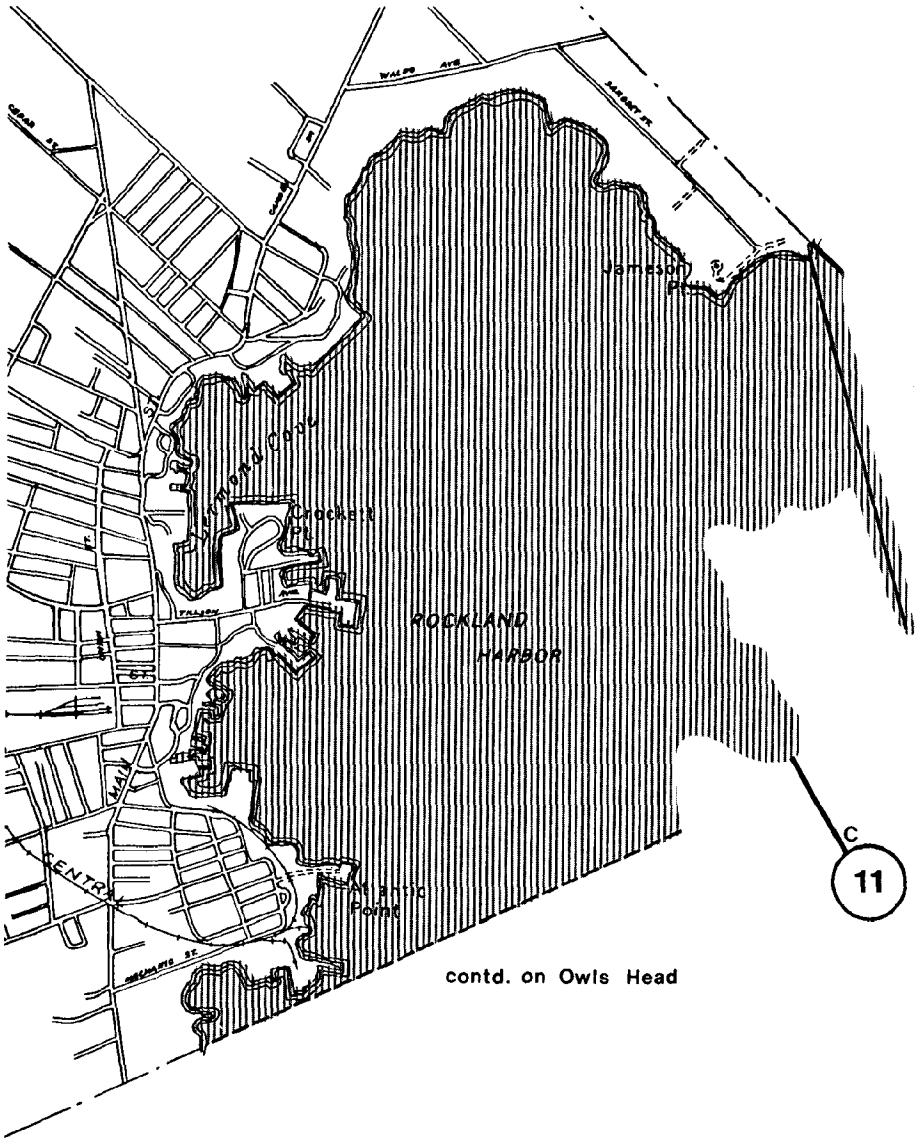
Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P011 Rockland Harbor

Black Ducks (W,S,F)
Cormorants (N,P,F)
Eiders (W,S,N,F)
Goldeneye/Bufflehead (W*,S*,F*)
Harbor Seals (N,F*)
Mallards (S*)
Old Squaws (W*,N*,F)
Unid. Waterfowl (W*,N)
Black-Backed Gulls (S,N,P,F)
Canada Geese (S*)
Great Blue Herons (F*)
Herring Gulls (W*,S*,N,P*,F*)
Loons (W,F)
Mergansers (W,F)
Shorebirds (N,P)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

ROCKLAND



contd. on Owls Head

ROCKPORT

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P012 Clam Cove

Black-Backed Gulls (W*,N,P,F)
Canada Geese (S*,F)
Gulls (W*,P*)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (W,N,F*)
Mergansers (W,F)
Shorebirds (P)
Terns (P)
Cormorants (N*,P*,F)
Eiders (W,S,N,P,F)
Great Blue Herons (F*)
Herring Gulls (W,S,N*,P*,F)
Loons (W)
Old Squaws (W,S,F)
Small Gulls (P*)
Unid. Waterfowl (W,S*)

P013 Rockport Harbor

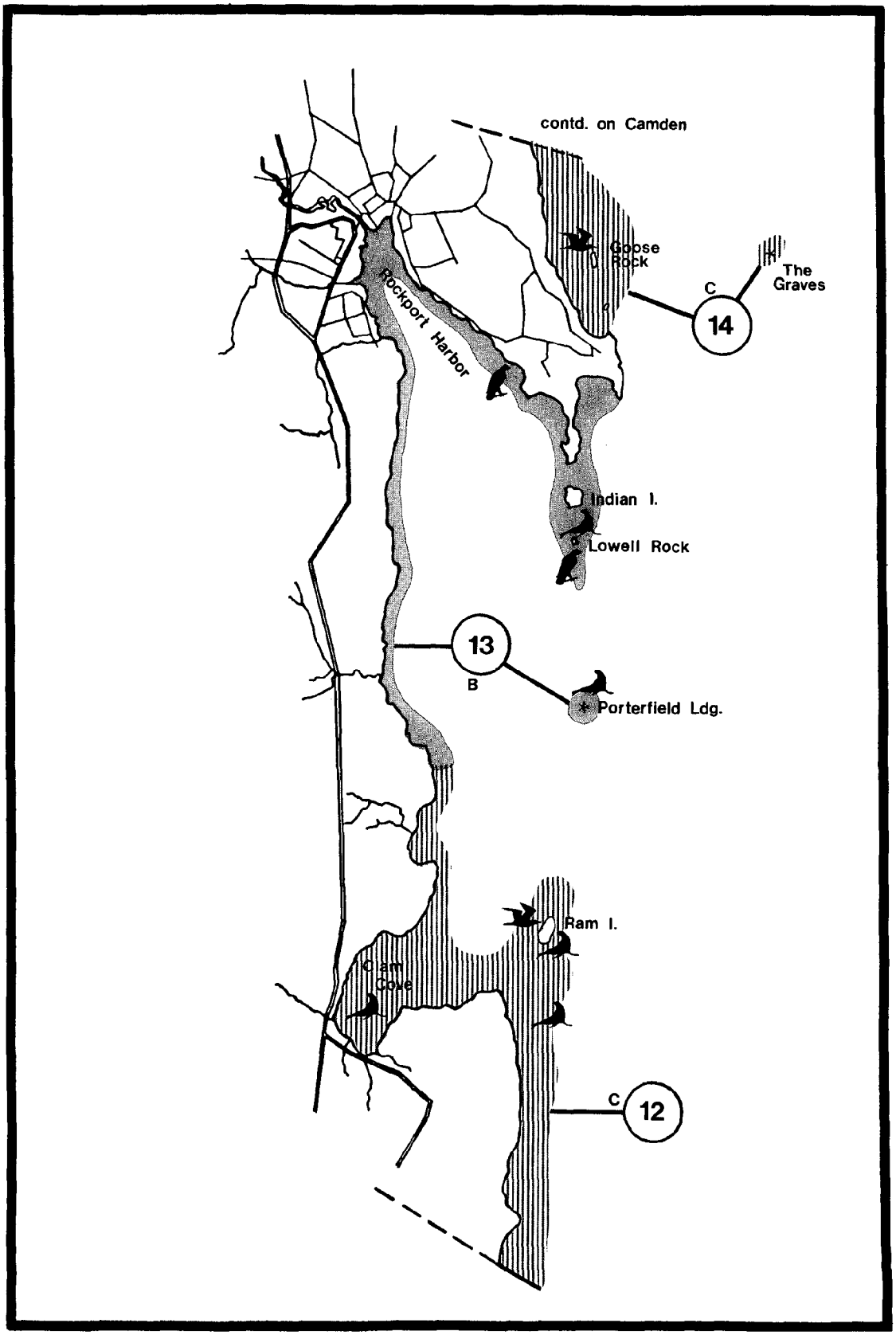
Black-Backed Gulls (W*,N,F)
Eiders (W,S,N,F)
Goldeneye/Bufflehead (S)
Harbor Seals (N)
Osprey Nests (N*)
Shorebirds (F)
Canada Geese (W*,S*)
Great Blue Herons (W*,S*)
Herring Gulls (W,S,N,P,F)
Loons (N*,F)
Old Squaws (W,S,F*)
Unid. Waterfowl (W*,S*,N)

P014 Camden Harbor

Black Ducks (W)
Cormorants (N*,P*,F)
Gulls (W*,N)
Grebes (S*)
Harbor Seals (F)
Mergansers (W,N*,F)
Old Squaws (W,S,F*)
Black-Backed Gulls (S,N,P,F)
Eiders (W,S,N,F)
Goldeneye/Bufflehead (W,S,F*)
Herring Gulls (W,S,N,P,F)
Loons (W*,N*)
Osprey Nests (N)
Unid. Waterfowl (F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

ROCKPORT


contd. on Camden
Goose Rock
The Graves
C
14
Rockport Harbor
Indian I.
Lowell Rock
13
B
Porterfield Ldg.
Ram I.
Clam Cove
C
12

SEARSPORT

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P018 Belfast Harbor

Black Ducks (W,F*)
Cormorants (N,P,F)
Gulls (S*,P*,F*)
Herring Gulls (W*,S*,N,P,F*)
Mergansers (W,S,N*,F)
Old Squaws (W,S,F)
Small Gulls (P*,F*)
Unid. Waterfowl (W,S*,N)
Black-Backed Gulls (W,S,N,P)
Eiders (S,N)
Goldeneye/Bufflehead (W*,S*,F*)
Loons (S,N*,P*)
Ospreys (P*)
Shorebirds (N)
Terns (P)

P020 Searsport

Black Ducks (W*)
Cormorants (P,F)
Gulls (P)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (W*,S*,N,P,F)
Loons (W*,S,P*,F)
Old Squaws (W,S)
Terns (P)
Black-Backed Gulls (W,S,P,F)
Eiders (S)
Great Blue Herons (W*)
Grebes (S*)
Harbor Seals (F)
Mergansers (W,S,F*)
Small Gulls (S*,P)
Unid. Waterfowl (W*,F*)

P021 Long Cove

Black Ducks (S,N*,F)
Cormorants (N,F)
Gulls (W*)
Herring Gulls (W*,S,N,P,F)
Mallards (P*)
Old Squaws (W,S)
Small Gulls (P)
Unid. Waterfowl (F*)
Black-Backed Gulls (N,F)
Eiders (N,P,F)
Goldeneye/Bufflehead (W*,S*,F*)
Loons (P*)
Mergansers (N*,F*)
Shorebirds (F)
Terns (P)

P022 Sears Island

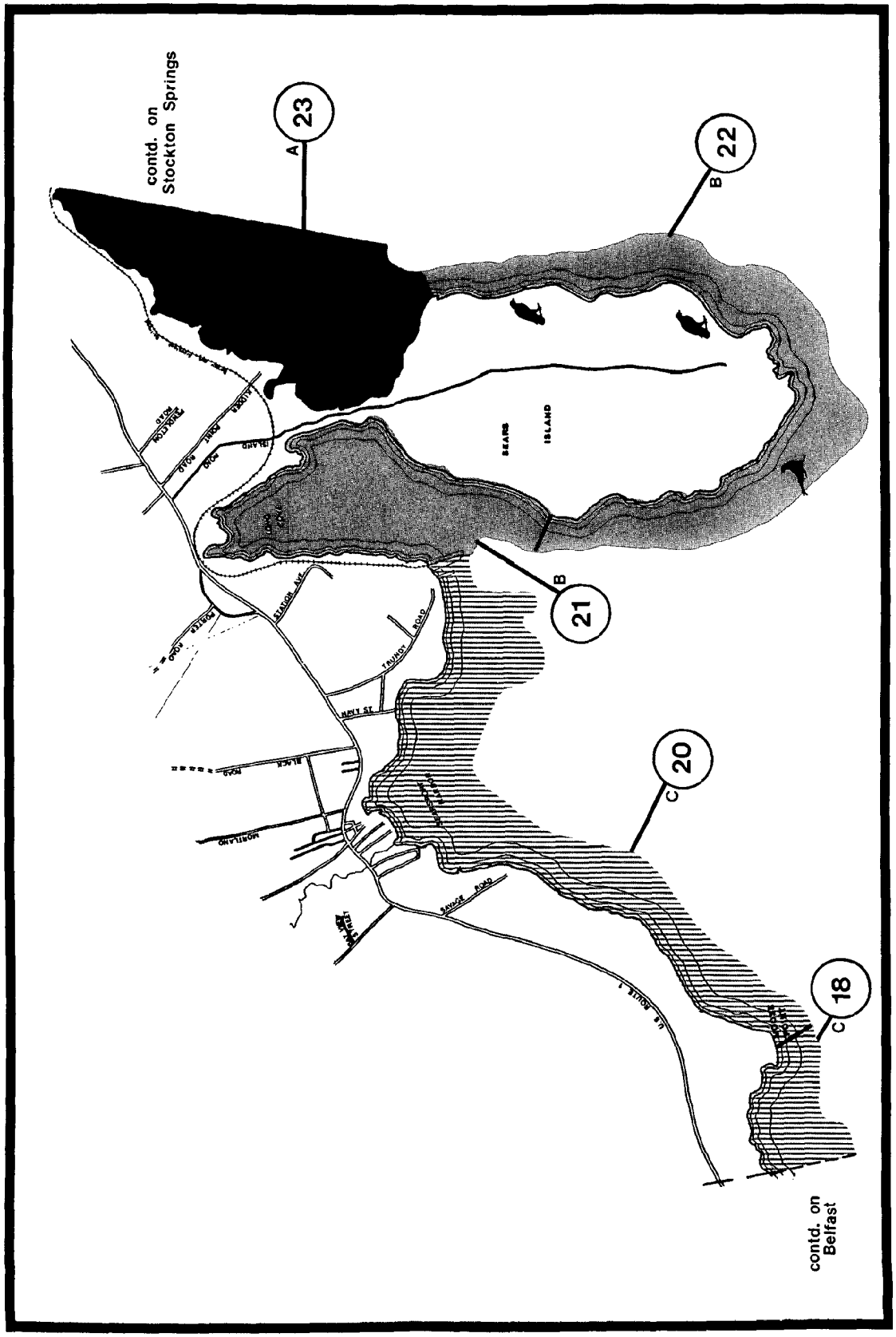
Black Ducks (F)
Cormorants (N,P,F)
Gulls (W*,S,N*,P)
Goldeneye/Bufflehead (W*,S,N*,F)
Harbor Seals (N)
Mergansers (W,S,N*,F*)
Shorebirds (W,F*)
Terns (P)
Black-Backed Gulls (S,N,F)
Eiders (W,S,N,F)
Great Blue Herons (W*)
Herring Gulls (W,S,N,P,F)
Loons (N*,P*,F)
Osprey Nests (N*)
Small Gulls (P*)
Unid. Waterfowl (W,S,N,F*)

P023 Stockton Harbor

Black Ducks (W,S*,P*)
Cormorants (P,F*)
Goldeneye/Bufflehead (W*,S*,N*,F*)
Harbor Seals (N)
Mergansers (W,S,F*)
Old Squaws (W,S)
Small Gulls (F)
Unid. Waterfowl (S,N*,F)
Black-Backed Gulls (S,N,P)
Eiders (N,P,F)
Herring Gulls (W*,S*,N,P,F)
Loons (W,N*,P*,F)
Ospreys (F*)
Shorebirds (N*,P,F*)
Terns (P)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

SEARSPORT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23
A
22
B
SEARS
ISLAND
21
B
20
C
18
C
contd. on Belfast

SEDGWICK

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P099 Herrick Bay-Bagaduce

Black Ducks (S*,P*)
Black-Backed Gulls (F)
Cormorants (N,P)
Eiders (P)
Gulls (W*,P)
Goldeneye/Bufflehead (W,S*,F)
Harbor Seals (P*)
Mergansers (W,P*,F)
Small Gulls (P)
Unid. Waterfowl (N*)
Bald Eagles (P*)
Blue-winged Teal (P*)
Canada Geese (S*)
Eagle Nests (N*)
Great Blue Herons (P*)
Herring Gulls (N,P,F)
Mallards (P*)
Shorebirds (P)
Terns (P)

P106 Herricks

Black-Backed Gulls (S,F)
Eiders (S,N,P)
Grebes (S*)
Loons (W,S,F*)
Old Squaws (W,S,F)
Cormorants (P)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N,P,F)
Mergansers (W*,S,F)
Unid. Waterfowl (W*,S)

P234 Benjamin River

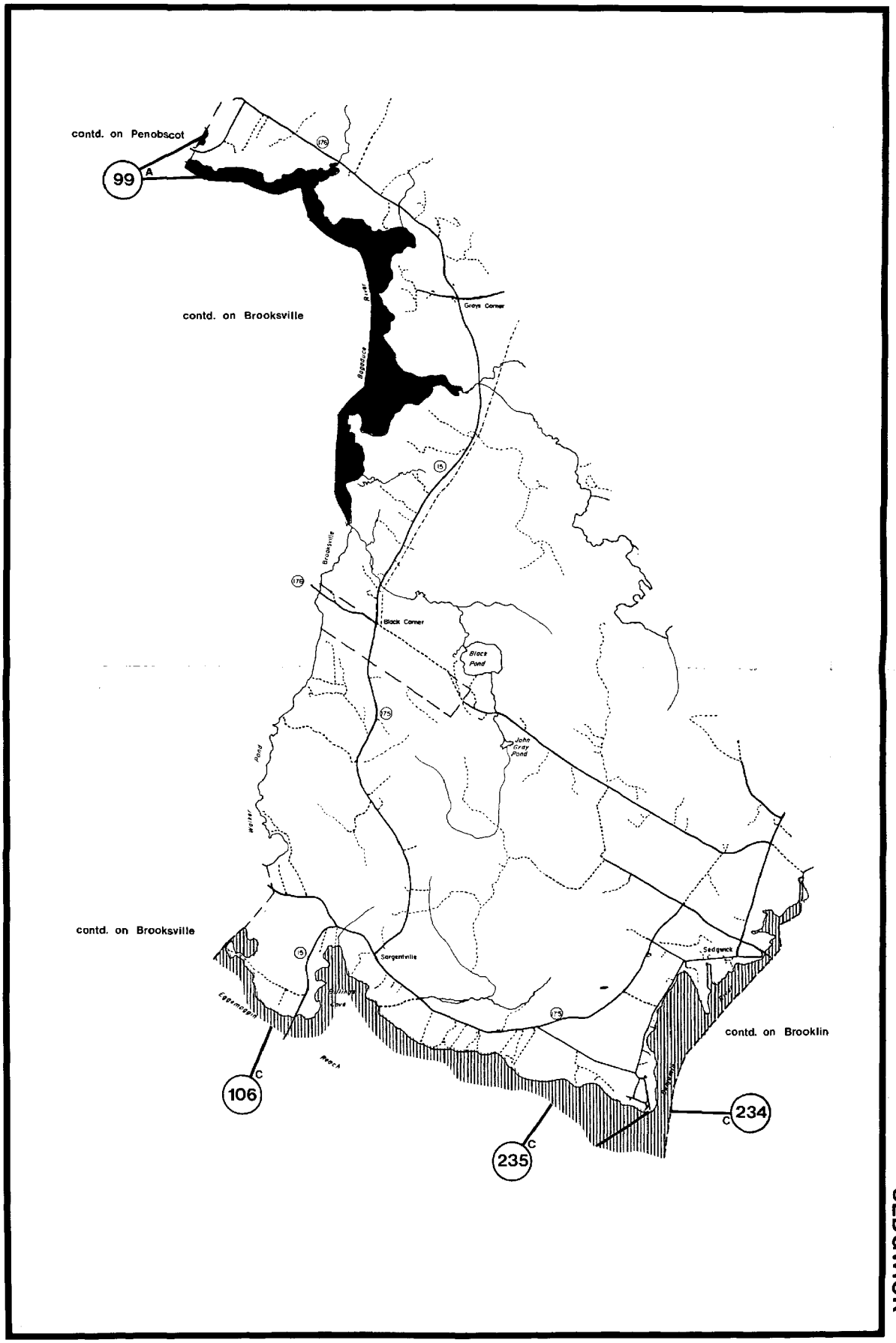
Black Ducks (W)
Cormorants (N,P,F)
Great Blue Herons (P)
Herring Gulls (W*,S,N,P,F)
Loons (N*,F)
Old Squaws (W,S,F)
Small Gulls (P)
Black-Backed Gulls (S,P)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W*,S*,F)
Harbor Seals (P,F)
Mergansers (F)
Scoters (W,S,F)
Unid. Waterfowl (N*,F)

P235 Sargentville

Black-Backed Gulls (P,F)
Eiders (W,S,N,P,F)
Herring Gulls (W,S,N,P,F)
Mergansers (S*,F)
Scoters (W,S,F*)
Small Gulls (P,F)
Unid. Waterfowl (F)
Cormorants (F)
Goldeneye/Bufflehead (W,S)
Loons (W,P*,F*)
Old Squaws (W,S,F)
Shorebirds (N)
Unid. Seabirds (S*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

SEDGWICK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99
A
contd. on Brooksville
Bagaduce River
Graye Corner
Brooksville
Black Corner
Black Pond
John Gray Pond
Walker Pond
contd. on Brooksville
Sargentville
Eggemoggin Reach
106
C
235
C
Sedgwick
234
C
contd. on Brooklin
SEDGWICK

STOCKTON SPRINGS

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P023 Stockton Harbor

Black Ducks (W,S*,P*)
Cormorants (P,F*)
Goldeneye/Bufflehead (W*,S*,N*,F*)
Harbor Seals (N)
Mergansers (W,S,F*)
Old Squaws (W,S)
Small Gulls (F)
Unid. Waterfowl (S,N*,F)
Black-Backed Gulls (S,N,P)
Eiders (N,P,F)
Herring Gulls (W*,S*,N,P,F)
Loons (W,N*,P*,F)
Ospreys (F*)
Shorebirds (N*,P,F*)
Terns (P)

P024 Cape Jellison

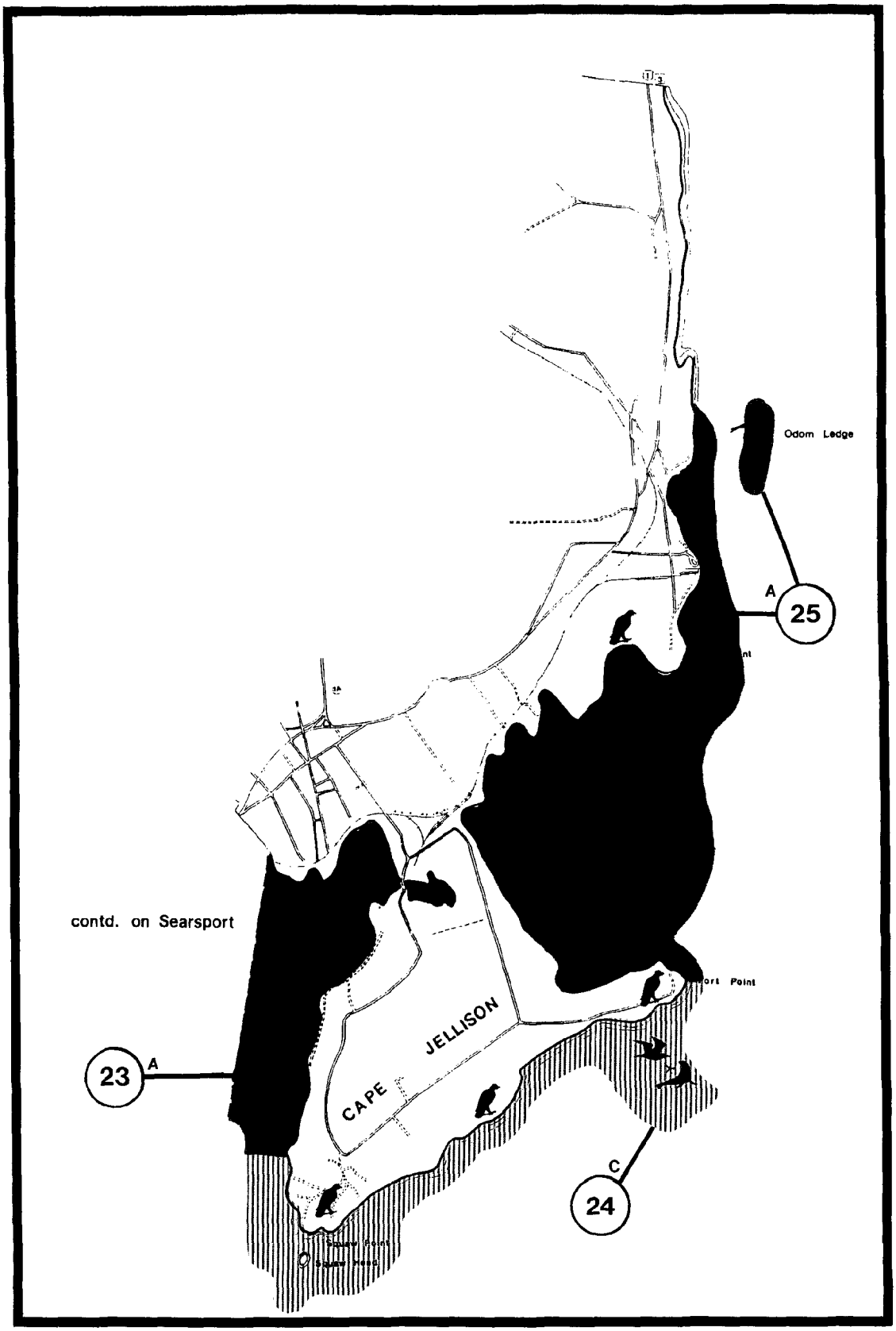
Black-Backed Gulls (W,S,N,P,F)
Eiders (S,N,P)
Great Blue Herons (F*)
Herring Gulls (W,S,N,P,F)
Loons (W,P*,F*)
Ospreys (N*,P*)
Old Squaws (W,F)
Shorebirds (P,F)
Terns (P)
Cormorants (N,P,F)
Gulls (W*,P*,F*)
Goldeneye/Bufflehead (W,S,F*)
Harbor Seals (S,N*)
Mergansers (W,S,F*)
Osprey Nests (N*)
Scoters (P*)
Small Gulls (P*)
Unid. Waterfowl (W,S*,N,P*,F*)

P025 Fort Point Cove

Black Ducks (W,P,F*)
Cormorants (S,N*,P,F*)
Eiders (S,N,P,F)
Great Blue Herons (F*)
Herring Gulls (W,S,N*,P,F)
Loons (F*)
Mergansers (W,S,N*,F*)
Old Squaws (W)
Small Gulls (N*,P*,F*)
Black-Backed Gulls (W,S)
Canada Geese (F)
Gulls (F*)
Goldeneye/Bufflehead (W*,S*,F*)
Harbor Seals (N*,F)
Mallards (S*)
Osprey Nests (N)
Shorebirds (P,F*)
Unid. Waterfowl (S,N*,P*,F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

STOCKTON SPRINGS



STONINGTON

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P128 Crockett Cove

Black-Backed Gulls (S*,N,F)
Eiders (W,S,N,P,F)
Great Blue Herons (P)
Grebes (W*)
Harbor Seals (N)
Mergansers (W,S)
Old Squaws (W,S,N*,F)
Shorebirds (S,P)
Unid. Waterfowl (W*)
Cormorants (P,F)
Gulls (N)
Goldeneye/Bufflehead (W*,S,F*)
Herring Gulls (W,S*,N,P,F*)
Loons (W,S*)
Ospreys (F*)
Scoters (S)
Small Gulls (P*)

P129 Second-Andrews-Mark Islands

Black-Backed Gulls (W,S,N,P,F*)
Eiders (W*,S,N,P,F)
Grebes (S*)
Harbor Seals (W*,N*,P)
Mergansers (W*,S)
Old Squaws (W*,S,F)
Shorebirds (W,P,F*)
Unid. Waterfowl (S*,F)
Cormorants (N,P,F)
Gulls (N)
Herring Gulls (W,S,N,P,F)
Loons (W,S,F)
Ospreys (P*)
Scoters (W*,S,F*)
Small Gulls (W*)

P130 Scraggy Island

Black Ducks (W)
Cormorants (F)
Great Blue Herons (N*,P*)
Herring Gulls (W,P,F)
Loons (W)
Ospreys (P*)
Old Squaws (W*,F)
Shorebirds (W*,P)
Black-Backed Gulls (N,P,F)
Eiders (W,S,P,F)
Goldeneye/Bufflehead (W)
Harbor Seals (W*,N,P*)
Mergansers (W,F)
Osprey Nests (N)
Scoters (S)

P132 Stonington - West

Black Ducks (W,S*)
Cormorants (N,P,F)
Goldeneye/Bufflehead (S,F)
Loons (F)
Ospreys (P*)
Scoters (W,F)
Black-Backed Gulls (N,P,F)
Eiders (W,S,N,P,F)
Herring Gulls (W,S,N,P,F)
Mergansers (W*,S,F)
Old Squaws (W,S*,F)
Shorebirds (S,N*,P*)

P134 Farrel Island

Black Ducks (W)
Cormorants (F)
Goldeneye/Bufflehead (W)
Harbor Seals (W*)
Mergansers (S)
Unid. Waterfowl (S)
Black-Backed Gulls (S,P,F)
Eiders (W,S,N,F)
Herring Gulls (W,P,F)
Loons (F)
Old Squaws (W,S,F)

P135 Crotch Island

Black-Backed Gulls (S,P)
Eiders (W,S,N,F)
Herring Gulls (W,S,N,P,F*)
Loons (W)
Ospreys (P*)
Old Squaws (W,S,F)
Unid. Waterfowl (W,S)
Cormorants (F)
Goldeneye/Bufflehead (W,S)
Harbor Seals (W*,P*)
Mergansers (S)
Osprey Nests (N*)
Shorebirds (P)

P136 John Island

Black-Backed Gulls (S,P,F)
Eiders (S,P,F)
Herring Gulls (S,P,F)
Loons (S*,F)
Old Squaws (S,F)
Shorebirds (P)
Cormorants (P,F)
Goldeneye/Bufflehead (F)
Harbor Seals (S*,P*,F*)
Mergansers (F)
Scoters (F)
Unid. Waterfowl (S,F)

P137 Stonington

Black-Backed Gulls (W,P,F*)
Eiders (W,S,N,F)
Herring Gulls (W*,S,P,F*)
Mergansers (W,S)
Unid. Waterfowl (W)
Cormorants (F)
Goldeneye/Bufflehead (W,S,F)
Loons (S)
Old Squaws (W,S,F)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

STONINGTON

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P138 Green Island

Black-Backed Gulls (N,P,F)
Eiders (W,S,N,F)
Goldeneye/Bufflehead (W,S)
Harbor Seals (S)
Mergansers (W,S,F)
Unid. Waterfowl (W,F*)
Cormorants (N,P,F)
Gulls (N,F*)
Herring Gulls (W,S,P,F)
Loons (W,F)
Old Squaws (W,S,N*,F)

P139 Russ Island

Black Ducks (S*)
Eiders (S,N,F)
Herring Gulls (W,S,N,P,F*)
Mergansers (W)
Scoters (W)
Black-Backed Gulls (S,P,F)
Goldeneye/Bufflehead (S,F)
Loons (W,S,F)
Old Squaws (W,S,F)
Unid. Waterfowl (S)

P140 Camp Island

Black Ducks (W)
Cormorants (N,P)
Gulls (N)
Herring Gulls (W,S,N,P,F)
Loons (W,S*,F)
Old Squaws (W*,S,N*,F)
Shorebirds (P*)
Unid. Waterfowl (W,N)
Black-Backed Gulls (S,P,F)
Eiders (W*,S*,N,P,F)
Goldeneye/Bufflehead (S,F)
Harbor Seals (S*)
Mergansers (S)
Scoters (W*,S*,F*)
Terns (P)

P141 St. Helena-George Head Islands

Black-Backed Gulls (S,P,F)
Eiders (W*,S*,N,P,F)
Herring Gulls (W,S,N,P,F)
Loons (W*,S)
Osprey Nests (N)
Scoters (W,F*)
Terns (P)
Cormorants (W*,N,P,F)
Goldeneye/Bufflehead (W)
Harbor Seals (N)
Mergansers (W,S*)
Old Squaws (W,S,F)
Shorebirds (P)
Unid. Waterfowl (W)

P142 Bare Island

Black-Backed Gulls (W,S,N,P,F)
Eiders (W,S,N,F)
Herring Gulls (W,S,N,P,F)
Mergansers (W,F)
Old Squaws (W,S*,N,F)
Terns (P)
Cormorants (F)
Goldeneye/Bufflehead (W,S,F)
Loons (W,S)
Osprey Nests (N)
Scoters (W,S*)
Unid. Waterfowl (W,S)

P143 McGlathery-Round-Gooseberry Is

Black-Backed Gulls (W,S,N,P,F)
Eiders (W,S,N,P,F)
Grebes (S*)
Harbor Seals (N)
Mergansers (W,S*,N,F)
Scoters (W*)
Unid. Waterfowl (W,S,P*)
Cormorants (P,F)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (W,S,N,P,F)
Loons (W*,S*,F)
Old Squaws (W,S*,F)
Shorebirds (N*,F)

P148 No Man's Island

Black-Backed Gulls (S,P,F)
Eiders (W,S,N,F)
Harbor Seals (S*,N,P)
Mergansers (W)
Shorebirds (S*,F)
Unid. Waterfowl (W,F*)
Cormorants (P)
Herring Gulls (W,N,P,F)
Loons (W)
Old Squaws (W,S,F)
Terns (P)

P149 Coombs Island

Black Ducks (W)
Cormorants (P)
Goldeneye/Bufflehead (W)
Harbor Seals (N)
Old Squaws (W,S)
Unid. Waterfowl (W*,S)
Black-Backed Gulls (S,P)
Eiders (W,S,N,P,F)
Herring Gulls (W,S,P)
Loons (W)
Scoters (W,S*,F*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

- **Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.**
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P150 Spruce Island

Bald Eagles (P*)
Cormorants (N,P,F)
Eagle Nests (N*)
Goldeneye/Bufflehead (W)
Harbor Seals (W,S,N*)
Mergansers (W,S*)
Scoters (W*,S,F*)
Unid. Waterfowl (W*,S)
Black-Backed Gulls (S,F)
Eiders (W,S,N,P,F)
Gulls (F)
Herring Gulls (W,S,N,F)
Loons (W,S,F)
Old Squaws (W,S,F)
Shorebirds (P*)

P151 Devil-Bold Islands

Black-Backed Gulls (S,N,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (N,F)
Mergansers (W,S,F)
Old Squaws (W,S,F)
Terns (P)
Cormorants (N,P)
Gulls (P)
Herring Gulls (W,S*,N,P,F)
Loons (W,S,F)
Ospreys (P*)
Shorebirds (N*,P*,F)
Unid. Waterfowl (S*)

P152 Webb Cove

Black-Backed Gulls (W,S,N,P,F*)
Eiders (W*,S*,N,P,F)
Herring Gulls (W,S*,N,P,F*)
Loons (W,S,P*)
Ospreys (F*)
Old Squaws (W*,S,N*,F)
Unid. Waterfowl (P*)
Cormorants (N,P,F)
Goldeneye/Bufflehead (W*,S,F*)
Harbor Seals (N)
Mergansers (W,F)
Osprey Nests (N)
Shorebirds (P,F*)

P153 Grog Island-Humpkins Ledge

Black-Backed Gulls (S,P,F)
Goldeneye/Bufflehead (W)
Harbor Seals (N)
Scoters (S)
Eiders (W,S,F)
Herring Gulls (W,S,P,F)
Old Squaws (W,S,F)
Shorebirds (F)

P154 Saddleback-Enchanted Islands

Black Ducks (W)
Cormorants (P*,F)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,N,P,F)
Loons (W,S*,F)
Osprey Nests (N*)
Scoters (W*,S,F)
Black-Backed Gulls (S,N,P,F)
Eiders (W,S,N,P,F)
Grebes (S*)
Harbor Seals (N)
Mergansers (W,F)
Old Squaws (W*,S*,N*,F)
Unid. Waterfowl (W)

P155 Sheldrake-Haskell Ledges

Black-Backed Gulls (S,N,P,F)
Eiders (W*,S,N,P,F*)
Harbor Seals (S*,N,F)
Mergansers (W*,F)
Scoters (W,F*)
Unid. Waterfowl (W)
Cormorants (P*,F)
Herring Gulls (W,S,N,P,F)
Loons (W,F)
Old Squaws (W*,S,F)
Shorebirds (W,P*,F*)

P156 Shingle Island

Black Ducks (W*,S*)
Cormorants (P,F)
Goldeneye/Bufflehead (W)
Loons (W,F)
Old Squaws (W,F)
Shorebirds (W*,P)
Black-Backed Gulls (W*,S,P,F)
Eiders (W,S,P,F)
Herring Gulls (W,S,P,F)
Mergansers (W,S,F)
Scoters (W*,S,F*)

P157 Sheep Island

Black Ducks (W*)
Black-Backed Gulls (W,P,F)
Eiders (W,S,N,P,F)
Great Blue Herons (N*,P*)
Herring Gulls (W,S,P,F)
Loons (F)
Ospreys (P*)
Old Squaws (W,S,F)
Shorebirds (N*,P)
Bald Eagles (S*)
Cormorants (P,F)
Gulls (N*,P*)
Goldeneye/Bufflehead (W)
Harbor Seals (W*,S,N*)
Mergansers (W,F)
Osprey Nests (N*)
Scoters (F*)
Unid. Waterfowl (W)

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STONINGTON

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P158 Eastern Mark Island

Bald Eagles (W*)
Cormorants (P,F)
Herring Gulls (P,F)
Mergansers (W)
Osprey Nests (N*)
Scoters (S,F)
Black-Backed Gulls (S,P)
Eiders (S,P,F)
Loons (S,F)
Ospreys (P*)
Old Squaws (W*,F)

P161 Whitmore Neck

Black-Backed Gulls (P,F)
Eiders (S,P,F)
Herring Gulls (S*,P,F)
Mergansers (F)
Shorebirds (P*)
Cormorants (P,F)
Goldeneye/Bufflehead (S)
Harbor Seals (P,F)
Old Squaws (S)

P162 Inner Harbor

Black Ducks (W,S*,F)
Cormorants (N,F)
Goldeneye/Bufflehead (W,S*,F*)
Harbor Seals (W,N)
Ospreys (N*,F*)
Shorebirds (P*,F)
Terns (P,F*)
Black-Backed Gulls (S,F)
Eiders (W,N,P)
Herring Gulls (W*,S*,N,P,F)
Mergansers (S,F)
Old Squaws (S*,F)
Small Gulls (P*)

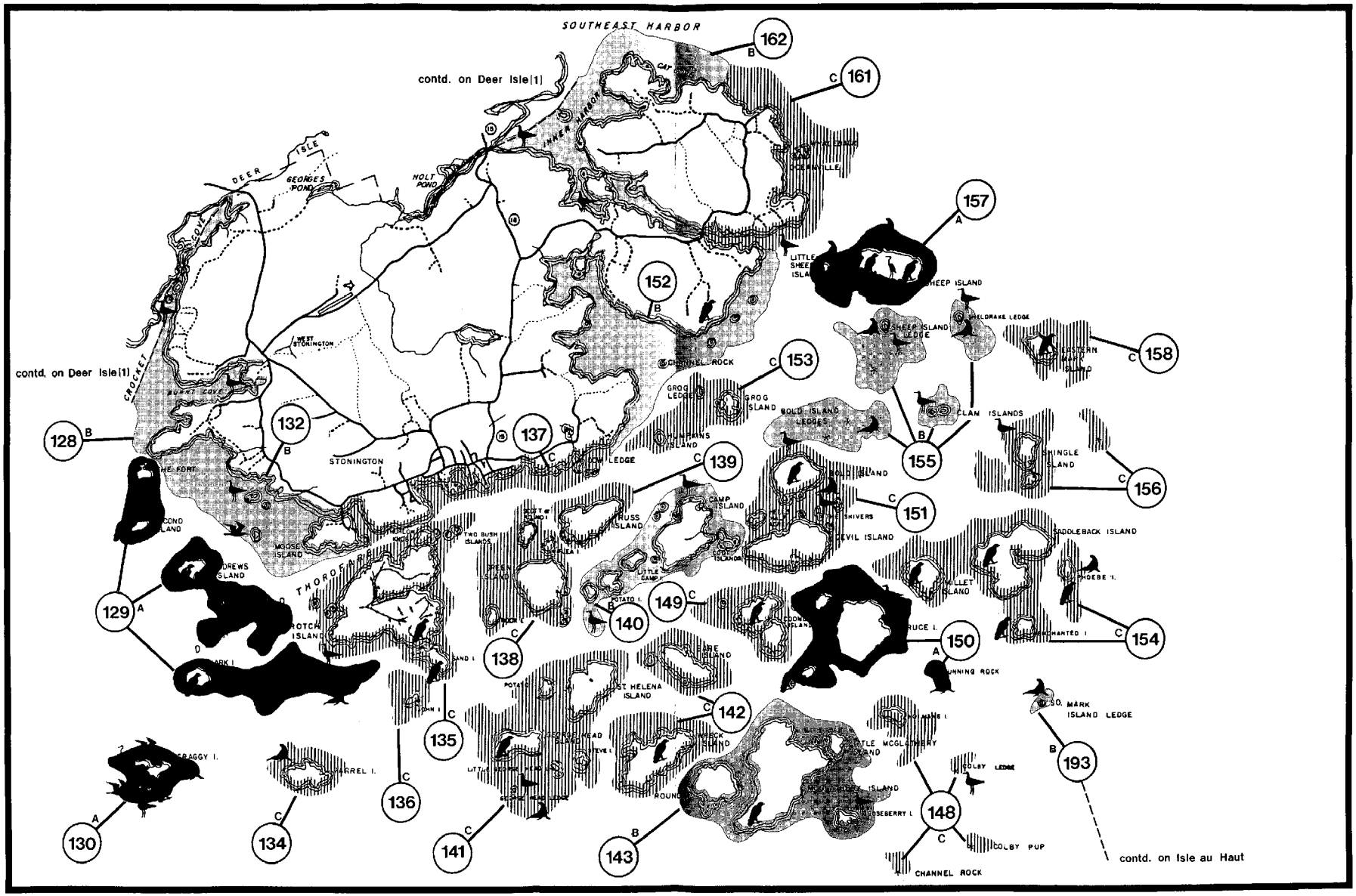
P193 Southern Mark Island

Black-Backed Gulls (S*,N*,P*)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N,P)
Old Squaws (W,F)
Cormorants (N*,P*,F)
Gulls (W*,P)
Guillemots (N*,P*)
Loons (W,F)
Unid. Waterfowl (P*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

STONINGTON

STONINGTON



SOUTHEAST HARBOR
contd. on Deer Isle(1)
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contd. on Isle au Haut
DEER ISLE
GEORGES POND
HOLT POND
INNER HARBOR
CROCKET COVE
BURNT COVE
WEST STONINGTON
STONINGTON
THOROFARE
CHANNEL ROCK
GROG LEDGE
GROG ISLAND
BOLD ISLAND LEDGES
CLAM ISLANDS
SHEEP ISLAND
SHEEP ISLAND LEDGE
SHELDRAKE LEDGE
EASTERN MARK ISLAND
SHINGLE ISLAND
SADDLEBACK ISLAND
PHOEBE I.
MILLET ISLAND
BOLD ISLAND
DEVIL ISLAND
SHIVERS
CAMP ISLAND
RUSS ISLAND
TWO BUSH ISLANDS
MOOSE ISLAND
DREWS ISLAND
ROTCH ISLAND
ST HELENA ISLAND
GEORGE HEAD ISLAND
MARCK ISLAND
ROUND
BUNNING ROCK
SO. MARK ISLAND LEDGE
COLBY LEDGE
COLBY PUP
CHANNEL ROCK
GRAGGY I.
CARREL I.
162
161
157
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SWANS ISLAND

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P194 Saddleback Island

Black-Backed Gulls (W,S,N,P,F)
Eiders (W,S,N,F)
Guillemots (N,P)
Loons (W*)
Scoters (W)
Cormorants (N,P,F*)
Grebes (W*)
Herring Gulls (W,S,N,P,F)
Old Squaws (W)

P195 Halibut Rocks

Black-Backed Gulls (S,N,P,F*)
Eiders (S,N,F)
Guillemots (N)
Harbor Seals (N)
Mergansers (F)
Shorebirds (F)
Cormorants (N*,P*,F*)
Goldeneye/Bufflehead (F)
Herring Gulls (S,N,P,F)
Loons (S*)
Old Squaws (S,F)

P196 Spirit Ledge

Black-Backed Gulls (S,N)
Eiders (W*,S*,N,P,F*)
Goldeneye/Bufflehead (W)
Guillemots (N*,P*)
Harbor Seals (N,P,F)
Mergansers (W,S,F)
Scoters (W*)
Unid. Waterfowl (W)
Cormorants (N,P,F*)
Great Cormorants (N*,P*)
Gray Seals (N*)
Herring Gulls (S,N,P,F)
Loons (P*)
Old Squaws (W,S,F)
Shorebirds (W*)

P197 Boxam Cove

Black-Backed Gulls (S,N)
Goldeneye/Bufflehead (W,S)
Harbor Seals (N,F)
Mergansers (W,S*,N)
Scoters (W*)
Unid. Waterfowl (W)
Eiders (W*,S*,N*,P,F*)
Herring Gulls (S,P)
Loons (S,P*,F)
Old Squaws (W,S,F)
Shorebirds (W*)

P198 Three Bush Island

Black-Backed Gulls (W,N,P,F)
Eiders (W*,S,N,P,F)
Goldeneye/Bufflehead (W,S)
Loons (W*,N*)
Old Squaws (W,S,F)
Shorebirds (W*,P*)
Cormorants (P)
Gulls (N)
Herring Gulls (W,N,P,F)
Mergansers (W,S,N*)
Scoters (W)
Unid. Waterfowl (S)

P199 Ringtown Island

Bald Eagles (S*)
Cormorants (N,P,F)
Eagle Nests (N*)
Goldeneye/Bufflehead (W,F)
Herring Gulls (W,S,P,F)
Mergansers (W,S)
Scoters (W*)
Black-Backed Gulls (S,N,P,F*)
Eiders (W,S,N,P,F)
Gulls (F*)
Guillemots (P)
Loons (N*,F)
Old Squaws (W,F)

P200 Black Ledge

Black-Backed Gulls (S,P)
Eiders (W,S,N,P*,F*)
Herring Gulls (W,S,N,P,F)
Loons (F)
Old Squaws (W,F)
Shorebirds (W)
Terns (P)
Cormorants (S*,N,P,F*)
Gulls (P*)
Harbor Seals (N)
Mergansers (W)
Scoters (W)
Small Gulls (P)

P201 Mason Ledge

Black Ducks (W)
Cormorants (S,N)
Guillemots (N*,P*)
Mergansers (S)
Scoters (W,S)
Unid. Waterfowl (W)
Black-Backed Gulls (S,N,P)
Eiders (W,S,N,P,F*)
Herring Gulls (W,S,N,P,F)
Old Squaws (W,S,F)
Terns (N,P)

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Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P202 Hermon Island

Brant (N*)
Black-Backed Gulls (W,S,N*,P*)
Gulls (N)
Gray Seals (N*)
Herring Gulls (W,S,N*,P*,F)
Mergansers (S,N)
Scoters (W*)
Unid. Waterfowl (S*,N*)
Black Ducks (W,S)
Eiders (W*,S*,N*,P*,F*)
Goldeneye/Bufflehead (W,S)
Guillemots (N,P)
Loons (W*,F)
Old Squaws (W,S,N*,F)
Terns (N,P)

P203 Brimstone Island

Black-Backed Gulls (W*,S,N,P)
Eiders (W*,S,N,P,F*)
Guillemots (N*,P*)
Old Squaws (W,F)
Terns (N,P*)
Cormorants (S*)
Goldeneye/Bufflehead (S)
Herring Gulls (W,S,N,P,F)
Scoters (W*)

P204 Hat Island

Black Ducks (W)
Cormorants (P,F)
Goldeneye/Bufflehead (W,S)
Loons (W,S,N*,P*,F*)
Old Squaws (W,F)
Shorebirds (W*)
Unid. Waterfowl (S*,F*)
Black-Backed Gulls (W*,S,N,P)
Eiders (W,S,N*,P,F)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S)
Scoters (S)
Terns (P)

P205 Sand-Toothacher Coves

Black-Backed Gulls (W,S,N,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,N,P,F)
Loons (W*,S,N*,F)
Old Squaws (W,S*,N*,F)
Small Gulls (P)
Unid. Waterfowl (W*,S,N)
Cormorants (P)
Gulls (S,N)
Grebes (W*,S*)
Harbor Seals (S,N)
Mergansers (W*,S,N*)
Scoters (W*,S,F*)
Terns (P)

P206 High Sheriff-Gooseberry Is.

Black-Backed Gulls (W,S,N,P,F)
Eiders (W*,S,N,P,F)
Herring Gulls (W,S,N,P,F)
Mergansers (W,S,F)
Terns (N,P)
Cormorants (S*,N,P,F)
Goldeneye/Bufflehead (W,F)
Loons (S,N*,F)
Old Squaws (W,S,F)
Unid. Waterfowl (W)

P207 Burntcoat Harbor

Black-Backed Gulls (W,S,P,F)
Goldeneye/Bufflehead (W*,S*,F)
Loons (S*)
Old Squaws (W,S,F)
Terns (P)
Eiders (W,P,F)
Herring Gulls (W,S,P,F*)
Mergansers (S*,F*)
Scoters (S)
Unid. Waterfowl (W*,S*)

P208 Harbor Island

Black-Backed Gulls (S,N,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (S,N,P,F)
Mergansers (W,S*,N*)
Scoters (W*)
Unid. Waterfowl (S,N*)
Cormorants (N)
Gulls (S*,N,P)
Guillemots (N)
Loons (W*,S,F)
Old Squaws (W,N*,F)
Terns (P)

P209 Scrag-Green Islands

Black-Backed Gulls (S,P,F)
Eiders (W*,S*,P,F*)
Herring Gulls (W,P,F)
Mergansers (S)
Scoters (W)
Cormorants (P,F)
Goldeneye/Bufflehead (S)
Loons (W*,P*)
Old Squaws (W,S,F)
Shorebirds (W)

P210 Baker Island

Black-Backed Gulls (S,N,P,F)
Goldeneye/Bufflehead (W)
Loons (W,F)
Old Squaws (W,F)
Eiders (W,S,N,P,F)
Herring Gulls (W,S,N,P,F)
Mergansers (W*,S)
Unid. Waterfowl (W)

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SWANS ISLAND

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P211 Swans Island - Southeast

Black-Backed Gulls (S,N,F)
Goldeneye/Bufflehead (W)
Harbor Seals (N)
Mergansers (W,S,F)
Terns (P)
Eiders (W,S*,N,F)
Herring Gulls (W,S,N,P,F)
Loons (W,S)
Old Squaws (W,F)

P212 Johns Island

Black-Backed Gulls (S*,N*,P*)
Eiders (W*,S*,N*,P*,F*)
Goldeneye/Bufflehead (W)
Gray Seals (N*)
Herring Gulls (W,S,N*,P*,F)
Mergansers (W,S)
Unid. Waterfowl (W,N*)
Cormorants (N*,P)
Gulls (N)
Grebes (W*)
Guillemots (N*,P*)
Harbor Seals (S*,N*,P*,F*)
Old Squaws (W,S,N,F)

P213 Sister Islands

Black Ducks (S)
Cormorants (N,P)
Eagle Nests (N*)
Herring Gulls (W,S,N,P,F)
Loons (W,S)
Old Squaws (W*,N,F)
Shorebirds (P)
Black-Backed Gulls (W,S,N,P,F)
Eiders (W*,S,N,P,F*)
Goldeneye/Bufflehead (W,S)
Harbor Seals (S*,N*,P,F)
Mergansers (W,S)
Scoters (N*,F)
Unid. Waterfowl (W,S,N*)

P218 Sand Cove

Black Ducks (W*)
Cormorants (P)
Herring Gulls (W,N)
Mergansers (W)
Unid. Waterfowl (W)
Black-Backed Gulls (N)
Eiders (W,N,P)
Harbor Seals (P)
Old Squaws (W,P*)

P219 Ram Island

Black-Backed Gulls (S,N,F)
Eiders (S,N,P,F)
Guillemots (N)
Loons (F)
Old Squaws (N*,F)
Unid. Waterfowl (S)
Cormorants (F)
Goldeneye/Bufflehead (F)
Herring Gulls (S,N,P,F)
Mergansers (S)
Terns (P)

P220 Swans Island - Northeast

Black-Backed Gulls (S,P,F)
Eiders (W*,S*,N,P,F)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S*,N,P,F)
Loons (W,P*)
Old Squaws (W,S*,N*,F)
Terns (P)
Cormorants (P,F)
Gulls (F*)
Grebes (W*)
Harbor Seals (N,P,F)
Mergansers (S)
Scoters (F)
Unid. Waterfowl (W*,S,F)

P221 Mackeral Cove

Black Ducks (W)
Cormorants (N,P,F)
Gulls (N*,F)
Grebes (W*)
Harbor Seals (N,P*,F)
Mergansers (W,S,N*,F*)
Old Squaws (W*,S*,N*,F*)
Unid. Waterfowl (W,S,P*,F*)
Black-Backed Gulls (W,S*,N,P,F*)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W*,S*,N*,F*)
Herring Gulls (W,S*,N,P,F*)
Loons (F)
Ospreys (N*,P*)
Scoters (F)

P222 Seal Cove

Black Ducks (W*,N*)
Black-Backed Gulls (W,S,N,P,F)
Eiders (W*,S,N,P,F)
Goldeneye/Bufflehead (W*,S*,F*)
Harbor Seals (N*,P)
Mergansers (F*)
Scoters (W*,F)
Terns (P)
Bald Eagles (S*)
Cormorants (W*,P,F)
Great Blue Herons (P)
Herring Gulls (W*,S*,N,P,F)
Loons (W,F*)
Old Squaws (W,S,N*,F)
Shorebirds (N*)
Unid. Waterfowl (W*,S,F*)

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SWANS ISLAND

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
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P223 Orono-Phinney Islands

Black Ducks (W)
Cormorants (P,F)
Gulls (F*)
Goldeneye/Bufflehead (W)
Harbor Seals (S*,N*,P,F)
Mergansers (W,S,F)
Scoters (W,F*)
Black-Backed Gulls (W,S,N,P)
Eiders (W,S,N,P,F)
Great Blue Herons (N)
Herring Gulls (W,S*,N,P,F)
Loons (S)
Old Squaws (W,S,N*,F)

P225 Egg Rock

Cormorants (N,P,F*)
Herring Gulls (W,S,N,F)
Loons (W,F)
Scoters (W*)
Unid. Waterfowl (W)
Eiders (W,S,N,F)
Harbor Seals (S,N*)
Old Squaws (W,F)
Shorebirds (W*,F*)

P226 Opechee Island-Long Ledge

Black Ducks (W*,S*,F)
Cormorants (N,P,F)
Goldeneye/Bufflehead (W,S*,F)
Harbor Seals (W*,N,P*)
Mergansers (S,F)
Scoters (W)
Unid. Waterfowl (W,N)
Black-Backed Gulls (W,S,N,P,F)
Eiders (W,S,N,P,F)
Herring Gulls (W*,S*,N,P,F)
Loons (S,F)
Old Squaws (W,N,F)
Shorebirds (P)

P228 Black-Sheep-Eagle Islands

Black Ducks (W)
Black-Backed Gulls (W,S,P,F)
Eiders (W,S,N,P,F)
Goldeneye/Bufflehead (W,S,F)
Herring Gulls (W*,S,N,P,F)
Loons (W*)
Old Squaws (W,S,N*,F)
Bald Eagles (P*)
Cormorants (S*,N,P,F)
Gulls (P)
Gray Seals (N*)
Harbor Seals (W*,S*,N*,P*,F)
Mergansers (W*,S)
Unid. Waterfowl (S,F)

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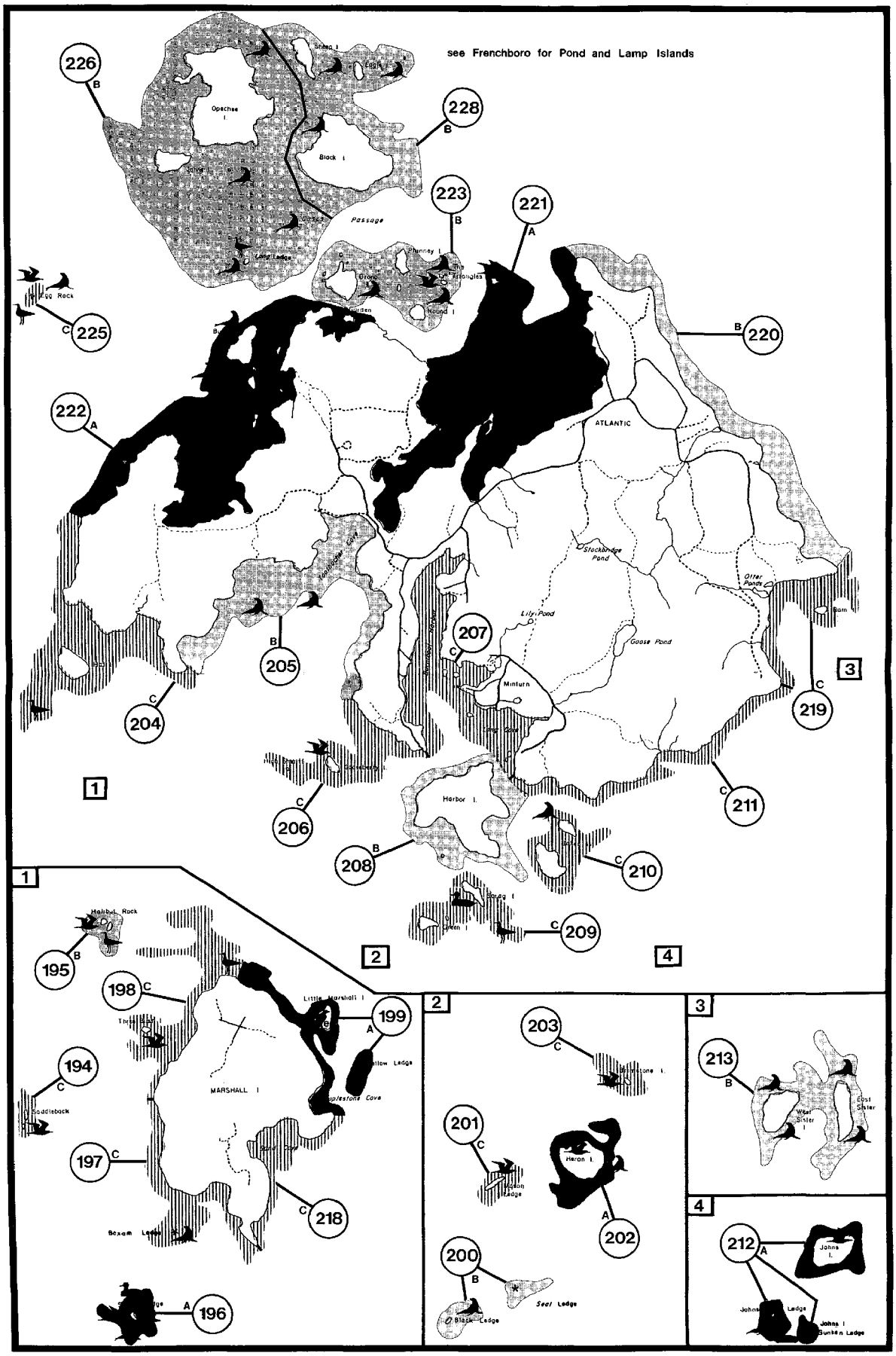
SWANS ISLAND



SWANS ISLAND

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P036 Bangor

Bald Eagles (F*)	Black-Backed Gulls (P,F)
Cormorants (N,P,F)	Gulls (P,F*)
Goldeneye/Bufflehead (S)	Herring Gulls (W,S,N,P,F)
Ospreys (P*)	Shorebirds (P)
Small Gulls (F)	Unid. Waterfowl (W,N*,F*)

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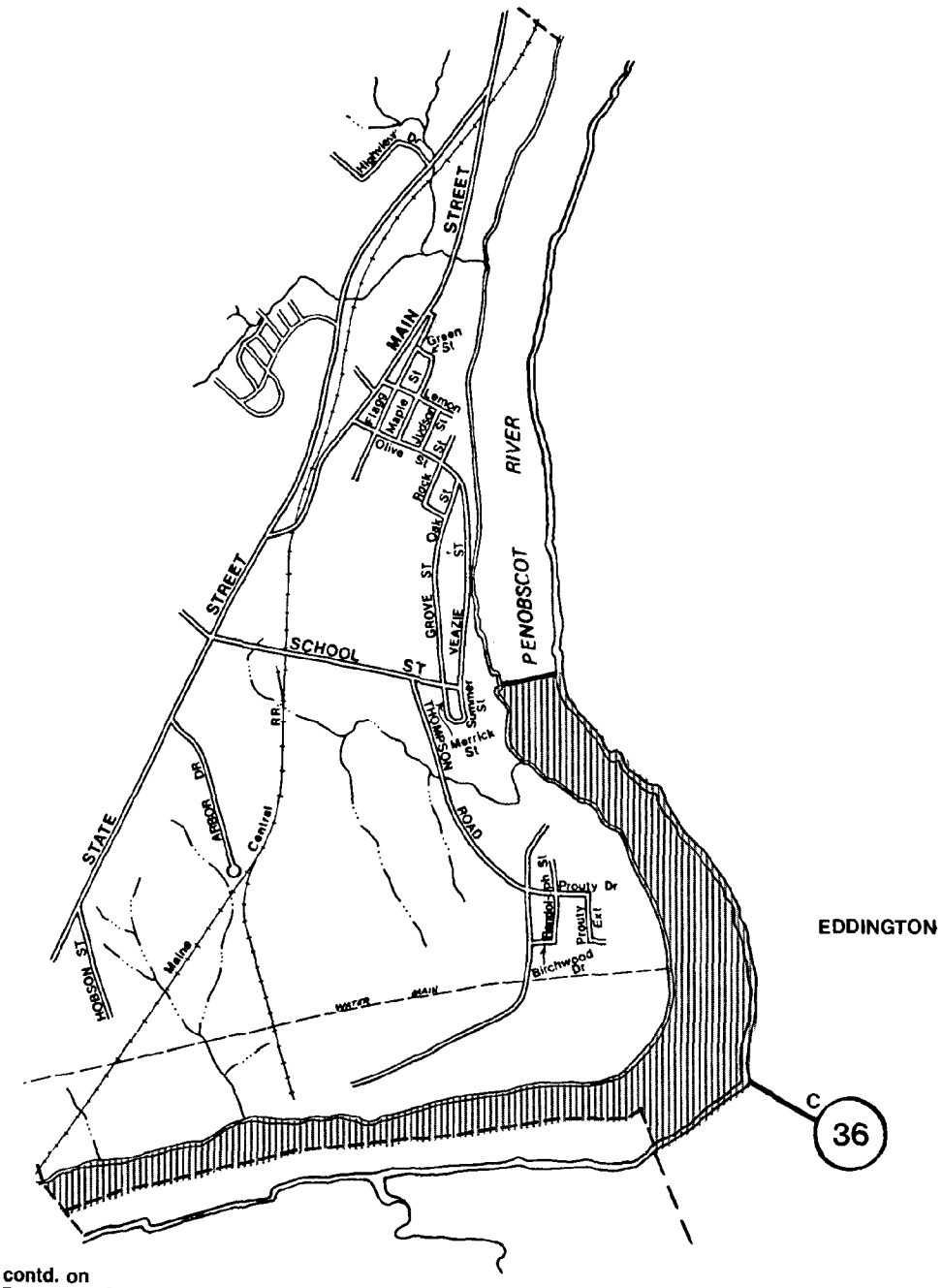
VEAZIE & EDDINGTON



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Bangor & Brewer

VERONA

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P027 Orland River

Black Ducks (W*,N*,P*,F*)
Cormorants (N,P,F)
Great Blue Herons (P*,F*)
Herring Gulls (N,P,F)
Mallards (P*)
Ospreys (N*,P*)
Small Gulls (P*)
Black-Backed Gulls (F)
Gulls (F*)
Goldeneye/Bufflehead (W*,N*,F)
Loons (P*,F)
Mergansers (W,F)
Shorebirds (P,F*)

P028 Verona Island East

Black Ducks (W*,P*,F*)
Cormorants (N,P,F)
Great Blue Herons (N,P*,F*)
Herring Gulls (N,P,F)
Ospreys (P*)
Small Gulls (P*)
Unid. Waterfowl (W,P*)
Black-Backed Gulls (F)
Gulls (P,F*)
Goldeneye/Bufflehead (W,F)
Mergansers (N*)
Shorebirds (P*,F*)
Terns (P)

P029 Bucksport

Bald Eagles (P*)
Cormorants (N,P)
Herring Gulls (W,N,P,F)
Shorebirds (P,F)
Black-Backed Gulls (P)
Goldeneye/Bufflehead (W,S)
Ospreys (P*)

P111 Verona Island-Southeast

Black-Backed Gulls (N)
Great Blue Herons (F*)
Herring Gulls (N,F)
Unid. Waterfowl (N*)
Cormorants (N,F)
Goldeneye/Bufflehead (N*)
Small Gulls (F)

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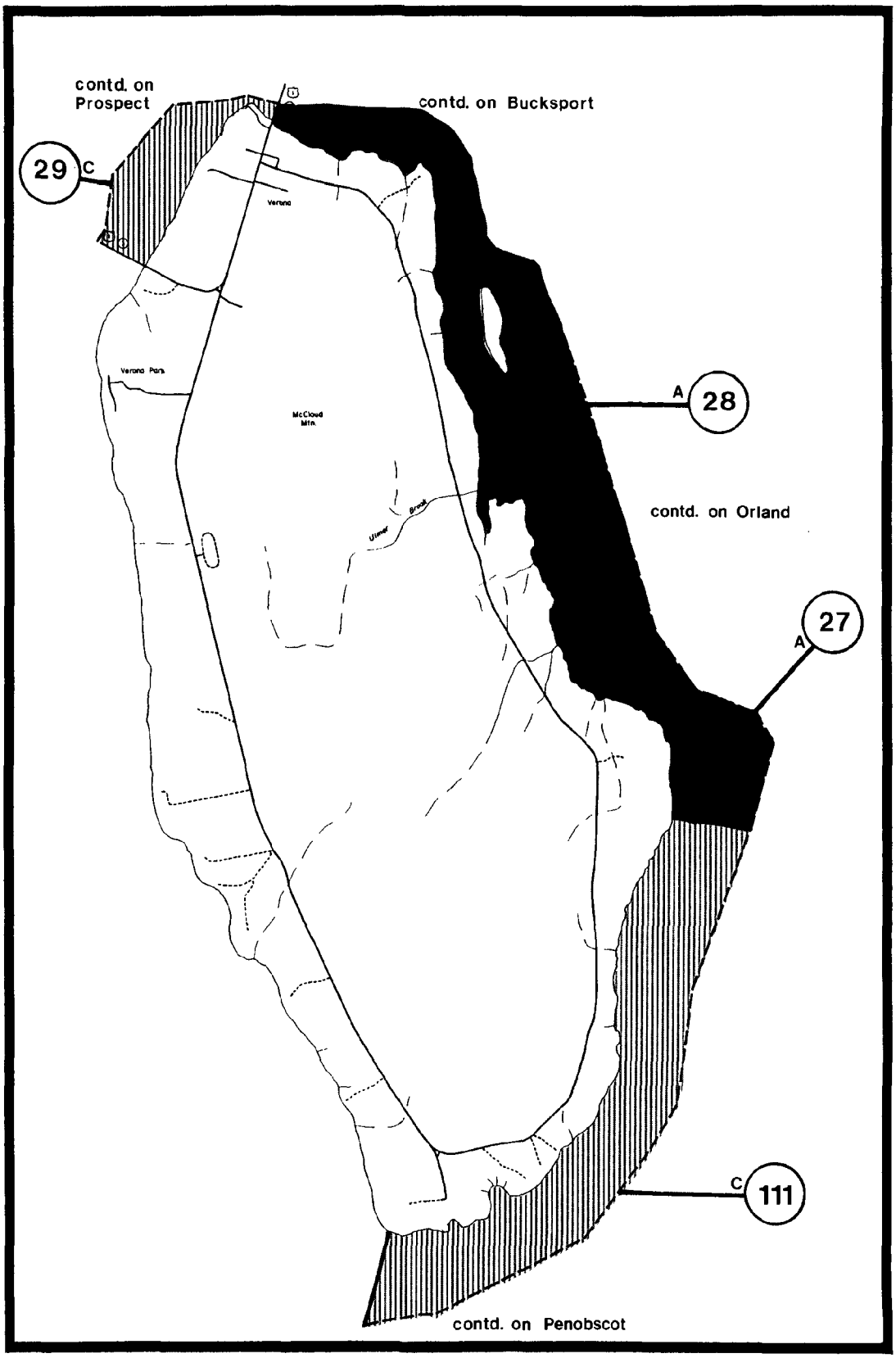
VERONA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29
C
Verona
Verona Park
McCloud Mtn.
Ulmer Brook
A
28
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27
A
C
111
contd. on Penobscot

VINALHAVEN

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P061 North Haven Town

Black-Backed Gulls (S,N)
Eiders (W,S,P,F)
Goldeneye/Bufflehead (W,S,F)
Loons (S,F*)
Old Squaws (W,F)
Cormorants (F)
Gulls (W,N*)
Herring Gulls (W,S,N,F)
Mergansers (W)
Unid. Waterfowl (W,N*,F*)

P066 Mill River

Black Ducks (W)
Cormorants (F*)
Great Blue Herons (N)
Herring Gulls (W,S,N)
Loons (W*,F)
Osprey Nests (N*)
Shorebirds (F)
Unid. Waterfowl (W*,S,N*)
Black-Backed Gulls (P)
Eiders (S,N,P)
Goldeneye/Bufflehead (W*,S*)
Harbor Seals (N)
Mergansers (W)
Old Squaws (W)
Terns (P)

P067 Carver Cove

Black-Backed Gulls (N,P,F)
Eiders (W,S,N,F)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (F)
Mergansers (N,F)
Old Squaws (W,S,F*)
Shorebirds (W,F)
Unid. Waterfowl (W,S*,N)
Cormorants (N,P,F)
Gulls (W*)
Herring Gulls (W,S,N,P,F)
Loons (W,S*,F*)
Ospreys (N*)
Scoters (N*)
Terns (P)

P068 Seal Bay

Black Ducks (W)
Cormorants (N,P,F)
Eiders (W,S,N,P,F)
Gulls (W*)
Herring Gulls (W*,S,N,P,F)
Loons (W,S*)
Shorebirds (W,N*,P,F)
Unid. Waterfowl (W*,S,N)
Black-Backed Gulls (S,P,F)
Canada Geese (F)
Eagle Nests (N*)
Goldeneye/Bufflehead (W*,S*)
Harbor Seals (W,N,F)
Old Squaws (W*,S,F)
Terns (N,P)

P069 Stoddard-Smith Islands

Black Ducks (W)
Cormorants (W*,P,F)
Gulls (W*)
Herring Gulls (W,S,N,P,F)
Loons (W,F)
Old Squaws (W,S,F)
Small Gulls (P)
Unid. Waterfowl (S*,N)
Black-Backed Gulls (W,S,N,P,F)
Eiders (W*,S,N,P,F)
Goldeneye/Bufflehead (W,S,F)
Harbor Seals (W*,N,F)
Mergansers (S)
Shorebirds (W*,P,F)
Terns (P)

P070 Narrows-Sheep-Green Islands

Black Ducks (W*)
Cormorants (N*,P*,F*)
Gulls (P*,F*)
Guillemots (N,P)
Harbor Seals (N,P,F)
Mergansers (W,S*,F)
Shorebirds (W*,S*,N,P*,F*)
Black-Backed Gulls (W,S,N,P,F*)
Eiders (W*,S,N,P,F)
Goldeneye/Bufflehead (W,S,N*,F)
Herring Gulls (W,S*,N,P*,F*)
Loons (S,F)
Old Squaws (W,S,F*)
Unid. Waterfowl (S*,P*)

P071 Saddleback Ledge-Brimstone I

Black Ducks (S)
Cormorants (W*,S*,N,P*,F*)
Gulls (N*,P*)
Guillemots (N*,P*)
Harbor Seals (N*,P,F*)
Old Squaws (W*,S*,F*)
Shorebirds (W,S,P*,F)
Unid. Waterfowl (S*)
Black-Backed Gulls (S,N*,P*,F*)
Eiders (W*,S,N*,P*,F*)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S,N*,P*,F*)
Loons (F)
Petrels (N,P)
Terns (P)

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VINALHAVEN

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P072 Roberts-Hay-Otter Islands

Black Ducks (W)
Cormorants (N*,P*,F*)
Gulls (P,F*)
Herring Gulls (W,N*,P*,F*)
Loons (S,N*,F*)
Old Squaws (W*,S,F*)
Shorebirds (W*,S*,P*)
Black-Backed Gulls (S,N*,P*,F*)
Eiders (W*,S,N*,P,F*)
Guillemots (N*,P*)
Harbor Seals (N,P,F)
Mergansers (W,S)
Petrels (N,P)
Unid. Waterfowl (S)

P073 Greens Island

Black-Backed Gulls (S,N,P,F)
Eiders (W,S,N,P,F)
Great Blue Herons (N)
Herring Gulls (W,S,N,P*,F)
Loons (W*,S*,N*,P*,F*)
Osprey Nests (N*)
Shorebirds (P,F)
Cormorants (N,P,F)
Gulls (W*,F)
Goldeneye/Bufflehead (W,S)
Harbor Seals (N,F)
Mergansers (W,S*)
Old Squaws (W,S,F)
Unid. Waterfowl (W*,S,F)

P074 Vinalhaven Town

Black Ducks (F*)
Cormorants (N,P,F)
Eiders (W,S,N,F)
Herring Gulls (W*,S,N*,P,F*)
Mergansers (S)
Old Squaws (W,S,F)
Small Gulls (P)
Black-Backed Gulls (W,P*,F)
Canada Geese (F*)
Goldeneye/Bufflehead (W,S*,F)
Loons (W*,S,F)
Osprey Nests (N)
Shorebirds (P)
Unid. Waterfowl (W,F*)

P075 Hurricane Island

Black-Backed Gulls (S,N,P*,F*)
Eiders (W*,S,N,P,F*)
Guillemots (N,P)
Harbor Seals (N)
Mergansers (W,S)
Shorebirds (N*,P,F)
Unid. Waterfowl (W*)
Cormorants (W,S*,N,P,F*)
Goldeneye/Bufflehead (W,S)
Herring Gulls (W,S,N,P,F*)
Loons (W,S*)
Old Squaws (W,S,F)
Terns (P)

P076 The Basin

Black Ducks (W)
Cormorants (N,P,F)
Eagle Nests (N*)
Great Blue Herons (N)
Herring Gulls (W,N,P,F)
Loons (W,F)
Ospreys (P*)
Old Squaws (W*,F*)
Shorebirds (F)
Unid. Waterfowl (W)
Black-Backed Gulls (W,N,P)
Eiders (W,N,P,F)
Gulls (W)
Goldeneye/Bufflehead (W,F*)
Harbor Seals (F)
Mergansers (W,F)
Osprey Nests (N*)
Scoters (N*)
Terns (N)

P077 Lairey's-Crane-Crotch Islands

Black-Backed Gulls (N,P)
Eiders (W*,S*,N,P,F)
Gulls (F)
Herring Gulls (W,S,N,P,F)
Mergansers (W*,S*)
Old Squaws (W*,S,F*)
Small Gulls (P)
Unid. Waterfowl (W*,S)
Cormorants (W,N,P,F)
Eagle Nests (N*)
Goldeneye/Bufflehead (W*,S)
Loons (W*,S*,F*)
Osprey Nests (N)
Shorebirds (S*,P)
Terns (P)

P078 White Island

Black-Backed Gulls (P,F*)
Eiders (W,S,N,P,F*)
Goldeneye/Bufflehead (W,S)
Harbor Seals (F)
Mergansers (W,S)
Old Squaws (W,F)
Unid. Waterfowl (W,S)
Cormorants (P,F*)
Gulls (F)
Herring Gulls (W,S,P,F)
Loons (W,S*)
Osprey Nests (N*)
Shorebirds (P,F)

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VINALHAVEN

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P079 Medric Rock-Green Ledge

Black-Backed Gulls (S*,N*,P*,F*)
Eiders (W,S*,N*,P*,F*)
Guillemots (N,P)
Harbor Seals (P,F)
Mergansers (S*)
Shorebirds (W*,N)
Cormorants (S*,N*,P*,F*)
Goldeneye/Bufflehead (W)
Herring Gulls (W,S*,N,P,F)
Loons (W,S*)
Old Squaws (W,S,F)
Small Gulls (P)

P080 Green-Dogfish Islands

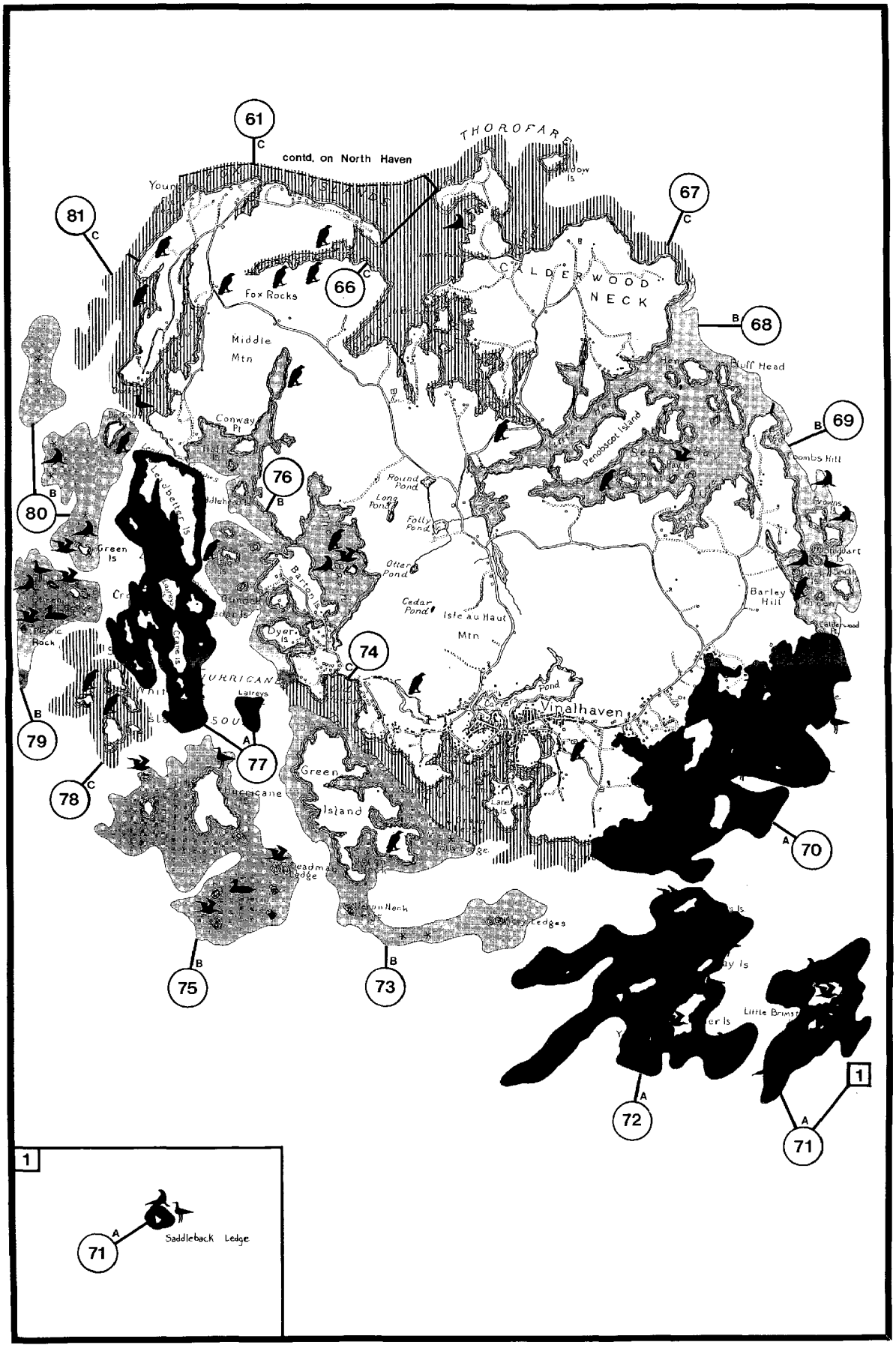
Black-Backed Gulls (S*,N,P,F)
Eiders (W,S*,N*,P,F)
Harbor Seals (N,P,F)
Mergansers (S)
Old Squaws (W,S,F)
Shorebirds (W)
Cormorants (N,P,F)
Herring Gulls (W,S*,N,P,F)
Loons (W,S)
Osprey Nests (N)
Scoters (N*)
Unid. Waterfowl (W,N)

P081 Crockett Point

Black Ducks (W,N*)
Cormorants (N,P,F)
Goldeneye/Bufflehead (W,S*)
Loons (W*,S*)
Ospreys (P*)
Old Squaws (W,S,F*)
Unid. Waterfowl (W*,S*,P*)
Black-Backed Gulls (S,N)
Eiders (W,S,N,P,F)
Herring Gulls (W,S,N,P,F)
Mergansers (S)
Osprey Nests (N*)
Shorebirds (W,S*)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

VINALHAVEN



61
contd. on North Haven
THOROFARE
67
81
66
Fox Rocks
CALDERWOOD NECK
68
Middle Mtn
Bluff Head
69
Conway Pt
Penobscot Island
Coombs Hill
76
Round Pond
Long Pond
Folly Pond
80
Green Is
Otter Pond
Barley Hill
Cedar Pond
Isle au Haut Mtn
Dyer Is
74
Vinalhaven
79
77
Green Island
78
70
Little Brimst
72
71
1
Saddleback Ledge

VINALHAVEN

WINTERPORT

Marine Wildlife of Penobscot Bay by Wildlife Area and Season of Occurrence.
(W=winter, S=spring migration, N=nesting, P=post nesting, F=fall migration)

P032 Marsh River

Black Ducks (W,S,N*,P*,F*)
Cormorants (N,P,F)
Eiders (N)
Goldeneye/Bufflehead (W,S*,F*)
Mergansers (W*,F)
Shorebirds (N,F)
Black-Backed Gulls (N,P,F)
Canada Geese (S*,F)
Great Blue Herons (P,F*)
Herring Gulls (S,N,F)
Ospreys (P*)
Unid. Waterfowl (S,F*)

P033 Winterport

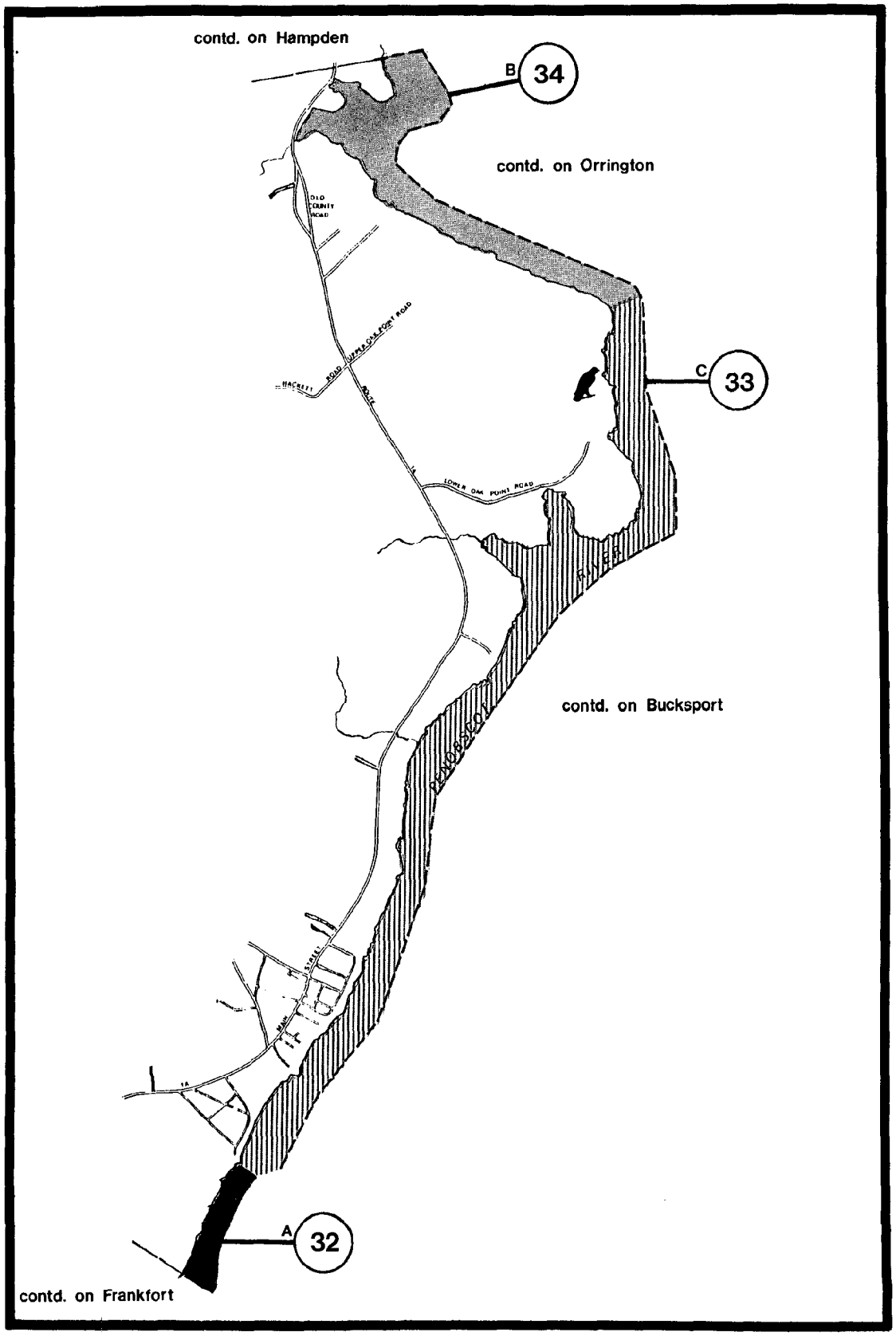
Black Ducks (P*,F*)
Cormorants (N,P,F)
Great Blue Herons (P)
Herring Gulls (W,S,N,P,F)
Loons (F)
Ospreys (P*,F*)
Small Gulls (P,F)
Black-Backed Gulls (W*,S,N,P,F)
Gulls (S,P*,F)
Goldeneye/Bufflehead (S)
Harbor Seals (F)
Mergansers (P*,F)
Shorebirds (N*,P,F)
Unid. Waterfowl (S*,F*)

P034 Bald Hill

Black Ducks (P,F*)
Black-Backed Gulls (N)
Canada Geese (S*)
Goldeneye/Bufflehead (W,S)
Ospreys (P*)
Unid. Waterfowl (S*)
Bald Eagles (F*)
Cormorants (P,F)
Gulls (F*)
Herring Gulls (W,S,N,P,F)
Osprey Nests (N)

* - Indicates the presence of greater than 1% of the species' population in Penobscot Bay for the season identified.

WINTERPORT


contd. on Hampden
B
34
contd. on Orrington
OLD COUNTY ROAD
UPPER OAK POINT ROAD
HACKETT ROAD
ROUTE 1A
LOWER OAK POINT ROAD
C
33
RIVER
PENOBSCOT
contd. on Bucksport
MAIN STREET
1A
A
32
contd. on Frankfort

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