

Appendix A

Karen Terwilliger/TCI



Refuge shorebird nesting area

Species and Habitats of Conservation Concern Known or Suspected on the Refuge

Table A.1. Bird Species of Conservation Concern Known or Suspected on the Refuge.

Species	Federal Legal Status ¹	MA Legal Status ¹	MA CWCS ²	MA Rarity Rank ³	BCC 2008 ⁴	BCC National ⁵	BCR 306	PIF ⁷	NAWCP ⁸	NAWMP ACJV ⁹	MANEM ¹⁰	US SCP ¹¹	Status ¹²
American oystercatcher			X	S2	X	X	Highest	IA				4	B
Black tern				S2N					Moderate		High		M
Canada goose (Atlantic)							Highest			High			W
Canada goose (North Atlantic)							High			Moderately high			
Common eider			X				High			High			W
Common tern		SC	X	S3			Moderate				Highest*		B, M
Dunlin						X	High						M
Herring gull				S3S4B							High*		B
Least sandpiper							Moderate						M
Least tern		SC	X	S3	X	X	High		High		Highest*		B, M
Northern harrier		T	X	S1									B
Piping plover	T	T	X	S2			Highest	IA					B
Roseate tern	E	E	X	S2			Highest	IV	High		Highest*		HB, M
Sanderling			X				Highest						M
Semipalmated plover							Moderate						M
Semipalmated sandpiper					X	X	High						M
Short-billed dowitcher			X	SNA	X	X	High						M

¹ Federal and State Legal Status Codes (under Federal & State Endangered Species Acts)

E = Federal or State Endangered T = Federal or State Threatened SC = State species of Special Concern (Administrative category without legal standing) PT = Proposed Threatened PE = Proposed Endangered PN = Proposed None PTB = Proposed threatened (breeding only) PEB = Proposed Endangered (breeding only)

² Massachusetts Comprehensive Wildlife Conservation Strategy (CWCS): Species of greatest conservation concern (SGCN) (MA DFW 2006)

³ Massachusetts Natural Heritage Inventory Rarity Ranks (MA DFW 2006, NatureServe 2009)

S1 = Critically imperiled

S2 = Imperiled

S3 = Either very rare or uncommon, vulnerable

S4 = Widespread, abundant, apparently secure

S5 = Secure

SH = Historical

SX = Presumed extirpated

B = Breeding

N = Non-breeding

Species included in table only if Srank less than S3

⁴ Birds of Conservation Concern (BCC) 2008 (Bird Conservation Region 14 List) (USFWS 2008)

⁵ Birds of Conservation Concern (BCC) National List (USFWS 2008)

⁶ BCR 30: New England / Mid-Atlantic Coast Conservation Priority Category (Steinkamp 2006)

Highest Priority: High BCR Concern and High BCR Responsibility and (High or Moderate Continental Concern)

High Priority: High Continental Concern and Moderate BCR Responsibility OR Moderate BCR Concern and High BCR Responsibility

Moderate Priority: Moderate BCR Concern and Moderate BCR Responsibility OR High Continental Concern and Low BCR Responsibility OR High BCR Responsibility and Low BCR Concern

⁷ Partner's in Flight (PIF) Bird Conservation Plan for Southern New England: Physiographic Area 09 (Dettmers and Rosenberg 2000)

IA = High continental concern & high regional responsibility

IB = High continental concern & low regional responsibility

IIA = High regional concern

IIB = High regional responsibility

III = Additional Federal-listed

IV = Additional State-listed

⁸ North American Waterbird Conservation Plan (NAWCP) Categories of Conservation Concern (Kushlan et al. 2002)

Highly Imperiled: includes all species with significant population declines and either low populations or some other high risk factor.

High Concern: Species that are not Highly Imperiled. Populations of these species are known or thought to be declining, and have some other known or potential threat as well.

Moderate Concern: Species that are not Highly Imperiled or High Concern. Populations of these species are either a) declining with moderate threats or distributions; b) stable with known or potential threats and moderate to restricted distributions; or c) relatively small with relatively restricted distributions.

Species included in table only if greater than moderate

⁹ North American Waterfowl Management Plan (NAWMP), Atlantic Coast Joint Venture (ACJV) (ACJV 2005)

Conservation Tier Priorities = Highest, High, Moderately High, Moderate, Moderately Low, Low

Species included in table only if priority moderate or higher

¹⁰ Mid-Atlantic / New England / Maritimes (MANEM) Regional Waterbird Conservation Plan Priorities (MANEM 2006a, 2006b)

* = MANEM Focal Species for Southern New England

Highly Imperiled: includes all species with significant population declines and either low populations or some other high risk factor.

High Concern: Species that are not Highly Imperiled. Populations of these species are known or thought to be declining, and have some other known or potential threat as well.

Moderate Concern: Species that are not Highly Imperiled or High Concern. Populations of these species are either a) declining with moderate threats or distributions; b) stable with known or potential threats and moderate to restricted distributions; or c) relatively small with relatively restricted distributions.

Species included in table only if greater than moderate

¹¹ U.S. Shorebird Conservation Plan (US SCP) Codes (Brown et al. 2001, Clark and Niles 2000)

5 = Highly imperiled

4 = Species of high concern

3 = Species of moderate concern

2 = Species of low concern

1 = Species not at risk

Species included in table only if greater than 3

¹² Status

B = Breeds on refuge or adjacent peninsula

HB = Historically bred on refuge

UB = Suspected but unconfirmed breeding on refuge

M = Uses refuge or adjacent peninsula during migration

W = Uses refuge, adjacent peninsula or waters during winter

Table A.2. Mammal Species of Conservation Concern Known or Suspected on the Refuge.

Species	Federal Legal Status ¹	MA Legal Status ¹	MA CWCS ²	MA Rarity Rank ³	MMPA ⁴
Gray seal					X
Harbor seal					X

¹ Federal and State Legal Status Codes (under Federal & State Endangered Species Acts)

E = Federal or State Endangered T= Federal or State Threatened SC= Federal or State species of Special Concern (Administrative category without legal standing) PT = Proposed Threatened PE= Proposed Endangered PN= Proposed None
 PTB= Proposed threatened (breeding only) PEB= Proposed Endangered (breeding only)

² Massachusetts Comprehensive Wildlife Conservation Strategy: Species of greatest conservation concern

³ Massachusetts Natural Heritage Inventory Rarity Ranks

S1 = Critically imperiled
 S2 = Imperiled
 S3 = Either very rare or uncommon, vulnerable
 S4 = Widespread, abundant, apparently secure
 S5 = Secure
 SH = Historical
 B = Breeding
 N = Non-breeding
Species included in table only if Srank less than S3

⁴ Marine Mammal Protection Act Protection

X = Species protected under the Federal Marine Mammal Protection Act
 D = Marine mammals designated as depleted under the MMPA

Table A.3. Fish Species of Conservation Concern Known or Suspected on the Refuge.

Species	Federal Legal Status ¹	MA Legal Status ¹	MA CWCS ²	MA Rarity Rank ³	AFS Status ⁴	Fishery Protection ⁵
Snowy grouper					V	
Thorny skate	SC				V	
Alewife			X	S3S4		MSFMCA
American eel			X	S3S4		MSFMCA, AFCA, ACFMA
American shad			X	S3S4		MSFMCA, AFCA, ACFMA
Atlantic salmon	E		X	S1	E	MSFMCA, AFCA
Blueback herring			X	S3S4		MSFMCA, AFCA
Bluefish						MSFMCA
Rainbow smelt	SC			S3		MSFMCA, AFCA
Shortnose sturgeon	E	E	X	S1	E, T, CD	MSFMCA, AFCA
Striped bass						MSFMCA, AFCA, ACFMA
White perch						AFCA
Winter flounder						MSFMCA

¹ Federal and State Legal Status Codes (under Federal & State Endangered Species Acts)

E = Federal or State Endangered T = Federal or State Threatened SC= Federal or State species of Special Concern (Administrative category without legal standing) PT = Proposed Threatened PE= Proposed Endangered PN= Proposed None
PTB= Proposed threatened (breeding only) PEB= Proposed Endangered (breeding only)

² Massachusetts Comprehensive Wildlife Conservation Strategy: Species of greatest conservation concern

³ Massachusetts Natural Heritage Inventory Rarity Ranks

S1 = Critically imperiled

S2 = Imperiled

S3 = Either very rare or uncommon, vulnerable

S4 = Widespread, abundant, apparently secure

S5 = Secure

SH = Historical

B = Breeding

N = Non-breeding

Species included in table only if Srank less than S3

⁴ American Fisheries Society (AFS) Marine, Estuarine and Diadromous Fish Stocks at Risk of Extinction (Musick et al. 2000)

E = Endangered

T = Threatened

V = Vulnerable

CD = Conservation Dependent

Species with more than one status listed reflect different rankings for distinct population segments

⁵ Protection under Federal fishery management laws

MSFMCA = Species protected under the Federal Magnuson-Stevens Fishery Management Conservation Act

AFCA = Species protected under the Federal Anadromous Fish Conservation Act

ACFMA = Atlantic Coastal Fisheries Cooperative Management Act

Table A.4. Plant Species of Conservation Concern Known or Suspected on the Refuge.

Species	Federal Legal Status¹	MA Legal Status¹	MA Rarity Rank²
Seabeach knotweed		SC	S3

¹Federal and State Legal Status Codes (under Federal & State Endangered Species Acts)

E = Federal or State Endangered T= Federal or State Threatened SC= State species of Special Concern (Administrative category without legal standing) PT = Proposed Threatened PE= Proposed Endangered PN= Proposed None
 PTB= Proposed threatened (breeding only) PEB= Proposed Endangered (breeding only)

²Massachusetts Natural Heritage Inventory Rarity Ranks

S1 = Critically imperiled

S2 = Imperiled

S3 = Either very rare or uncommon, vulnerable

S4 = Widespread, abundant, apparently secure

S5 = Secure

SH = Historical

B = Breeding

N = Non-breeding

Species included in table only if rank less than S3

Table A.5. Plant Communities of Conservation Concern Known or Suspected on the Refuge.

Massachusetts Community Type	MA CWCS¹	MA Natural Heritage Inventory State Rarity Rank²
Maritime Beach Strand	Coastal Dunes, Beaches and Small Islands	S3
Maritime Dune	Coastal Dunes, Beaches and Small Islands	S2

¹ Massachusetts Comprehensive Wildlife Conservation Strategy: Habitats of greatest conservation concern

² Massachusetts Natural Heritage Inventory Rarity Ranks

S1 = Critically imperiled

S2 = Imperiled

S3 = Either very rare or uncommon, vulnerable

S4 = Widespread, abundant, apparently secure

S5 = Secure

SH = Historical

Communities included in table only if Srank less than S3

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