

Appendix A



Erin Victory/TCI

American oystercatcher, newly hatched

## 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 <sup>1</sup>	MA Legal Status <sup>1</sup>	MA CWCS <sup>2</sup>	MA Rarity Rank <sup>3</sup>	BCC 2008 <sup>4</sup>	BCC National <sup>5</sup>	BCR 30 <sup>6</sup>	PIF <sup>7</sup>	NAWCP <sup>8</sup>	NAWMP ACJV <sup>9</sup>	MANEM <sup>10</sup>	US SCP <sup>11</sup>	Breeding Status <sup>12</sup>
American Black Duck			X				Highest	IIC		High			B
American Green-winged Teal							Moderate			Moderate			
American Kestrel			X										
American Osprey			X	S2	X	X	Highest	IA				4	B
Arctic Tern		SC	X	S1					High		Highest		HB
Bald Eagle		E	X	S1	X	X	Moderate						
Baltimore Oriole							High	IA					
Bay-breasted Warbler						X	High						
Black-and-white Warbler							High	IIA					
Black-crowned Night-Heron			X	S2			Moderate		Moderate		Highest*		B
Black Tern									Moderate		High		
Blue-winged Teal										Moderate High			
Bobolink								III					
Bonaparte's Gull									Moderate		Moderate		
Broad-winged Hawk			X				High						
Bufflehead							High			Moderate			

Species	Federal Legal Status <sup>1</sup>	MA Legal Status <sup>1</sup>	MA CWCS <sup>2</sup>	MA Rarity Rank <sup>3</sup>	BCC 2008 <sup>4</sup>	BCC National <sup>5</sup>	BCR 30 <sup>6</sup>	PIF <sup>7</sup>	NAWCP <sup>8</sup>	NAWMP ACJV <sup>9</sup>	MANEM <sup>10</sup>	US SCP <sup>11</sup>	Breeding Status <sup>12</sup>
Canada Goose (Atlantic)							Highest			High			B
Canada Goose (North Atlantic)							High			Moderate High			B
Common Eider			X	S1			High			High			
Common Loon	SC	SC	X	S1B					Moderate		Highest		B
Common Tern	SC	SC	X	S3			Moderate				Highest*		B
Cooper's Hawk													
Double-crested Cormorant											*		B
Eastern Kingbird							High						
Eastern Towhee			X				High	IIA					
Field Sparrow			X				High						
Gadwall							Moderate			Moderate			
Glossy Ibis							High				Highest*		
Great Blue Heron											High		
Great Cormorant									Moderate		High		
Greater Yellowlegs							High					3	
Herring Gull													
Killdeer							Moderate				High*	3	B

Species	Federal Legal Status <sup>1</sup>	MA Legal Status <sup>1</sup>	MA CWCS <sup>3</sup>	MA Rarity Rank <sup>2</sup>	BCC 2008 <sup>4</sup>	BCC National <sup>5</sup>	BCR 30 <sup>6</sup>	PIF <sup>7</sup>	NAWCP <sup>8</sup>	NAWMP ACJV <sup>9</sup>	MANEM <sup>10</sup>	US SCP <sup>11</sup>	Breeding Status <sup>12</sup>
Leach's Storm Petrel		E	X	S1							Moderate		B
Least Bittern		E	X	S1	X		Moderate		High		Highest*		
Least Tern		SC	X	S3	X	X	High		High		Highest*		HB
Little Blue Heron							Moderate		High		Highest		
Mallard							High		High				B
Northern Flicker							High						
Northern Gannet							High				Moderate		
Northern Harrier		T	X	S1									UB
Peregrine Falcon		E	X	S1	X	X		IIC					
Piping Plover	T	T	X	S2			Highest	IA				5	HB
Redhead										Moderate High			
Red-headed Woodpecker					X		Moderate	IIC					
Red-throated Loon					X		Highest		High		Highest*		
Rose-breasted Grosbeak													
Roseate Tern	E	E	X	S2			Highest	IV	High		Highest*		HB
Sharp-shinned Hawk		SC	X	S3									
Short-billed Dowitcher			X	SNA	X	X	High					4	

Species	Federal Legal Status <sup>1</sup>	MA Legal Status <sup>1</sup>	MA CWCS <sup>2</sup>	MA Rarity Rank <sup>3</sup>	BCC 2008 <sup>4</sup>	BCC National <sup>5</sup>	BCR 30 <sup>6</sup>	PIF <sup>7</sup>	NAWCP <sup>8</sup>	NAWMP ACJV <sup>9</sup>	MANEM <sup>10</sup>	US SCP <sup>11</sup>	Breeding Status <sup>12</sup>
Snipe							Moderate					3	
Snowy Egret			X	S1	X		Moderate		High		Highest*		B
Spotted Sandpiper							Moderate						
Upland Sandpiper		E	X	S1	X	X	Moderate	IB				2	
Vesper Sparrow		T	X	S2									
Virginia Rail									Moderate				
White-winged Scoter							High			Moderate High			
Willow Flycatcher			X			X	High						

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  
M = Migrating  
N = Non-breeding  
Species included in table only if Srank < 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)

<sup>6</sup> 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 > 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

<sup>10</sup> 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 > 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 >3

12 Breeding Status

B = Breeds on Refuge

HB = Historically bred on Refuge

UB = Suspected but unconfirmed breeding on Refuge

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

Species	Federal Legal Status <sup>1</sup>	MA Legal Status <sup>1</sup>	MA CWCS <sup>2</sup>	MA Rarity Rank <sup>3</sup>	AFS Status <sup>4</sup>
American Eel			X		
Snowy Grouper					V
Thorny Skate					V

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

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

3 Massachusetts Natural Heritage Inventory Rarity Ranks

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 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 < 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



Table A.3. Amphibian and Reptile Species of Conservation Concern Known or Suspected on the Refuge.

Species	Federal Legal Status <sup>1</sup>	MA Legal Status <sup>1</sup>	MA CWCS <sup>2</sup>	MA Rarity Rank <sup>3</sup>
Blanding's Turtle		T	X	S2
Green Sea Turtle	T	T	X	S1
Hawksbill Sea Turtle	E	E	X	S1
Kemp's Ridley Sea Turtle	E	E	X	S1
Leatherback Sea Turtle	E	E	X	S1S2
Loggerhead Sea Turtle	T	T	X	S1
Spotted Turtle			X	S3

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

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 (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 < S3

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

Species	Federal Legal Status <sup>1</sup>	MA Legal Status <sup>1</sup>	MA CWCS <sup>2</sup>	MA Rarity Rank <sup>3</sup>
Chain Dot Geometer		SC	X	S2S3
Drunk Apamea Moth		SC	X	S2S3
Dune Noctuid Moth		SC	X	S2S3
Regal Fritillary				SH
Spartina Borer Moth		SC	X	S1S3

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: 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 < S3

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

Species	Federal Legal Status <sup>1</sup>	MA Legal Status <sup>1</sup>	MA Rarity Rank <sup>2</sup>
Arethusa		T	S2
Purple Needlegrass		T	S2
(Saltmarsh) Toad Rush			S1?
Sandplain Blue-eyed-grass		SC	S3
Seabeach Knotweed		SC	S3
Shore Pygmy-weed		T	S2
Sickle-leaf Golden-aster			
Saltpond Pennywort		T	S2
Yellow Thistle		Watch list	SNR

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

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 (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 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 < S3

Table A.6. Plant Communities of Conservation Concern Known or Suspected on the Refuge.

Massachusetts Community Type	MA CWCS <sup>1</sup>	MA Natural Heritage Inventory State Rarity Rank <sup>2</sup>
Maritime beach strand	Coastal Dunes, Beaches and Small Islands	S3
Maritime dune	Coastal Dunes, Beaches and Small Islands	S2
Maritime shrubland	Young Forests and Shrublands	S3

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 < S3

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