Appendix B

Paul Casey/USFWS

Sweat Meadow

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

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

Species	Federal Legal Status[1]	NH Legal Status[1]	ME Legal Status[1]	NH Wildlife Action Plan[2]	Maine CWCS[3]	NH Rarity Rank[4]	ME Rarity Rank[4]	BCC 2002[5]	BCR 14: Atlantic Northern Forests	PIF[6]	NAWCP[7]	NAWMP, ACJV[8]	U.S. SCP[9]	Breeding Status[10]
Alder Flycatcher										IV				B
American Bittern				x	2	S3B			Moderate Priority	IV				B
American Black Duck				x	2				Highest Priority	IA		High Priority (B); Highest priority (NB)		B
American Kestrel										IV				B
American Pipit			E	x			S3N							
American Redstart					3				High Priority					B
American Three-toed Woodpecker		T	SC	x	2	S1	S3			IV				
American Wigeon					3		S3N							
American Woodcock				x	2				Highest Priority	IA			4	B
Bald Eagle	T	E	T	x	2	S1	S4B		Moderate Priority	III				B
Baltimore Oriole					2									B
Bank Swallow					3				Moderate Priority					B
Barn Swallow					2				Moderate Priority					B
Barred Owl					2									B
Barrow's Goldeneye			SC		2		S2S3N		Highest Priority					
Bay-breasted Warbler				x	2			x	Highest Priority	IA				B
Black and White Warbler					2									B
Black-bellied Plover					3				High Priority				3	
Black Scoter					3		S3S4N		High Priority					

Species	Federal Legal Status[1]	NH Legal Status[1]	ME Legal Status[1]	NH Wildlife Action Plan[2]	Maine CWCS[3]	NH Rarity Rank[4]	ME Rarity Rank[4]	BCC 2002[5]	BCR 14: Atlantic Northern Forests	PIF[6]	NAWCP[7]	NAWMP, ACJV[8]	U.S. SCP[9]	Breeding Status[10]
Black Tern			E		1						Moderate concern			
Black-backed Woodpecker					3	S3S4			Moderate Priority	IV				B
Black-billed Cuckoo					2				Moderate Priority					B
Blackburnian Warbler					2				Moderate Priority					B
Blackpoll Warbler					3			x	Moderate Priority	IV				
Black-throated Blue Warbler					2				High Priority	IIB				B
Black-throated Green Warbler					2				Moderate Priority					B
Blue-winged Teal					3	S3B				IV		Moderately High Priority		B
Bobolink					2				High Priority	IIA				B
Bohemian Waxwing							S3S4N							
Bonaparte's Gull											Moderate concern			
Boreal Chickadee									High Priority					B
Broad-winged Hawk					3									B
Brown Creeper									Moderate Priority					B
Brown Thrasher					2	S3				IV				B
Bufflehead												Moderately High (NB)		
Canada Warbler				x	2			x	Highest Priority	IA				B
Cape May Warbler					2			x	High Priority	IIB				B

Species	Federal Legal Status[1]	NH Legal Status[1]	ME Legal Status[1]	NH Wildlife Action Plan[2]	Maine CWCS[3]	NH Rarity Rank[4]	ME Rarity Rank[4]	BCC 2002[5]	BCR 14: Atlantic Northern Forests	PIF[6]	NAWCP[7]	NAWMP, ACJV[8]	U.S. SCP[9]	Breeding Status[10]
Chestnut-sided Warbler					2			x	High Priority	IIA				B
Chimney Swift					2				High Priority					B
Common Goldeneye					3	S3B			Moderate Priority					B
Common Loon		T		x	2	S3B			Moderate Priority	IV				B
Common Moorhen			SC	x	2	S2								
Common Nighthawk		T		x	2				High Priority	IV				
Common Raven										IV				B
Common Snipe													3	B
Common Tern		E	SC	x	2	S1		x	High Priority	IIA				
Common Yellowthroat					3									B
Cooper's Hawk		T	SC	x	3	S2B	S3S4B			IV				B
Dunlin							S3N						3	
Eastern Kingbird					2									B
Eastern Meadowlark			SC	x	2					IV				
Eastern Wood-Pewee					3				High Priority					B
Evening Grosbeak					3									B
Field Sparrow					2	S3	S3S4B							B
Fox Sparrow					3		S2N							
Golden Eagle		E	E	x	2	SHB	S1N			IV				
Gray Jay									Moderate Priority	IV				B
Great Black-backed Gull					3									
Great Blue Heron				x	2									B

Species	Federal Legal Status[1]	NH Legal Status[1]	ME Legal Status[1]	NH Wildlife Action Plan[2]	Maine CWCS[3]	NH Rarity Rank[4]	ME Rarity Rank[4]	BCC 2002[5]	BCR 14: Atlantic Northern Forests	PIF[6]	NAWCP[7]	NAWMP, ACJV[8]	U.S. SCP[9]	Breeding Status[10]
Great Cormorant			SC				S3N		Highest Priority		Moderate concern			
Great-crested Flycatcher					2									B
Greater Scaup					2		S3S4N		Moderate Priority			High (NB)		
Greater Yellowlegs					2								3	
Green Heron					3									
Green-winged Teal					3	S3B								B
Herring Gull					3				High Priority					B
Hooded Merganser												High Priority		B
Horned Grebe					3				Moderate Priority					
Horned Lark				x			S3S4N		Moderate priority	IV				
Killdeer					3				Moderate Priority				3	B
Lapland Longspur							S2S3N							
Least Flycatcher					3									B
Least Sandpiper									Moderate Priority				3	
Lesser Scaup					3		S1S3N					High (NB)		
Lesser Yellowlegs													3	
Long-tailed Duck					3				Moderate Priority					
Mallard					3							High Priority (B), Moderate Priority (NB)		B
Marsh Wren					2	S3								B
Merlin					3	S3B	S3B							B
Mourning Warbler										IV				B

Species	Federal Legal Status[1]	NH Legal Status[1]	ME Legal Status[1]	NH Wildlife Action Plan[2]	Maine CWCS[3]	NH Rarity Rank[4]	ME Rarity Rank[4]	BCC 2002[5]	BCR 14: Atlantic Northern Forests	PIF[6]	NAWCP[7]	NAWMP, ACJV[8]	U.S. SCP[9]	Breeding Status[10]
Northern Flicker					2				Moderate Priority					B
Northern Goshawk			SC	x	3	S3	S3?B		Moderate Priority	III				B
Northern Harrier		E		x	3	S2B			Moderate Priority	IV				B
Northern Parula					2				Moderate Priority	IIB				B
Northern Pintail					3		S3S4N					Moderate Priority (NB)		
Northern Saw-whet Owl										IV				B
Northern Shrike							S2S3N							
Olive-sided Flycatcher			SC		2			x	High Priority	1B				B
Osprey		T		x		S2B				IV				B
Ovenbird					3				Moderate Priority	IIB				B
Palm Warbler				x	3	S3B			Moderate Priority					B
Pectoral Sandpiper							S2S3N							
Peregrine Falcon		E	E	x	1	S1	S2B	x	Moderate Priority	III				B
Pied-billed Grebe		E		x	2	S1B				IV				B
Pine Grosbeak									Moderate Priority					
Purple Finch				x	2				High Priority	IIA				B
Red Crossbill					2		S3S4B							B
Red-necked Grebe							S3S4N		High Priority					
Red-necked Phalarope			SC		2		S3S4N		Highest Priority				3	
Red-shouldered Hawk				x	3	S3	S3N			III				

Species	Federal Legal Status[1]	NH Legal Status[1]	ME Legal Status[1]	NH Wildlife Action Plan[2]	Maine CWCS[3]	NH Rarity Rank[4]	ME Rarity Rank[4]	BCC 2002[5]	BCR 14: Atlantic Northern Forests	PIF[6]	NAWCP[7]	NAWMP, ACJV[8]	U.S. SCP[9]	Breeding Status[10]
Red-throated Loon					3		S2S3N		Moderate Priority					
Ring-necked Duck					3	S3B								B
Rose-breasted Grosbeak					2				Moderate Priority	IIA				B
Rough-legged Hawk							S2S3N							
Ruffed Grouse				x	3				Moderate Priority					B
Rusty Blackbird			SC	x	2	S2	S3S4B		High Priority	1A				B
Sanderling					2				Moderate Priority				4	
Savannah Sparrow										III				B
Scarlet Tanager					2									B
Semipalmated Plover									Moderate Priority					
Semipalmated Sandpiper				x	2				Highest Priority				3	
Sharp-shinned Hawk							S3S4B			IV				B
Short-billed Dowitcher					3				High Priority				4	
Snow Goose							S3N							
Solitary Sandpiper					3		S3S4N						4	
Sora					3	S3B				IV				B
Spruce Grouse				x	3	S3				IIA				B
Surf Scoter					3		S3S4N		Moderate Priority			Moderately High (NB)		
Tennessee Warbler					3									B
Tree Swallow					3									B
Turkey				x										
Veery				x	2				High Priority	IIA				B

Species	Federal Legal Status[1]	NH Legal Status[1]	ME Legal Status[1]	NH Wildlife Action Plan[2]	Maine CWCS[3]	NH Rarity Rank[4]	ME Rarity Rank[4]	BCC 2002[5]	BCR 14: Atlantic Northern Forests	PIF[6]	NAWCP[7]	NAWMP, ACJV[8]	U.S. SCP[9]	Breeding Status[10]
Virginia Rail					3									B
Whip-poor-will				x	2				Moderate Priority	IV				
White-throated Sparrow					3									B
White-winged Crossbill					3		S3S4B							B
White-winged Scoter					3							Moderately High (NB)		
Wilson's Warbler						S3B	S3S4B			IV				B
Wood Duck									Moderate Priority			High Priority (B, NB)		B
Wood Thrush				x	2			x	Highest Priority	IB				B
Yellow-bellied Flycatcher									Moderate Priority					B
Yellow-bellied Sapsucker					2				High Priority					B
Yellow Warbler					3									B

[1]Federal and State Legal Status Codes

E= Federal or State Endangered T= Federal or State Threatened SC= State species of Special Concern

[2]N. H. Wildlife Action Plan: Species of greatest conservation concern

[3]Maine's Comprehensive Wildlife Conservation Plan

Priority 1 (Very High) = High potential for state extirpation without management intervention and/or protection.
Priority 2 (High) = Moderate to high potential for state extirpation without management intervention and/or protection.
Priority 3 (Moderate) = Low to moderate potential for state extirpation, YET, there are some remaining concerns regarding restricted distribution, status, and/or extreme habitat specialization.

[4]New Hampshire and Maine 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 in either state < S3

[5]Birds of Conservation Concern 2002 (Bird Conservation Region 14 List)

[6]Partner's in Flight Bird Conservation Plan for Eastern Spruce-Hardwood Forest: Physiographic Area 28 , 2003 Update Codes

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

[7]North American Waterbird Conservation Plan Categories of Conservation Concern

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

[8]North American Waterfowl Management Plan, Atlantic Coast Joint Venture

B= breeding species prioritization
NB= non-breeding species prioritization
Conservation Tier Priorities = Highest, High, Moderately High, Moderate, Moderately Low, Low
Species included in table only if priority moderate or higher

[9]U.S. Shorebird Conservation Plan Codes

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

[10]Breeding Status

(B= Breeds on Refuge)

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

Common Name	NH Legal Status[1]	ME Legal Status[1]	NH Wildlife Action Plan[2]	Maine's CWCS[3]	NH Rarity Rank[4]	ME Rarity Rank[4]
American Beaver				3		
Big Brown Bat		SC		3		
Bobcat			x			
Black Bear			x			
Hoary Bat			x	3		
Little Brown Bat		SC		3		
Marten	T		x		S2	S5
Moose			x			
Northern Long-eared bat		SC	x	3		
White-tailed deer						

[1] New Hampshire and Maine State Legal Status

E= Endangered T= Threatened SC= Species of Special Concern

[2]New Hampshire Wildlife Action Plan: Species of greatest conservation concern

[3]Maine's Comprehensive Wildlife Conservation Strategy

Priority 1 (Very High) = High potential for state extirpation without management intervention and/or protection.
Priority 2 (High) = Moderate to high potential for state extirpation without management intervention and/or protection.
Priority 3 (Moderate) = Low to moderate potential for state extirpation, YET, there are some remaining concerns regarding restricted distribution, status, and/or extreme habitat specialization.

[4]New Hampshire and Maine 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.

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

Common Name	NH Wildlife Action Plan[1]	Maine's CWCS[2]	NH Rarity Rank[3]	ME Rarity Rank[3]
Alewife	x			
American Eel	x	1		
Eastern Brook Trout	x	2		
Finescale Dace(?)	x		S2	S4
Lake Chub		3		
Lake Trout	x	1		
Lake Whitefish	x		S3	
Landlocked Atlantic Salmon	x	2		S3
Rainbow Smelt	x	2		
Northern Redbelly Dace (?)	x		S3	
Slimy sculpin	x	3		

?= occurrence at Lake Umbagog not confirmed in recent years

[1]New Hampshire Wildlife Action Plan: Species of greatest conservation concern

[2]Maine's Comprehensive Wildlife Conservation Strategy

Priority 1 (Very High) = High potential for state extirpation without management intervention and/or protection.
Priority 2 (High) = Moderate to high potential for state extirpation without management intervention and/or protection.
Priority 3 (Mod ted distribution, status, and/or extreme habitat specialization.

[3]New Hampshire and Maine 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.

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

Common Name	ME State Legal Status[1]	NH Wildlife Action Plan[2]	Maine's CWCS[3]	NH State Rarity Rank[4]	ME State Rarity Rank[4]
Blue-spotted Salamander		x	2		S4
Mink frog		x			S4
Northern Leopard Frog	SC	x	3	S3	S3
Spring Salamander	SC		3		S3

[1]Maine Legal Status

E= Endangered T= Threatened SC= Species of Special Concern

[2]New Hampshire Wildlife Action Plan: Species of greatest conservation concern

[3]Maine's Comprehensive Wildlife Conservation Strategy

Priority 1 (Very High) = High potential for state extirpation without management intervention and/or protection.
Priority 2 (High) = Moderate to high potential for state extirpation without management intervention and/or protection.
Priority 3 (Moderate) = Low to moderate potential for state extirpation, YET, there are some remaining concerns regarding restricted distribution, status, and/or extreme habitat specialization.

[4]New Hampshire and Maine 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.

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

Common Name	NH State Legal Status [1]	ME State Legal Status[1]	NH Rarity Rank[2]	ME Rarity Rank[2]
Dragon's mouth	T		S2	
Golden sedge	E		S1	
Creeping sedge	E		S1	
Meagre sedge	E		S1	
Hayden's sedge			S3	
Livid sedge	E	SC	S1	S2
Sparse-flower sedge	E	SC	S1	S2
American willow-herb			Ind	
Narrow-leaved cotton grass	E		S1	
Marsh horsetail	E		S1	
Hollow Joe pye weed	E	SC	S1	S2
Moor rush	E	SC	S1	S2
Broad-leaved twayblade	T		S2	
Heart-leaved twayblade	T		S2	
Water lobelia			S3	
Alternate-flowered water milfoil			S3	
Comb water milfoil			S3	
Slender waternymph			Ind	
Dwarf ragwort	T		S2	
Jack pine	E		S1	
Knotty pondweed	E		S1	
Budding pondweed	E		SH	
Pink wintergreen	E		S1	
Arrow-head (wapato)	E		SH	
Bog willow			S3	
Satin willow	E		S1	
Podgrass			S3	
Torrey's threesquare			S3	

Common Name	NH State Legal Status [1]	ME State Legal Status[1]	NH Rarity Rank[2]	ME Rarity Rank[2]
Stiffly hairy goldenrod			Ind	
Pursh's goldenrod			Ind	
Branched bur-reed	E		SH	
Contorted sphagnum peat moss	T		S2	
Peat moss			S3	
Floating bladdersort			S3	
Canada violet		E		S1

?= occurrence at Lake Umbagog not confirmed

[1]State Legal Status

E= Endangered
T= Threatened
SC= Special Concern

[2]New Hampshire & Maine Natural Heritage Inventory State Rarity Ranks

S1= critically imperiled
S2= imperiled
S3= rare or uncommon; state watch species
S4= widespread & apparently secure
S5= widespread & secure
SH= historical

Ind= indeterminate (thought to be rare but in need of more information to determine status)

Species and Habitats of Conservation Concern Known or Suspected on the Refuge - Plant Communities List

New Hampshire Community Type	NH Natural Heritage Inventory State Rarity Rank	ME Natural Areas Program State Rarity Rank	Maine Community Type
Acidic northern white cedar swamp	S1	S4	Northern white cedar swamp
Leather-leaf - black spruce bog	S3		
Circumneutral-calcareous flark	S1	S2	Shrubby cinquefoil-sedge circumneutral fen
Lowland spruce-fir forest	S3	S4	Spruce-fir broom-moss forest
Northern hardwood-black ash-conifer swamp	S2		
Northern white cedar- balsam fir swamp	S2	S4	North white cedar swamp
Silver maple-false nettle-sensitive fern floodplain forest	S2		
Large cranberry-short sedge moss lawn (sphagnum pulchrum-quagmire sedge variant)	S3		
Sphagnum rubellum- small cranberry moss carpet	S3		
Large cranberry- short sedge moss lawn (Sphagnum torreyanum variant)	S3		
Northern white cedar circumneutral string	S1	S4	Northern white cedar woodland fen
Highbush blueberry-mountain holly wooded fen	S3S4		

New Hampshire Heritage Inventory Exemplary Natural Communities: Open Peatland Complexes

Site
Borderline Fen (patterned fen system)
Harper's Meadow (medium level fen system)
Leonard Marsh (medium level fen system)
Sweat Meadows (medium level fen system)
Whaleback Ponds (poor level fen/bog system)

References

Bechtel, D.A. and D.D. Sperduto. 1998. Floodplain forest natural communities along major rivers in New Hampshire. New Hampshire Natural Heritage Inventory. DRED, Div. of Forests & Lands, Concord, NH

Brown, S., C. Hickey, B. Harrington and R. Gills, eds. 2001. The U.S. shorebird conservation plan. 2nd Ed. Manomet Center for Conservation Sciences, Manomet, MA

Dettmers, R. 2005. Draft: Blueprint for the design and delivery of bird conservation in the Atlantic northern forest. [BCR 14] U.S. Fish and Wildlife Service .

Kushlan J.A., M. J. Steinkamp, K. C. Parsons, J. Capp, M. Acosta Cruz, M. Coulter, I. Davidson, L. Dickson, N. Edelson, R. Elliot, R. M. Erwin, S. Hatch, S. Kress, R. Milko, S. Miller, K. Mills, R. Paul, R. Phillips, J. E. Saliva, B. Sydeman, J. Trapp, J. Wheeler, and K. Wohl. 2002. Waterbird conservation for the Americas: North American waterbird conservation plan. Version 1. Wash. D.C.

North American Waterfowl Management Plan. Atlantic Coast Joint Venture. Waterfowl implementation plan revision. June 2005 draft.

Maine Dept. of Inland Fisheries and Wildlife. Sept. 2005. Maine's comprehensive wildlife conservation strategy, draft. MDFIW, Bangor, Maine

Maine Natural Areas Program. 2005. Rare, threatened and endangered plant taxa.

New Hampshire Fish and Game Dept. 2005. New Hampshire wildlife action plan. Draft. Concord, NH

New Hampshire Natural Heritage Bureau. 2005a. Rare animal list for New Hampshire, August 2005. DRED, Div. of Forests & Lands, Concord, NH.

New Hampshire Natural Heritage Bureau. 2005b. Rare plant list for New Hampshire, August 2005. DRED, Div. of Forests & Lands, Concord, NH

New Hampshire Natural Heritage Bureau. 2005c. State watch and indeterminate plant species in New Hampshire. DRED, Div. of Forests & Lands, Concord, NH

New Hampshire Natural Heritage Bureau. 2005d. Biological and conservation data (BCD) system (developed by The Nature Conservancy). DRED, Div. of Forests & Lands, Concord, NH.

Rosenberg, K. V. and T. P. Hodgman. Partners in Flight Bird Conservation Plan: Physiographic Area 28: Eastern Spruce-Hardwood Forest. American Bird Conservancy, 2003 Update

Sperduto, D.D. and B. Engstrom. 1998. Northern white cedar swamps of New Hampshire. New Hampshire Natural Heritage Inventory. DRED, Div. of Forests & Lands, Concord, NH

References (cont'd)

Sperduto, D.D. and W. F. Nichols. 2000. Exemplary bogs and fens of New Hampshire. New Hampshire Natural Heritage Inventory. DRED, Div. of Forests & Lands, Concord, NH

Sperduto, D.D., W. F. Nichols, and N. Cleavitt. 2000. Bogs and fens of New Hampshire. New Hampshire Natural Heritage Inventory. DRED, Div. of Forests & Lands, Concord, NH

U.S. Fish and Wildlife Service. 2002. Birds of conservation concern 2002. Div. of Migratory Bird Management, Arlington, VA.