

APPENDIX E: Environmental

Section 1: Cobb County Stream Monitoring Data

Section 2: Final Rule for Revised List of Migratory Birds

Section 3: USFWS National Bald Eagle Management Guidelines

Section 4: Phase I Environmental Site Assessment for Sweetwater Creek Feasibility Study, Douglas, Paulding, and Cobb Counties, Georgia

Section 1: Cobb County Stream Monitoring Data

Cobb County Stream Monitoring Program

SWEETWATER CREEK

Date	Time	Site	Sample Bottle #	BOD Bottle #	D.O. Bottle #	Sample Temp. °C	D.O. mg/L	pH S.U.	BOD mg/L	COD mg/L	TSS mg/L	Fecal Col col/100 mL	Conduct. µmho/cm	Turbidity NTU	T.Phos mg/L	TKN mg/L	NOx mg/L	CaTotal mg/L	MgTotal mg/L	KTotal mg/L	NaTotal mg/L	BTotal ug/L	AlTotal ug/L	BaTotal ug/L	FeTotal ug/L	MnTotal ug/L	CdTotal ug/L	CuTotal ug/L	PbTotal ug/L	ZnTotal ug/L	Hardness mg/L	Air Temp ° C
1/21/2015	9:25	SW1	4	2	108	7.0	10.44	7.06	<2.0	<2.0	3.2	50	70.7	10.1	0.01	<0.50	0.46	5.80	2.10	1.44	5.10	NA	574	20.2	1654	224	<5.00	<5.00	<5.00	<10.0	23.1	
	9:45	SW2	31	491	114	7.0	10.84	7.06	<2.0	<2.0	3.8	150	69.3	10.5	0.02	<0.50	0.41	5.63	2.06	1.46	4.85	NA	540	19.2	1592	222	<5.00	<5.00	<5.00	<10.0	22.5	
	10:05	SW3	37	518	116	7.0	10.85	7.05	<2.0	<2.0	3.8	100	69.5	9.3	0.01	<0.50	0.38	5.83	2.05	1.41	4.62	NA	460	20.6	1540	231	<5.00	<5.00	<5.00	<10.0	23.0	
	10:25	SW4	48	756	118	7.0	10.70	7.07	<2.0	<2.0	3.2	50	71.6	9.2	0.01	<0.50	0.40	6.04	2.12	1.45	4.86	NA	449	20.9	1537	228	<5.00	<5.00	<5.00	<10.0	23.8	
	10:40	SW5	58	805	122	7.0	10.59	7.09	<2.0	<2.0	2.6	50	74.3	8.9	0.01	<0.50	0.37	6.33	2.15	1.46	4.74	NA	394	22.2	1387	225	<5.00	<5.00	<5.00	<10.0	24.7	
	11:00	SW6	65	806	123	7.0	11.00	7.10	<2.0	<2.0	2.2	150	76.1	8.9	0.01	<0.50	0.38	6.60	2.20	1.53	4.77	NA	368	22.7	1360	210	<5.00	<5.00	<5.00	<10.0	25.5	
5/6/2015	9:10	SW1	16	115	103	17.5	8.67	7.25	<2.0	<2.0	9.2	<50	79.9	14.0	0.02	<0.50	0.41	6.09	2.28	1.21	5.52	NA	565	19.8	2186	230	<5.00	<5.00	<5.00	<10.0	24.6	
	9:30	SW2	31	508	108	18.0	8.03	7.26	<2.0	<2.0	6.2	50	73.9	12.1	0.02	<0.50	0.36	5.76	2.12	1.18	5.06	NA	416	17.9	1954	219	<5.00	<5.00	<5.00	<10.0	23.1	
	9:50	SW3	37	512	107	18.0	8.12	7.23	<2.0	<2.0	7.6	200	75.6	12.5	0.02	<0.50	0.35	6.07	2.21	1.22	5.1	NA	438	20.4	1960	237	<5.00	<5.00	<5.00	<10.0	24.3	
	10:10	SW4	39	611	110	18.0	8.01	7.29	<2.0	<2.0	8.2	<50	76.7	13.4	0.02	<0.50	0.37	6.23	2.20	1.25	5.27	NA	390	20.5	1932	237	<5.00	<5.00	<5.00	<10.0	24.6	
	10:30	SW5	48	775	112	17.5	8.29	7.29	<2.0	<2.0	7.2	50	81.4	11.9	0.02	0.62	0.36	6.64	2.33	1.33	5.35	NA	374	22.4	1812	223	<5.00	<5.00	<5.00	<10.0	26.2	
	10:50	SW6	65	815	123	17.5	8.25	7.30	<2.0	<2.0	11.8	100	79.6	11.4	0.02	<0.50	0.38	6.83	2.33	1.41	5.41	NA	439	23.2	1846	209	<5.00	<5.00	<5.00	<10.0	26.6	
8/27/2015	9:05	SW1	4	77	103	22.5	6.87	7.27	<2.0	<2.0	4.0	<100	95.1	10.0	0.02	<0.50	0.39	6.60	2.36	1.80	7.79	NA	358	20.3	1294	181	<5.00	<5.00	<5.00	<10.0	26.2	
	9:25	SW2	8	253	108	22.0	6.55	7.45	<2.0	<2.0	3.8	<100	92.2	8.6	0.02	<0.50	0.30	7.04	2.41	1.96	7.71	NA	354	19.8	1409	179	<5.00	<5.00	<5.00	<10.0	27.5	
	9:50	SW3	40	411	110	22.0	6.76	7.31	<2.0	<2.0	4.1	100	87.1	8.8	0.02	<0.50	0.20	6.67	2.19	1.84	6.60	NA	414	20.7	1443	236	<5.00	<5.00	<5.00	<10.0	25.7	
	10:15	SW4	49	619	113	22.0	6.92	7.29	<2.0	<2.0	6.5	2000	88.0	9.0	0.02	<0.50	0.22	6.95	2.31	1.92	6.83	NA	486	22.2	1515	298	<5.00	<5.00	<5.00	<10.0	26.9	
	10:35	SW5	46	762	114	22.0	6.61	7.29	<2.0	<2.0	3.8	800	87.2	7.7	0.02	<0.50	0.21	7.10	2.29	2.00	6.36	NA	306	21.9	1240	252	<5.00	<5.00	<5.00	<10.0	27.2	
	10:55	SW6	78	921	119	22.0	6.65	7.32	<2.0	<2.0	2.6	300	86.4	6.9	0.02	<0.50	0.22	6.95	2.26	1.97	6.08	NA	264	20.9	1121	235	<5.00	<5.00	<5.00	<10.0	26.7	
12/7/2015	9:40	SW1	17	24	103	9.1	9.69	6.96	<2.0	<2.0	4.7	100	77.4	9.7	0.01	<0.50	0.42	6.01	2.09	1.46	5.70	NA	195	17.93	1779	188	<5.00	<5.00	<5.00	<10	23.6	
	10:00	SW2	25	32	107	9.3	10.18	7.01	<2.0	<2.0	4.5	100	78.0	9.7	0.01	<0.50	0.41	6.43	2.14	1.62	5.98	NA	133	18.78	1796	211	<5.00	<5.00	<5.00	<10	24.9	
	10:20	SW3	27	35	110	9.3	10.47	7.07	<2.0	<2.0	4.8	50	78.0	9.1	0.01	<0.50	0.37	6.09	2.03	1.44	5.18	NA	106	18.72	1590	206	<5.00	<5.00	<5.00	<10	23.6	
	10:40	SW4	30	100	119	9.5	10.39	6.98	<2.0	<2.0	4.7	100	79.5	9.1	0.01	<0.50	0.38	6.25	2.04	1.48	5.39	NA	106	18.96	1625	200	<5.00	<5.00	<5.00	<10	24.0	
	10:55	SW5	31	602	120	9.9	10.14	7.05	<2.0	<2.0	4.3	150	84.3	7.7	0.01	<0.50	0.35	7.17	2.28	1.66	5.77	NA	98.1	22.45	1609	226	<5.00	<5.00	<5.00	<10	27.3	
	11:15	SW6	65	604	122	9.6	10.29	6.98	<2.0	<2.0	4.1	100	82.8	8.6	0.01	<0.50	0.36	7.08	2.19	1.65	5.57	NA	133	21.94	1548	199	<5.00	<5.00	<5.00	<10	26.7	
4/11/2016	9:45	SW1	8	108	9	12.7	9.86	6.94	<2.0	<2.0	3.7	100	73.8	8.2	0.013	<0.50	0.37	6.17	2.32	1.15	5.09	NA	321	16.2	1582	156	<5.00	<5.00	<5.00	<5.00	25.0	
	10:05	SW2	32	98	110	13.4	9.77	7.01	<2.0	<2.0	5.6	<100	72.6	7.8	0.012	<0.50	0.39	6.29	2.31	1.26	5.51	NA	256	15.6	1523	159	<5.00	<5.00	<5.00	<5.00	25.2	
	10:25	SW3	40	158	116	12.9	9.67	6.99	<2.0	<2.0	4.4	<100	73.9	7.5	0.011	<0.50	0.33	6.44	2.34	1.25	5.37	NA	322	17.8	1493	168	<5.00	<5.00	<5.00	<5.00	25.7	
	10:45	SW4	46	500	118	13.9	9.38	6.99	<2.0	<2.0	3.9	<100	74.6	7.9	0.012	<0.50	0.33	6.52	2.32	1.24	5.24	NA	255	17.5	1434	159	<5.00	<5.00	<5.00	<5.00	25.8	
	11:10	SW5	49	506	119	12.9	9.33	7.04	<2.0	<2.0	3.6	<100	44.4	6.3	0.011	<0.50	0.32	6.86	2.41	1.30	5.18	NA	254	19.5	1351	158	<5.00	<5.00	<5.00	<5.00	27.1	
	11:30	SW6	78	700	121	13.1	9.18	7.02	<2.0	<2.0	4.1	<100	78.7	6.3	0.012	<0.50	0.34	7.04	2.47	1.37	5.21	NA	265	20.2	1330	150	<5.00	<5.00	<5.00	<5.00	27.8	
8/17/2016	9:10	SW1	12	289	289	26.4	5.58	7.14	<2.0	<2.0	6.0	200	166.8	6.2	0.026	*	1.28	10.8	3.22	3.22	15.5	NA	488	33.0	804	261	<5.00	<5.00	<5.00	<5.00	40.2	24.5
	9:30	SW2	14	290	166	25.8	5.92	7.25	<2.0	<2.0	5.2	100	151.6	5.6	0.022	*	0.82	9.90	3.13	2.78	13.7	NA	445	30.1	840	287	<5.00	<5.00	<5.00	<5.00	37.6	24.5
	9:50	SW3	15	400	291	26.2	5.43	7.20	<2.0	<2.0	9.0	600	126.8	8.7	0.011	*	0.39	9.34	2.91	2.3	10.3	NA	719	30.3	1342	420	<5.00	<5.00	<5.00	<5.00	35.3	25
	10:10	SW4	46	433	292	27.3	5.56	7.19	<2.0	<2.0	5.7	100	130.0	6.8	0.022	*	0.39	9.88	2.98	2.37	10.8	NA	302	32.6	1049	583	<5.00	<5.00	<5.00	<5.00	36.9	28
	10:30	SW5	56	750	293	26.1	5.40	7.25	<2.0	<2.0	1.0	200	114.3	9.3	0.022	*	0.32	9.49	2.78	2.38	8.77	NA	731	33.6	1442	471	<5.00	<5.00	<5.00	<5.00	35.1	27
	10:50	SW6	70	783	294	26.8	5.86	7.26	<2.0	<2.0	4.2	400	116.0	7.8	0.025	*	0.25	9.62	2.86	2.26	8.81	NA	302	30.0	1144	444	<5.00	<5.00	<5.00	<5.00	35.8	27.5
1/11/2017	9:20	SW1	16	28	289	6.6	13.21	7.10	<2.0	<2.0	3.6	100	86.1	9.7	0.004	<0.50	0.69	6.37	2.06	1.84	7.80	NA	571	23.9	1323	219	<5.00	<5.00	<5.00	5.26	24.3	12
	9:40	SW2	17	745	290	7.5	12.27	7.24	<2.0	<2.0	3.2	200	82.8	9.8	0.023	<0.50	0.61	6.09	1.95	1.88	7.38	NA	514	23.0	1320	204	<5.00	<5.00	<5.00	<5.00	23.1	13.5
	10:00	SW3	32	791	296	6.7	12.53	7.07	<2.0	<2.0	3.2	100	85.4	10.1	0.017	<0.50	0.53	6.52	1.99	1.89	7.39	NA	316	24.2	1286	214	<5.00	<5.00	<5.00	<5.00	24.4	12
	10:20	SW4	56	815	299	7.6	13.35	7.29	<2.0	<2.0	2.4	50	85.6	9.1	0.022	<0.50	0.56	6.53	2.00	1.90	7.46	NA	347	24.1	1304	202	<5.00	<5.00	<5.00	<5.00	24.4	15
	10:40	SW5	70	817	302	7.8	13.34	7.18	<2.0	<2.0	3.6	100	89.3	9.2	0.018	<0.50	0.43	7.17	2.17	2.03	7.73	NA	472	26.1	13							

Chattahoochee Basin - Buttermilk Creek

**Buttermilk Creek
Collins Industrial Blvd.
January 29, 2016**

Order	Family	Genus	Common Name	(No. of Individuals)
Coleoptera	Elmidae	Ancryonyx (larvae)	Riffle Beetle	2
	Elmidae	Microcyloopus (larvae)	Riffle Beetle	2
Diptera	Chironomidae		Midge	95
	Empididae	Chelifera	Aquatic Dance Fly	1
	Empididae	Hemerodromia	Aquatic Dance Fly	1
	Limoniidae	Antocha	True Fly	16
	Simuliidae	Simulium	Black Fly	46
	Tipulidae	Tipula	Crane Fly	5
Ephemeroptera	Heptageniidae	Stenonema	Flatheaded Mayfly	19
Odonata	Coengrionidae	Argia	Narrowwinged Damselfly	2
	Gomphidae	Progomphus	Dragonfly (Clubtails)	1
Trichoptera	Hydropsychidae	Cheumatopsyche	Common Netspinner Caddisfly	15
	Hydropsychidae	Hydropsyche	Common Netspinner Caddisfly	2
	Leptoceridae	Ocetis	Longhorned Case Maker Caddisfly	1
	Leptoceridae	Triaenodes	Longhorned Case Maker Caddisfly	1
	Philopotamidae	Chimarra	Fingernet Caddisfly	2
	Rhyacophilidae	Rhyacophila	Free living Caddisfly	1
Total:				212

Chattahoochee Basin - Noses Creek

**Noses Creek
Irwin Road
February 1, 2016**

**Noses Creek
Macedonia Road
February 15, 2016**

Order	Family	Genus	Common Name	(No. of Individuals)	(No. of Individuals)
Coleoptera	Elmidae	Ancryonyx	Riffle Beetle	1	
	Elmidae	Dubiraphia	Riffle Beetle		2
	Elmidae	Macronychus	Riffle Beetle	2	4
	Dytiscidae	Unknown	Predacious Diving Beetle		1
Diptera	Chironomidae		Midge	64	113
	Empididae	Chelifera	Aquatic Dance Fly		8
	Tipulidae	Tipula	Crane Fly	4	
	Simuliidae	Simulium	Black Fly	48	27
		Unknown			
Ephemeroptera	Baetidae	Baetis	Mayfly		4
	Caenidae	Caenis	Small Squaregills Mayfly		1
	Ephemeridae	Hexagenia	Burrowing Mayfly		1
	Heptageniidae	Stenonema	Mayfly	63	30
Odonata	Coengrionidae	Argia	Narrowwinged Damselfly	2	
	Aeshnidae	Boyeria	Dragonfly	2	
	Gomphidae	Progomphus	Dragonfly (Clubtails)	2	1
Trichoptera	Hydropsychidae	Cheumatopsyche	Caddis Fly (net spinner)	5	7
	Hydropsychidae	Hydropsyche	Caddis Fly (net spinner)		1
	Philopotamidae	Chimarra	Caddis Fly	11	
	Leptoceridae	Triaenodes	Longhorned Case Maker Caddisfly	2	
	Rhyacophilidae	Rhyacophila	Free living Caddisfly	1	
Plecoptera	Perlidae	Acroneuria	Common Stonefly	1	

Total:

208

201

Chattahoochee Basin - Olley Creek**Olley Creek
Clay Road
February 12, 2016**

Order	Family	Genus	Common Name	(No. of Individuals)
Coleoptera	Elmidae	Ancryonyx (larvae)	Riffle Beetle	3
Diptera	Chironomidae		Midge	103
	Empididae	Chelifera	Aquatic Dance Fly	1
	Simuliidae	Simulium	Black Fly	18
	Tipulidae	Tipula	Crane Fly	8
Ephemeroptera	Baetidae	Baetis	Mayfly	5
	Caenidae	Caenis	Small Squaregills Mayfly	1
	Heptageniidae	Stenonema	Flatheaded Mayfly	35
Odonata	Aeshnidae	Boyeria	Dragonfly (Darners)	2
	Gomphidae	Progomphus	Dragonfly (Clubtails)	10
Trichoptera	Hydropsychidae	Cheumatopsyche	Common Netspinner Caddisfly	9
	Hydropsychidae	Hydropsychidae	Common Netspinner Caddisfly	3
	Leptoceridae	Ocetis	Longhorned Case Maker Caddisfly	1
	Leptoceridae	Triaenodes	Longhorned Case Maker Caddisfly	1
	Rhyacophilidae	Rhyacophila	Free living Caddisfly	1
Total:				201

Chattahoochee Basin - Powder Springs Creek**Powder Springs Creek
Elliott Road
February 11, 2016**

Order	Family	Genus	Common Name	(No. of Individuals)
Coleoptera	Elmidae	Macronychus (larvae)	Riffle Beetle	3
Diptera	Chironomidae		Midge	118
	Empididae	Chelifera	Aquatic Dancing Fly	3
	Empididae	Hemerodromia	Aquatic Dancing Fly	1
	Simuliidae	Simulium	Black Fly	12
	Tipulidae	Tipula	Crane Fly	1
Ephemeroptera	Baetidae	Baetis	Small Minnow Mayfly	7
	Caenidae	Caenis	Small Squaregills Mayfly	1
	Heptageniidae	Stenonema	Flatheaded Mayfly	38
Odonata	Aeshnidae	Boyeria	Dragonfly (Darners)	
	Coengrionidae	Argia	Narrowwinged Damselfly	
	Coengrionidae	Enallagma	Narrowwinged Damselfly	
	Gomphidae	Progomphus	Dragonfly (Clubtails)	
Trichoptera	Hydropsychidae	Cheumatopsyche	Common Netspinner Caddisfly	8
	Leptoceridae	Triaenodes	Longhorned Case Maker Caddisfly	1
	Rhyacophilidae	Rhyacophila	Free living Caddisfly	2
Plecoptera	Perlodidae	Unknown		1
Total:				196

Common Name	Scientific Name	Total Number	BM3	NC4	NS2	NS4	OL5	PS1	WR1
(Chattahoochee Basin - Cobb County, Georgia)									
Snail Bullhead	<i>Amerius brunneus</i>	55	5	41	3	4	1	1	
Yellow Bullhead	<i>Amerius natalis</i>	15	1	4	2	3	2	3	
Brown Bullhead	<i>Amerius nebulosus</i>	1	1						
Bluefin Stoneroller	<i>Campostoma pauciradii</i>	75	30	18					27
White Sucker	<i>Catostomus commersoni</i>	2		2					
Red Shiner	<i>Cyprinella lutrensis</i> *	11		11					
Blacktail Shiner	<i>Cyprinella venusta</i>	4		4					
Southern Studfish	<i>Fundulus stellifer</i>	7		2	3	1	1		
Mosquitofish	<i>Gambusia sp.</i>	5					5		
Alabama Hog Sucker	<i>Hypentelium etowanum</i>	117	19	89	4	2	2	1	
Redbreast Sunfish	<i>Lepomis auritus</i>	322	69	124	9	29	42	49	
Green Sunfish	<i>Lepomis cyanellus</i> *	69	12	3	13	19	5	17	
Warmouth Sunfish	<i>Lepomis gulosus</i>	5			1		3	1	
Bluegill Sunfish	<i>Lepomis macrochirus</i>	183	5	40	32	28	25	53	
Redear Sunfish	<i>Lepomis microlophus</i>	4				2		2	
Spotted Sunfish	<i>Lepomis punctatus</i>	14			5		1	8	
Bandfin Shiner	<i>Luxilus zonistius</i>	39	39						
Redeye Bass	<i>Micropterus coosae</i>	6		2		2	2		
Largemouth Bass	<i>Micropterus salmoides</i>	9			2	4	1	2	
Asian Swamp Eel	<i>Monopterus albus</i> *	5					5		
Bluehead Chub	<i>Nocomis leptcephalus</i>	170	91	4	3	17	11	18	26
Golden Shiner	<i>Notemigonus crysoleucus</i>	6	4		2				
Spottail Shiner	<i>Notropis hudsonius</i>	36		30		6			
Longnose Shiner	<i>Notropis longirostris</i>	8			1	2	1	4	
Speckled Madtom	<i>Noturus leptacanthus</i>	2						2	
Blackbanded Darter	<i>Percina nigrofasciata</i>	368	45	187	21	42	32	41	
Black Crappie	<i>Pomoxis nigromaculatus</i>	1	1						
Creek Chub	<i>Semotilus atromaculatus</i>	89	4		3				82
	Total		326	561	104	161	139	202	135
Total Number of Fish Collected During 2016:		1628							
Total Species Richness		28	14	15	15	14	16	14	3

Native Species	25	13	13	14	13	14	13	3
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BM3	Buttermilk Creek @ Collins Industrial Boulevard	6/16/2016
NC4	Nickajack Creek @ Cooper Lake Road	6/20/2016
NS2	Noses Creek @ Irwin Road	6/14/2016
NS4	Noses Creek @ Macedonia Road	6/21/2016
OL5	Olley Creek @ Clay Road	6/16/2016
PS1	Powder Springs Creek @ Elliott Road	6/13/2016
WR1	Ward Creek @ Highland Avenue	6/14/2016

*introduced species

Abundance

Rank
9th
12th
27th
7th
25th
14th
23rd
17th
20th
5th
2nd
8th
20th
3rd
23rd
13th
10th
18th
15th
20th
4th
18th
11th
16th
25th
1st
27th
6th

Section 2: Final Rule for Revised List of Migratory Birds



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Part III

Department of the Interior

Fish and Wildlife Service

50 CFR Parts 10 and 21

General Provisions; Revised List of Migratory Birds; Final Rule

DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Parts 10 and 21**

[Docket No. FWS-R9-MB-2010-0088, FF09M21200-134-FXMB1231099BPP0]

RIN 1018-AX48

General Provisions; Revised List of Migratory Birds**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service, revise the List of Migratory Birds by both adding and removing species. Reasons for the changes to the list include adding species based on new taxonomy and new evidence of occurrence in the United States or U.S. territories, removing species no longer known to occur within the United States, and changing names to conform to accepted use. The net increase of 19 species (23 added and 4 removed) brings the total number of species protected by the Migratory Bird Treaty Act (MBTA) to 1,026. We regulate most aspects of the taking, possession, transportation, sale, purchase, barter, exportation, and importation of migratory birds. An accurate and up-to-date list of species protected by the MBTA is essential for public notification and regulatory purposes.

DATES: This rule is effective December 2, 2013.**FOR FURTHER INFORMATION CONTACT:** George Allen at 703-358-1825.**SUPPLEMENTARY INFORMATION:****Background****What statutory authority does the service have for this rulemaking?**

We have statutory authority and responsibility for enforcing the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712), the Fish and Wildlife Improvement Act of 1978 (16 U.S.C. 7421), and the Fish and Wildlife Act of 1956 (16 U.S.C. 742a-j). The MBTA implements Conventions between the United States and four neighboring countries for the protection of migratory birds, as follows:

(1) Canada: Convention between the United States and Great Britain [on behalf of Canada] for the Protection of Migratory Birds, August 16, 1916, 39 Stat. 1702 (T.S. No. 628);

(2) Mexico: Convention between the United States and Mexico for the Protection of Migratory Birds and Game

Mammals, February 7, 1936, 50 Stat. 1311 (T.S. No. 912);

(3) Japan: Convention between the Government of the United States of America and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction, and Their Environment, March 4, 1972, 25 U.S.T. 3329 (T.I.A.S. No. 7990); and

(4) Russia: Convention between the United States of America and the Union of Soviet Socialist Republics Concerning the Conservation of Migratory Birds and Their Environment (Russia), November 19, 1976, 29 U.S.T. 4647 (T.I.A.S. No. 9073).

What is the purpose of this rulemaking?

Our purpose is to inform the public of the species protected by the MBTA and its implementing regulations. These regulations are found in Title 50, Code of Federal Regulations (CFR), Parts 10, 20, and 21. We regulate most aspects of the taking, possession, transportation, sale, purchase, barter, exportation, and importation of migratory birds. An accurate and up-to-date list of species protected by the MBTA is essential for regulatory purposes.

Why is this amendment of the list of migratory birds necessary?

The amendment is needed to: (1) Add five species previously overlooked from a family protected under the MBTA; (2) correct the spelling of six species on the alphabetized list; (3) correct the spelling of three species on the taxonomic list; (4) add 11 species based on new distributional records documenting their natural occurrence in the United States since April 2007; (5) add one species from a family now protected under the MBTA as a result of taxonomic changes; (6) add six species newly recognized as a result of recent taxonomic changes; (7) remove four species not known to occur within the boundaries of the United States or its territories as a result of recent taxonomic changes; (8) change the common (English) names of nine species to conform with accepted use; and (9) change the scientific names of 36 species to conform to accepted use.

The List of Migratory Birds (50 CFR 10.13) was last revised on March 1, 2010 (75 FR 9282). These amendments were necessitated by three published supplements to the 7th (1998) edition of the American Ornithologists' Union's (AOU's) *Check-list of North American birds* (AOU 2008, AOU 2009, and AOU 2010).

In addition, we correct the legal authorities citations at 50 CFR 10.13(a).

We also make a small change to a definition in 50 CFR 21.3. We update

the definition of "raptor" to also include the Order Accipitriformes, corresponding to recent taxonomic changes reflected in the List of Migratory Birds.

What scientific authorities are used to amend the list of migratory birds?

Although bird names (common and scientific) are relatively stable, staying current with standardized use is necessary to avoid confusion in communications. In making our determinations, we primarily relied on the American Ornithologists' Union's *Check-list of North American birds* (AOU 1998), as amended (AOU 1999, 2000, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, and 2010), on matters of taxonomy, nomenclature, and the sequence of species and other higher taxonomic categories (orders, families, subfamilies) for species that occur in North America. The AOU Checklist contains all bird species that have occurred in North America from the Arctic through Panama, including the West Indies and the Hawaiian Islands, and includes distributional information for each species, which specifies whether the species is known to occur in the United States. For the 39 species that occur outside the geographic area covered by the *Check-list* (28 that occur in the Pacific island territories and 11 listed in the Japanese and/or Russian conventions that have not occurred in the AOU area), we relied primarily on Clements (2007). Although we primarily rely on the above checklists, when informed taxonomic opinion is inconsistent or controversial, we evaluate available published and unpublished information and come to our own conclusion regarding the validity of taxa.

What criteria are used to identify individual species protected by the MBTA?

A species qualifies for protection under the MBTA by meeting one or more of the following four criteria:

(1) It is covered by the Canadian Convention of 1916, as amended in 1996, by virtue of meeting the following three criteria: (a) It belongs to a family or group of species named in the Canadian Convention, as amended; (b) specimens, photographs, videotape recordings, or audiotape recordings provide convincing evidence of natural occurrence in the United States or its territories; and (c) the documentation of such records has been recognized by the AOU or other competent scientific authorities.

(2) It is covered by the Mexican Convention of 1936, as amended in

1972, by virtue of meeting the following three criteria: (a) It belongs to a family or group of species named in the Mexican Convention, as amended; (b) specimens, photographs, videotape recordings, or audiotape recordings provide convincing evidence of natural occurrence in the United States or its territories; and (c) the documentation of such records has been recognized by the AOU or other competent scientific authorities.

(3) It is listed in the annex to the Japanese Convention of 1972, as amended.

(4) It is listed in the appendix to the Russian Convention of 1976.

In accordance with the Migratory Bird Treaty Reform Act of 2004 (MBTRA) (Pub. L. 108-447, 118 Stat. 2809, 3071-72), we include all species native to the United States or its territories, which are those that occur as a result of natural biological or ecological processes (see 70 FR 12710, March 15, 2005). We do not include nonnative species whose occurrences in the United States are solely the result of intentional or unintentional human-assisted introduction(s).

How do the changes affect the list of migratory birds?

Several taxonomic changes were made at the Order and Family level by the AOU since our 2010 publication of the list (75 FR 9282, March 1, 2010). These changes affect the inclusion and taxonomic order of species on this list. Specifically, the Orders Phaethontiformes and Suliformes were split from the Pelecaniformes. Phaethontiformes now includes the Family Phaethontidae (tropicbirds); Suliformes now includes the Families Fregatidae (frigatebirds), Sulidae (boobys), Phalacrocoracidae (cormorants), and Anhingidae (anhingas). In addition, the Order Accipitriformes was split from the Falconiformes and now include the Families Cathartidae (vultures), Pandionidae (Osprey), and Accipitridae (hawks and eagles). At the Family level, the Ardeidae (herons and egrets) and Threskiornithidae (ibis and spoonbills) were moved from the Ciconiiformes to the Pelecaniformes Order, the Pandionidae (Osprey) was split from the Accipitridae (hawks and eagles), and the Stercorariidae (jaegers and skuas) was split from the Laridae (gulls, terns, and skimmers). The Polioptilidae (gnatcatchers), Phylloscopidae (*Phylloscopus* warblers), Acrocephalidae (*Acrocephalus* warblers), and Megaluridae (*Locustella* warblers) were split from the Sylviidae, and the Calcariidae (longspurs and

snow buntings) was split from the Emberizidae (buntings and sparrows). The euphonias were put into their own Subfamily (Euphoniinae) and moved from the Thraupidae to the Fringillidae Family. All species within these newly created Families continue to be protected under the MBTA. In addition, the Wrentit was moved from the Timaliidae (babblers) to the Sylviidae and is now in a Family protected by the MBTA.

The amendments (23 additions, 4 removals, and 54 name changes) affect a grand total of 79 species and result in a net addition of 19 species to the List of Migratory Birds, increasing the species total from 1,007 to 1,026. Of the 23 species that we add to the list, 6 were previously covered under the MBTA as subspecies of listed species. These amendments can be logically arranged in the following 9 categories:

(1) Add five species from the family Muscicapidae, a family specifically listed in the 1996 protocol amending the 1916 convention with Canada. The omission of these species on the previous list was an oversight. All are considered accidental or casual in Alaska. The species and relevant AOU publication(s) are:

Mugimaki Flycatcher, *Ficedula mugimaki* (AOU 1987, 1997, 1998);
Taiga Flycatcher, *Ficedula albicilla* (AOU 1982, 1983, 1998, 2006);
Dark-sided Flycatcher, *Muscicapa sibirica* (AOU 1982, 1983, 1998, 2004);
Asian Brown Flycatcher, *Muscicapa dauurica* (AOU 1987, 1989, 1998); and
Spotted Flycatcher, *Muscicapa striata* (AOU 2004).

(2) Correct the spelling of six scientific names on the alphabetized list:

Nesofregata fuliginosa (Polynesian Storm-Petrel), becomes *Nesofregata fuliginosa*;

Thalasseus maximus (Royal Tern), becomes *Thalasseus maximus*;

Thalasseus sandvicensis (Sandwich Tern), becomes *Thalasseus sandvicensis*;

Vireo atricapillus (Black-capped Vireo), becomes *Vireo atricapilla*;

Phylloscopus sialatrix (Wood Warbler), becomes *Phylloscopus sibilatrix*; and

Locustella lanceolata (Lanceolated Warbler), becomes *Locustella lanceolata*.

(3) Correct the spelling of three scientific names on the taxonomic list:

Nesofregata fuiginosa (Polynesian Storm-Petrel), becomes *Nesofregata fuliginosa*;

Vireo atricapillus (Black-capped Vireo), becomes *Vireo atricapilla*; and

Tiaris olivacea (Yellow-faced Grassquit), becomes *Tiaris olivacea*.

(4) Add 11 species based on review and acceptance by AOU (since April 2007) of new distributional records documenting their occurrence in the United States, Puerto Rico, or the U.S. Virgin Islands. These species belong to families covered by the Canadian and/or Mexican Conventions, and all are considered to be of accidental or casual occurrence. For each species, we list the State in which it has been recorded plus the relevant publication:

Parkinson's Petrel, *Procellaria parkinsoni*—California (AOU 2008);

Swinhoe's Storm-Petrel, *Oceanodroma monorhis*—North Carolina (AOU 2010);

Swallow-tailed Gull, *Creagrus furcatus*—California (AOU 2008);

Brown Hawk-Owl, *Ninox scutulata*—Alaska (AOU 2009);

White-crested Elaenia, *Elaenia albiceps*—Texas (AOU 2010);

Crowned Slaty Flycatcher,

Empidonomus aurantioatrocristatus—Louisiana (AOU 2010);

Sinaloa Wren, *Thryothorus sinaloa*—Arizona (AOU 2010);

Pallas's Leaf-Warbler, *Phylloscopus proregulus*—Alaska (AOU 2008);

Sedge Warbler, *Acrocephalus schoenobaenus*—Alaska (AOU 2009);

Rufous-tailed Robin, *Luscinia sibilans*—Alaska (AOU 2010); and

Yellow-browed Bunting, *Emberiza chrysophrys*—Alaska (AOU 2009).

(5) Add one species because of recent taxonomic changes transferring a species in a family formerly not protected by the MBTA (Timaliidae) into a family protected under the MBTA (Sylviidae). We reference the AOU publication supporting the change: Wrentit, *Chamaea fasciata* (AOU 2010).

(6) Add six species because of recent taxonomic changes in which taxa formerly treated as subspecies have been determined to be distinct species. Given that each of these species was formerly treated as subspecies of a listed species, these additions will not change the protective status of any of these taxa, only the names by which they are known. In each case, we reference the AOU publication supporting the change:

Eastern Spot-billed Duck, *Anas zonorhyncha*—formerly considered a subspecies of *Anas poecilorhyncha*, Spot-billed Duck (AOU 2008);

Black Scoter, *Melanitta americana*—formerly treated as a subspecies of *Melanitta nigra*, Common [Black] Scoter (AOU 2009);

Mexican Whip-poor-will, *Caprimulgus arizonae*—formerly treated as a subspecies of *Caprimulgus vociferus*, Whip-poor-will (AOU 2010);

Pacific Wren, *Troglodytes pacificus*—formerly treated as a subspecies of

Troglodytes troglodytes, Eurasian [Winter] Wren (AOU 2010); Winter Wren, *Troglodytes hiemalis*—formerly treated as a subspecies of *Troglodytes troglodytes*, Eurasian [Winter] Wren (AOU 2010); and Puerto Rican Oriole, *Icterus portoricensis*—formerly treated as a subspecies of *Icterus dominicensis*, Hispaniolan [Greater Antillean] Oriole (AOU 2010).

(7) Remove four species based on revised taxonomic treatments and distributional evidence confirming that their known geographic ranges lie entirely outside the political boundaries of the United States and its territories. In each case, we reference the AOU publication supporting these changes: Spot-billed Duck, *Anas poecilorhyncha* (AOU 2008); Common [Black] Scoter, *Melanitta nigra* (AOU 2009); Eurasian [Winter] Wren, *Troglodytes troglodytes* (AOU 2010); and Hispaniolan [Greater Antillean] Oriole, *Icterus dominicensis* (AOU 2010).

(8) Revise the common (English) names of nine species to conform to the most recent nomenclatural treatment. These revisions do not change the protective status of any of these taxa, only the names by which they are known. In each case, we reference the published source for the name change: Greater Flamingo, *Phoenicopterus ruber*, becomes American Flamingo (AOU 2008);

Greater Shearwater, *Puffinus gravis*, becomes Great Shearwater (AOU 2010); Whip-poor-will, *Caprimulgus vociferus*, becomes Eastern Whip-poor-will (AOU 2010);

Green Violet-ear, *Colibri thalassinus*, becomes Green Violetear (AOU 2008); Blue Rock Thrush, *Monticola solitarius*, becomes Blue Rock-Thrush (Clements 2007);

Clay-colored Robin, *Turdus grayi*, becomes Clay-colored Thrush (AOU 2008);

White-throated Robin, *Turdus assimilis*, becomes White-throated Thrush (AOU 2008);

Nelson's Sharp-tailed Sparrow, *Ammodramus nelsoni*, becomes Nelson's Sparrow (AOU 2009); and

Saltmarsh Sharp-tailed Sparrow, *Ammodramus caudacutus*, becomes Saltmarsh Sparrow (AOU 2009).

(9) Revise the scientific names of 36 species to conform to the most recent nomenclatural treatment. These revisions do not change the protective status of any of these taxa, only the names by which they are known. In each case, we reference the AOU publication documenting the name change:

Larus philadelphia (Bonaparte's Gull) becomes *Chroicocephalus philadelphia* (AOU 2008);

Larus cirrocephalus (Gray-hooded Gull) becomes *Chroicocephalus cirrocephalus* (AOU 2008);

Larus ridibundus (Black-headed Gull) becomes *Chroicocephalus ridibundus* (AOU 2008);

Larus minutus (Little Gull) becomes *Hydrocoloeus minutus* (AOU 2008);

Larus atricilla (Laughing Gull) becomes *Leucophaeus atricilla* (AOU 2008);

Larus pipixcan (Franklin's Gull) becomes *Leucophaeus pipixcan* (AOU 2008);

Cyanocorax morio (Brown Jay) becomes *Psilorhinus morio* (AOU 2010);

Poecile hudsonica (Boreal Chickadee) becomes *Poecile hudsonicus* (AOU 2009);

Poecile cincta (Gray-headed Chickadee) becomes *Poecile cinctus* (AOU 2009);

Calcarius mccownii (McCown's Longspur) becomes *Rhynchophanes mccownii* (AOU 2010);

Vermivora pinus (Blue-winged Warbler) becomes *Vermivora cyanoptera* (AOU 2010);

Vermivora peregrina (Tennessee Warbler) becomes *Oreothlypis peregrina* (AOU 2010);

Vermivora celata (Orange-crowned Warbler) becomes *Oreothlypis celata* (AOU 2010);

Vermivora ruficapilla (Nashville Warbler) becomes *Oreothlypis ruficapilla* (AOU 2010);

Vermivora virginiae (Virginia's Warbler) becomes *Oreothlypis virginiae* (AOU 2010);

Vermivora crissalis (Colima Warbler) becomes *Oreothlypis crissalis* (AOU 2010);

Vermivora luciae (Lucy's Warbler) becomes *Oreothlypis luciae* (AOU 2010);

Parula superciliosa (Crescent-chested Warbler) becomes *Oreothlypis superciliosa* (AOU 2010);

Seiurus noveboracensis (Northern Waterthrush) becomes *Parkesia noveboracensis* (AOU 2010);

Seiurus motacilla (Louisiana Waterthrush) becomes *Parkesia motacilla* (AOU 2010);

Pipilo fuscus (Canyon Towhee) becomes *Melozona fusca* (AOU 2010);

Pipilo crissalis (California Towhee) becomes *Melozona crissalis* (AOU 2010);

Pipilo aberti (Abert's Towhee) becomes *Melozona aberti* (AOU 2010);

Aimophila carpalis (Rufous-winged Sparrow) becomes *Peucaea carpalis* (AOU 2010);

Aimophila botterii (Botteri's Sparrow) becomes *Peucaea botterii* (AOU 2010);

Aimophila cassinii (Cassin's Sparrow) becomes *Peucaea cassinii* (AOU 2010);

Aimophila aestivalis (Bachman's Sparrow) becomes *Peucaea aestivalis* (AOU 2010);

Aimophila quinquestriata (Five-striped Sparrow) becomes *Amphispiza quinquestriata* (AOU 2010);

Carduelis flammea (Common Redpoll) becomes *Acanthis flammea* (AOU 2009);

Carduelis hornemanni (Hoary Redpoll) becomes *Acanthis hornemanni* (AOU 2009);

Carduelis spinus (Eurasian Siskin) becomes *Spinus spinus* (AOU 2009);

Carduelis pinus (Pine Siskin) becomes *Spinus pinus* (AOU 2009);

Carduelis psaltria (Lesser Goldfinch) becomes *Spinus psaltria* (AOU 2009);

Carduelis lawrencei (Lawrence's Goldfinch) becomes *Spinus lawrencei* (AOU 2009);

Carduelis tristis (American Goldfinch) becomes *Spinus tristis* (AOU 2009); and

Carduelis sinica (Oriental Greenfinch) becomes *Chloris sinica* (AOU 2009).

For ease of comparison, changes are summarized in the following table (numbers reference the categories treated above). Species whose names have been revised (categories 2, 3, 8, and 9) appear in both the left-hand column (old name removed) and right-hand column (new name added), as are species that have been added based on taxonomic splits (category 6) of extralimital species that have been removed (category 7).

Removed (taxonomically)	Added (taxonomically)
Spot-billed Duck, <i>Anas poecilorhyncha</i> (7)	Eastern Spot-billed Duck, <i>Anas zonorhyncha</i> (6).
Common [Black] Scoter, <i>Melanitta nigra</i> (7)	Black Scoter, <i>Melanitta americana</i> (6).
Greater Flamingo, <i>Phoenicopterus ruber</i> (8)	American Flamingo, <i>Phoenicopterus ruber</i> (8). Parkinson's Petrel, <i>Procellaria parkinsoni</i> (4).
Greater Shearwater, <i>Puffinus gravis</i> (8)	Great Shearwater, <i>Puffinus gravis</i> (8).
Polynesian Storm-Petrel, <i>Nesofregata fuliginosa</i> (2)	Polynesian Storm-Petrel, <i>Nesofregatta fuliginosa</i> (2).

Removed (taxonomically)	Added (taxonomically)
Polynesian Storm-Petrel, <i>Nesofregatta fuliginosa</i> (3)	Polynesian Storm-Petrel, <i>Nesofregatta fuliginosa</i> (3). Swinhoe's Storm-Petrel, <i>Oceanodroma monorhis</i> (4). Swallow-tailed Gull, <i>Creagrus furcatus</i> (4).
Bonaparte's Gull, <i>Larus philadelphia</i> (9)	Bonaparte's Gull, <i>Chroicocephalus philadelphia</i> (9).
Gray-hooded Gull, <i>Larus cirrocephalus</i> (9)	Gray-hooded Gull, <i>Chroicocephalus cirrocephalus</i> (9).
Black-headed Gull, <i>Larus ridibundus</i> (9)	Black-headed Gull, <i>Chroicocephalus ridibundus</i> (9).
Little Gull, <i>Larus minutus</i> (9)	Little Gull, <i>Hydrocoloeus minutus</i> (9).
Laughing Gull, <i>Larus atricilla</i> (9)	Laughing Gull, <i>Leucophaeus atricilla</i> (9).
Franklin's Gull, <i>Larus pipixcan</i> (9)	Franklin's Gull, <i>Leucophaeus pipixcan</i> (9).
Royal Tern, <i>Thalasseus maximus</i> (2)	Royal Tern, <i>Thalasseus maximus</i> (2).
Sandwich Tern, <i>Thalasseus sandvicensis</i> (2)	Sandwich Tern, <i>Thalasseus sandvicensis</i> (2).
Whip-poor-will, <i>Caprimulgus vociferus</i> (8)	Brown Hawk-Owl, <i>Ninox scutulata</i> (4). Eastern Whip-poor-will, <i>Caprimulgus vociferus</i> (8).
Green Violet-ear, <i>Colibri thalassinus</i> (8)	Mexican Whip-poor-will, <i>Caprimulgus arizonae</i> (6). Green Violetear, <i>Colibri thalassinus</i> (8).
Black-capped Vireo, <i>Vireo atricapillus</i> (2, 3)	White-crested Elaenia, <i>Elaenia albiceps</i> (4). Crowned Slaty Flycatcher, <i>Empidonomus aurantioatrocristatus</i> (4).
Brown Jay, <i>Cyanocorax morio</i> (9)	Black-capped Vireo, <i>Vireo atricapilla</i> (2, 3). Brown Jay, <i>Psilorhinus morio</i> (9).
Boreal Chickadee, <i>Poecile hudsonica</i> (9)	Boreal Chickadee, <i>Poecile hudsonicus</i> (9).
Gray-headed Chickadee, <i>Poecile cincta</i> (9)	Gray-headed Chickadee, <i>Poecile cinctus</i> (9).
Eurasian [Winter] Wren, <i>Troglodytes troglodytes</i> (7)	Sinaloa Wren, <i>Thryothorus sinaloa</i> (4). Pacific Wren, <i>Troglodytes pacificus</i> (6).
Wood Warbler, <i>Phylloscopus sibilatrix</i> (2)	Winter Wren, <i>Troglodytes hiemalis</i> (6). Wood Warbler, <i>Phylloscopus sibilatrix</i> (2).
Lanceolated Warbler, <i>Locustella lanceolata</i> (2)	Pallas's Leaf-Warbler, <i>Phylloscopus proregulus</i> (4). Lanceolated Warbler, <i>Locustella lanceolata</i> (2).
Blue Rock Thrush, <i>Monticola solitarius</i> (8)	Wrentit, <i>Chamaea fasciata</i> (5). Sedge Warbler, <i>Acrocephalus schoenobaenus</i> (4).
Clay-colored Robin, <i>Turdus grayi</i> (8)	Mugimaki Flycatcher, <i>Ficedula mugimaki</i> (1). Taiga Flycatcher, <i>Ficedula albicilla</i> (1).
White-throated Robin, <i>Turdus assimilis</i> (8)	Dark-sided Flycatcher, <i>Muscicapa sibirica</i> (1).
McCown's Longspur, <i>Calcarius mccownii</i> (9)	Asian Brown Flycatcher, <i>Muscicapa dauurica</i> (1).
Blue-winged Warbler, <i>Vermivora pinus</i> (9)	Spotted Flycatcher, <i>Muscicapa striata</i> (1).
Tennessee Warbler, <i>Vermivora peregrina</i> (9)	Blue Rock-Thrush, <i>Monticola solitarius</i> (8).
Orange-crowned Warbler, <i>Vermivora celata</i> (9)	Rufous-tailed Robin, <i>Luscinia sibilans</i> (4).
Nashville Warbler, <i>Vermivora ruficapilla</i> (9)	Clay-colored Thrush, <i>Turdus grayi</i> (8).
Virginia's Warbler, <i>Vermivora virginiae</i> (9)	White-throated Thrush, <i>Turdus assimilis</i> (8).
Colima Warbler, <i>Vermivora crissalis</i> (9)	McCown's Longspur, <i>Rhynchophanes mccownii</i> (9).
Lucy's Warbler, <i>Vermivora luciae</i> (9)	Blue-winged Warbler, <i>Vermivora cyanopectera</i> (9).
Crescent-chested Warbler, <i>Parula superciliosa</i> (9)	Tennessee Warbler, <i>Oreothlypis peregrina</i> (9).
Northern Waterthrush, <i>Seiurus noveboracensis</i> (9)	Orange-crowned Warbler, <i>Oreothlypis celata</i> (9).
Louisiana Waterthrush, <i>Seiurus motacilla</i> (9)	Nashville Warbler, <i>Oreothlypis ruficapilla</i> (9).
Yellow-faced Grassquit, <i>Tiaris olivacea</i> (3)	Virginia's Warbler, <i>Oreothlypis virginiae</i> (9).
Canyon Towhee, <i>Pipilo fuscus</i> (9)	Colima Warbler, <i>Oreothlypis crissalis</i> (9).
California Towhee, <i>Pipilo crissalis</i> (9)	Lucy's Warbler, <i>Oreothlypis luciae</i> (9).
Abert's Towhee, <i>Pipilo aberti</i> (9)	Crescent-chested Warbler, <i>Oreothlypis superciliosa</i> (9).
Rufous-winged Sparrow, <i>Aimophila carpalis</i> (9)	Northern Waterthrush, <i>Parkesia noveboracensis</i> (9).
Botteri's Sparrow, <i>Aimophila botterii</i> (9)	Louisiana Waterthrush, <i>Parkesia motacilla</i> (9).
Cassin's Sparrow, <i>Aimophila cassinii</i> (9)	Yellow-faced Grassquit, <i>Tiaris olivacea</i> (3).
Bachman's Sparrow, <i>Aimophila aestivalis</i> (9)	Canyon Towhee, <i>Melospiza fusca</i> (9).
Five-striped Sparrow, <i>Aimophila quinquestrata</i> (9)	California Towhee, <i>Melospiza crissalis</i> (9).
Nelson's Sharp-tailed Sparrow, <i>Ammodramus nelsoni</i> (8)	Abert's Towhee, <i>Melospiza aberti</i> (9).
Saltmarsh Sharp-tailed Sparrow, <i>Ammodramus caudacutus</i> (8)	Rufous-winged Sparrow, <i>Peucaea carpalis</i> (9).
Hispaniolan [Greater Antillean] Oriole, <i>Icterus dominicensis</i> (7)	Botteri's Sparrow, <i>Peucaea botterii</i> (9).
Common Redpoll, <i>Carduelis flammea</i> (9)	Cassin's Sparrow, <i>Peucaea cassinii</i> (9).
Hoary Redpoll, <i>Carduelis hornemanni</i> (9)	Bachman's Sparrow, <i>Peucaea aestivalis</i> (9).
Eurasian Siskin, <i>Carduelis spinus</i> (9)	Five-striped Sparrow, <i>Amphispiza quinquestrata</i> (9).
Pine Siskin, <i>Carduelis pinus</i> (9)	Nelson's Sparrow, <i>Ammodramus nelsoni</i> (8).
Lesser Goldfinch, <i>Carduelis psaltria</i> (9)	Saltmarsh Sparrow, <i>Ammodramus caudacutus</i> (8).
Lawrence's Goldfinch, <i>Carduelis lawrencei</i> (9)	Yellow-browed Bunting, <i>Emberiza chrysophrys</i> (4).
American Goldfinch, <i>Carduelis tristis</i> (9)	Puerto Rican Oriole, <i>Icterus portoricensis</i> (6).
Oriental Greenfinch, <i>Carduelis sinica</i> (9)	Common Redpoll, <i>Acanthis flammea</i> (9).
	Hoary Redpoll, <i>Acanthis hornemanni</i> (9).
	Eurasian Siskin, <i>Spinus spinus</i> (9).
	Pine Siskin, <i>Spinus pinus</i> (9).
	Lesser Goldfinch, <i>Spinus psaltria</i> (9).
	Lawrence's Goldfinch, <i>Spinus lawrencei</i> (9).
	American Goldfinch, <i>Spinus tristis</i> (9).
	Oriental Greenfinch, <i>Chloris sinica</i> (9).

How do the changes implemented here differ from those discussed in the proposed rule?

The scientific name of one species spelled erroneously in the proposed rule is corrected to conform to the AOU Check-list (1998) and supplements:

Black-capped Vireo, *Vireo atricapillus* becomes *Vireo atricapilla*.

How is the list of migratory birds organized?

The species are listed in two formats to suit the needs of different segments of the public: alphabetically in 50 CFR 10.13(c)(1) and taxonomically in 50 CFR 10.13(c)(2). In the alphabetical listing, species are listed by common (English) group names, with the scientific name of each species following the English group name. This format, similar to that used in modern telephone directories, is most useful to members of the lay public. In the taxonomic listing, species are listed in phylogenetic sequence by scientific name, with the English name following the scientific name. To help clarify species relationships, we also list the higher-level taxonomic categories of Order, Family, and Subfamily. This format follows the sequence adopted by the AOU (1998, 2010) and is most useful to ornithologists and other scientists.

What species are not protected by the Migratory Bird Treaty Act?

The MBTA does not apply to:

(1) Nonnative species introduced into the United States or its territories by means of intentional or unintentional human assistance that belong to families or groups covered by the Canadian, Mexican, or Russian Conventions, in accordance with the MBTRA. See 70 FR 12710 (March 15, 2005) for a partial list of nonnative, human-introduced bird species in this category. Note, though, that native species that are introduced into parts of the United States where they are not native are still protected under the MBTA regardless of where they occur in the United States or its territories.

(2) Nonnative, human-introduced species that belong to families or groups not covered by the Canadian, Mexican, or Russian Conventions, including Tinamidae (tinamous), Cracidae (chachalacas), Megapodiidae (megapodes), Phasianidae (grouse, ptarmigan, and turkeys), Turnicidae (buttonquails), Odontophoridae (New World quail), Pteroclididae (sandgrouse), Psittacidae (parrots), Dicuridae (drongos), Rhamphastidae (toucans), Musophagidae (turacos), Bucerotidae (hornbills), Bucorvidae (ground-hornbills), Pycnonotidae

(bulbuls), Pittidae (pittas), Irenidae (fairy-bluebirds), Timaliidae (babblers), Zosteropidae (white-eyes), Sturnidae (starlings; except as listed in the Japanese Convention), Passeridae (Old World sparrows), Ploceidae (weavers), Estrildidae (estrildid finches), and numerous other families not currently represented in the United States or its territories.

(3) Native species that belong to families or groups represented in the United States, but which are not expressly mentioned by the Canadian, Mexican, or Russian Conventions, including the Megapodiidae (megapodes), Phasianidae (grouse, ptarmigan, and turkeys), Odontophoridae (New World quail), Burhinidae (thick-knees), Glareolidae (pratincoles), Psittacidae (parrots), Todidae (todies), Meliphagidae (honeyeaters), Monarchidae (monarch flycatchers [elepaios]), Zosteropidae (white-eyes), and Coerebidae (bananaquit). It should be noted that this rule supersedes the 70 FR 12710 notice to the extent that they are inconsistent. Specifically, the 1996 amendment to the Canadian Convention included the family Muscipidae (Old World flycatchers). Thus, all members of the Muscipidae family are now included on this list. In addition, the Wrenit is now considered a member of the Sylviidae family rather than the Timaliidae family and is now included on this list.

Partial lists of the species included in categories 2 and 3 are available at <http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/MBTAProtectedNonprotected.html>.

Responses to Public Comments

On April 26, 2011, we published in the **Federal Register** (76 FR 23428) a proposed rule to revise the list of migratory birds at 50 CFR 10.13. We solicited public comments on the proposed rule for 90 days, ending on July 25, 2011.

We received 7 comments in response to the proposed rule; 5 were from agencies, and 2 were from private individuals. The following text discusses the substantive comments we received and provides our responses to them.

Comment: One individual indicated that Brown Hawk-Owl, and the 10 other species we proposed to add based on new distributional records (Category 4), should not be added because they are either extremely rare vagrants or were moved by humans. The commenter further pointed out that the MBTA loses biological and ecological credibility when species are added that do not

naturally occur in the United States or its territories, and pointed to the Eurasian Kestrel as one example.

Response: In 2004, the Migratory Bird Treaty Reform Act (MBTRA; Pub. L. 108-447) amended the MBTA. While the primary purpose of the MBTRA was to eliminate protection for introduced species, it also defined native species as those “occurring in the United States or its territories as a result of natural biological or ecological processes.” Vagrancy is a natural biological process, so these species are protected under the MBTA.

There is credible evidence to support our contention that these species have occurred in the United States as natural vagrants unhindered by human intervention. The AOU and other bird record committees take human intervention into account whenever they evaluate such records. Several of these species, including the Brown Hawk-Owl, have occurred in some of the remotest parts of Alaska, and are most unlikely to have been moved there by humans. Furthermore, multiple records of Eurasian Kestrel have been accepted from Western Alaska, and at scattered locations across North America, by the AOU and other competent scientific authorities.

Comment: The Arkansas Game and Fish Commission urged the Service to carefully consider the implications to State regulations when making recommendations, and ensure that they do not occur so frequently as to become burdensome. Specifically, they point out that the split of the order Accipitriformes from the Falconiformes will necessitate a change in State falconry regulations.

Response: The Service appreciates the State’s concern regarding changes to Federal regulations that affect States, and we make a concerted effort to work closely with the States through the Flyway Councils. To comply with the intent of the migratory bird treaties and the MBTA, we are obligated to update the list at intervals. However, the List of Migratory Birds has been updated only twice since 1985, which is not frequently enough to stay current with changes in bird taxonomy. Consequently, we intend to update this list on a 5-year cycle to coincide with updates to the Birds of Conservation Concern, thus balancing the frequency of updates with the frequency of changes in bird taxonomy. In this update, taxonomic changes at the Order level did not change which species are protected under the MBTA, as the species within those families were previously protected. Furthermore, this is the first change we have made to the

Falconiformes since the families within that Order were first protected in 1972.

Comment: The Indiana Division of Fish and Wildlife (IDFW) was pleased that the Service intends to continue to treat cackling geese as Canada geese, pointing out that hunting management of white-cheeked geese could become more difficult if they were split. The IDFW also pointed out that the Mississippi Flyway Council is trying to simplify hunting regulations for Canada geese, and splitting them into two species for management purposes could cause progress toward simplification to stall.

Response: The Service recognizes the management concerns referred to by the commenter. While we appreciate the complexities of white-cheeked goose management, our decision to continue to include the Cackling Goose within the listing for Canada Goose is based on lingering uncertainty regarding their taxonomic relationship. Work is currently being conducted in Alaska and northern Canada to resolve that uncertainty. We will consider new information when it is available, at which time we may reconsider our decision. In any case, regardless of name, goose subspecies identified as Cackling Goose by the AOU are currently protected under the MBTA as Canada Goose.

Required Determinations

Regulatory Planning and Review (Executive Order 12866)

Executive Order (EO) 12866 provides that the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget will review all significant rules. OIRA has determined that this rule is not significant.

EO 13563 reaffirms the principles of EO 12866, while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. EO 13563 directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives.

EO 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (5 U.S.C. 601 et seq., as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 (Pub. L. 104–121)), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of an agency certifies the rule does not have a significant economic impact on a substantial number of small entities.

SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide the statement of the factual basis for certifying that a rule will not have a significant economic impact on a substantial number of small entities. We have examined this rule's potential effects on small entities as required by the Regulatory Flexibility Act, and have determined that this action will not have a significant economic impact on a substantial number of small entities, because we are simply updating the list of migratory bird species protected under the Conventions. Consequently, we certify that because this rule does not have a significant economic effect on a substantial number of small entities, a regulatory flexibility analysis is not required.

This rule is not a major rule under SBREFA (5 U.S.C. 804(2)). It does not have a significant impact on a substantial number of small entities.

a. This rule does not have an annual effect on the economy of \$100 million or more.

b. This rule does not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions.

c. This rule does not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises.

Unfunded Mandates Reform Act

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.), we have determined the following:

a. This rule does not "significantly or uniquely" affect small governments. A small government agency plan is not required. Actions under the regulation

do not affect small government activities in any significant way.

b. This rule does not produce a Federal mandate of \$100 million or greater in any year; i.e., it is not a "significant regulatory action" under the Unfunded Mandates Reform Act.

Takings

In accordance with Executive Order 12630, the rule does not have significant takings implications. This rule does not contain a provision for taking of private property. Therefore, a takings implication assessment is not required.

Federalism

This rule does not have sufficient Federalism effects to warrant preparation of a Federalism summary impact statement under Executive Order 13132. It does not interfere with the States' ability to manage themselves or their funds. No significant economic impacts are expected to result from the updating of the list of migratory bird species.

Civil Justice Reform

In accordance with Executive Order 12988, the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order.

Paperwork Reduction Act

We examined this rule under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). There are no new information collection requirements associated with this rule. We do not require any new permits, reports, or recordkeeping in this rule.

National Environmental Policy Act (NEPA)

Given that the revision of 50 CFR 10.13 is strictly administrative in nature and will have no or minor environmental effects, it is categorically excluded from further NEPA requirements (43 CFR 46.210(i)).

Endangered Species Act (ESA)

Seventy-four of the species on the List of Migratory Birds are also designated as endangered or threatened in all or some portion of their U.S. range under provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531–44; 50 CFR 17.11). No legal complications arise from the dual listing as the two lists are developed under separate authorities and for different purposes. Because the rule is strictly administrative in nature, it has no effect on threatened or endangered species. It does not require ESA consultation.

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951), Executive Order 13175, and 512 DM 2, we have evaluated potential effects on federally recognized Indian tribes and have determined that there are no potential effects. The revisions to existing regulations in this rule are purely administrative in nature and do not interfere with the tribes' ability to manage themselves or their funds or to regulate migratory bird activities on tribal lands.

Energy Supply, Distribution, or Use (Executive Order 13211)

On May 18, 2001, the President issued Executive Order 13211 addressing regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. Because this rule only affects the listing of protected species in the United States, it is not a significant regulatory action under Executive Order 12866, and does not significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action and no Statement of Energy Effects is required.

References Cited

A complete list of all references cited is available upon request (see **FOR FURTHER INFORMATION CONTACT** above).

List of Subjects

50 CFR Part 10

Exports, Fish, Imports, Law enforcement, Plants, Transportation, Wildlife.

50 CFR Part 21

Exports, Hunting, Imports, Reporting and recordkeeping requirements, Transportation, Wildlife.

Regulation Promulgation

For the reasons discussed in the preamble, we amend title 50, chapter I, subchapter B, parts 10 and 21 of the Code of Federal Regulations, as follows:

PART 10—[AMENDED]

■ 1. The authority citation for part 10 continues to read as follows:

Authority: 18 U.S.C. 42; 16 U.S.C. 703–712; 16 U.S.C. 668a–d; 19 U.S.C. 1202; 16 U.S.C. 1531–1543; 16 U.S.C. 1361–1384, 1401–1407; 16 U.S.C. 742a–742j–l; 16 U.S.C. 3371–3378.

■ 2. Revise § 10.13 to read as follows:

§ 10.13 List of Migratory Birds.

(a) *Legal authority for this list.* The legal authorities for this list are the Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703–712), the Fish and Wildlife Improvement Act of 1978 (16 U.S.C. 742l), and the Fish and Wildlife Act of 1956 (16 U.S.C. 742a–742j). The MBTA implements Conventions between the United States and four neighboring countries for the protection of migratory birds, as follows:

(1) *Canada:* Convention between the United States and Great Britain [on behalf of Canada] for the Protection of Migratory Birds, August 16, 1916, 39 Stat. 1702 (T.S. No. 628), as amended;

(2) *Mexico:* Convention between the United States and Mexico for the Protection of Migratory Birds and Game Mammals, February 7, 1936, 50 Stat. 1311 (T.S. No. 912), as amended;

(3) *Japan:* Convention between the Government of the United States of America and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction, and Their Environment, March 4, 1972, 25 U.S.T. 3329 (T.I.A.S. No. 7990); and

(4) *Russia:* Convention between the United States of America and the Union of Soviet Socialist Republics Concerning the Conservation of Migratory Birds and Their Environment, November 19, 1976, 20 U.S.T. 4647 (T.I.A.S. No. 9073).

(b) *Purpose of this list.* The purpose is to inform the public of the species protected by regulations that enforce the terms of the MBTA. These regulations, found in parts 10, 20, and 21 of this chapter, cover most aspects of the taking, possession, transportation, sale, purchase, barter, exportation, and importation of migratory birds.

(c) *What species are protected as migratory birds?* Species protected as migratory birds are listed in two formats to suit the varying needs of the user: Alphabetically in paragraph (c)(1) of this section and taxonomically in paragraph (c)(2) of this section. Taxonomy and nomenclature generally follow the 7th edition of the American Ornithologists' Union's *Check-list of North American birds* (1998, as amended through 2010). For species not treated by the AOU *Check-list*, we generally follow *The Clements Checklist of Birds of the World* (Clements 2007).

(1) *Alphabetical listing.* Species are listed alphabetically by common (English) group names, with the scientific name of each species following the common name.

ACCENTOR, Siberian, *Prunella montanella*

AKEKEE, *Loxops caeruleirostris*

AKEPA, *Loxops coccineus*

AKIALOA, Greater, *Hemignathus ellisianus*

AKIAPOLAAU, *Hemignathus munroi*

AKIKIKI, *Oreomystis bairdi*

AKOHEKOHE, *Palmeria dolei*

ALAUAHIO, Maui, *Paroreomyza montana*

Oahu, *Paroreomyza maculata*

ALBATROSS, Black-browed,

Thalassarche melanophris

Black-footed, *Phoebastria nigripes*

Laysan, *Phoebastria immutabilis*

Light-mantled, *Phoebastria palpebrata*

Short-tailed, *Phoebastria albatrus*

Shy, *Thalassarche cauta*

Wandering, *Diomedea exulans*

Yellow-nosed, *Thalassarche*

chlororhynchus

AMAKIHI, Hawaii, *Hemignathus virens*

Kauai, *Hemignathus kauaiensis*

Oahu, *Hemignathus flavus*

ANHINGA, *Anhinga anhinga*

ANI, Groove-billed, *Crotophaga*

sulcirostris

Smooth-billed, *Crotophaga ani*

ANIANIAU, *Magnumma parva*

APAPANE, *Himatione sanguinea*

AUKLET, Cassin's, *Ptychoramphus*

aleuticus

Crested, *Aethia cristatella*

Least, *Aethia pusilla*

Parakeet, *Aethia psittacula*

Rhinoceros, *Cerorhinca monocerata*

Whiskered, *Aethia pygmaea*

AVOCET, American, *Recurvirostra americana*

BEAN-GOOSE, Taiga, *Anser fabalis*

Tundra, *Anser serrirostris*

BEARDLESS-TYRANNULET, Northern,

Campostoma imberbe

BECARD, Rose-throated, *Pachyramphus aglaiae*

BITTERN, American, *Botaurus*

lentiginosus

Black, *Ixobrychus flavicollis*

Least, *Ixobrychus exilis*

Schrenck's, *Ixobrychus eurhythmus*

Yellow, *Ixobrychus sinensis*

BLACK-HAWK, Common, *Buteogallus anthracinus*

BLACKBIRD, Brewer's, *Euphagus*

cycanocephalus

Red-winged, *Agelaius phoeniceus*

Rusty, *Euphagus carolinus*

Tawny-shouldered, *Agelaius*

humeralis

Tricolored, *Agelaius tricolor*

Yellow-headed, *Xanthocephalus*

xanthocephalus

Yellow-shouldered, *Agelaius*

xanthomus

BLUEBIRD, Eastern, *Sialia sialis*

Mountain, *Sialia currucoides*

Western, *Sialia mexicana*

BLUETAIL, Red-flanked, *Tarsiger cyanurus*

BLUETHROAT, *Luscinia svecica*

BOBOLINK, *Dolichonyx oryzivorus*

- BOOBY, Blue-footed, *Sula nebouxii*
Brown, *Sula leucogaster*
Masked, *Sula dactylatra*
Red-footed, *Sula sula*
- BRAMBLING, *Fringilla montifringilla*
- BRANT, *Branta bernicla*
- BUFFLEHEAD, *Bucephala albeola*
- BULLFINCH, Eurasian, *Pyrrhula pyrrhula*
Puerto Rican, *Loxigilla portoricensis*
- BUNTING, Blue, *Cyanocompsa parellina*
Gray, *Emberiza variabilis*
Indigo, *Passerina cyanea*
Little, *Emberiza pusilla*
Lark, *Calamospiza melanocorys*
Lazuli, *Passerina amoena*
McKay's, *Plectrophenax hyperboreus*
Painted, *Passerina ciris*
Pallas's, *Emberiza pallasi*
Pine, *Emberiza leucocephalus*
Reed, *Emberiza schoeniclus*
Rustic, *Emberiza rustica*
Snow, *Plectrophenax nivalis*
Varied, *Passerina versicolor*
Yellow-breasted, *Emberiza aureola*
Yellow-browed, *Emberiza chrysophrys*
Yellow-throated, *Emberiza elegans*
- BUSHTIT, *Psaltriparus minimus*
- CANVASBACK, *Aythya valisineria*
- CARACARA, Crested, *Caracara cheriway*
- CARDINAL, Northern, *Cardinalis cardinalis*
- CARIB, Green-throated, *Eulampis holosericeus*
Purple-throated, *Eulampis jugularis*
- CATBIRD, Black, *Melanoptila glabrirostris*
Gray, *Dumetella carolinensis*
- CHAFFINCH, Common, *Fringilla coelebs*
- CHAT, Yellow-breasted, *Icteria virens*
- CHICKADEE, Black-capped, *Poecile atricapillus*
Boreal, *Poecile hudsonicus*
Carolina, *Poecile carolinensis*
Chestnut-backed, *Poecile rufescens*
Gray-headed, *Poecile cinctus*
Mexican, *Poecile sclateri*
Mountain, *Poecile gambeli*
- CHUCK-WILL'S-WIDOW, *Caprimulgus carolinensis*
- CONDOR, California, *Gymnogyps californianus*
- COOT, American, *Fulica americana*
Caribbean, *Fulica caribaea*
Eurasian, *Fulica atra*
Hawaiian, *Fulica alai*
- CORMORANT, Brandt's, *Phalacrocorax penicillatus*
Double-crested, *Phalacrocorax auritus*
Great, *Phalacrocorax carbo*
Little Pied, *Phalacrocorax melanoleucos*
Neotropic, *Phalacrocorax brasilianus*
Pelagic, *Phalacrocorax pelagicus*
Red-faced, *Phalacrocorax urile*
- COWBIRD, Bronzed, *Molothrus aeneus*
Brown-headed, *Molothrus ater*
Shiny, *Molothrus bonariensis*
- CRAKE, Corn, *Crex crex*
Paint-billed, *Neocrex erythrops*
Spotless, *Porzana tabuensis*
Yellow-breasted, *Porzana flaviventer*
- CRANE, Common, *Grus grus*
Sandhill, *Grus canadensis*
Whooping, *Grus americana*
- CREEPER, Brown, *Certhia americana*
Hawaii, *Oreomystis mana*
- CROSSBILL, Red, *Loxia curvirostra*
White-winged, *Loxia leucoptera*
- CROW, American, *Corvus brachyrhynchos*
Fish, *Corvus ossifragus*
Hawaiian, *Corvus hawaiiensis*
Mariana, *Corvus kubaryi*
Northwestern, *Corvus caurinus*
Tamaulipas, *Corvus imparatus*
White-necked, *Corvus leucognaphalus*
- CUCKOO, Black-billed, *Coccyzus erythrophthalmus*
Common, *Cuculus canorus*
Mangrove, *Coccyzus minor*
Oriental, *Cuculus optatus*
Yellow-billed, *Coccyzus americanus*
- CURLEW, Bristle-thighed, *Numenius tahitiensis*
Eskimo, *Numenius borealis*
Eurasian, *Numenius arquata*
Far Eastern, *Numenius madagascariensis*
Little, *Numenius minutus*
Long-billed, *Numenius americanus*
- DICKCISSEL, *Spiza americana*
- DIPPER, American, *Cinclus mexicanus*
- DOTTEREL, Eurasian, *Charadrius morinellus*
- DOVE, Inca, *Columbina inca*
Mourning, *Zenaida macroura*
White-tipped, *Leptotila verreauxi*
White-winged, *Zenaida asiatica*
Zenaida, *Zenaida aurita*
- DOVEKIE, *Alle alle*
- DOWITCHER, Long-billed, *Limnodromus scolopaceus*
Short-billed, *Limnodromus griseus*
- DUCK, American Black, *Anas rubripes*
Eastern Spot-billed, *Anas zonorhyncha*
Falcated, *Anas falcata*
Harlequin, *Histrionicus histrionicus*
Hawaiian, *Anas wyvilliana*
Laysan, *Anas laysanensis*
Long-tailed, *Clangula hyemalis*
Masked, *Nomonyx dominicus*
Mottled, *Anas fulvigula*
Muscovy, *Cairina moschata*
Pacific Black, *Anas superciliosa*
Ring-necked, *Aythya collaris*
Ruddy, *Oxyura jamaicensis*
Tufted, *Aythya fuligula*
Wood, *Aix sponsa*
- DUNLIN, *Calidris alpina*
- EAGLE, Bald, *Haliaeetus leucocephalus*
Golden, *Aquila chrysaetos*
White-tailed, *Haliaeetus albicilla*
- EGRET, Cattle, *Bubulcus ibis*
Chinese, *Egretta eulophotes*
Great, *Ardea alba*
Intermediate, *Mesophoyx intermedia*
Little, *Egretta garzetta*
Reddish, *Egretta rufescens*
Snowy, *Egretta thula*
- EIDER, Common, *Somateria mollissima*
King, *Somateria spectabilis*
Spectacled, *Somateria fischeri*
Steller's, *Polysticta stelleri*
- ELAENIA, Caribbean, *Elaenia martinica*
Greenish, *Myiopagis viridicata*
White-crested, *Elaenia albiceps*
- EMERALD, Puerto Rican, *Chlorostilbon maugaeus*
- EUPHONIA, Antillean, *Euphonia musica*
- FALCON, Aplomado, *Falco femoralis*
Peregrine, *Falco peregrinus*
Prairie, *Falco mexicanus*
Red-footed, *Falco vespertinus*
- FIELDFARE, *Turdus pilaris*
- FINCH, Cassin's, *Carpodacus cassinii*
House, *Carpodacus mexicanus*
Laysan, *Telespiza cantans*
Nihoa, *Telespiza ultima*
Purple, *Carpodacus purpureus*
- FLAMINGO, American, *Phoenicopterus ruber*
- FLICKER, Gilded, *Colaptes chrysoides*
Northern, *Colaptes auratus*
- FLYCATCHER, Acadian, *Empidonax virescens*
Alder, *Empidonax alnorum*
Ash-throated, *Myiarchus cinerascens*
Asian Brown, *Muscicapa dauurica*
Brown-crested, *Myiarchus tyrannulus*
Buff-breasted, *Empidonax fulvifrons*
Cordilleran, *Empidonax occidentalis*
Crowned Slaty, *Empidonax aurantioatrocristatus*
Dark-sided, *Muscicapa sibirica*
Dusky, *Empidonax oberholseri*
Dusky-capped, *Myiarchus tuberculifer*
Fork-tailed, *Tyrannus savana*
Gray, *Empidonax wrightii*
Gray-streaked, *Muscicapa griseisticta*
Great Crested, *Myiarchus crinitus*
Hammond's, *Empidonax hammondi*
La Sagra's, *Myiarchus sagrae*
Least, *Empidonax minimus*
Mugimaki, *Ficedula mugimaki*
Narcissus, *Ficedula narcissina*
Nutting's, *Myiarchus nuttingi*
Olive-sided, *Contopus cooperi*
Pacific-slope, *Empidonax difficilis*
Piratic, *Legatus leucophalus*
Puerto Rican, *Myiarchus antillarum*
Scissor-tailed, *Tyrannus forficatus*
Social, *Myiozetetes similis*
Spotted, *Muscicapa striata*
Sulphur-bellied, *Myiodynastes luteiventris*
Taiga, *Ficedula albicilla*
Tufted, *Mitrephanes phaeocercus*
Variegated, *Empidonax varius*
Vermilion, *Pyrocephalus rubinus*

- Willow, *Empidonax traillii*
 Yellow-bellied, *Empidonax flaviventris*
 FOREST-FALCON, Collared, *Micrastur semitorquatus*
 FRIGATEBIRD, Great, *Fregata minor*
 Lesser, *Fregata ariel*
 Magnificent, *Fregata magnificens*
 FROG-HAWK, Gray, *Accipiter soloensis*
 FRUIT-DOVE, Crimson-crowned,
Ptilinopus porphyraceus
 Many-colored, *Ptilinopus perousii*
 Mariana, *Ptilinopus roseicapilla*
 FULMAR, Northern, *Fulmarus glacialis*
 GADWALL, *Anas strepera*
 GALLINULE, Azure, *Porphyrio flavirostris*
 Purple, *Porphyrio martinica*
 GANNET, Northern, *Morus bassanus*
 GARGANEY, *Anas querquedula*
 GNATCATCHER, Black-capped,
Polioptila nigriceps
 Black-tailed, *Polioptila melanura*
 Blue-gray, *Polioptila caerulea*
 California, *Polioptila californica*
 GODWIT, Bar-tailed, *Limosa lapponica*
 Black-tailed, *Limosa limosa*
 Hudsonian, *Limosa haemastica*
 Marbled, *Limosa fedoa*
 GOLDEN-PLOVER, American, *Pluvialis dominica*
 European, *Pluvialis apricaria*
 Pacific, *Pluvialis fulva*
 GOLDENEYE, Barrow's, *Bucephala islandica*
 Common, *Bucephala clangula*
 GOLDFINCH, American, *Spinus tristis*
 Lawrence's, *Spinus lawrencei*
 Lesser, *Spinus psaltria*
 GOOSE, Barnacle, *Branta leucopsis*
 Canada, *Branta canadensis* (including
 Cackling Goose, *Branta hutchinsii*)
 Emperor, *Chen canagica*
 Greater White-fronted, *Anser albifrons*
 Hawaiian, *Branta sandvicensis*
 Lesser White-fronted, *Anser erythropus*
 Ross's, *Chen rossii*
 Snow, *Chen caerulescens*
 GOSHAWK, Northern, *Accipiter gentilis*
 GRACKLE, Boat-tailed, *Quiscalus major*
 Common, *Quiscalus quiscula*
 Great-tailed, *Quiscalus mexicanus*
 Greater Antillean, *Quiscalus niger*
 GRASSHOPPER-WARBLER,
 Middendorff's, *Locustella ochotensis*
 GRASSQUIT, Black-faced, *Tiaris bicolor*
 Yellow-faced, *Tiaris olivaceus*
 GREBE, Clark's, *Aechmophorus clarkii*
 Eared, *Podiceps nigricollis*
 Horned, *Podiceps auritus*
 Least, *Tachybaptus dominicus*
 Pied-billed, *Podilymbus podiceps*
 Red-necked, *Podiceps grisegena*
 Western, *Aechmophorus occidentalis*
 GREENFINCH, Oriental, *Chloris sinica*
 GREENSHANK, Common, *Tringa nebularia*
 Nordmann's, *Tringa guttifer*
 GROSBEAK, Black-headed, *Pheucticus melanocephalus*
 Blue, *Passerina caerulea*
 Crimson-collared, *Rhodothraupis celaeno*
 Evening, *Coccothraustes vespertinus*
 Pine, *Pinicola enucleator*
 Rose-breasted, *Pheucticus ludovicianus*
 Yellow, *Pheucticus chrysopleps*
 GROUND-DOVE, Common, *Columbina passerina*
 Friendly, *Gallicolumba stairi*
 Ruddy, *Columbina talpacoti*
 White-throated, *Gallicolumba xanthonura*
 GUILLEMOT, Black, *Cephus grylle*
 Pigeon, *Cephus columba*
 GULL, Belcher's, *Larus belcheri*
 Black-headed, *Chroicocephalus ridibundus*
 Black-tailed, *Larus crassirostris*
 Bonaparte's, *Chroicocephalus philadelphia*
 California, *Larus californicus*
 Franklin's, *Leucophaeus pipixcan*
 Glaucous, *Larus hyperboreus*
 Glaucous-winged, *Larus glaucescens*
 Gray-hooded, *Chroicocephalus cirrocephalus*
 Great Black-backed, *Larus marinus*
 Heermann's, *Larus heermanni*
 Herring, *Larus argentatus*
 Iceland, *Larus glaucooides*
 Ivory, *Pagophila eburnea*
 Kelp, *Larus dominicanus*
 Laughing, *Leucophaeus atricilla*
 Lesser Black-backed, *Larus fuscus*
 Little, *Hydrocoloeus minutus*
 Mew, *Larus canus*
 Ring-billed, *Larus delawarensis*
 Ross's, *Rhodostethia rosea*
 Sabine's, *Xema sabini*
 Slaty-backed, *Larus schistisagus*
 Swallow-tailed, *Creagrus furcatus*
 Thayer's, *Larus thayeri*
 Western, *Larus occidentalis*
 Yellow-footed, *Larus livens*
 Yellow-legged, *Larus michahellis*
 GYRFALCON, *Falco rusticolus*
 HARRIER, Northern, *Circus cyaneus*
 HAWFINCH, *Coccothraustes coccothraustes*
 HAWK, Broad-winged, *Buteo platypterus*
 Cooper's, *Accipiter cooperii*
 Crane, *Geranoospiza caerulescens*
 Ferruginous, *Buteo regalis*
 Gray, *Buteo nitidus*
 Harris's, *Parabuteo unicinctus*
 Hawaiian, *Buteo solitarius*
 Red-shouldered, *Buteo lineatus*
 Red-tailed, *Buteo jamaicensis*
 Roadside, *Buteo magnirostris*
 Rough-legged, *Buteo lagopus*
 Sharp-shinned, *Accipiter striatus*
 Short-tailed, *Buteo brachyurus*
 Swainson's, *Buteo swainsoni*
 White-tailed, *Buteo albicaudatus*
 Zone-tailed, *Buteo albonotatus*
 HAWK-CUCKOO, Hodgson's, *Cuculus fugax*
 HAWK-OWL, Brown, *Ninox scutulata*
 HERON, Gray, *Ardea cinerea*
 Great Blue, *Ardea herodias*
 Green, *Butorides virescens*
 Little Blue, *Egretta caerulea*
 Tricolored, *Egretta tricolor*
 HOBBY, Eurasian, *Falco subbuteo*
 HOOPOE, Eurasian, *Upupa epops*
 HOUSE-MARTIN, Common, *Delichon urbicum*
 HUMMINGBIRD, Allen's, *Selasphorus sasin*
 Anna's, *Calypte anna*
 Antillean Crested, *Orthorhyncus cristatus*
 Berylline, *Amazilia beryllina*
 Black-chinned, *Archilochus alexandri*
 Blue-throated, *Lampornis clemenciae*
 Broad-billed, *Cyanthus latirostris*
 Broad-tailed, *Selasphorus platycercus*
 Buff-bellied, *Amazilia yucatanensis*
 Bumblebee, *Atthis heloisa*
 Calliope, *Stellula calliope*
 Cinnamon, *Amazilia rutila*
 Costa's, *Calypte costae*
 Lucifer, *Calothorax lucifer*
 Magnificent, *Eugenes fulgens*
 Ruby-throated, *Archilochus colubris*
 Rufous, *Selasphorus rufus*
 Violet-crowned, *Amazilia violiceps*
 White-eared, *Hylocharis leucotis*
 Xantus's, *Hylocharis xantusii*
 IBIS, Glossy, *Plegadis falcinellus*
 Scarlet, *Eudocimus ruber*
 White, *Eudocimus albus*
 White-faced, *Plegadis chihi*
 IIWI, *Vestiaria coccinea*
 IMPERIAL-PIGEON, Pacific, *Ducula pacifica*
 JABIRU, *Jabiru myrteria*
 JACANA, Northern, *Jacana spinosa*
 JAEGER, Long-tailed, *Stercorarius longicaudus*
 Parasitic, *Stercorarius parasiticus*
 Pomarine, *Stercorarius pomarinus*
 JAY, Blue, *Cyanocitta cristata*
 Brown, *Psilorhinus morio*
 Gray, *Perisoreus canadensis*
 Green, *Cyanocorax yncas*
 Mexican, *Aphelocoma ultramarina*
 Pinyon, *Gymnorhinus cyanocephalus*
 Steller's, *Cyanocitta stelleri*
 JUNCO, Dark-eyed, *Junco hyemalis*
 Yellow-eyed, *Junco phaeonotus*
 KAKAWAHIE, *Paroreomyza flammea*
 KAMAO, *Myadestes myadestinus*
 KESTREL, American, *Falco sparverius*
 Eurasian, *Falco tinnunculus*
 KILLDEER, *Charadrius vociferus*
 KINGBIRD, Cassin's, *Tyrannus vociferans*
 Couch's, *Tyrannus couchii*
 Eastern, *Tyrannus tyrannus*
 Gray, *Tyrannus dominicensis*
 Loggerhead, *Tyrannus caudifasciatus*

- Thick-billed, *Tyrannus crassirostris*
Tropical, *Tyrannus melancholicus*
Western, *Tyrannus verticalis*
KINGFISHER, Belted, *Megasceryle alcyon*
Collared, *Todirhamphus chloris*
Green, *Chloroceryle americana*
Micronesian, *Todirhamphus cinnamominus*
Ringed, *Megasceryle torquata*
KINGLET, Golden-crowned, *Regulus satrapa*
Ruby-crowned, *Regulus calendula*
KISKADEE, Great, *Pitangus sulphuratus*
KITE, Black, *Milvus migrans*
Hook-billed, *Chondrohierax uncinatus*
Mississippi, *Ictinia mississippiensis*
Snail, *Rostrhamus sociabilis*
Swallow-tailed, *Elanoides forficatus*
White-tailed, *Elanus leucurus*
KITTIWAKE, Black-legged, *Rissa tridactyla*
Red-legged, *Rissa brevirostris*
KNOT, Great, *Calidris tenuirostris*
Red, *Calidris canutus*
LAPWING, Northern, *Vanellus vanellus*
LARK, Horned, *Eremophila alpestris*
Sky, *Alauda arvensis*
LEAF-WARBLER, Pallas's, *Phylloscopus proregulus*
LIMPKIN, *Aramus guarauna*
LIZARD-CUCKOO, Puerto Rican, *Coccyzus vieilloti*
LONGSPUR, Chestnut-collared, *Calcarius ornatus*
Lapland, *Calcarius lapponicus*
McCown's, *Rhynchophanes mccownii*
Smith's, *Calcarius pictus*
LOON, Arctic, *Gavia arctica*
Common, *Gavia immer*
Pacific, *Gavia pacifica*
Red-throated, *Gavia stellata*
Yellow-billed, *Gavia adamsii*
MAGPIE, Black-billed, *Pica hudsonia*
Yellow-billed, *Pica nuttalli*
MALLARD, *Anas platyrhynchos*
MANGO, Antillean, *Anthracothorax dominicus*
Green, *Anthracothorax viridis*
Green-breasted, *Anthracothorax prevostii*
MARTIN, Brown-chested, *Progne tapera*
Caribbean, *Progne dominicensis*
Cuban, *Progne cryptoleuca*
Gray-breasted, *Progne chalybea*
Purple, *Progne subis*
Southern, *Progne elegans*
MEADOWLARK, Eastern, *Sturnella magna*
Western, *Sturnella neglecta*
MERGANSER, Common, *Mergus merganser*
Hooded, *Lophodytes cucullatus*
Red-breasted, *Mergus serrator*
MERLIN, *Falco columbarius*
MILLERBIRD, *Acrocephalus familiaris*
MOCKINGBIRD, Bahama, *Mimus gundlachii*
Blue, *Melanotis caerulescens*
Northern, *Mimus polyglottos*
MOORHEN, Common, *Gallinula chloropus*
MURRE, Common, *Uria aalge*
Thick-billed, *Uria lomvia*
MURRELET, Ancient, *Synthliboramphus antiquus*
Craveri's, *Synthliboramphus craveri*
Kittlitz's, *Brachyramphus brevirostris*
Long-billed, *Brachyramphus perdix*
Marbled, *Brachyramphus marmoratus*
Xantus's, *Synthliboramphus hypoleucus*
NEEDLETAIL, White-throated, *Hirundapus caudacutus*
NIGHT-HERON, Black-crowned, *Nycticorax nycticorax*
Japanese, *Gorsachius goisagi*
Malayan, *Gorsachius melanolophus*
Yellow-crowned, *Nyctanassa violacea*
NIGHTHAWK, Antillean, *Chordeiles gundlachii*
Common, *Chordeiles minor*
Lesser, *Chordeiles acutipennis*
NIGHTINGALE-THRUSH, Black-headed, *Catharus mexicanus*
Orange-billed, *Catharus aurantirostris*
NIGHTJAR, Buff-collared, *Caprimulgus ridgwayi*
Gray, *Caprimulgus indicus*
Puerto Rican, *Caprimulgus noctitherus*
NODDY, Black, *Anous minutus*
Blue-gray, *Procelsterna cerulea*
Brown, *Anous stolidus*
NUKUPUU, *Hemignathus lucidus*
NUTCRACKER, Clark's, *Nucifraga columbiana*
NUTHATCH, Brown-headed, *Sitta pusilla*
Pygmy, *Sitta pygmaea*
Red-breasted, *Sitta canadensis*
White-breasted, *Sitta carolinensis*
OLOMAO, *Myadestes lanaiensis*
OMAO, *Myadestes obscurus*
ORIOLE, Altamira, *Icterus gularis*
Audubon's, *Icterus graduacauda*
Baltimore, *Icterus galbula*
Black-vented, *Icterus wagleri*
Bullock's, *Icterus bullockii*
Hooded, *Icterus cucullatus*
Orchard, *Icterus spurius*
Puerto Rican, *Icterus portoricensis*
Scott's, *Icterus parisorum*
Streak-backed, *Icterus pustulatus*
OSPREY, *Pandion haliaetus*
OU, *Psittirostra psittacea*
OVENBIRD, *Seiurus aurocapilla*
OWL, Barn, *Tyto alba*
Barred, *Strix varia*
Boreal, *Aegolius funereus*
Burrowing, *Athene cucularia*
Elf, *Micrathene whitneyi*
Flammulated, *Otus flammeolus*
Great Gray, *Strix nebulosa*
Great Horned, *Bubo virginianus*
Long-eared, *Asio otus*
Mottled, *Ciccaba virgata*
Northern Hawk, *Surnia ulula*
Northern Saw-whet, *Aegolius acadicus*
Short-eared, *Asio flammeus*
Snowy, *Bubo scandiacus*
Spotted, *Strix occidentalis*
Stygian, *Asio stygius*
OYSTERCATCHER, American, *Haematopus palliatus*
Black, *Haematopus bachmani*
Eurasian, *Haematopus ostralegus*
PALILA, *Loxioides bailleui*
PALM-SWIFT, Antillean, *Tachornis phoenicobia*
PARROTBILL, Maui, *Pseudonestor xanthophrys*
PARULA, Northern, *Parula americana*
Tropical, *Parula pitiayumi*
PAURAUQUE, Common, *Nyctidromus albigollis*
PELICAN, American White, *Pelecanus erythrorhynchos*
Brown, *Pelecanus occidentalis*
PETREL, Bermuda, *Pterodroma cahow*
Black-capped, *Pterodroma hasitata*
Black-winged, *Pterodroma nigripennis*
Bonin, *Pterodroma hypoleuca*
Bulwer's, *Bulweria bulwerii*
Cook's, *Pterodroma cookii*
Gould's, *Pterodroma leucoptera*
Great-winged, *Pterodroma macroptera*
Hawaiian, *Pterodroma sandwichensis*
Herald, *Pterodroma arminjoniana*
Jouanin's, *Bulweria fallax*
Juan Fernandez, *Pterodroma externa*
Kermadec, *Pterodroma neglecta*
Mottled, *Pterodroma inexpectata*
Murphy's, *Pterodroma ultima*
Parkinson's, *Procellaria parkinsoni*
Phoenix, *Pterodroma alba*
Stejneger's, *Pterodroma longirostris*
Tahiti, *Pterodroma rostrata*
White-necked, *Pterodroma cervicalis*
PEWEE, Cuban, *Contopus caribaeus*
Greater, *Contopus pertinax*
Hispaniolan, *Contopus hispaniolensis*
Lesser Antillean, *Contopus latirostris*
PHAINOPEPLA, *Phainopepla nitens*
PHALAROPE, Red, *Phalaropus fulicarius*
Red-necked, *Phalaropus lobatus*
Wilson's, *Phalaropus tricolor*
PHOEBE, Black, *Sayornis nigricans*
Eastern, *Sayornis phoebe*
Say's, *Sayornis saya*
PIGEON, Band-tailed, *Patagioenas fasciata*
Plain, *Patagioenas inornata*
Red-billed, *Patagioenas flavirostris*
Scaly-naped, *Patagioenas squamosa*
White-crowned, *Patagioenas leucocephala*
PINTAIL, Northern, *Anas acuta*
White-cheeked, *Anas bahamensis*
PIPIT, American, *Anthus rubescens*
Olive-backed, *Anthus hodgsoni*
Pechora, *Anthus gustavi*

- Red-throated, *Anthus cervinus*
 Sprague's, *Anthus spragueii*
 Tree, *Anthus trivialis*
- PLOVER, Black-bellied, *Pluvialis squatarola*
 Collared, *Charadrius collaris*
 Common Ringed, *Charadrius hiaticula*
 Little Ringed, *Charadrius dubius*
 Mountain, *Charadrius montanus*
 Piping, *Charadrius melodus*
 Semipalmated, *Charadrius semipalmatus*
 Snowy, *Charadrius alexandrinus*
 Wilson's, *Charadrius wilsonia*
- POCHARD, Baer's, *Aythya baeri*
 Common, *Aythya ferina*
- POND-HERON, Chinese, *Ardeola bacchus*
- POORWILL, Common, *Phalaenoptilus nuttallii*
- POO-ULI, *Melanprosops phaeosoma*
- PUAIOHI, *Myadestes palmeri*
- PUFFIN, Atlantic, *Fratercula arctica*
 Horned, *Fratercula corniculata*
 Tufted, *Fratercula cirrhata*
- PYGMY-OWL, Ferruginous, *Glaucidium brasilianum*
 Northern, *Glaucidium gnoma*
- PYRRHULOXIA, *Cardinalis sinuatus*
- QUAIL-DOVE, Bridled, *Geotrygon mystacea*
 Key West, *Geotrygon chrysis*
 Ruddy, *Geotrygon montana*
- QUETZEL, Eared, *Euptilotis neoxenus*
- RAIL, Black, *Laterallus jamaicensis*
 Buff-banded, *Gallirallus philippensis*
 Clapper, *Rallus longirostris*
 Guam, *Gallirallus owstoni*
 King, *Rallus elegans*
 Spotted, *Pardirallus maculatus*
 Virginia, *Rallus limicola*
 Yellow, *Coturnicops noveboracensis*
- RAVEN, Chihuahuan, *Corvus cryptoleucus*
 Common, *Corvus corax*
- RAZORBILL, *Alca torda*
- REDHEAD, *Aythya americana*
- REDPOLL, Common, *Acanthis flammea*
 Hoary, *Acanthis hornemanni*
- REDSHANK, Spotted, *Tringa erythropus*
- REDSTART, American, *Setophaga ruticilla*
 Painted, *Myioborus pictus*
 Slate-throated, *Myioborus miniatus*
- REED-WARBLER, Nightingale, *Acrocephalus luscini*
- REEF-EGRET, Pacific, *Egretta sacra*
- REEF-HERON, Western, *Egretta gularis*
- ROADRUNNER, Greater, *Geococcyx californianus*
- ROBIN, American, *Turdus migratorius*
 Rufous-backed, *Turdus rufopalliatus*
 Rufous-tailed, *Luscinia sibilans*
 Siberian Blue, *Luscinia cyane*
- ROCK-THRUSH, Blue, *Monticola solitarius*
- ROSEFINCH, Common, *Carpodacus erythrinus*
- ROS-Y-FINCH, Black, *Leucosticte atrata*
 Brown-capped, *Leucosticte australis*
 Gray-crowned, *Leucosticte tephrocotis*
- RUBYTHROAT, Siberian, *Luscinia calliope*
- RUFF, *Philomachus pugnax*
- SANDERLING, *Calidris alba*
- SANDPIPER, Baird's, *Calidris bairdii*
 Broad-billed, *Limicola falcinellus*
 Buff-breasted, *Tryngites subruficollis*
 Common, *Actitis hypoleucos*
 Curlew, *Calidris ferruginea*
 Green, *Tringa ochropus*
 Least, *Calidris minutilla*
 Marsh, *Tringa stagnatilis*
 Pectoral, *Calidris melanotos*
 Purple, *Calidris maritima*
 Rock, *Calidris ptilocnemis*
 Semipalmated, *Calidris pusilla*
 Sharp-tailed, *Calidris acuminata*
 Solitary, *Tringa solitaria*
 Spoon-billed, *Eurynorhynchus pygmeus*
 Spotted, *Actitis macularius*
 Stilt, *Calidris himantopus*
 Terek, *Xenus cinereus*
 Upland, *Bartramia longicauda*
 Western, *Calidris mauri*
 White-rumped, *Calidris fuscicollis*
 Wood, *Tringa glareola*
- SAND-PLOVER, Greater, *Charadrius leschenaultii*
 Lesser, *Charadrius mongolus*
- SAPSUCKER, Red-breasted, *Sphyrapicus ruber*
 Red-naped, *Sphyrapicus nuchalis*
 Williamson's, *Sphyrapicus thyroideus*
 Yellow-bellied, *Sphyrapicus varius*
- SCAUP, Greater, *Aythya marila*
 Lesser, *Aythya affinis*
- SCOPS-OWL, Oriental, *Otus sunia*
- SCOTER, Black, *Melanitta americana*
 Surf, *Melanitta perspicillata*
 White-winged, *Melanitta fusca*
- SCREECH-OWL, Eastern, *Megascops asio*
 Puerto Rican, *Megascops nudipes*
 Western, *Megascops kennicottii*
 Whiskered, *Megascops trichopsis*
- SCRUB-JAY, Florida, *Aphelocoma coerulescens*
 Island, *Aphelocoma insularis*
 Western, *Aphelocoma californica*
- SEA-EAGLE, Steller's, *Haliaeetus pelagicus*
- SEEDEATER, White-collared, *Sporophila torqueola*
- SHEARWATER, Audubon's, *Puffinus lherminieri*
 Black-vented, *Puffinus opisthomelas*
 Buller's, *Puffinus bulleri*
 Cape Verde, *Calonectris edwardsii*
 Christmas, *Puffinus nativitatis*
 Cory's, *Calonectris diomedea*
 Flesh-footed, *Puffinus carneipes*
 Great, *Puffinus gravis*
 Little, *Puffinus assimilis*
 Manx, *Puffinus puffinus*
 Pink-footed, *Puffinus creatopus*
- Short-tailed, *Puffinus tenuirostris*
 Sooty, *Puffinus griseus*
 Streaked, *Calonectris leucomelas*
 Townsend's, *Puffinus auricularis*
 Wedge-tailed, *Puffinus pacificus*
- SHOVELER, Northern, *Anas clypeata*
- SHRIKE, Brown, *Lanius cristatus*
 Loggerhead, *Lanius ludovicianus*
 Northern, *Lanius excubitor*
- SILKY-FLYCATCHER, Gray, *Ptilogonys cinereus*
- SISKIN, Eurasian, *Spinus spinus*
 Pine, *Spinus pinus*
- SKIMMER, Black, *Rynchops niger*
- SKUA, Great, *Stercorarius skua*
 South Polar, *Stercorarius maccormicki*
- SMEW, *Mergellus albellus*
- SNIPE, Common, *Gallinago gallinago*
 Jack, *Lymnocyptes minimus*
 Pin-tailed, *Gallinago stenura*
 Swinhoe's, *Gallinago megala*
 Wilson's, *Gallinago delicata*
- SOLITAIRE, Townsend's, *Myadestes townsendi*
- SORA, *Porzana carolina*
- SPARROW, American Tree, *Spizella arborea*
 Bachman's, *Peucaea aestivalis*
 Baird's, *Ammodramus bairdii*
 Black-chinned, *Spizella atrogularis*
 Black-throated, *Amphispiza bilineata*
 Botteri's, *Peucaea botterii*
 Brewer's, *Spizella breweri*
 Cassin's, *Peucaea cassinii*
 Chipping, *Spizella passerina*
 Clay-colored, *Spizella pallida*
 Field, *Spizella pusilla*
 Five-striped, *Amphispiza quinquestrata*
 Fox, *Passerella iliaca*
 Golden-crowned, *Zonotrichia atricapilla*
 Grasshopper, *Ammodramus savannarum*
 Harris's, *Zonotrichia querula*
 Henslow's, *Ammodramus henslowii*
 Lark, *Chondestes grammacus*
 Le Conte's, *Ammodramus leconteii*
 Lincoln's, *Melospiza lincolni*
 Nelson's, *Ammodramus nelsoni*
 Olive, *Arremonops rufivirgatus*
 Rufous-crowned, *Aimophila ruficeps*
 Rufous-winged, *Peucaea carpalis*
 Sage, *Amphispiza belli*
 Saltmarsh, *Ammodramus caudacutus*
 Savannah, *Passerculus sandwichensis*
 Seaside, *Ammodramus maritimus*
 Song, *Melospiza melodia*
 Swamp, *Melospiza georgiana*
 Vesper, *Poocetes gramineus*
 White-crowned, *Zonotrichia leucophrys*
 White-throated, *Zonotrichia albicollis*
 Worthen's, *Spizella wortheni*
- SPARROWHAWK, Japanese, *Accipiter gularis*
- SPINDALIS, Puerto Rican, *Spindalis portoricensis*

- Western, *Spindalis zena*
 SPOONBILL, Roseate, *Platalea ajaja*
 STARLING, Chestnut-cheeked, *Sturnus philippensis*
 White-cheeked, *Sturnus cineraceus*
 STARTHROAT, Plain-capped, *Heliomaster constantii*
 STILT, Black-necked, *Himantopus mexicanus*
 Black-winged, *Himantopus himantopus*
 STINT, Little, *Calidris minuta*
 Long-toed, *Calidris subminuta*
 Red-necked, *Calidris ruficollis*
 Temminck's, *Calidris temminckii*
 STONECHAT, *Saxicola torquatus*
 STORK, Wood, *Mycteria americana*
 STORM-PETREL, Ashy, *Oceanodroma homochroa*
 Band-rumped, *Oceanodroma castro*
 Black, *Oceanodroma melania*
 Black-bellied, *Fregetta tropica*
 Fork-tailed, *Oceanodroma furcata*
 Leach's, *Oceanodroma leucorhoa*
 Least, *Oceanodroma microsoma*
 Matsudaira's, *Oceanodroma matsudairae*
 Polynesian, *Nesofregetta fuliginosa*
 Ringed, *Oceanodroma hornbyi*
 Swinhoe's, *Oceanodroma monorhis*
 Tristram's, *Oceanodroma tristrami*
 Wedge-rumped, *Oceanodroma tethys*
 White-faced, *Pelagodroma marina*
 White-bellied, *Fregetta grallaria*
 Wilson's, *Oceanites oceanicus*
 SURFBIRD, *Aphriza virgata*
 SWALLOW, Bahama, *Tachycineta cyaneoviridis*
 Bank, *Riparia riparia*
 Barn, *Hirundo rustica*
 Cave, *Petrochelidon fulva*
 Cliff, *Petrochelidon pyrrhonota*
 Mangrove, *Tachycineta albilinea*
 Northern Rough-winged, *Stelgidopteryx serripennis*
 Tree, *Tachycineta bicolor*
 Violet-green, *Tachycineta thalassina*
 SWAMPHEN, Purple, *Porphyrio porphyrio*
 SWAN, Trumpeter, *Cygnus buccinator*
 Tundra, *Cygnus columbianus*
 Whooper, *Cygnus cygnus*
 SWIFT, Alpine, *Apus melba*
 Black, *Cypseloides niger*
 Chimney, *Chaetura pelagica*
 Common, *Apus apus*
 Fork-tailed, *Apus pacificus*
 Short-tailed, *Chaetura brachyura*
 Vaux's, *Chaetura vauxi*
 White-collared, *Streptoprocne zonaris*
 White-throated, *Aeronautes saxatalis*
 SWIFTLET, Mariana, *Aerodramus bartschi*
 White-rumped, *Aerodramus spodiopygius*
 TANAGER, Flame-colored, *Piranga bidentata*
 Hepatic, *Piranga flava*
 Puerto Rican, *Nesospingus speculiferus*
 Scarlet, *Piranga olivacea*
 Summer, *Piranga rubra*
 Western, *Piranga ludoviciana*
 TATTLER, Gray-tailed, *Tringa brevipes*
 Wandering, *Tringa incana*
 TEAL, Baikal, *Anas formosa*
 Blue-winged, *Anas discors*
 Cinnamon, *Anas cyanoptera*
 Green-winged, *Anas crecca*
 TERN, Aleutian, *Onychoprion aleuticus*
 Arctic, *Sterna paradisaea*
 Black, *Chlidonias niger*
 Black-naped, *Sterna sumatrana*
 Bridled, *Onychoprion anaethetus*
 Caspian, *Hydroprogne caspia*
 Common, *Sterna hirundo*
 Elegant, *Thalasseus elegans*
 Forster's, *Sterna forsteri*
 Gray-backed, *Onychoprion lunatus*
 Great Crested, *Thalasseus bergii*
 Gull-billed, *Gelochelidon nilotica*
 Large-billed, *Phaetusa simplex*
 Least, *Sternula antillarum*
 Little, *Sternula albifrons*
 Roseate, *Sterna dougallii*
 Royal, *Thalasseus maximus*
 Sandwich, *Thalasseus sandvicensis*
 Sooty, *Onychoprion fuscatus*
 Whiskered, *Chlidonias hybrida*
 White, *Gygis alba*
 White-winged, *Chlidonias leucopterus*
 THRASHER, Bendire's, *Toxostoma bendirei*
 Brown, *Toxostoma rufum*
 California, *Toxostoma redivivum*
 Crissal, *Toxostoma crissale*
 Curve-billed, *Toxostoma curvirostre*
 Le Conte's, *Toxostoma lecontei*
 Long-billed, *Toxostoma longirostre*
 Pearly-eyed, *Margarops fuscatus*
 Sage, *Oreoscoptes montanus*
 THRUSH, Aztec, *Ridgwayia pinicola*
 Bicknell's, *Catharus bicknelli*
 Clay-colored, *Turdus grayi*
 Dusky, *Turdus naumanni*
 Eyebrowed, *Turdus obscurus*
 Gray-cheeked, *Catharus minimus*
 Hermit, *Catharus guttatus*
 Red-legged, *Turdus plumbeus*
 Swainson's, *Catharus ustulatus*
 Varied, *Ixoreus naevius*
 White-throated, *Turdus assimilis*
 Wood, *Hylocichla mustelina*
 TITMOUSE, Black-crested, *Baeolophus atricristatus*
 Bridled, *Baeolophus wollweberi*
 Juniper, *Baeolophus ridgwayi*
 Oak, *Baeolophus inornatus*
 Tufted, *Baeolophus bicolor*
 TITYRA, Masked, *Tityra semifasciata*
 TOWHEE, Abert's, *Melospiza aberti*
 California, *Melospiza crissalis*
 Canyon, *Melospiza fusca*
 Eastern, *Pipilo erythrophthalmus*
 Green-tailed, *Pipilo chlorurus*
 Spotted, *Pipilo maculatus*
 TROGON, Elegant, *Trogon elegans*
 TROPICBIRD, Red-billed, *Phaethon aethereus*
 Red-tailed, *Phaethon rubricauda*
 White-tailed, *Phaethon lepturus*
 TURNSTONE, Black, *Arenaria melanocephala*
 Ruddy, *Arenaria interpres*
 TURTLE-DOVE, Oriental, *Streptopelia orientalis*
 VEERY, *Catharus fuscescens*
 VERDIN, *Auriparus flaviceps*
 VIOLETEAR, Green, *Colibri thalassinus*
 VIREO, Bell's, *Vireo bellii*
 Black-capped, *Vireo atricapilla*
 Black-whiskered, *Vireo altiloquus*
 Blue-headed, *Vireo solitarius*
 Cassin's, *Vireo cassinii*
 Gray, *Vireo vicinior*
 Hutton's, *Vireo huttoni*
 Philadelphia, *Vireo philadelphicus*
 Plumbeous, *Vireo plumbeus*
 Puerto Rican, *Vireo latimeri*
 Red-eyed, *Vireo olivaceus*
 Thick-billed, *Vireo crassirostris*
 Warbling, *Vireo gilvus*
 White-eyed, *Vireo griseus*
 Yellow-green, *Vireo flavoviridis*
 Yellow-throated, *Vireo flavifrons*
 Yucatan, *Vireo magister*
 VULTURE, Black, *Coragyps atratus*
 Turkey, *Cathartes aura*
 WAGTAIL, Citrine, *Motacilla citreola*
 Eastern Yellow, *Motacilla tschutschensis*
 Gray, *Motacilla cinerea*
 White, *Motacilla alba*
 WARBLER, Adelaide's, *Dendroica adelaidae*
 Arctic, *Phylloscopus borealis*
 Bachman's, *Vermivora bachmanii*
 Bay-breasted, *Dendroica castanea*
 Black-and-white, *Mniotilta varia*
 Black-throated Blue, *Dendroica caerulescens*
 Black-throated Gray, *Dendroica nigrescens*
 Black-throated Green, *Dendroica virens*
 Blackburnian, *Dendroica fusca*
 Blackpoll, *Dendroica striata*
 Blue-winged, *Vermivora cyanoptera*
 Canada, *Wilsonia canadensis*
 Cape May, *Dendroica tigrina*
 Cerulean, *Dendroica cerulea*
 Chestnut-sided, *Dendroica pennsylvanica*
 Colima, *Oreothlypis crissalis*
 Connecticut, *Oporornis agilis*
 Crescent-chested, *Oreothlypis superciliosa*
 Dusky, *Phylloscopus fuscatus*
 Elfin-woods, *Dendroica angelae*
 Fan-tailed, *Euthlypis lachrymosa*
 Golden-cheeked, *Dendroica chrysoparia*
 Golden-crowned, *Basileuterus culicivorus*
 Golden-winged, *Vermivora chrysoptera*

- Grace's, *Dendroica graciae*
 Hermit, *Dendroica occidentalis*
 Hooded, *Wilsonia citrina*
 Kentucky, *Oporornis formosus*
 Kirtland's, *Dendroica kirtlandii*
 Lanceolated, *Locustella lanceolata*
 Lucy's, *Oreothlypis luciae*
 MacGillivray's, *Oporornis tolmiei*
 Magnolia, *Dendroica magnolia*
 Mourning, *Oporornis philadelphia*
 Nashville, *Oreothlypis ruficapilla*
 Olive, *Peucedramus taeniatus*
 Orange-crowned, *Oreothlypis celata*
 Palm, *Dendroica palmarum*
 Pine, *Dendroica pinus*
 Prairie, *Dendroica discolor*
 Prothonotary, *Protonotaria citrea*
 Red-faced, *Cardellina rubrifrons*
 Rufous-capped, *Basileuterus rufifrons*
 Sedge, *Acrocephalus schoenobaenus*
 Swainson's, *Limnithlypis swainsonii*
 Tennessee, *Oreothlypis peregrina*
 Townsend's, *Dendroica townsendi*
 Virginia's, *Oreothlypis virginiae*
 Willow, *Phylloscopus trochilus*
 Wilson's, *Wilsonia pusilla*
 Wood, *Phylloscopus sibilatrix*
 Worm-eating, *Helmitheros vermivorum*
 Yellow, *Dendroica petechia*
 Yellow-browed, *Phylloscopus inornatus*
 Yellow-rumped, *Dendroica coronata*
 Yellow-throated, *Dendroica dominica*
 WATERTHRUSH, Louisiana, *Parkesia motacilla*
 Northern, *Parkesia noveboracensis*
 WAXWING, Bohemian, *Bombycilla garrulus*
 Cedar, *Bombycilla cedrorum*
 WHEATEAR, Northern, *Oenanthe oenanthe*
 WHIMBREL, *Numenius phaeopus*
 WHIP-POOR-WILL, Eastern, *Caprimulgus vociferus*
 Mexican, *Caprimulgus arizonae*
 WHISTLING-DUCK, Black-bellied, *Dendrocygna autumnalis*
 Fulvous, *Dendrocygna bicolor*
 West Indian, *Dendrocygna arborea*
 WHITETHROAT, Lesser, *Sylvia curruca*
 WIGEON, American, *Anas americana*
 Eurasian, *Anas penelope*
 WILLET, *Tringa semipalmata*
 WOOD-PEWEE, Eastern, *Contopus virens*
 Western, *Contopus sordidulus*
 WOODCOCK, American, *Scolopax minor*
 Eurasian, *Scolopax rusticola*
 WOODPECKER, Acorn, *Melanerpes formicivorus*
 American Three-toed, *Picoides dorsalis*
 Arizona, *Picoides arizonae*
 Black-backed, *Picoides arcticus*
 Downy, *Picoides pubescens*
 Gila, *Melanerpes uropygialis*
 Golden-fronted, *Melanerpes aurifrons*
 Great Spotted, *Dendrocopos major*
 Hairy, *Picoides villosus*
 Ivory-billed, *Campephilus principalis*
 Ladder-backed, *Picoides scalaris*
 Lewis's, *Melanerpes lewis*
 Nuttall's, *Picoides nuttallii*
 Pileated, *Dryocopus pileatus*
 Puerto Rican, *Melanerpes portoricensis*
 Red-bellied, *Melanerpes carolinus*
 Red-cockaded, *Picoides borealis*
 Red-headed, *Melanerpes erythrocephalus*
 White-headed, *Picoides albolarvatus*
 WOODSTAR, Bahama, *Calliphlox evelynae*
 WREN, Bewick's *Thryomanes bewickii*
 Cactus, *Campylorhynchus brunneicapillus*
 Canyon, *Catherpes mexicanus*
 Carolina, *Thryothorus ludovicianus*
 House, *Troglodytes aedon*
 Marsh, *Cistothorus palustris*
 Pacific, *Troglodytes pacificus*
 Rock, *Salpinctes obsoletus*
 Sedge, *Cistothorus platensis*
 Sinaloa, *Thryothorus sinaloa*
 Winter, *Troglodytes hiemalis*
 WRENTIT, *Chamaea fasciata*
 WRYNECK, Eurasian, *Jynx torquilla*
 YELLOWLEGS, Greater, *Tringa melanoleuca*
 Lesser, *Tringa flavipes*
 YELLOWTHROAT, Common, *Geothlypis trichas*
 Gray-crowned, *Geothlypis poliocephala*
 (2) *Taxonomic listing.* Species are listed in phylogenetic sequence by scientific name, with the common (English) name following the scientific name. To help clarify species relationships, we also list the higher-level taxonomic categories of Order, Family, and Subfamily.
 Order ANSERIFORMES
 Family ANATIDAE
 Subfamily DENDROCYGNINAE
Dendrocygna autumnalis, Black-bellied Whistling-Duck
Dendrocygna arborea, West Indian Whistling-Duck
Dendrocygna bicolor, Fulvous Whistling-Duck
 Subfamily ANSERINAE
Anser fabalis, Taiga Bean-Goose
Anser serrirostris, Tundra Bean-Goose
Anser albifrons, Greater White-fronted Goose
Anser erythropus, Lesser White-fronted Goose
Chen canagica, Emperor Goose
Chen caerulescens, Snow Goose
Chen rossii, Ross's Goose
Branta bernicla, Brant
Branta leucopsis, Barnacle Goose
Branta canadensis, Canada Goose (including *Branta hutchinsii*, Cackling Goose)
Branta sandvicensis, Hawaiian Goose
Cygnus buccinator, Trumpeter Swan
Cygnus columbianus, Tundra Swan
Cygnus cygnus, Whooper Swan
 Subfamily ANATINAE
Cairina moschata, Muscovy Duck
Aix sponsa, Wood Duck
Anas strepera, Gadwall
Anas falcata, Falcated Duck
Anas penelope, Eurasian Wigeon
Anas americana, American Wigeon
Anas rubripes, American Black Duck
Anas platyrhynchos, Mallard
Anas fulvigula, Mottled Duck
Anas wyvilliana, Hawaiian Duck
Anas laysanensis, Laysan Duck
Anas zonorhyncha, Eastern Spot-billed Duck
Anas superciliosa, Pacific Black Duck
Anas discors, Blue-winged Teal
Anas cyanoptera, Cinnamon Teal
Anas clypeata, Northern Shoveler
Anas bahamensis, White-cheeked Pintail
Anas acuta, Northern Pintail
Anas querquedula, Garganey
Anas formosa, Baikal Teal
Anas crecca, Green-winged Teal
Aythya valisineria, Canvasback
Aythya americana, Redhead
Aythya ferina, Common Pochard
Aythya baeri, Baer's Pochard
Aythya collaris, Ring-necked Duck
Aythya fuligula, Tufted Duck
Aythya marila, Greater Scaup
Aythya affinis, Lesser Scaup
Polysticta stelleri, Steller's Eider
Somateria fischeri, Spectacled Eider
Somateria spectabilis, King Eider
Somateria mollissima, Common Eider
Histrionicus histrionicus, Harlequin Duck
Melanitta perspicillata, Surf Scoter
Melanitta fusca, White-winged Scoter
Melanitta americana, Black Scoter
Clangula hyemalis, Long-tailed Duck
Bucephala albeola, Bufflehead
Bucephala clangula, Common Goldeneye
Bucephala islandica, Barrow's Goldeneye
Mergellus albellus, Smew
Lophodytes cucullatus, Hooded Merganser
Mergus merganser, Common Merganser
Mergus serrator, Red-breasted Merganser
Nomonyx dominicus, Masked Duck
Oxyura jamaicensis, Ruddy Duck
 Order GAVIIFORMES
 Family GAVIIDAE
Gavia stellata, Red-throated Loon
Gavia arctica, Arctic Loon
Gavia pacifica, Pacific Loon
Gavia immer, Common Loon
Gavia adamsii, Yellow-billed Loon
 Order PODICIPEDIFORMES
 Family PODICIPEDIDAE

- Tachybaptus dominicus*, Least Grebe
Podilymbus podiceps, Pied-billed Grebe
Podiceps auritus, Horned Grebe
Podiceps grisegena, Red-necked Grebe
Podiceps nigricollis, Eared Grebe
Aechmophorus occidentalis, Western Grebe
Aechmophorus clarkii, Clark's Grebe
Order PHOENICOPTERIFORMES
Family PHOENICOPTERIDAE
Phoenicopterus ruber, American Flamingo
Order PROCELLARIIFORMES
Family DIOMEDEIDAE
Thalassarche chlororhynchos, Yellow-nosed Albatross
Thalassarche cauta, Shy Albatross
Thalassarche melanophris, Black-browed Albatross
Phoebastria palpebrata, Light-mantled Albatross
Diomedea exulans, Wandering Albatross
Phoebastria immutabilis, Laysan Albatross
Phoebastria nigripes, Black-footed Albatross
Phoebastria albatrus, Short-tailed Albatross
Family PROCELLARIIDAE
Fulmarus glacialis, Northern Fulmar
Pterodroma macroptera, Great-winged Petrel
Pterodroma neglecta, Kermadec Petrel
Pterodroma arminjoniana, Herald Petrel
Pterodroma ultima, Murphy's Petrel
Pterodroma inexpectata, Mottled Petrel
Pterodroma cahow, Bermuda Petrel
Pterodroma hasitata, Black-capped Petrel
Pterodroma externa, Juan Fernandez Petrel
Pterodroma sandwichensis, Hawaiian Petrel
Pterodroma cervicalis, White-necked Petrel
Pterodroma hypoleuca, Bonin Petrel
Pterodroma nigripennis, Black-winged Petrel
Pterodroma cookii, Cook's Petrel
Pterodroma longirostris, Stejneger's Petrel
Pterodroma alba, Phoenix Petrel
Pterodroma leucoptera, Gould's Petrel
Pterodroma rostrata, Tahiti Petrel
Bulweria bulwerii, Bulwer's Petrel
Bulweria fallax, Jouanin's Petrel
Procellaria parkinsoni, Parkinson's Petrel
Calonectris leucomelas, Streaked Shearwater
Calonectris diomedea, Cory's Shearwater
Calonectris edwardsii, Cape Verde Shearwater
Puffinus creatopus, Pink-footed Shearwater
Puffinus carneipes, Flesh-footed Shearwater
Puffinus gravis, Great Shearwater
Puffinus pacificus, Wedge-tailed Shearwater
Puffinus bulleri, Buller's Shearwater
Puffinus griseus, Sooty Shearwater
Puffinus tenuirostris, Short-tailed Shearwater
Puffinus nativitatis, Christmas Shearwater
Puffinus puffinus, Manx Shearwater
Puffinus auricularis, Townsend's Shearwater
Puffinus opisthomelas, Black-vented Shearwater
Puffinus lherminieri, Audubon's Shearwater
Puffinus assimilis, Little Shearwater
Family HYDROBATIDAE
Oceanites oceanicus, Wilson's Storm-Petrel
Pelagodroma marina, White-faced Storm-Petrel
Fregetta tropica, Black-bellied Storm-Petrel
Fregetta grallaria, White-bellied Storm-Petrel
Nesofregetta fuliginosa, Polynesian Storm-Petrel
Oceanodroma furcata, Fork-tailed Storm-Petrel
Oceanodroma hornbyi, Ringed Storm-Petrel
Oceanodroma monorhis, Swinhoe's Storm-Petrel
Oceanodroma leucorhoa, Leach's Storm-Petrel
Oceanodroma homochroa, Ashy Storm-Petrel
Oceanodroma castro, Band-rumped Storm-Petrel
Oceanodroma tethys, Wedge-rumped Storm-Petrel
Oceanodroma matsudairae, Matsudaira's Storm-Petrel
Oceanodroma melania, Black Storm-Petrel
Oceanodroma tristrami, Tristram's Storm-Petrel
Oceanodroma microsoma, Least Storm-Petrel
Order PHAETHONTIFORMES
Family PHAETHONTIDAE
Phaethon lepturus, White-tailed Tropicbird
Phaethon aethereus, Red-billed Tropicbird
Phaethon rubricauda, Red-tailed Tropicbird
Order CICONIIFORMES
Family CICONIIDAE
Jabiru mycteria, Jabiru
Mycteria americana, Wood Stork
Order SULIFORMES
Family FREGATIDAE
Fregata magnificens, Magnificent Frigatebird
Fregata minor, Great Frigatebird
Fregata ariel, Lesser Frigatebird
Family SULIDAE
Sula dactylatra, Masked Booby
Sula nebouxii, Blue-footed Booby
Sula leucogaster, Brown Booby
Sula sula, Red-footed Booby
Morus bassanus, Northern Gannet
Family PHALACROCORACIDAE
Phalacrocorax penicillatus, Brandt's Cormorant
Phalacrocorax brasilianus, Neotropic Cormorant
Phalacrocorax auritus, Double-crested Cormorant
Phalacrocorax carbo, Great Cormorant
Phalacrocorax urile, Red-faced Cormorant
Phalacrocorax pelagicus, Pelagic Cormorant
Phalacrocorax melanoleucos, Little Pied Cormorant
Family ANHINGIDAE
Anhinga anhinga, Anhinga
Order PELECANIFORMES
Family PELECANIDAE
Pelecanus erythrorhynchos, American White Pelican
Pelecanus occidentalis, Brown Pelican
Family ARDEIDAE
Botaurus lentiginosus, American Bittern
Ixobrychus sinensis, Yellow Bittern
Ixobrychus exilis, Least Bittern
Ixobrychus eurhythmus, Schrenck's Bittern
Ixobrychus flavicollis, Black Bittern
Ardea herodias, Great Blue Heron
Ardea cinerea, Gray Heron
Ardea alba, Great Egret
Mesophoyx intermedia, Intermediate Egret
Egretta eulophotes, Chinese Egret
Egretta garzetta, Little Egret
Egretta sacra, Pacific Reef-Egret
Egretta gularis, Western Reef-Heron
Egretta thula, Snowy Egret
Egretta caerulea, Little Blue Heron
Egretta tricolor, Tricolored Heron
Egretta rufescens, Reddish Egret
Bubulcus ibis, Cattle Egret
Ardeola bacchus, Chinese Pond-Heron
Butorides virescens, Green Heron
Nycticorax nycticorax, Black-crowned Night-Heron
Nyctanassa violacea, Yellow-crowned Night-Heron
Gorsachius goesagi, Japanese Night-Heron
Gorsachius melanolophus, Malayan Night-Heron
Family THRESKIORNITHIDAE
Subfamily THRESKIORNITHINAE
Eudocimus albus, White Ibis
Eudocimus ruber, Scarlet Ibis
Plegadis falcinellus, Glossy Ibis
Plegadis chihi, White-faced Ibis

- Subfamily PLATALEINAE
Platalea ajaja, Roseate Spoonbill
- Order ACCIPITRIFORMES
 Family CATHARTIDAE
Coragyps atratus, Black Vulture
Cathartes aura, Turkey Vulture
Gymnogyps californianus, California Condor
- Family PANDIONIDAE
Pandion haliaetus, Osprey
- Family ACCIPITRIDAE
Chondrohierax uncinatus, Hook-billed Kite
Elanoides forficatus, Swallow-tailed Kite
Elanus leucurus, White-tailed Kite
Rostrhamus sociabilis, Snail Kite
Ictinia mississippiensis, Mississippi Kite
Milvus migrans, Black Kite
Haliaeetus leucocephalus, Bald Eagle
Haliaeetus albicilla, White-tailed Eagle
Haliaeetus pelagicus, Steller's Sea-Eagle
Circus cyaneus, Northern Harrier
Accipiter soloensis, Gray Frog-Hawk
Accipiter gularis, Japanese Sparrowhawk
Accipiter striatus, Sharp-shinned Hawk
Accipiter cooperii, Cooper's Hawk
Accipiter gentilis, Northern Goshawk
Geranoospiza caerulescens, Crane Hawk
Buteogallus anthracinus, Common Black-Hawk
Parabuteo unicinctus, Harris's Hawk
Buteo magnirostris, Roadside Hawk
Buteo lineatus, Red-shouldered Hawk
Buteo platypterus, Broad-winged Hawk
Buteo nitidus, Gray Hawk
Buteo brachyurus, Short-tailed Hawk
Buteo swainsoni, Swainson's Hawk
Buteo albicaudatus, White-tailed Hawk
Buteo albonotatus, Zone-tailed Hawk
Buteo solitarius, Hawaiian Hawk
Buteo jamaicensis, Red-tailed Hawk
Buteo regalis, Ferruginous Hawk
Buteo lagopus, Rough-legged Hawk
Aquila chrysaetos, Golden Eagle
- Order FALCONIFORMES
 Family FALCONIDAE
 Subfamily MICRASTURINAE
Micrastur semitorquatus, Collared Forest-Falcon
- Subfamily CARACARINAE
Caracara cheriway, Crested Caracara
- Subfamily FALCONINAE
Falco tinnunculus, Eurasian Kestrel
Falco sparverius, American Kestrel
Falco vespertinus, Red-footed Falcon
Falco columbarius, Merlin
Falco subbuteo, Eurasian Hobby
Falco femoralis, Aplomado Falcon
Falco rusticolus, Gyrfalcon
Falco peregrinus, Peregrine Falcon
- Falco mexicanus*, Prairie Falcon
- Order GRUIFORMES
 Family RALLIDAE
Coturnicops noveboracensis, Yellow Rail
Laterallus jamaicensis, Black Rail
Gallirallus philippensis, Buff-banded Rail
Gallirallus owstoni, Guam Rail
Crex crex, Corn Crake
Rallus longirostris, Clapper Rail
Rallus elegans, King Rail
Rallus limicola, Virginia Rail
Porzana carolina, Sora
Porzana tabuensis, Spotless Crake
Porzana flaviventer, Yellow-breasted Crake
Neocrex erythrops, Paint-billed Crake
Pardirallus maculatus, Spotted Rail
Porphyrio porphyrio, Purple Swamphen
Porphyrio martinica, Purple Gallinule
Porphyrio flavirostris, Azure Gallinule
Gallinula chloropus, Common Moorhen
Fulica atra, Eurasian Coot
Fulica alai, Hawaiian Coot
Fulica americana, American Coot
Fulica caribaea, Caribbean Coot
- Family ARAMIDAE
Aramus guarana, Limpkin
- Family GRUIDAE
Grus canadensis, Sandhill Crane
Grus grus, Common Crane
Grus americana, Whooping Crane
- Order CHARADRIIFORMES
 Family CHARADRIIDAE
 Subfamily VANELLINAE
Vanellus vanellus, Northern Lapwing
- Subfamily CHARADRIINAE
Pluvialis squatarola, Black-bellied Plover
Pluvialis apricaria, European Golden-Plover
Pluvialis dominica, American Golden-Plover
Pluvialis fulva, Pacific Golden-Plover
Charadrius mongolus, Lesser Sand-Plover
Charadrius leschenaultii, Greater Sand-Plover
Charadrius collaris, Collared Plover
Charadrius alexandrinus, Snowy Plover
Charadrius wilsonia, Wilson's Plover
Charadrius hiaticula, Common Ringed Plover
Charadrius semipalmatus, Semipalmated Plover
Charadrius melodus, Piping Plover
Charadrius dubius, Little Ringed Plover
Charadrius vociferus, Killdeer
Charadrius montanus, Mountain Plover
Charadrius morinellus, Eurasian Dotterel
- Family HAEMATOPODIDAE
Haematopus ostralegus, Eurasian Oystercatcher
Haematopus palliatus, American Oystercatcher
Haematopus bachmani, Black Oystercatcher
- Family RECURVIROSTRIDAE
Himantopus himantopus, Black-winged Stilt
Himantopus mexicanus, Black-necked Stilt
Recurvirostra americana, American Avocet
- Family JACANIDAE
Jacana spinosa, Northern Jacana
- Family SCOLOPACIDAE
 Subfamily SCOLOPACINAE
Xenus cinereus, Terek Sandpiper
Actitis hypoleucos, Common Sandpiper
Actitis macularia, Spotted Sandpiper
Tringa ochropus, Green Sandpiper
Tringa solitaria, Solitary Sandpiper
Tringa brevipes, Gray-tailed Tattler
Tringa incana, Wandering Tattler
Tringa erythropus, Spotted Redshank
Tringa melanoleuca, Greater Yellowlegs
Tringa nebularia, Common Greenshank
Tringa guttifer, Nordmann's Greenshank
Tringa semipalmata, Willet
Tringa flavipes, Lesser Yellowlegs
Tringa stagnatilis, Marsh Sandpiper
Tringa glareola, Wood Sandpiper
Bartramia longicauda, Upland Sandpiper
Numenius minutus, Little Curlew
Numenius borealis, Eskimo Curlew
Numenius phaeopus, Whimbrel
Numenius tahitiensis, Bristle-thighed Curlew
Numenius madagascariensis, Far Eastern Curlew
Numenius arquata, Eurasian Curlew
Numenius americanus, Long-billed Curlew
Limosa limosa, Black-tailed Godwit
Limosa haemastica, Hudsonian Godwit
Limosa lapponica, Bar-tailed Godwit
Limosa fedoa, Marbled Godwit
Arenaria interpres, Ruddy Turnstone
Arenaria melanocephala, Black Turnstone
Aphriza virgata, Surfbird
Calidris tenuirostris, Great Knot
Calidris canutus, Red Knot
Calidris alba, Sanderling
Calidris pusilla, Semipalmated Sandpiper
Calidris mauri, Western Sandpiper
Calidris ruficollis, Red-necked Stint
Calidris minuta, Little Stint
Calidris temminckii, Temminck's Stint
Calidris subminuta, Long-toed Stint
Calidris minutilla, Least Sandpiper
Calidris fuscicollis, White-rumped

- Sandpiper
Calidris bairdii, Baird's Sandpiper
Calidris melanotos, Pectoral Sandpiper
Calidris acuminata, Sharp-tailed Sandpiper
Calidris maritima, Purple Sandpiper
Calidris ptilocnemis, Rock Sandpiper
Calidris alpina, Dunlin
Calidris ferruginea, Curlew Sandpiper
Calidris himantopus, Stilt Sandpiper
Eurynorhynchus pygmeus, Spoon-billed Sandpiper
Limicola falcinellus, Broad-billed Sandpiper
Tryngites subruficollis, Buff-breasted Sandpiper
Philomachus pugnax, Ruff
Limnodromus griseus, Short-billed Dowitcher
Limnodromus scolopaceus, Long-billed Dowitcher
Lymnocyptes minimus, Jack Snipe
Gallinago delicata, Wilson's Snipe
Gallinago gallinago, Common Snipe
Gallinago stenura, Pin-tailed Snipe
Gallinago megala, Swinhoe's Snipe
Scolopax rusticola, Eurasian Woodcock
Scolopax minor, American Woodcock
- Subfamily PHALAROPODINAE
Phalaropus tricolor, Wilson's Phalarope
Phalaropus lobatus, Red-necked Phalarope
Phalaropus fulicarius, Red Phalarope
- Family LARIDAE
 Subfamily LARINAE
Creagrus furcatus, Swallow-tailed Gull
Rissa tridactyla, Black-legged Kittiwake
Rissa brevirostris, Red-legged Kittiwake
Pagophila eburnea, Ivory Gull
Xema sabini, Sabine's Gull
Chroicocephalus philadelphia, Bonaparte's Gull
Chroicocephalus cirrocephalus, Gray-hooded Gull
Chroicocephalus ridibundus, Black-headed Gull
Hydrocoloeus minutus, Little Gull
Rhodostethia rosea, Ross's Gull
Leucophaeus atricilla, Laughing Gull
Leucophaeus pipixcan, Franklin's Gull
Larus belcheri, Belcher's Gull
Larus crassirostris, Black-tailed Gull
Larus heermanni, Heermann's Gull
Larus canus, Mew Gull
Larus delawarensis, Ring-billed Gull
Larus occidentalis, Western Gull
Larus livens, Yellow-footed Gull
Larus californicus, California Gull
Larus argentatus, Herring Gull
Larus michahellis, Yellow-legged Gull
Larus thayeri, Thayer's Gull
Larus glaucoides, Iceland Gull
- Larus fuscus*, Lesser Black-backed Gull
Larus schistisagus, Slaty-backed Gull
Larus glaucescens, Glaucous-winged Gull
Larus hyperboreus, Glaucous Gull
Larus marinus, Great Black-backed Gull
Larus dominicanus, Kelp Gull
- Subfamily STERNINAE
Anous stolidus, Brown Noddy
Anous minutus, Black Noddy
Procelsterna cerulea, Blue-gray Noddy
Gygis alba, White Tern
Onychoprion fuscatus, Sooty Tern
Onychoprion lunatus, Gray-backed Tern
Onychoprion anaethetus, Bridled Tern
Onychoprion aleuticus, Aleutian Tern
Sternula albifrons, Little Tern
Sternula antillarum, Least Tern
Phaetusa simplex, Large-billed Tern
Gelochelidon nilotica, Gull-billed Tern
Hydroprogne caspia, Caspian Tern
Chlidonias niger, Black Tern
Chlidonias leucopterus, White-winged Tern
Chlidonias hybridus, Whiskered Tern
Sterna dougallii, Roseate Tern
Sterna sumatrana, Black-naped Tern
Sterna hirundo, Common Tern
Sterna paradisaea, Arctic Tern
Sterna forsteri, Forster's Tern
Thalasseus maximus, Royal Tern
Thalasseus bergii, Great Crested Tern
Thalasseus sandvicensis, Sandwich Tern
Thalasseus elegans, Elegant Tern
- Subfamily RYNCHOPINAE
Rynchops niger, Black Skimmer
- Family STERCORARIIDAE
Stercorarius skua, Great Skua
Stercorarius maccormicki, South Polar Skua
Stercorarius pomarinus, Pomarine Jaeger
Stercorarius parasiticus, Parasitic Jaeger
Stercorarius longicaudus, Long-tailed Jaeger
- Family ALCIDAE
Alle alle, Dovekie
Uria aalge, Common Murre
Uria lomvia, Thick-billed Murre
Alca torda, Razorbill
Cepphus grylle, Black Guillemot
Cepphus columba, Pigeon Guillemot
Brachyramphus perdix, Long-billed Murrelet
Brachyramphus marmoratus, Marbled Murrelet
Brachyramphus brevirostris, Kittlitz's Murrelet
Synthliboramphus hypoleucus, Xantus's Murrelet
Synthliboramphus craveri, Craveri's Murrelet
- Murrelet
Synthliboramphus antiquus, Ancient Murrelet
Ptychoramphus aleuticus, Cassin's Auklet
Aethia psittacula, Parakeet Auklet
Aethia pusilla, Least Auklet
Aethia pygmaea, Whiskered Auklet
Aethia cristatella, Crested Auklet
Cerorhinca monocerata, Rhinoceros Auklet
Fratercula arctica, Atlantic Puffin
Fratercula corniculata, Horned Puffin
Fratercula cirrhata, Tufted Puffin
- Order COLUMBIFORMES
 Family COLUMBIDAE
Patagioenas squamosa, Scaly-naped Pigeon
Patagioenas leucocephala, White-crowned Pigeon
Patagioenas flavirostris, Red-billed Pigeon
Patagioenas inornata, Plain Pigeon
Patagioenas fasciata, Band-tailed Pigeon
Streptopelia orientalis, Oriental Turtle-Dove
Zenaida asiatica, White-winged Dove
Zenaida aurita, Zenaida Dove
Zenaida macroura, Mourning Dove
Columbina inca, Inca Dove
Columbina passerina, Common Ground-Dove
Columbina talpacoti, Ruddy Ground-Dove
Leptotila verreauxi, White-tipped Dove
Geotrygon chrysis, Key West Quail-Dove
Geotrygon mystacea, Bridled Quail-Dove
Geotrygon montana, Ruddy Quail-Dove
Gallicolumba xanthonura, White-throated Ground-Dove
Gallicolumba stairi, Friendly Ground-Dove
Ptilinopus perousii, Many-colored Fruit-Dove
Ptilinopus porphyraceus, Crimson-crowned Fruit-Dove
Ptilinopus roseicapilla, Mariana Fruit-Dove
Ducula pacifica, Pacific Imperial-Pigeon
- Order CUCULIFORMES
 Family CUCULIDAE
 Subfamily CUCULINAE
Cuculus fugax, Hodgson's Hawk-Cuckoo
Cuculus canorus, Common Cuckoo
Cuculus optatus, Oriental Cuckoo
Coccyzus americanus, Yellow-billed Cuckoo
Coccyzus minor, Mangrove Cuckoo
Coccyzus erythrophthalmus, Black-billed Cuckoo
Coccyzus vieilloti, Puerto Rican Lizard-Cuckoo

Subfamily NEOMORPHINAE	<i>Streptoprocne zonaris</i> , White-collared Swift	<i>Atthis heloisa</i> , Bumblebee Hummingbird
<i>Geococcyx californianus</i> , Greater Roadrunner	Subfamily CHAETURINAE	<i>Selasphorus platycercus</i> , Broad-tailed Hummingbird
Subfamily CROTOPHAGINAE	<i>Chaetura pelagica</i> , Chimney Swift	<i>Selasphorus rufus</i> , Rufous Hummingbird
<i>Crotophaga ani</i> , Smooth-billed Ani	<i>Chaetura vauxi</i> , Vaux's Swift	<i>Selasphorus sasin</i> , Allen's Hummingbird
<i>Crotophaga sulcirostris</i> , Groove-billed Ani	<i>Chaetura brachyura</i> , Short-tailed Swift	Order TROGONIFORMES
Order STRIGIFORMES	<i>Hirundapus caudacutus</i> , White-throated Needletail	Family TROGONIDAE
Family TYTONIDAE	<i>Aerodramus spodiopygius</i> , White-rumped Swiftlet	Subfamily TROGONINAE
<i>Tyto alba</i> , Barn Owl	<i>Aerodramus bartschi</i> , Mariana Swiftlet	<i>Trogon elegans</i> , Elegant Trogon
Family STRIGIDAE	Subfamily APODINAE	<i>Euptilotis neoxenus</i> , Eared Quetzal
<i>Otus flammeolus</i> , Flammulated Owl	<i>Apus apus</i> , Common Swift	Order UPUPIFORMES
<i>Otus sunia</i> , Oriental Scops-Owl	<i>Apus pacificus</i> , Fork-tailed Swift	Family UPUIDAE
<i>Megascops kennicottii</i> , Western Screech-Owl	<i>Apus melba</i> , Alpine Swift	<i>Upupa epops</i> , Eurasian Hoopoe
<i>Megascops asio</i> , Eastern Screech-Owl	<i>Aeronautes saxatalis</i> , White-throated Swift	Order CORACIIFORMES
<i>Megascops trichopsis</i> , Whiskered Screech-Owl	<i>Tachornis phoenicobia</i> , Antillean Palm-Swift	Family ALCEDINIDAE
<i>Megascops nudipes</i> , Puerto Rican Screech-Owl	Family TROCHILIDAE	Subfamily HALCYONINAE
<i>Bubo virginianus</i> , Great Horned Owl	Subfamily TROCHILINAE	<i>Todirhamphus cinnamominus</i> , Micronesian Kingfisher
<i>Bubo scandiacus</i> , Snowy Owl	<i>Colibri thalassinus</i> , Green Violetear	<i>Todirhamphus chloris</i> , Collared Kingfisher
<i>Surnia ulula</i> , Northern Hawk Owl	<i>Anthracothonax prevostii</i> , Green-breasted Mango	Subfamily CERYLINAE
<i>Glaucidium gnoma</i> , Northern Pygmy-Owl	<i>Anthracothonax dominicus</i> , Antillean Mango	<i>Megaceryle torquata</i> , Ringed Kingfisher
<i>Glaucidium brasilianum</i> , Ferruginous Pygmy-Owl	<i>Anthracothonax viridis</i> , Green Mango	<i>Megaceryle alcyon</i> , Belted Kingfisher
<i>Micrathene whitneyi</i> , Elf Owl	<i>Eulampis jugularis</i> , Purple-throated Carib	<i>Chloroceryle americana</i> , Green Kingfisher
<i>Athene cunicularia</i> , Burrowing Owl	<i>Eulampis holosericeus</i> , Green-throated Carib	Order PICIFORMES
<i>Ciccaba virgata</i> , Mottled Owl	<i>Orthorhyncus cristatus</i> , Antillean Crested Hummingbird	Family PICIDAE
<i>Strix occidentalis</i> , Spotted Owl	<i>Chlorostilbon maugaeus</i> , Puerto Rican Emerald	Subfamily JYNGINAE
<i>Strix varia</i> , Barred Owl	<i>Cyananthus latirostris</i> , Broad-billed Hummingbird	<i>Jynx torquilla</i> , Eurasian Wryneck
<i>Strix nebulosa</i> , Great Gray Owl	<i>Hylocharis leucotis</i> , White-eared Hummingbird	Subfamily PICINAE
<i>Asio otus</i> , Long-eared Owl	<i>Hylocharis xantusii</i> , Xantus's Hummingbird	<i>Melanerpes lewis</i> , Lewis's Woodpecker
<i>Asio stygius</i> , Stygian Owl	<i>Amazilia beryllina</i> , Berylline Hummingbird	<i>Melanerpes portoricensis</i> , Puerto Rican Woodpecker
<i>Asio flammeus</i> , Short-eared Owl	<i>Amazilia yucatanensis</i> , Buff-bellied Hummingbird	<i>Melanerpes erythrocephalus</i> , Red-headed Woodpecker
<i>Aegolius funereus</i> , Boreal Owl	<i>Amazilia rutila</i> , Cinnamon Hummingbird	<i>Melanerpes formicivorus</i> , Acorn Woodpecker
<i>Aegolius acadicus</i> , Northern Saw-whet Owl	<i>Amazilia violiceps</i> , Violet-crowned Hummingbird	<i>Melanerpes uropygialis</i> , Gila Woodpecker
<i>Ninox scutulata</i> , Brown Hawk-Owl	<i>Lampornis clemenciae</i> , Blue-throated Hummingbird	<i>Melanerpes aurifrons</i> , Golden-fronted Woodpecker
Order CAPRIMULGIFORMES	<i>Eugenes fulgens</i> , Magnificent Hummingbird	<i>Melanerpes carolinus</i> , Red-bellied Woodpecker
Family CAPRIMULGIDAE	<i>Helioaster constantii</i> , Plain-capped Starthroat	<i>Sphyrapicus thyroideus</i> , Williamson's Sapsucker
Subfamily CHORDEILINAE	<i>Calliphlox evelynae</i> , Bahama Woodstar	<i>Sphyrapicus varius</i> , Yellow-bellied Sapsucker
<i>Chordeiles acutipennis</i> , Lesser Nighthawk	<i>Calothorax lucifer</i> , Lucifer Hummingbird	<i>Sphyrapicus nuchalis</i> , Red-naped Sapsucker
<i>Chordeiles minor</i> , Common Nighthawk	<i>Archilochus colubris</i> , Ruby-throated Hummingbird	<i>Sphyrapicus ruber</i> , Red-breasted Sapsucker
<i>Chordeiles gundlachi</i> , Antillean Nighthawk	<i>Archilochus alexandri</i> , Black-chinned Hummingbird	<i>Dendrocopos major</i> , Great Spotted Woodpecker
Subfamily CAPRIMULGINAE	<i>Calypte anna</i> , Anna's Hummingbird	<i>Picoides scalaris</i> , Ladder-backed Woodpecker
<i>Nyctidromus albicollis</i> , Common Pauraque	<i>Calypte costae</i> , Costa's Hummingbird	<i>Picoides nuttallii</i> , Nuttall's Woodpecker
<i>Phalaenoptilus nuttallii</i> , Common Poorwill	<i>Stellula calliope</i> , Calliope Hummingbird	<i>Picoides pubescens</i> , Downy Woodpecker
<i>Caprimulgus carolinensis</i> , Chuck-will's-widow		<i>Picoides villosus</i> , Hairy Woodpecker
<i>Caprimulgus ridgwayi</i> , Buff-collared Nightjar		<i>Picoides arizonae</i> , Arizona Woodpecker
<i>Caprimulgus vociferus</i> , Eastern Whip-poor-will		<i>Picoides borealis</i> , Red-cockaded Woodpecker
<i>Caprimulgus arizonae</i> , Mexican Whip-poor-will		
<i>Caprimulgus noctitherus</i> , Puerto Rican Nightjar		
<i>Caprimulgus indicus</i> , Gray Nightjar		
Order APODIFORMES		
Family APODIDAE		
Subfamily CYPSELOIDINAE		
<i>Cypseloides niger</i> , Black Swift		

- Picoides albolarvatus*, White-headed Woodpecker
Picoides dorsalis, American Three-toed Woodpecker
Picoides arcticus, Black-backed Woodpecker
Colaptes auratus, Northern Flicker
Colaptes chrysoides, Gilded Flicker
Dryocopus pileatus, Pileated Woodpecker
Campephilus principalis, Ivory-billed Woodpecker
Order PASSERIFORMES
Family TYRANNIDAE
Subfamily ELAENINAE
Camptostoma imberbe, Northern Beardless-Tyrannulet
Myiopagis viridicata, Greenish Elaenia
Elaenia martinica, Caribbean Elaenia
Elaenia albiceps, White-crested Eleania
Subfamily FLUVICOLINAE
Mitrephanes phaeocercus, Tufted Flycatcher
Contopus cooperi, Olive-sided Flycatcher
Contopus pertinax, Greater Pewee
Contopus sordidulus, Western Wood-Pewee
Contopus virens, Eastern Wood-Pewee
Contopus caribaeus, Cuban Pewee
Contopus hispaniolensis, Hispaniolan Pewee
Contopus latirostris, Lesser Antillean Pewee
Empidonax flaviventris, Yellow-bellied Flycatcher
Empidonax virescens, Acadian Flycatcher
Empidonax alnorum, Alder Flycatcher
Empidonax traillii, Willow Flycatcher
Empidonax minimus, Least Flycatcher
Empidonax hammondi, Hammond's Flycatcher
Empidonax wrightii, Gray Flycatcher
Empidonax oberholseri, Dusky Flycatcher
Empidonax difficilis, Pacific-slope Flycatcher
Empidonax occidentalis, Cordilleran Flycatcher
Empidonax fulvifrons, Buff-breasted Flycatcher
Sayornis nigricans, Black Phoebe
Sayornis phoebe, Eastern Phoebe
Sayornis saya, Say's Phoebe
Pyrocephalus rubinus, Vermilion Flycatcher
Subfamily TYRANNINAE
Myiarchus tuberculifer, Dusky-capped Flycatcher
Myiarchus cinerascens, Ash-throated Flycatcher
Myiarchus nuttingi, Nutting's Flycatcher
Myiarchus crinitus, Great Crested Flycatcher
Myiarchus tyrannulus, Brown-crested Flycatcher
Myiarchus sagrae, La Sagra's Flycatcher
Myiarchus antillarum, Puerto Rican Flycatcher
Pitangus sulphuratus, Great Kiskadee Flycatcher
Myiozetetes similis, Social Flycatcher
Myiodynastes luteiventris, Sulphur-bellied Flycatcher
Legatus leucophalus, Piratic Flycatcher
Empidonax varius, Variegated Flycatcher
Empidonax aurantioatrocristatus, Crowned Slaty Flycatcher
Tyrannus melancholicus, Tropical Kingbird
Tyrannus couchii, Couch's Kingbird
Tyrannus vociferans, Cassin's Kingbird
Tyrannus crassirostris, Thick-billed Kingbird
Tyrannus verticalis, Western Kingbird
Tyrannus tyrannus, Eastern Kingbird
Tyrannus dominicensis, Gray Kingbird
Tyrannus caudifasciatus, Loggerhead Kingbird
Tyrannus forficatus, Scissor-tailed Flycatcher
Tyrannus savana, Fork-tailed Flycatcher
Pachyrhamphus aglaiae, Rose-throated Becard
Tityra semifasciata, Masked Tityra
Family LANIIDAE
Lanius cristatus, Brown Shrike
Lanius ludovicianus, Loggerhead Shrike
Lanius excubitor, Northern Shrike
Family VIREONIDAE
Vireo griseus, White-eyed Vireo
Vireo crassirostris, Thick-billed Vireo
Vireo latimeri, Puerto Rican Vireo
Vireo bellii, Bell's Vireo
Vireo atricapilla, Black-capped Vireo
Vireo vicinior, Gray Vireo
Vireo flavifrons, Yellow-throated Vireo
Vireo plumbeus, Plumbeous Vireo
Vireo cassinii, Cassin's Vireo
Vireo solitarius, Blue-headed Vireo
Vireo huttoni, Hutton's Vireo
Vireo gilvus, Warbling Vireo
Vireo philadelphicus, Philadelphia Vireo
Vireo olivaceus, Red-eyed Vireo
Vireo flavoviridis, Yellow-green Vireo
Vireo altiloquus, Black-whiskered Vireo
Vireo magister, Yucatan Vireo
Family CORVIDAE
Perisoreus canadensis, Gray Jay
Psilorhinus morio, Brown Jay
Cyanocorax yncas, Green Jay
Gymnorhinus cyanocephalus, Pinyon Jay
Cyanocitta stelleri, Steller's Jay
Cyanocitta cristata, Blue Jay
Aphelocoma coerulescens, Florida Scrub-Jay
Aphelocoma insularis, Island Scrub-Jay
Aphelocoma californica, Western Scrub-Jay
Aphelocoma ultramarina, Mexican Jay
Nucifraga columbiana, Clark's Nutcracker
Pica hudsonia, Black-billed Magpie
Pica nuttalli, Yellow-billed Magpie
Corvus kubaryi, Mariana Crow
Corvus brachyrhynchos, American Crow
Corvus caurinus, Northwestern Crow
Corvus leucognaphalus, White-necked Crow
Corvus imparatus, Tamaulipas Crow
Corvus ossifragus, Fish Crow
Corvus hawaiiensis, Hawaiian Crow
Corvus cryptoleucus, Chihuahuan Raven
Corvus corax, Common Raven
Family ALAUDIDAE
Alauda arvensis, Sky Lark
Eremophila alpestris, Horned Lark
Family HIRUNDINIDAE
Subfamily HIRUNDININAE
Progne subis, Purple Martin
Progne cryptoleuca, Cuban Martin
Progne dominicensis, Caribbean Martin
Progne chalybea, Gray-breasted Martin
Progne elegans, Southern Martin
Progne tapera, Brown-chested Martin
Tachycineta bicolor, Tree Swallow
Tachycineta albilinea, Mangrove Swallow
Tachycineta thalassina, Violet-green Swallow
Tachycineta cyaneoviridis, Bahama Swallow
Stelgidopteryx serripennis, Northern Rough-winged Swallow
Riparia riparia, Bank Swallow
Petrochelidon pyrrhonota, Cliff Swallow
Petrochelidon fulva, Cave Swallow
Hirundo rustica, Barn Swallow
Delichon urbicum, Common House-Martin
Family PARIDAE
Poecile carolinensis, Carolina Chickadee
Poecile atricapillus, Black-capped Chickadee
Poecile gambeli, Mountain Chickadee
Poecile sclateri, Mexican Chickadee
Poecile rufescens, Chestnut-backed Chickadee
Poecile hudsonicus, Boreal Chickadee
Poecile cinctus, Gray-headed Chickadee
Baeolophus wollweberi, Bridled Titmouse

- Baeolophus inornatus*, Oak Titmouse
Baeolophus ridgwayi, Juniper Titmouse
Baeolophus bicolor, Tufted Titmouse
Baeolophus atricristatus, Black-crested Titmouse
Family REMIZIDAE
Auriparus flaviceps, Verdin
Family AEGITHALIDAE
Psaltriparus minimus, Bushtit
Family SITTIDAE
Subfamily SITTINAE
Sitta canadensis, Red-breasted Nuthatch
Sitta carolinensis, White-breasted Nuthatch
Sitta pygmaea, Pygmy Nuthatch
Sitta pusilla, Brown-headed Nuthatch
Family CERTHIIDAE
Subfamily CERTHIINAE
Certhia americana, Brown Creeper
Family TROGLODYTIDAE
Campylorhynchus brunneicapillus, Cactus Wren
Salpinctes obsoletus, Rock Wren
Catherpes mexicanus, Canyon Wren
Thryothorus sinaloa, Sinaloa Wren
Thryothorus ludovicianus, Carolina Wren
Thryomanes bewickii, Bewick's Wren
Troglodytes aedon, House Wren
Troglodytes pacificus, Pacific Wren
Troglodytes hiemalis, Winter Wren
Cistothorus platensis, Sedge Wren
Cistothorus palustris, Marsh Wren
Family POLIOPTILIDAE
Polioptila caerulea, Blue-gray Gnatcatcher
Polioptila californica, California Gnatcatcher
Polioptila melanura, Black-tailed Gnatcatcher
Polioptila nigriceps, Black-capped Gnatcatcher
Family CINCLIDAE
Cinclus mexicanus, American Dipper
Family REGULIDAE
Regulus satrapa, Golden-crowned Kinglet
Regulus calendula, Ruby-crowned Kinglet
Family PHYLLOSCOPIDAE
Phylloscopus trochilus, Willow Warbler
Phylloscopus sibilatrix, Wood Warbler
Phylloscopus fuscatus, Dusky Warbler
Phylloscopus proregulus, Pallas's Leaf-Warbler
Phylloscopus inornatus, Yellow-browed Warbler
Phylloscopus borealis, Arctic Warbler
Family SYLVIIDAE
Sylvia curruca, Lesser Whitethroat
Chamaea fasciata, Wrentit
Family ACROCEPHALIDAE
Acrocephalus luscini, Nightingale Reed-Warbler
Acrocephalus familiaris, Millerbird
Acrocephalus schoenobaenus, Sedge Warbler
Family MEGALURIDAE
Locustella ochotensis, Middendorff's Grasshopper-Warbler
Locustella lanceolata, Lanceolated Warbler
Family MUSCICAPIDAE
Ficedula narcissina, Narcissus Flycatcher
Ficedula mugimaki, Mugimaki Flycatcher
Ficedula albicilla, Taiga Flycatcher
Muscicapa sibirica, Dark-sided Flycatcher
Muscicapa griseisticta, Gray-streaked Flycatcher
Muscicapa dauurica, Asian Brown Flycatcher
Muscicapa striata, Spotted Flycatcher
Family TURDIDAE
Monticola solitarius, Blue Rock-Thrush
Luscinia sibilans, Rufous-tailed Robin
Luscinia calliope, Siberian Rubythroat
Luscinia svecica, Bluethroat
Luscinia cyane, Siberian Blue Robin
Tarsiger cyanurus, Red-flanked Bluetail
Oenanthe oenanthe, Northern Wheatear
Saxicola torquatus, Stonechat
Sialia sialis, Eastern Bluebird
Sialia mexicana, Western Bluebird
Sialia currucoides, Mountain Bluebird
Myadestes townsendi, Townsend's Solitaire
Myadestes myadestinus, Kamao
Myadestes lanaiensis, Olomao
Myadestes obscurus, Omao
Myadestes palmeri, Puaiohi
Catharus aurantirostris, Orange-billed Nightingale-Thrush
Catharus mexicanus, Black-headed Nightingale-Thrush
Catharus fuscescens, Veery
Catharus minimus, Gray-cheeked Thrush
Catharus bicknelli, Bicknell's Thrush
Catharus ustulatus, Swainson's Thrush
Catharus guttatus, Hermit Thrush
Hylocichla mustelina, Wood Thrush
Turdus obscurus, Eyebrowed Thrush
Turdus naumanni, Dusky Thrush
Turdus pilaris, Fieldfare
Turdus grayi, Clay-colored Thrush
Turdus assimilis, White-throated Thrush
Turdus rufopalliat, Rufous-backed Robin
Turdus migratorius, American Robin
Turdus plumbeus, Red-legged Thrush
Ixoreus naevius, Varied Thrush
Ridgwayia pinicola, Aztec Thrush
Family MIMIDAE
Dumetella carolinensis, Gray Catbird
Melanoptila glabrirostris, Black Catbird
Mimus polyglottos, Northern Mockingbird
Mimus gundlachii, Bahama Mockingbird
Oreoscoptes montanus, Sage Thrasher
Toxostoma rufum, Brown Thrasher
Toxostoma longirostre, Long-billed Thrasher
Toxostoma bendirei, Bendire's Thrasher
Toxostoma curvirostre, Curve-billed Thrasher
Toxostoma redivivum, California Thrasher
Toxostoma crissale, Crissal Thrasher
Toxostoma lecontei, Le Conte's Thrasher
Melanotis caerulescens, Blue Mockingbird
Margarops fuscatus, Pearly-eyed Thrasher
Family STURNIDAE
Sturnus philippensis, Chestnut-cheeked Starling
Sturnus cineraceus, White-cheeked Starling
Family PRUNELLIDAE
Prunella montanella, Siberian Accentor
Family MOTACILLIDAE
Motacilla tschutschensis, Eastern Yellow Wagtail
Motacilla citreola, Citrine Wagtail
Motacilla cinerea, Gray Wagtail
Motacilla alba, White Wagtail
Anthus trivialis, Tree Pipit
Anthus hodgsoni, Olive-backed Pipit
Anthus gustavi, Pechora Pipit
Anthus cervinus, Red-throated Pipit
Anthus rubescens, American Pipit
Anthus spragueii, Sprague's Pipit
Family BOMBYCILLIDAE
Bombycilla garrulus, Bohemian Waxwing
Bombycilla cedrorum, Cedar Waxwing
Family PTILOGONATIDAE
Ptilogonys cinereus, Gray Silky-flycatcher
Phainopepla nitens, Phainopepla
Family PEUCEDRAMIDAE
Peucedramus taeniatus, Olive Warbler
Family CALCARIIDAE
Calcarius lapponicus, Lapland Longspur
Calcarius ornatus, Chestnut-collared Longspur
Calcarius pictus, Smith's Longspur
Rhynchophanes mccownii, McCown's Longspur
Plectrophenax nivalis, Snow Bunting
Plectrophenax hyperboreus, McKay's Bunting
Family PARULIDAE
Vermivora bachmanii, Bachman's Warbler
Vermivora cyanoptera, Blue-winged

- Warbler
Vermivora chrysoptera, Golden-winged Warbler
Oreothlypis peregrina, Tennessee Warbler
Oreothlypis celata, Orange-crowned Warbler
Oreothlypis ruficapilla, Nashville Warbler
Oreothlypis virginiae, Virginia's Warbler
Oreothlypis crissalis, Colima Warbler
Oreothlypis luciae, Lucy's Warbler
Oreothlypis superciliosa, Crescent-cheeked Warbler
Parula americana, Northern Parula
Parula pitiayumi, Tropical Parula
Dendroica petechia, Yellow Warbler
Dendroica pensylvanica, Chestnut-sided Warbler
Dendroica magnolia, Magnolia Warbler
Dendroica tigrina, Cape May Warbler
Dendroica caerulescens, Black-throated Blue Warbler
Dendroica coronata, Yellow-rumped Warbler
Dendroica nigrescens, Black-throated Gray Warbler
Dendroica chrysoparia, Golden-cheeked Warbler
Dendroica virens, Black-throated Green Warbler
Dendroica townsendi, Townsend's Warbler
Dendroica occidentalis, Hermit Warbler
Dendroica fusca, Blackburnian Warbler
Dendroica dominica, Yellow-throated Warbler
Dendroica graciae, Grace's Warbler
Dendroica adelaidae, Adelaide's Warbler
Dendroica pinus, Pine Warbler
Dendroica kirtlandii, Kirtland's Warbler
Dendroica discolor, Prairie Warbler
Dendroica palmarum, Palm Warbler
Dendroica castanea, Bay-breasted Warbler
Dendroica striata, Blackpoll Warbler
Dendroica cerulea, Cerulean Warbler
Dendroica angela, Elfin-woods Warbler
Mniotilta varia, Black-and-white Warbler
Setophaga ruticilla, American Redstart
Protonotaria citrea, Prothonotary Warbler
Helmitheros vermivorum, Worm-eating Warbler
Limnithlypis swainsonii, Swainson's Warbler
Seiurus aurocapilla, Ovenbird
Parkesia noveboracensis, Northern Waterthrush
Parkesia motacilla, Louisiana Waterthrush
Oporornis formosus, Kentucky Warbler
Oporornis agilis, Connecticut Warbler
Oporornis philadelphia, Mourning Warbler
Oporornis tolmiei, MacGillivray's Warbler
Geothlypis trichas, Common Yellowthroat
Geothlypis poliocephala, Gray-crowned Yellowthroat
Wilsonia citrina, Hooded Warbler
Wilsonia pusilla, Wilson's Warbler
Wilsonia canadensis, Canada Warbler
Cardellina rubrifrons, Red-faced Warbler
Myioborus pictus, Painted Redstart
Myioborus miniatus, Slate-throated Redstart
Euthlypis lachrymosa, Fan-tailed Warbler
Basileuterus culicivorus, Golden-crowned Warbler
Basileuterus rufifrons, Rufous-capped Warbler
Icteria virens, Yellow-breasted Chat
- Family THRAUPIDAE
Nesospingus speculariferus, Puerto Rican Tanager
Spindalis zena, Western Spindalis
Spindalis portoricensis, Puerto Rican Spindalis
- Family EMBERIZIDAE
Sporophila torqueola, White-collared Seedeater
Tiaris olivaceus, Yellow-faced Grassquit
Tiaris bicolor, Black-faced Grassquit
Loxigilla portoricensis, Puerto Rican Bullfinch
Arremonops rufivirgatus, Olive Sparrow
Pipilo chlorurus, Green-tailed Towhee
Pipilo maculatus, Spotted Towhee
Pipilo erythrophthalmus, Eastern Towhee
Aimophila ruficeps, Rufous-crowned Sparrow
Melospiza fusca, Canyon Towhee
Melospiza crissalis, California Towhee
Melospiza aberti, Abert's Towhee
Peucaea carpalis, Rufous-winged Sparrow
Peucaea botterii, Botteri's Sparrow
Peucaea cassinii, Cassin's Sparrow
Peucaea aestivalis, Bachman's Sparrow
Spizella arborea, American Tree Sparrow
Spizella passerina, Chipping Sparrow
Spizella pallida, Clay-colored Sparrow
Spizella breweri, Brewer's Sparrow
Spizella pusilla, Field Sparrow
Spizella wortheni, Worthen's Sparrow
Spizella atrogularis, Black-chinned Sparrow
Poocetes gramineus, Vesper Sparrow
- Chondestes grammacus*, Lark Sparrow
Amphispiza quinquestrata, Five-striped Sparrow
Amphispiza bilineata, Black-throated Sparrow
Amphispiza belli, Sage Sparrow
Calamospiza melanocorys, Lark Bunting
Passerculus sandwichensis, Savannah Sparrow
Ammodramus savannarum, Grasshopper Sparrow
Ammodramus bairdii, Baird's Sparrow
Ammodramus henslowii, Henslow's Sparrow
Ammodramus leconteii, Le Conte's Sparrow
Ammodramus nelsoni, Nelson's Sparrow
Ammodramus caudacutus, Saltmarsh Sparrow
Ammodramus maritimus, Seaside Sparrow
Passerella iliaca, Fox Sparrow
Melospiza melodia, Song Sparrow
Melospiza lincolni, Lincoln's Sparrow
Melospiza georgiana, Swamp Sparrow
Zonotrichia albicollis, White-throated Sparrow
Zonotrichia querula, Harris's Sparrow
Zonotrichia leucophrys, White-crowned Sparrow
Zonotrichia atricapilla, Golden-crowned Sparrow
Junco hyemalis, Dark-eyed Junco
Junco phaeonotus, Yellow-eyed Junco
Emberiza leucocephalus, Pine Bunting
Emberiza chrysophrys, Yellow-browed Bunting
Emberiza pusilla, Little Bunting
Emberiza rustica, Rustic Bunting
Emberiza elegans, Yellow-throated Bunting
Emberiza aureola, Yellow-breasted Bunting
Emberiza variabilis, Gray Bunting
Emberiza pallasi, Pallas's Bunting
Emberiza schoeniclus, Reed Bunting
- Family CARDINALIDAE
Piranga flava, Hepatic Tanager
Piranga rubra, Summer Tanager
Piranga olivacea, Scarlet Tanager
Piranga ludoviciana, Western Tanager
Piranga bidentata, Flame-colored Tanager
Rhodothraupis celaeno, Crimson-collared Grosbeak
Cardinalis cardinalis, Northern Cardinal
Cardinalis sinuatus, Pyrrhuloxia
Pheucticus chrysopheplus, Yellow Grosbeak
Pheucticus ludovicianus, Rose-breasted Grosbeak
Pheucticus melanocephalus, Black-headed Grosbeak

Cyanocompsa parellina, Blue Bunting
Passerina caerulea, Blue Grosbeak
Passerina amoena, Lazuli Bunting
Passerina cyanea, Indigo Bunting
Passerina versicolor, Varied Bunting
Passerina ciris, Painted Bunting
Spiza americana, Dickcissel
Family ICTERIDAE
Dolichonyx oryzivorus, Bobolink
Agelaius phoeniceus, Red-winged Blackbird
Agelaius tricolor, Tricolored Blackbird
Agelaius humeralis, Tawny-shouldered Blackbird
Agelaius xanthomus, Yellow-shouldered Blackbird
Sturnella magna, Eastern Meadowlark
Sturnella neglecta, Western Meadowlark
Xanthocephalus xanthocephalus, Yellow-headed Blackbird
Euphagus carolinus, Rusty Blackbird
Euphagus cyanocephalus, Brewer's Blackbird
Quiscalus quiscula, Common Grackle
Quiscalus major, Boat-tailed Grackle
Quiscalus mexicanus, Great-tailed Grackle
Quiscalus niger, Greater Antillean Grackle
Molothrus bonariensis, Shiny Cowbird
Molothrus aeneus, Bronzed Cowbird
Molothrus ater, Brown-headed Cowbird
Icterus portoricensis, Puerto Rican Oriole
Icterus wagleri, Black-vented Oriole
Icterus spurius, Orchard Oriole
Icterus cucullatus, Hooded Oriole
Icterus pustulatus, Streak-backed Oriole
Icterus bullockii, Bullock's Oriole
Icterus gularis, Altamira Oriole

Icterus graduacauda, Audubon's Oriole
Icterus galbula, Baltimore Oriole
Icterus parisorum, Scott's Oriole
Family FRINGILLIDAE
Subfamily FRINGILLINAE
Fringilla coelebs, Common Chaffinch
Fringilla montifringilla, Brambling
Subfamily EUPHONIINAE
Euphonia musica, Antillean Euphonia
Subfamily CARDUELINAE
Leucosticte tephrocotis, Gray-crowned Rosy-Finch
Leucosticte atrata, Black Rosy-Finch
Leucosticte australis, Brown-capped Rosy-Finch
Pinicola enucleator, Pine Grosbeak
Carpodacus erythrinus, Common Rosefinch
Carpodacus purpureus, Purple Finch
Carpodacus cassinii, Cassin's Finch
Carpodacus mexicanus, House Finch
Loxia curvirostra, Red Crossbill
Loxia leucoptera, White-winged Crossbill
Acanthis flammea, Common Redpoll
Acanthis hornemanni, Hoary Redpoll
Spinus pinus, Eurasian Siskin
Spinus pinus, Pine Siskin
Spinus psaltria, Lesser Goldfinch
Spinus lawrencei, Lawrence's Goldfinch
Spinus tristis, American Goldfinch
Chloris sinica, Oriental Greenfinch
Pyrrhula pyrrhula, Eurasian Bullfinch
Coccothraustes vespertinus, Evening Grosbeak
Coccothraustes coccothraustes, Hawfinch
Subfamily DREPANIDINAE
Telespiza cantans, Laysan Finch
Telespiza ultima, Nihoa Finch
Psittirostra psittacea, Ou
Loxioides bailleui, Palila
Pseudonestor xanthophrys, Maui

Parrotbill
Hemignathus virens, Hawaii Amakihi
Hemignathus flavus, Oahu Amakihi
Hemignathus kauaiensis, Kauai Amakihi
Hemignathus ellisianus, Greater Akialoa
Hemignathus lucidus, Nukupuu
Hemignathus munroi, Akiapolaau
Magumma parva, Anianiau
Oreomystis bairdi, Akikiki
Oreomystis mana, Hawaii Creeper
Paroreomyza maculata, Oahu Alauahio
Paroreomyza flammea, Kakawahie
Paroreomyza montana, Maui Alauahio
Loxops caeruleirostris, Akekee
Loxops coccineus, Akepa
Vestiaria coccinea, Iiwi
Palmeria dolei, Akohekohe
Himatione sanguinea, Apapane
Melamprosops phaeosoma, Poo-uli

PART 21—[AMENDED]

- 3. Revise the authority citation for part 21 to read as follows:

Authority: Pub. L. 65–186, 40 Stat. 755 (1918) (16 U.S.C. 703–712), as amended.

§ 21.3 [Amended]

- 4. In § 21.3, amend the definition of “Raptor” by adding the words “the Order Accipitriformes,” immediately before the words “the Order Falconiformes” and adding a comma after “Falconiformes”.

Dated: September 17, 2013.

Michael J. Bean,

Acting Principal Deputy Assistant Secretary for Fish and Wildlife and Parks.

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Section 3: USFWS National Bald Eagle Management Guidelines

NATIONAL BALD EAGLE MANAGEMENT GUIDELINES

U.S. Fish and Wildlife Service

May 2007

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INTRODUCTION

The bald eagle (*Haliaeetus leucocephalus*) is protected by the Bald and Golden Eagle Protection Act (Eagle Act) and the Migratory Bird Treaty Act (MBTA). The MBTA and the Eagle Act protect bald eagles from a variety of harmful actions and impacts. The U.S. Fish and Wildlife Service (Service) developed these National Bald Eagle Management Guidelines to advise landowners, land managers, and others who share public and private lands with bald eagles when and under what circumstances the protective provisions of the Eagle Act may apply to their activities. A variety of human activities can potentially interfere with bald eagles, affecting their ability to forage, nest, roost, breed, or raise young. The Guidelines are intended to help people minimize such impacts to bald eagles, particularly where they may constitute “disturbance,” which is prohibited by the Eagle Act.

The Guidelines are intended to:

- (1) Publicize the provisions of the Eagle Act that continue to protect bald eagles, in order to reduce the possibility that people will violate the law,
- (2) Advise landowners, land managers and the general public of the potential for various human activities to disturb bald eagles, and
- (3) Encourage additional nonbinding land management practices that benefit bald eagles (see Additional Recommendations section).

While the Guidelines include general recommendations for land management practices that will benefit bald eagles, the document is intended primarily as a tool for landowners and planners who seek information and recommendations regarding how to avoid disturbing bald eagles. Many States and some tribal entities have developed state-specific management plans, regulations, and/or guidance for landowners and land managers to protect and enhance bald eagle habitat, and we encourage the continued development and use of these planning tools to benefit bald eagles.

Adherence to the Guidelines herein will benefit individuals, agencies, organizations, and companies by helping them avoid violations of the law. However, the Guidelines themselves are not law. Rather, they are recommendations based on several decades of behavioral observations, science, and conservation measures to avoid or minimize adverse impacts to bald eagles.

The U.S. Fish and Wildlife Service strongly encourages adherence to these guidelines to ensure that bald and golden eagle populations will continue to be sustained. The Service realizes there may be impacts to some birds even if all reasonable measures are taken to avoid such impacts. Although it is not possible to absolve individuals and entities from liability under the Eagle Act or the MBTA, the Service exercises enforcement discretion to focus on those individuals, companies, or agencies that take migratory birds without regard for the consequences of their actions and the law, especially when conservation measures, such as these Guidelines, are available, but have not been implemented. The Service will prioritize its enforcement efforts to focus on those individuals or entities who take bald eagles or their parts, eggs, or nests without implementing appropriate measures recommended by the Guidelines.

The Service intends to pursue the development of regulations that would authorize, under limited circumstances, the use of permits if “take” of an eagle is anticipated but unavoidable. Additionally, if the bald eagle is delisted, the Service intends to provide a regulatory mechanism to honor existing (take) authorizations under the Endangered Species Act (ESA).

During the interim period until the Service completes a rulemaking for permits under the Eagle Act, the Service does not intend to refer for prosecution the incidental “take” of any bald eagle under the MBTA or Eagle Act, if such take is in full compliance with the terms and conditions of an incidental take statement issued to the action agency or applicant under the authority of section 7(b)(4) of the ESA or a permit issued under the authority of section 10(a)(1)(B) of the ESA.

The Guidelines are applicable throughout the United States, including Alaska. The primary purpose of these Guidelines is to provide information that will minimize or prevent violations only of *Federal* laws governing bald eagles. In addition to Federal laws, many states and some smaller jurisdictions and tribes have additional laws and regulations protecting bald eagles. In some cases those laws and regulations may be more protective (restrictive) than these Federal guidelines. If you are planning activities that may affect bald eagles, we therefore recommend that you contact both your nearest U.S. Fish and Wildlife Service Field Office (see the contact information on p.16) and your state wildlife agency for assistance.

LEGAL PROTECTIONS FOR THE BALD EAGLE

The Bald and Golden Eagle Protection Act

The Eagle Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald eagles, including their parts, nests, or eggs. The Act provides criminal and civil penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” “Disturb” means:

"Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle=s return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

A violation of the Act can result in a criminal fine of \$100,000 (\$200,000 for organizations), imprisonment for one year, or both, for a first offense. Penalties increase substantially for additional offenses, and a second violation of this Act is a felony.

The Migratory Bird Treaty Act

The MBTA (16 U.S.C. 703-712), prohibits the taking of any migratory bird or any part, nest, or egg, except as permitted by regulation. The MBTA was enacted in 1918; a 1972 agreement supplementing one of the bilateral treaties underlying the MBTA had the effect of expanding the scope of the Act to cover bald eagles and other raptors. Implementing regulations define “take” under the MBTA as “pursue, hunt, shoot, wound, kill, trap, capture, possess, or collect.”

Copies of the Eagle Act and the MBTA are available at: <http://permits.fws.gov/ltr/ltr.shtml>.

State laws and regulations

Most states have their own regulations and/or guidelines for bald eagle management. Some states may continue to list the bald eagle as endangered, threatened, or of special concern. If you plan activities that may affect bald eagles, we urge you to familiarize yourself with the regulations and/or guidelines that apply to bald eagles in your state. Your adherence to the Guidelines herein does not ensure that you are in compliance with state laws and regulations because state regulations can be more specific and/or restrictive than these Guidelines.

NATURAL HISTORY OF THE BALD EAGLE

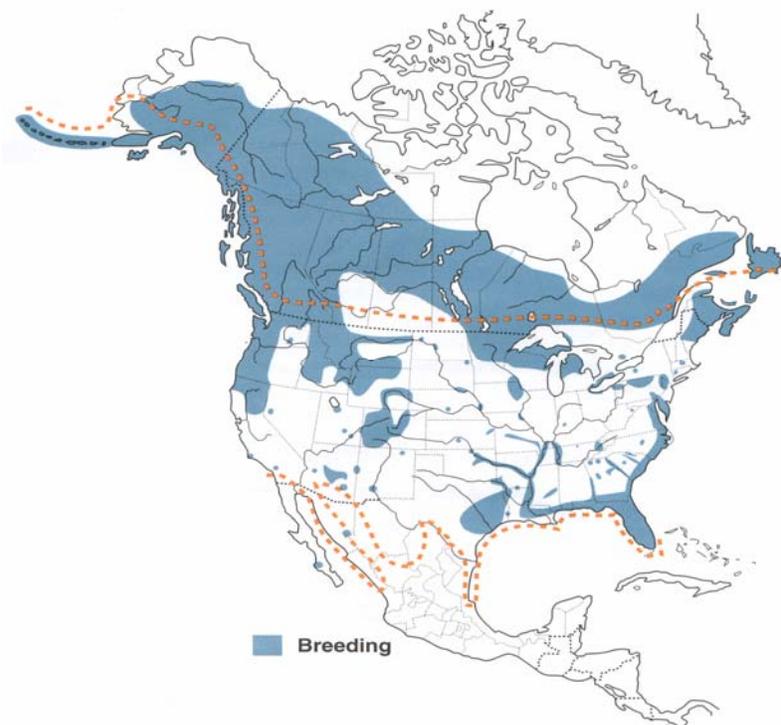
Bald eagles are a North American species that historically occurred throughout the contiguous United States and Alaska. After severely declining in the lower 48 States between the 1870s and the 1970s, bald eagles have rebounded and re-established breeding territories in each of the lower 48 states. The largest North American breeding populations are in Alaska and Canada, but there are also significant bald eagle populations in Florida, the Pacific Northwest, the Greater Yellowstone area, the Great Lakes states, and the Chesapeake Bay region. Bald eagle distribution varies seasonally. Bald eagles that nest in southern latitudes frequently move northward in late spring and early summer, often summering as far north as Canada. Most eagles that breed at northern latitudes migrate southward during winter, or to coastal areas where waters remain unfrozen. Migrants frequently concentrate in large numbers at sites where food is abundant and they often roost together communally. In some cases, concentration areas are used year-round: in summer by southern eagles and in winter by northern eagles.

Juvenile bald eagles have mottled brown and white plumage, gradually acquiring their dark brown body and distinctive white head and tail as they mature. Bald eagles generally attain adult plumage by 5 years of age. Most are capable of breeding at 4 or 5 years of age, but in healthy populations they may not start breeding until much older. Bald eagles may live 15 to 25 years in the wild. Adults weigh 8 to 14 pounds (occasionally reaching 16 pounds in Alaska) and have wingspans of 5 to 8 feet. Those in the northern range are larger than those in the south, and females are larger than males.

Where do bald eagles nest?

Breeding bald eagles occupy “territories,” areas they will typically defend against intrusion by other eagles. In addition to the active nest, a territory may include one or more alternate nests (nests built or maintained by the eagles but not used for nesting in a given year). The Eagle Act prohibits removal or destruction of both active and alternate bald eagle nests. Bald eagles exhibit high nest site fidelity and nesting territories are often used year after year. Some territories are known to have been used continually for over half a century.

Bald eagles generally nest near coastlines, rivers, large lakes or streams that support an adequate food supply. They often nest in mature or old-growth trees; snags (dead trees); cliffs; rock promontories; rarely on the ground; and with increasing frequency on human-made structures such as power poles and communication towers. In forested areas, bald eagles often select the tallest trees with limbs strong enough to support a nest that can weigh more than 1,000 pounds. Nest sites typically include at least one perch with a clear view of the water where the eagles usually forage. Shoreline trees or snags located in reservoirs provide the visibility and accessibility needed to locate aquatic prey. Eagle nests are constructed with large sticks, and may be lined with moss, grass, plant stalks, lichens, seaweed, or sod. Nests are usually about 4-6 feet in diameter and 3 feet deep, although larger nests exist.



Copyright *Birds of North America*, 2000

The range of breeding bald eagles in 2000 (shaded areas). This map shows only the larger concentrations of nests; eagles have continued to expand into additional nesting territories in many states. The dotted line represents the bald eagle’s wintering range.

When do bald eagles nest?

Nesting activity begins several months before egg-laying. Egg-laying dates vary throughout the U.S., ranging from October in Florida, to late April or even early May in the northern United States. Incubation typically lasts 33-35 days, but can be as long as 40 days. Eaglets make their first unsteady flights about 10 to 12 weeks after hatching, and fledge (leave their nests) within a few days after that first flight. However, young birds usually remain in the vicinity of the nest for several weeks after fledging because they are almost completely dependent on their parents for food until they disperse from the nesting territory approximately 6 weeks later.

The bald eagle breeding season tends to be longer in the southern U.S., and re-nesting following an unsuccessful first nesting attempt is more common there as well. The following table shows the timing of bald eagle breeding seasons in different regions of the country. The table represents the range of time within which the majority of nesting activities occur in each region and does not apply to any specific nesting pair. Because the timing of nesting activities may vary within a given region, you should contact the nearest U.S. Fish and Wildlife Service Field Office (see page 16) and/or your state wildlife conservation agency for more specific information on nesting chronology in your area.

Chronology of typical reproductive activities of bald eagles in the United States.

Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.
SOUTHEASTERN U.S. (FL, GA, SC, NC, AL, MS, LA, TN, KY, AR, eastern 2 of TX)											
Nest Building											
		Egg Laying/Incubation									
				Hatching/Rearing Young							
					Fledging Young						
CHESAPEAKE BAY REGION (NC, VA, MD, DE, southern 2 of NJ, eastern 2 of PA, panhandle of WV)											
				Nest Building							
					Egg Laying/Incubation						
						Hatching/Rearing Young					
								Fledging Young			
NORTHERN U.S. (ME, NH, MA, RI, CT, NY, northern 2 of NJ, western 2 of PA, OH, WV exc. panhandle, IN, IL, MI, WI, MN, IA, MO, ND, SD, NB, KS, CO, UT)											
				Nest Building							
					Egg Laying/Incubation						
						Hatching/Rearing Young					
								Fledging Young			
PACIFIC REGION (WA, OR, CA, ID, MT, WY, NV)											
				Nest Building							
					Egg Laying/Incubation						
						Hatching/Rearing Young					
								Fledging Young			
SOUTHWESTERN U.S. (AZ, NM, OK panhandle, western 2 of TX)											
				Nest Building							
					Egg Laying/Incubation						
						Hatching/Rearing Young					
								Fledging Young			
ALASKA											
					Nest Building						
							Egg Laying/Incubation				
								Hatching/Rearing Young			
Ing Young											Fledg-
Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.

How many chicks do bald eagles raise?

The number of eagle eggs laid will vary from 1-3, with 1-2 eggs being the most common. Only one eagle egg is laid per day, although not always on successive days. Hatching of young occurs on different days with the result that chicks in the same nest are sometimes of unequal size. The overall national fledging rate is approximately one chick per nest, annually, which results in a healthy expanding population.

What do bald eagles eat?

Bald eagles are opportunistic feeders. Fish comprise much of their diet, but they also eat waterfowl, shorebirds/colonial waterbirds, small mammals, turtles, and carrion. Because they are visual hunters, eagles typically locate their prey from a conspicuous perch, or soaring flight, then swoop down and strike. Wintering bald eagles often congregate in large numbers along streams to feed on spawning salmon or other fish species, and often gather in large numbers in areas below reservoirs, especially hydropower dams, where fish are abundant. Wintering eagles also take birds from rafts of ducks at reservoirs and rivers, and congregate on melting ice shelves to scavenge dead fish from the current or the soft melting ice. Bald eagles will also feed on carcasses along roads, in landfills, and at feedlots.

During the breeding season, adults carry prey to the nest to feed the young. Adults feed their chicks by tearing off pieces of food and holding them to the beaks of the eaglets. After fledging, immature eagles are slow to develop hunting skills, and must learn to locate reliable food sources and master feeding techniques. Young eagles will congregate together, often feeding upon easily acquired food such as carrion and fish found in abundance at the mouths of streams and shallow bays and at landfills.

The impact of human activity on nesting bald eagles

During the breeding season, bald eagles are sensitive to a variety of human activities. However, not all bald eagle pairs react to human activities in the same way. Some pairs nest successfully just dozens of yards from human activity, while others abandon nest sites in response to activities much farther away. This variability may be related to a number of factors, including visibility, duration, noise levels, extent of the area affected by the activity, prior experiences with humans, and tolerance of the individual nesting pair. The relative sensitivity of bald eagles during various stages of the breeding season is outlined in the following table.

Nesting Bald Eagle Sensitivity to Human Activities

Phase	Activity	Sensitivity to Human Activity	Comments
I	Courtship and Nest Building	Most sensitive period; likely to respond negatively	Most critical time period. Disturbance is manifested in nest abandonment. Bald eagles in newly established territories are more prone to abandon nest sites.
II	Egg laying	Very sensitive period	Human activity of even limited duration may cause nest desertion and abandonment of territory for the breeding season.
III	Incubation and early nestling period (up to 4 weeks)	Very sensitive period	Adults are less likely to abandon the nest near and after hatching. However, flushed adults leave eggs and young unattended; eggs are susceptible to cooling, loss of moisture, overheating, and predation; young are vulnerable to elements.
IV	Nestling period, 4 to 8 weeks	Moderately sensitive period	Likelihood of nest abandonment and vulnerability of the nestlings to elements somewhat decreases. However, nestlings may miss feedings, affecting their survival.
V	Nestlings 8 weeks through fledging	Very sensitive period	Gaining flight capability, nestlings 8 weeks and older may flush from the nest prematurely due to disruption and die.

If agitated by human activities, eagles may inadequately construct or repair their nest, may expend energy defending the nest rather than tending to their young, or may abandon the nest altogether. Activities that cause prolonged absences of adults from their nests can jeopardize eggs or young. Depending on weather conditions, eggs may overheat or cool too much and fail to hatch. Unattended eggs and nestlings are subject to predation. Young nestlings are particularly vulnerable because they rely on their parents to provide warmth or shade, without which they may die as a result of hypothermia or heat stress. If food delivery schedules are interrupted, the young may not develop healthy plumage, which can affect their survival. In addition, adults startled while incubating or brooding young may damage eggs or injure their young as they abruptly leave the nest. Older nestlings no longer require constant attention from the adults, but they may be startled by loud or intrusive human activities and prematurely jump from the nest before they are able to fly or care for themselves. Once fledged, juveniles range up to ¼ mile from the nest site, often to a site with minimal human activity. During this period, until about six weeks after departure from the nest, the juveniles still depend on the adults to feed them.

The impact of human activity on foraging and roosting bald eagles

Disruption, destruction, or obstruction of roosting and foraging areas can also negatively affect bald eagles. Disruptive activities in or near eagle foraging areas can interfere with feeding, reducing chances of survival. Interference with feeding can also result in reduced productivity (number of young successfully fledged). Migrating and wintering bald eagles often congregate at specific sites for purposes of feeding and sheltering. Bald eagles rely on established roost sites because of their proximity to sufficient food sources. Roost sites are usually in mature trees where the eagles are somewhat sheltered from the wind and weather. Human activities near or within communal roost sites may prevent eagles

from feeding or taking shelter, especially if there are not other undisturbed and productive feeding and roosting sites available. Activities that permanently alter communal roost sites and important foraging areas can altogether eliminate the elements that are essential for feeding and sheltering eagles.

Where a human activity agitates or bothers roosting or foraging bald eagles to the degree that causes injury or substantially interferes with breeding, feeding, or sheltering behavior and causes, or is likely to cause, a loss of productivity or nest abandonment, the conduct of the activity constitutes a violation of the Eagle Act's prohibition against disturbing eagles. The circumstances that might result in such an outcome are difficult to predict without detailed site-specific information. If your activities may disturb roosting or foraging bald eagles, you should contact your local Fish and Wildlife Service Field Office (see page 16) for advice and recommendations for how to avoid such disturbance.

RECOMMENDATIONS FOR AVOIDING DISTURBANCE AT NEST SITES

In developing these Guidelines, we relied on existing state and regional bald eagle guidelines, scientific literature on bald eagle disturbance, and recommendations of state and Federal biologists who monitor the impacts of human activity on eagles. Despite these resources, uncertainties remain regarding the effects of many activities on eagles and how eagles in different situations may or may not respond to certain human activities. The Service recognizes this uncertainty and views the collection of better biological data on the response of eagles to disturbance as a high priority. To the extent that resources allow, the Service will continue to collect data on responses of bald eagles to human activities conducted according to the recommendations within these Guidelines to ensure that adequate protection from disturbance is being afforded, and to identify circumstances where the Guidelines might be modified. These data will be used to make future adjustments to the Guidelines.

To avoid disturbing nesting bald eagles, we recommend (1) keeping a distance between the activity and the nest (distance buffers), (2) maintaining preferably forested (or natural) areas between the activity and around nest trees (landscape buffers), and (3) avoiding certain activities during the breeding season. The buffer areas serve to minimize visual and auditory impacts associated with human activities near nest sites. Ideally, buffers would be large enough to protect existing nest trees and provide for alternative or replacement nest trees.

The size and shape of effective buffers vary depending on the topography and other ecological characteristics surrounding the nest site. In open areas where there are little or no forested or topographical buffers, such as in many western states, distance alone must serve as the buffer. Consequently, in open areas, the distance between the activity and the nest may need to be larger than the distances recommended under Categories A and B of these guidelines (pg. 12) if no landscape buffers are present. The height of the nest above the ground may also ameliorate effects of human activities; eagles at higher nests may be less prone to disturbance.

In addition to the physical features of the landscape and nest site, the appropriate size for the distance buffer may vary according to the historical tolerances of eagles to human activities in particular localities, and may also depend on the location of the nest in relation

to feeding and roosting areas used by the eagles. Increased competition for nest sites may lead bald eagles to nest closer to human activity (and other eagles).

Seasonal restrictions can prevent the potential impacts of many shorter-term, obtrusive activities that do not entail landscape alterations (e.g. fireworks, outdoor concerts). In proximity to the nest, these kinds of activities should be conducted only outside the breeding season. For activities that entail both short-term, obtrusive characteristics and more permanent impacts (e.g., building construction), we recommend a combination of both approaches: retaining a landscape buffer *and* observing seasonal restrictions.

For assistance in determining the appropriate size and configuration of buffers or the timing of activities in the vicinity of a bald eagle nest, we encourage you to contact the nearest U.S. Fish and Wildlife Service Field Office (see page 16).

Existing Uses

Eagles are unlikely to be disturbed by routine use of roads, homes, and other facilities where such use pre-dates the eagles' successful nesting activity in a given area. Therefore, in most cases *ongoing* existing uses may proceed with the same intensity with little risk of disturbing bald eagles. However, some *intermittent, occasional, or irregular* uses that pre-date eagle nesting in an area may disturb bald eagles. For example: a pair of eagles may begin nesting in an area and subsequently be disturbed by activities associated with an annual outdoor flea market, even though the flea market has been held annually at the same location. In such situations, human activity should be adjusted or relocated to minimize potential impacts on the nesting pair.

ACTIVITY-SPECIFIC GUIDELINES

The following section provides the Service's management recommendations for avoiding bald eagle disturbance as a result of new or intermittent activities proposed in the vicinity of bald eagle nests. Activities are separated into 8 categories (A – H) based on the nature and magnitude of impacts to bald eagles that usually result from the type of activity. Activities with similar or comparable impacts are grouped together.

In most cases, impacts will vary based on the visibility of the activity from the eagle nest and the degree to which similar activities are already occurring in proximity to the nest site. Visibility is a factor because, in general, eagles are more prone to disturbance when an activity occurs in full view. For this reason, we recommend that people locate activities farther from the nest structure in areas with open vistas, in contrast to areas where the view is shielded by rolling topography, trees, or other screening factors. The recommendations also take into account the existence of similar activities in the area because the continued presence of nesting bald eagles in the vicinity of the existing activities indicates that the eagles in that area can tolerate a greater degree of human activity than we can generally expect from eagles in areas that experience fewer human impacts. To illustrate how these factors affect the likelihood of disturbing eagles, we have incorporated the recommendations for some activities into a table (categories A and B).

First, determine which category your activity falls into (between categories A – H). If the activity you plan to undertake is not specifically addressed in these guidelines, follow the recommendations for the most similar activity represented.

If your activity is under A or B, our recommendations are in table form. The vertical axis shows the degree of visibility of the activity from the nest. The horizontal axis (header row) represents the degree to which similar activities are ongoing in the vicinity of the nest. Locate the row that best describes how visible your activity will be from the eagle nest. Then, choose the column that best describes the degree to which similar activities are ongoing in the vicinity of the eagle nest. The box where the column and row come together contains our management recommendations for how far you should locate your activity from the nest to avoid disturbing the eagles. The numerical distances shown in the tables are the closest the activity should be conducted relative to the nest. In some cases we have included additional recommendations (other than recommended *distance* from the nest) you should follow to help ensure that your activity will not disturb the eagles.

Alternate nests

For activities that entail permanent landscape alterations that may result in bald eagle disturbance, these recommendations apply to both active and alternate bald eagle nests. Disturbance becomes an issue with regard to alternate nests if eagles return for breeding purposes and react to land use changes that occurred while the nest was inactive. The likelihood that an alternate nest will again become active decreases the longer it goes unused. If you plan activities in the vicinity of an alternate bald eagle nest and have information to show that the nest has not been active during the preceding 5 breeding seasons, the recommendations provided in these guidelines for avoiding disturbance around the nest site may no longer be warranted. The nest itself remains protected by other provisions of the Eagle Act, however, and may not be destroyed.

If special circumstances exist that make it unlikely an inactive nest will be reused before 5 years of disuse have passed, and you believe that the probability of reuse is low enough to warrant disregarding the recommendations for avoiding disturbance, you should be prepared to provide all the reasons for your conclusion, including information regarding past use of the nest site. Without sufficient documentation, you should continue to follow these guidelines when conducting activities around the nest site. If we are able to determine that it is unlikely the nest will be reused, we may advise you that the recommendations provided in these guidelines for avoiding disturbance are no longer necessary around that nest site.

This guidance is intended to minimize disturbance, as defined by Federal regulation. In addition to Federal laws, most states and some tribes and smaller jurisdictions have additional laws and regulations protecting bald eagles. In some cases those laws and regulations may be more protective (restrictive) than these Federal guidelines.

Temporary Impacts

For activities that have temporary impacts, such as the use of loud machinery, fireworks displays, or summer boating activities, we recommend seasonal restrictions. These types of activities can generally be carried out outside of the breeding season without causing disturbance. The recommended restrictions for these types of activities can be lifted for alternate nests within a particular territory, including nests that were attended during the current breeding season but not used to raise young, after eggs laid in another nest within the territory have hatched (depending on the distance between the alternate nest and the active nest).

In general, activities should be kept as far away from nest trees as possible; loud and disruptive activities should be conducted when eagles are not nesting; and activity between the nest and the nearest foraging area should be minimized. If the activity you plan to undertake is not specifically addressed in these guidelines, follow the recommendations for the most similar activity addressed, or contact your local U.S. Fish and Wildlife Service Field Office for additional guidance.

If you believe that special circumstances apply to your situation that increase or diminish the likelihood of bald eagle disturbance, or if it is not possible to adhere to the guidelines, you should contact your local Service Field Office for further guidance.

Category A:

- Building construction, 1 or 2 story, with project footprint of ½ acre or less.
- Construction of roads, trails, canals, power lines, and other linear utilities.
- Agriculture and aquaculture – new or expanded operations.
- Alteration of shorelines or wetlands.
- Installation of docks or moorings.
- Water impoundment.

Category B:

- Building construction, 3 or more stories.
- Building construction, 1 or 2 story, with project footprint of more than ½ acre.
- Installation or expansion of marinas with a capacity of 6 or more boats.
- Mining and associated activities.
- Oil and natural gas drilling and refining and associated activities.

	<i>If there is no similar activity within 1 mile of the nest</i>	<i>If there is similar activity closer than 1 mile from the nest</i>
<i>If the activity will be visible from the nest</i>	660 feet. Landscape buffers are recommended.	660 feet, or as close as existing tolerated activity of similar scope. Landscape buffers are recommended.
<i>If the activity will not be visible from the nest</i>	Category A: 330 feet. Clearing, external construction, and landscaping between 330 feet and 660 feet should be done outside breeding season. Category B: 660 feet.	330 feet, or as close as existing tolerated activity of similar scope. Clearing, external construction and landscaping within 660 feet should be done outside breeding season.

The numerical distances shown in the table are the closest the activity should be conducted relative to the nest.

Category C. Timber Operations and Forestry Practices

- Avoid clear cutting or removal of overstory trees within 330 feet of the nest at any time.
- Avoid timber harvesting operations, including road construction and chain saw and yarding operations, during the breeding season within 660 feet of the nest. The distance may be decreased to 330 feet around alternate nests within a particular territory, including nests that were attended during the current breeding season but not used to raise young, after eggs laid in another nest within the territory have hatched.
- Selective thinning and other silviculture management practices designed to conserve or enhance habitat, including prescribed burning close to the nest tree, should be undertaken outside the breeding season. Precautions such as raking leaves and woody debris from around the nest tree should be taken to prevent crown fire or fire climbing the nest tree. If it is determined that a burn during the breeding season would be beneficial, then, to ensure that no take or disturbance will occur, these activities should be conducted only when neither adult eagles nor young are present at the nest tree (i.e., at the beginning of, or end of, the breeding season, either before the particular nest is active or after the young have fledged from that nest). Appropriate Federal and state biologists should be consulted before any prescribed burning is conducted during the breeding season.
- Avoid construction of log transfer facilities and in-water log storage areas within 330 feet of the nest.

Category D. Off-road vehicle use (including snowmobiles). No buffer is necessary around nest sites outside the breeding season. During the breeding season, do not operate off-road vehicles within 330 feet of the nest. In open areas, where there is increased visibility and exposure to noise, this distance should be extended to 660 feet.

Category E. Motorized Watercraft use (including jet skis/personal watercraft). No buffer is necessary around nest sites outside the breeding season. During the breeding season, within 330 feet of the nest, (1) do not operate jet skis (personal watercraft), and (2) avoid concentrations of noisy vessels (e.g., commercial fishing boats and tour boats), except where eagles have demonstrated tolerance for such activity. Other motorized boat traffic passing within 330 feet of the nest should attempt to minimize trips and avoid stopping in the area where feasible, particularly where eagles are unaccustomed to boat traffic. Buffers for airboats should be larger than 330 feet due to the increased noise they generate, combined with their speed, maneuverability, and visibility.

Category F. Non-motorized recreation and human entry (e.g., hiking, camping, fishing, hunting, birdwatching, kayaking, canoeing). No buffer is necessary around nest sites outside the breeding season. If the activity will be visible or highly audible from the nest, maintain a 330-foot buffer during the breeding season, particularly where eagles are unaccustomed to such activity.

Category G. Helicopters and fixed-wing aircraft.

Except for authorized biologists trained in survey techniques, avoid operating aircraft within 1,000 feet of the nest during the breeding season, except where eagles have demonstrated tolerance for such activity.

Category H. Blasting and other loud, intermittent noises.

Avoid blasting and other activities that produce extremely loud noises within 1/2 mile of active nests, unless greater tolerance to the activity (or similar activity) has been demonstrated by the eagles in the nesting area. This recommendation applies to the use of fireworks classified by the Federal Department of Transportation as Class B explosives, which includes the larger fireworks that are intended for licensed public display.

RECOMMENDATIONS FOR AVOIDING DISTURBANCE AT FORAGING AREAS AND COMMUNAL ROOST SITES

1. Minimize potentially disruptive activities and development in the eagles' direct flight path between their nest and roost sites and important foraging areas.
2. Locate long-term and permanent water-dependent facilities, such as boat ramps and marinas, away from important eagle foraging areas.
3. Avoid recreational and commercial boating and fishing near critical eagle foraging areas during peak feeding times (usually early to mid-morning and late afternoon), except where eagles have demonstrated tolerance to such activity.
4. Do not use explosives within ½ mile (or within 1 mile in open areas) of communal roosts when eagles are congregating, without prior coordination with the U.S. Fish and Wildlife Service and your state wildlife agency.
5. Locate aircraft corridors no closer than 1,000 feet vertical or horizontal distance from communal roost sites.

ADDITIONAL RECOMMENDATIONS TO BENEFIT BALD EAGLES

The following are additional management practices that landowners and planners can exercise for added benefit to bald eagles.

1. Protect and preserve potential roost and nest sites by retaining mature trees and old growth stands, particularly within ½ mile from water.
2. Where nests are blown from trees during storms or are otherwise destroyed by the elements, continue to protect the site in the absence of the nest for up to three (3) complete breeding seasons. Many eagles will rebuild the nest and reoccupy the site.
3. To avoid collisions, site wind turbines, communication towers, and high voltage transmission power lines away from nests, foraging areas, and communal roost sites.
4. Employ industry-accepted best management practices to prevent birds from colliding with or being electrocuted by utility lines, towers, and poles. If possible, bury utility lines in important eagle areas.
5. Where bald eagles are likely to nest in human-made structures (e.g., cell phone towers) and such use could impede operation or maintenance of the structures or jeopardize the safety of the eagles, equip the structures with either (1) devices engineered to discourage bald eagles from building nests, or (2) nesting platforms that will safely accommodate bald eagle nests without interfering with structure performance.
6. Immediately cover carcasses of euthanized animals at landfills to protect eagles from being poisoned.
7. Do not intentionally feed bald eagles. Artificially feeding bald eagles can disrupt their essential behavioral patterns and put them at increased risk from power lines, collision with windows and cars, and other mortality factors.
8. Use pesticides, herbicides, fertilizers, and other chemicals only in accordance with Federal and state laws.
9. Monitor and minimize dispersal of contaminants associated with hazardous waste sites (legal or illegal), permitted releases, and runoff from agricultural areas, especially within watersheds where eagles have shown poor reproduction or where bioaccumulating contaminants have been documented. These factors present a risk of contamination to eagles and their food sources.

CONTACTS

The following U.S. Fish and Wildlife Service Field Offices provide technical assistance on bald eagle management:

<u>Alabama</u>	Daphne	(251) 441-5181	<u>New Hampshire</u>	Concord	(603) 223-2541
<u>Alaska</u>	Anchorage	(907) 271-2888	<u>New Jersey</u>	Pleasantville	(609) 646-9310
	Fairbanks	(907) 456-0203	<u>New Mexico</u>	Albuquerque	(505) 346-2525
	Juneau	(907) 780-1160	<u>New York</u>	Cortland	(607) 753-9334
<u>Arizona</u>	Phoenix	(602) 242-0210		Long Island	(631) 776-1401
<u>Arkansas</u>	Conway	(501) 513-4470	<u>North Carolina</u>	Raleigh	(919) 856-4520
<u>California</u>	Arcata	(707) 822-7201		Asheville	(828) 258-3939
	Barstow	(760) 255-8852	<u>North Dakota</u>	Bismarck	(701) 250-4481
	Carlsbad	(760) 431-9440	<u>Ohio</u>	Reynoldsburg	(614) 469-6923
	Red Bluff	(530) 527-3043	<u>Oklahoma</u>	Tulsa	(918) 581-7458
	Sacramento	(916) 414-6000	<u>Oregon</u>	Bend	(541) 383-7146
	Stockton	(209) 946-6400		Klamath Falls	(541) 885-8481
	Ventura	(805) 644-1766		La Grande	(541) 962-8584
	Yreka	(530) 842-5763		Newport	(541) 867-4558
<u>Colorado</u>	Lakewood	(303) 275-2370		Portland	(503) 231-6179
	Grand Junction	(970) 243-2778		Roseburg	(541) 957-3474
<u>Connecticut</u>	(See New Hampshire)		<u>Pennsylvania</u>	State College	(814) 234-4090
<u>Delaware</u>	(See Maryland)		<u>Rhode Island</u>	(See New Hampshire)	
<u>Florida</u>	Panama City	(850) 769-0552	<u>South Carolina</u>	Charleston	(843) 727-4707
	Vero Beach	(772) 562-3909	<u>South Dakota</u>	Pierre	(605) 224-8693
	Jacksonville	(904) 232-2580	<u>Tennessee</u>	Cookeville	(931) 528-6481
<u>Georgia</u>	Athens	(706) 613-9493	<u>Texas</u>	Clear Lake	(281) 286-8282
	Brunswick	(912) 265-9336	<u>Utah</u>	West Valley City	(801) 975-3330
	Columbus	(706) 544-6428	<u>Vermont</u>	(See New Hampshire)	
<u>Idaho</u>	Boise	(208) 378-5243	<u>Virginia</u>	Gloucester	(804) 693-6694
	Chubbuck	(208) 237-6975	<u>Washington</u>	Lacey	(306) 753-9440
<u>Illinois/Iowa</u>	Rock Island	(309) 757-5800		Spokane	(509) 891-6839
<u>Indiana</u>	Bloomington	(812) 334-4261		Wenatchee	(509) 665-3508
<u>Kansas</u>	Manhattan	(785) 539-3474	<u>West Virginia</u>	Elkins	(304) 636-6586
<u>Kentucky</u>	Frankfort	(502) 695-0468	<u>Wisconsin</u>	New Franken	(920) 866-1725
<u>Louisiana</u>	Lafayette	(337) 291-3100	<u>Wyoming</u>	Cheyenne	(307) 772-2374
<u>Maine</u>	Old Town	(207) 827-5938		Cody	(307) 578-5939
<u>Maryland</u>	Annapolis	(410) 573-4573			
<u>Massachusetts</u>	(See New Hampshire)				
<u>Michigan</u>	East Lansing	(517) 351-2555			
<u>Minnesota</u>	Bloomington	(612) 725-3548			
<u>Mississippi</u>	Jackson	(601) 965-4900			
<u>Missouri</u>	Columbia	(573) 234-2132			
<u>Montana</u>	Helena	(405) 449-5225			
<u>Nebraska</u>	Grand Island	(308) 382-6468			
<u>Nevada</u>	Las Vegas	(702) 515-5230			
	Reno	(775) 861-6300			

<p><u>National Office</u> U.S. Fish and Wildlife Service Division of Migratory Bird Management 4401 North Fairfax Drive, MBSP-4107 Arlington, VA 22203-1610 (703) 358-1714 http://www.fws.gov/migratorybirds</p>
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State Agencies

To contact a state wildlife agency, visit the Association of Fish & Wildlife Agencies' website at http://www.fishwildlife.org/where_us.html

GLOSSARY

The definitions below apply to these National Bald Eagle Management Guidelines:

Communal roost sites – Areas where bald eagles gather and perch overnight – and sometimes during the day in the event of inclement weather. Communal roost sites are usually in large trees (live or dead) that are relatively sheltered from wind and are generally in close proximity to foraging areas. These roosts may also serve a social purpose for pair bond formation and communication among eagles. Many roost sites are used year after year.

Disturb – To agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

In addition to immediate impacts, this definition also covers impacts that result from human-caused alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle=s return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

Fledge – To leave the nest and begin flying. For bald eagles, this normally occurs at 10-12 weeks of age.

Fledgling – A juvenile bald eagle that has taken the first flight from the nest but is not yet independent.

Foraging area – An area where eagles feed, typically near open water such as rivers, lakes, reservoirs, and bays where fish and waterfowl are abundant, or in areas with little or no water (i.e., rangelands, barren land, tundra, suburban areas, etc.) where other prey species (e.g., rabbit, rodents) or carrion (such as at landfills) are abundant.

Landscape buffer – A natural or human-made landscape feature that screens eagles from human activity (e.g., strip of trees, hill, cliff, berm, sound wall).

Nest – A structure built, maintained, or used by bald eagles for the purpose of reproduction. An **active** nest is a nest that is attended (built, maintained or used) by a pair of bald eagles during a given breeding season, whether or not eggs are laid. An **alternate** nest is a nest that is not used for breeding by eagles during a given breeding season.

Nest abandonment – Nest abandonment occurs when adult eagles desert or stop attending a nest and do not subsequently return and successfully raise young in that nest for the duration of a breeding season. Nest abandonment can be caused by altering habitat near a nest, even if the alteration occurs prior to the breeding season. Whether the eagles migrate during the non-breeding season, or remain in the area throughout the non-breeding season, nest abandonment can occur at any point between the time the eagles return to the nesting site for the breeding season and the time when all progeny from the breeding season have

dispersed.

Project footprint – The area of land (and water) that will be permanently altered for a development project, including access roads.

Similar scope – In the vicinity of a bald eagle nest, an existing activity is of similar scope to a new activity where the types of impacts to bald eagles are similar in nature, and the impacts of the existing activity are of the same or greater magnitude than the impacts of the potential new activity. Examples: (1) An existing single-story home 200 feet from a nest is similar in scope to an additional single-story home 200 feet from the nest; (2) An existing multi-story, multi-family dwelling 150 feet from a nest has impacts of a greater magnitude than a potential new single-family home 200 feet from the nest; (3) One existing single-family home 200 feet from the nest has impacts of a lesser magnitude than three single-family homes 200 feet from the nest; (4) an existing single-family home 200 feet from a communal roost has impacts of a lesser magnitude than a single-family home 300 feet from the roost but 40 feet from the eagles' foraging area. The existing activities in examples (1) and (2) are of similar scope, while the existing activities in example (3) and (4) are not.

Vegetative buffer – An area surrounding a bald eagle nest that is wholly or largely covered by forest, vegetation, or other natural ecological characteristics, and separates the nest from human activities.

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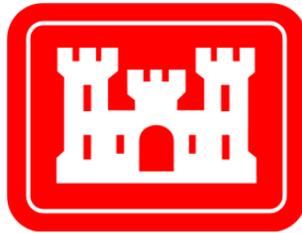
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*Section 4: Phase I Environmental Site Assessment for Sweetwater Creek Feasibility Study,
Douglas, Paulding, and Cobb Counties, Georgia*

**Phase I Environmental Site Assessment
For
Sweetwater Creek Feasibility Study
Douglas, Paulding and Cobb Counties, Georgia**



**U.S. Army Engineer District Mobile
ATTN: CESAM-EN-GE
109 St. Joseph Street
Mobile, Alabama 36602**

December 2017

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Executive Summary

A Phase I Environmental Site Assessment was completed as part of the Sweetwater Creek Flood Risk Management (FRM) Feasibility Study to evaluate areas considered for flood zone reduction. The FRM study includes the assessment of six alternatives. The six alternatives are comprised of nine measures, including a combination of detention structures, channel modification and real estate buy-outs within the watershed. This Phase I Environmental Site Assessment was completed to evaluate each of the areas affected by the potential alternatives for the presence of environmental contamination as described in ASTM E 1527-05. Tasks completed for the Phase I Environmental Site Assessment include review of environmental regulatory databases, aerial photography and maps, interviews, and a site visit to each area.

Areas inspected include select non-residential properties identified within each of the nine measures (Buyout, SC1, SC2, SC6, SC9/Channelization, OC1, PC2, MC2 and MC5) (Appendix 13.1). Each Alternative area is largely comprised of residential and commercial properties, and rural undeveloped land. Increased land cover in these areas has resulted in higher runoff and degradation of the Sweetwater Creek watershed.

During the site inspection, select non-residential properties identified within each of the nine measures were visually inspected for evidence of recognized environmental conditions that may impact the project (Appendix 13.2). Photographs of each property were taken to document conditions at the time of the site inspection (Appendix 13.3), and residents/workers in the area were interviewed to document personal knowledge of the area (Appendix 13.4).

Available documentation (Appendix 13.5) and the results of the site inspection were reviewed and analyzed using the ASTM E 1527-05 guidance. Areas of recognized environmental conditions were observed, and available environmental records do indicate the presence of known adverse environmental conditions within the study area.

1 Introduction

1.1 Purpose

The purpose of this Phase I ESA is to identify, to the extent feasible pursuant to ASTM Standard E 1527-05, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process,” recognized environmental conditions in connection with the site. The term recognized environmental condition is defined as the presence or likely presence of any hazardous substances or petroleum products on a property. In addition, conditions must indicate that there is an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term hazardous substances or petroleum products include those under conditions in compliance with laws as well. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized

environmental conditions.

Although performance of this investigation is in a manner that is generally consistent with the ASTM E 1527-05 Standard, it should be recognized that the Standard of “All Appropriate Inquiry” or “good commercial or customary practice” can only be made on a case-by-case basis and is subject to judicial interpretation.

This assessment includes a review of environmental database searches, aerial photography, and topographic maps to identify activities within the watershed area that may have contamination or environmental issues, a site inspection to physically verify conditions within each area, and interviews with available residences and persons familiar with the watershed area.

1.2 Detailed Scope of Services

This Phase I ESA is conducted in general accordance with ASTM Standard E 1527-05. The assessment consists of four components: records review, site reconnaissance, interviews, and report preparation. The scope of work does not include an evaluation of asbestos containing building materials, lead based paint, lead in drinking water, regulatory compliance, soil or groundwater sampling and analysis, cultural and historical resources, industrial hygiene, health and safety, ecological resources, indoor air quality, radon, geotechnical (soils, foundations, site retention, etc.), wetlands, endangered species, or construction materials testing.

1.3 Significant Assumptions

Assumptions to be made during Phase I ESA include: that the entire area of investigation be available for inspection, that pertinent information would be available in local, state, and federal databases searched during this investigation, and that the personnel completing the investigation and site inspection would have the training and experience to recognize environmental issues that affect or may affect the area of investigation.

This report was prepared based upon the information available at the time of the investigation, the observations made during site reconnaissance, and the information obtained from a review of readily available records. Given the inherent limitations of environmental assessment work, there is no guarantee that any site is free of hazardous or potentially hazardous materials or that latent or undiscovered conditions will not become evident in the future. This report was prepared within the professional conduct of the industry and in accordance with the recommended standard of practice outlined in ASTM E 1527-05.

1.4 Limitations and Exceptions

This Phase I Environmental Assessment represents a review of certain information relating to the site that was obtained by methods described above and does not include sampling or other monitoring activities at the property. This report is not a comprehensive site characterization and should not be construed as such. The opinions presented in this report are based upon the findings derived from site reconnaissance, review of specified regulatory records and historical sources, and information obtained from interviews. This report shall not be relied upon by or transferred to any other party without the express written authorization of the US Army Corps of

Engineers.

1.5 Special Terms and Conditions

This report, and the information contained herein, shall be used by the US Army Corps of Engineers to the extent possible to support the Sweetwater Creek Flood Risk Management Feasibility Study.

1.6 User Reliance

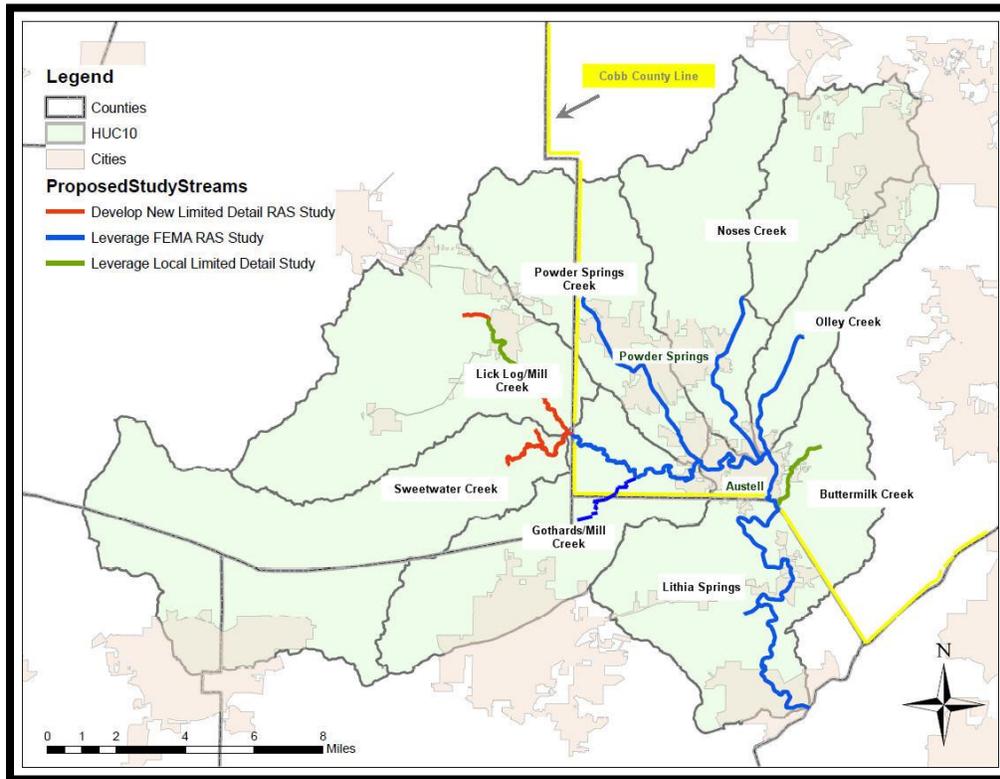
This report is intended for the sole use of the US Army Corps of Engineers. The contents of this report may not be relied upon by other parties without the explicit written consent of the US Army Corps of Engineers.

2 Site Description

The subject of this ESA is nine measure areas incorporated within 6 proposed alternative areas within the Sweetwater Creek Watershed, where the U.S. Army Corps of Engineers plans to implement corrective measures to address flood zone reduction. The Sweetwater Creek Watershed encompasses rural and urban settings where the ecosystem structure, function, and

dynamic processes have been degraded.

The subject of this investigation includes the areas described and depicted below.



2.1 Location and Legal Description

The Sweetwater Creek watershed encompasses 264 square miles in Paulding, Douglas, and Cobb Counties in Georgia. The main stem of Sweetwater Creek is 45.6 miles long and begins in Paulding County. As it flows eastward towards Cobb County, other tributaries join the main stem before it empties into the Chattahoochee River in Douglas County at the Fulton County line. The creek passes through Sweetwater Creek State Park just before its confluence with the Chattahoochee River. The Study area encompasses the entire Sweetwater Creek watershed; however, the portion within Cobb County, Georgia is the intended area of flood risk improvement. The Cobb County portion includes the cities of Marietta, Austell and Powder Springs as well as a portion of unincorporated Cobb County, Georgia.

2.2 Site and Vicinity General Characteristics

The Sweetwater Creek Watershed is comprised of residential and commercial properties, as well as areas that are urbanized and areas that are wooded and undeveloped.

2.3 Current Use of Property

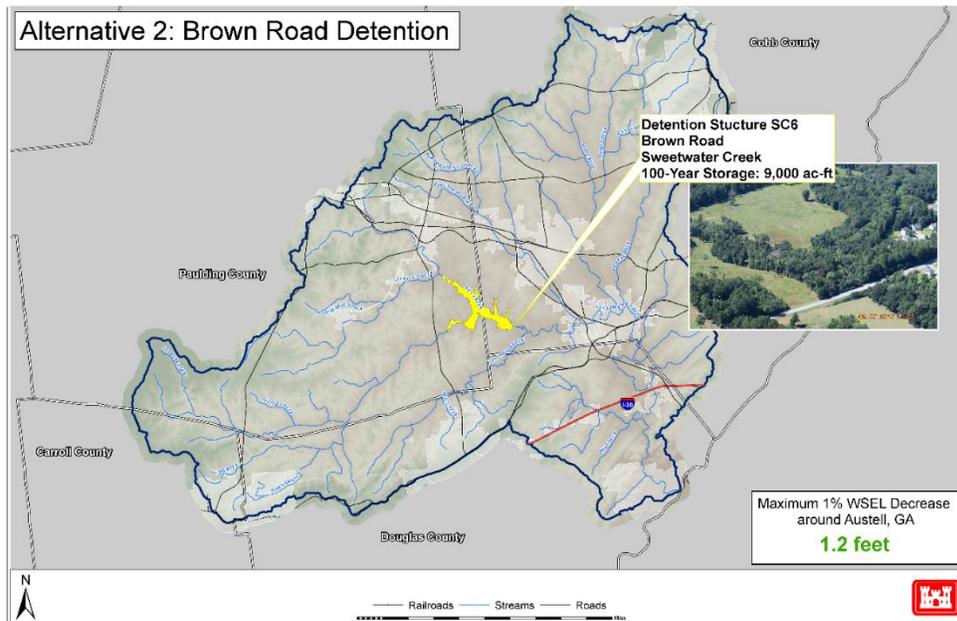
The current use and condition of the subject areas are shown on site photographs found in Appendix 13.3. Below are figures showing the location of each of the potential

alternative/measure areas. Individual images depicting the location and extent of the areas physically inspected can be found in Appendix 13.3.

The following section provides a brief description of each study area.

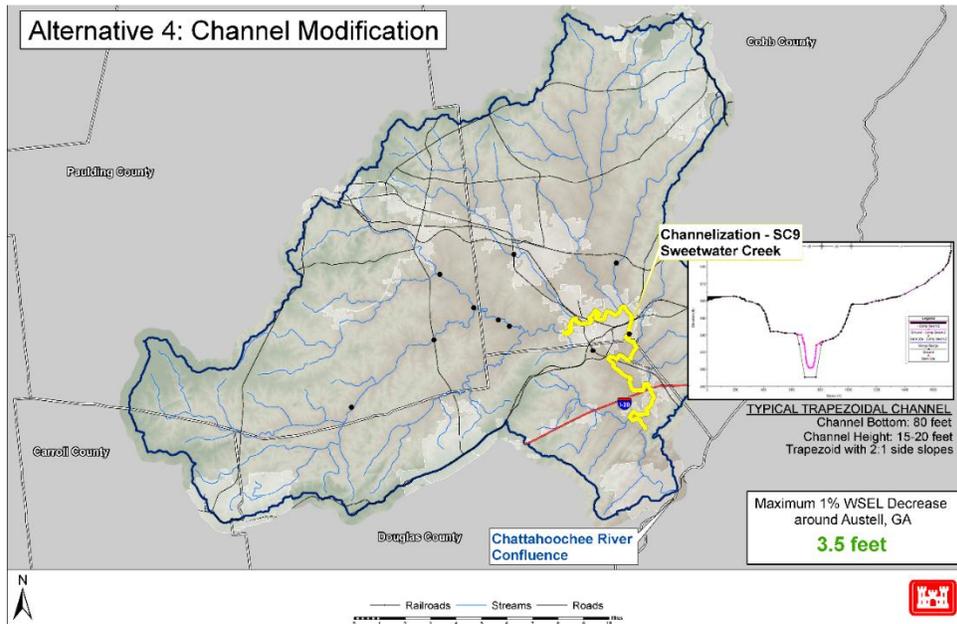
Alternative 1: Buyout Alternative: This alternative would be to purchase structures lying primarily in the floodway. The majority of the buyouts would be in the Powder Springs and Austell area, since that is where the majority of the structural flooding is located and projected to continue occurring.

Alternative 2: Brown Road Detention Alternative: This alternative consists of a 33 feet high dry detention structure that would have a slot to allow low flow through in a day-lighted channel. It would be located upstream of Brown Road in Cobb County near the Paulding county line. The structure will detain water in a 900 to 1000 acre site and would drain dry to base flow within 24 hours after an event. (Measure SC6)



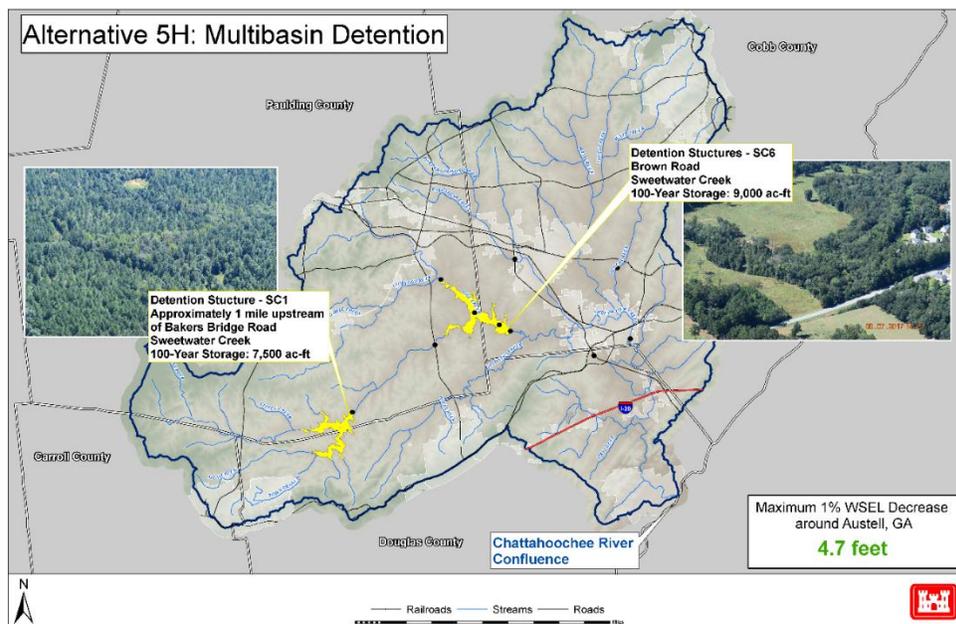
Alternative 3: Austell Channel Modification: This alternative consists of a channel modification from near the CH James Parkway to the rapids in Sweetwater Creek State park near the historic mill site. The channel would be widened to 80 feet and would have 2V:1H side slopes. The length of the channel modification is approximately 50,000 linear feet and would

remove approximately 3 Million cubic yards of material from the channel. (Measure SC9)



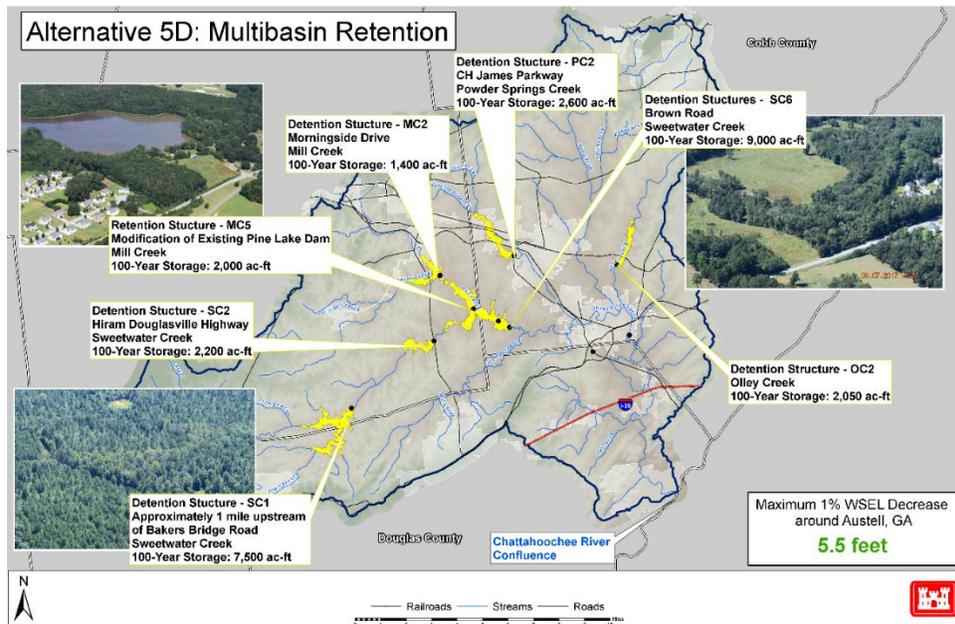
Alternative 4: Multiple Detention on Sweetwater Creek: This alternative consists of two in line dry detention structures on Sweetwater Creek. All the detention sites would drain dry to base flow within 24 hours after an event. Starting at the upstream end, the first is a 20 feet high structure 1 mile upstream of Bakers Bridge Road in Paulding County near the Douglas and Paulding County Line. This approximately 725 acre detention site would hold water in both Paulding and Douglas Counties. The second is a 33 feet high structure upstream of Brown Road in Cobb County near the Paulding county line. This approximately 900 acre detention site would

hold water in both Paulding and Cobb Counties. (Measures SC1 and SC6)



Alternative 5: Multi-subbasin Detention: This alternative consists of multiple in-line dry detention structures with three on Sweetwater Creek, one on Powder Springs Creek, one on Ollie Creek, and one on Mill Creek. There is also one retention site on Mill Creek. All the detention sites would drain dry to base flow within 24 hours after an event. Starting at the upstream end, the first on Sweetwater Creek is a 24 feet high structure 1 mile upstream of Bakers Bridge Road in Paulding County near the Douglas and Paulding County Line. This approximately 725 acre detention site would hold water in both Paulding and Douglas Counties. The second on Sweetwater Creek is a 15 feet high structure upstream of Highway 92 in Paulding County. This approximately 250 acre detention site would hold water in Paulding and Douglas Counties. The third on Sweetwater Creek is a 33 feet high structure upstream of Brown Road in Cobb County near the Paulding county line. This approximately 900 acre detention site would hold water in both Paulding and Cobb Counties. The one on Powder Springs Creek is a 25 feet high structure upstream of C.H. James Parkway in Cobb County near the Cobb and Paulding County Line. This approximately 400 acre detention site would hold water in Cobb County. The one on Ollie Springs Creek is a 29 feet high structure upstream of Flint Hill Rd Southwest in Cobb County. This approximately 250 acre detention site would hold water in Cobb County. The first on Mill Creek is a 20 feet high structure upstream of Morningside Drive in Paulding County. This approximately 300 acre detention site would hold water in Paulding County. The second site on Mill Creek is a 25 feet high retention structure at Pine Valley Lake. This is a rehabilitation of the retention structure in Paulding County near the Cobb and Paulding County Line. This approximately 350 acre detention site would hold water in Paulding County. (Measures SC1,

SC2, SC6, MC2, MC5, OC1 and PC2)



Alternative 6: Upper End Sweetwater Detention: This alternative consists of a 24 feet high dry detention structure that would have a slot to allow low flow through in a day-lighted channel. It would be located 1 mile upstream of Bakers Bridge Road in Paulding County near the Douglas and Paulding County Line. This approximately 725 acre detention site would hold water in both Paulding and Douglas Counties. (Measure SC1)

USACE Number	Dewberry Number	Measures Included
Alternative 1	N/A	Buyout
Alternative 2	Alternative 2	SC6
Alternative 3	Alternative 4	Channelization
Alternative 4	Alternative 5h	SC1, SC6
Alternative 5	Alternative 5d	SC1, SC2, SC6, MC2, MC5, OC1, PC2
Alternative 6	Alternative 5i	SC1

2.4 Descriptions of Structures/Roads/Improvements on Site

The study area has numerous residential and commercial developments, roads, and improvements. Some structures, roads, or improvements do impact some of the potential

alternative areas.

2.5 Current Use of Adjoining Properties

Adjoining and adjacent properties are residential, commercial, or undeveloped. Proposed Alternative locations are discussed in Section 2.3. Due to the nature of this assessment the actual proposed construction locations are not distinguished from the adjacent properties.

3 User Provided Information

3.1 Title Records

The chain-of-title report for the properties occupied by the proposed detention basin and stream reach locations was not reviewed.

3.2 Environmental Liens or Activity and Use Limitations

According to an environmental lien search provided by Environmental Data Resources, Inc. (EDR), no environmental liens are associated with the site. According to available information, the site has no activity or use limitations, such as institutional or engineering controls.

3.3 Specialized Knowledge

Limited information was obtained during the investigation with respect to any specialized knowledge or experience that may pertain to recognized environmental conditions in connection with the subject properties.

3.4 Commonly Known or Reasonably Ascertainable Information

The US Army Corps of Engineers was not aware of any commonly known or reasonably ascertainable information about the site that would indicate the presence of recognized environmental conditions associated with any of the study locations.

3.5 Valuation Reduction for Environmental Issues

No information was obtained or reviewed concerning valuation reduction for environmental issues at any of the properties.

3.6 Owner, Property Manager, and Occupant Information

Limited owner, property manager, and/or occupant information is presented in the ASTM E-1528 “Environmental Site Assessment: Transaction Screen Questionnaire”, located in Appendix

13.4.

3.7 Reason for Performing Phase I

This Phase I Environmental Site Assessment is being completed to support the Sweetwater Creek Flood Risk Management (FRM) Feasibility Study. The purpose of this study is to identify recognized environmental conditions within project study areas that may be impacted by the FRM project.

3.8 Other

No additional information was provided by the US Army Corps of Engineers

4 Records Review

4.1 Standard Environmental Record Sources

As a part of this assessment, available sources were reviewed to obtain existing information pertaining to a release of hazardous substances or petroleum products on or near the site. This includes an ASTM regulatory database search through Environmental Data Resources (EDR). A

copy of the reports generated during the database search is included in Appendix 13.5.

Source	Applicable Search Distance from Stream Center Line	Within EDR Search Distance
FEDERAL RECORDS		
NPL	1000 ft	0
Proposed NPL	1000 ft	0
Delisted NPL	1000 ft	0
NPL LIENS	1000 ft	0
SEMS	1000 ft	4
SEMS-ARCHIVE	1000 ft	2
LIENS 2	1000 ft	0
CORRACTS	1000 ft	0
RCRA-TSDF	1000 ft	0
RCRA-LQG	1000 ft	1
RCRA-SQG	1000 ft	4
RCRA-CESQG	1000 ft	6
RCRA NonGen / NLR	1000 ft	33
US ENG CONTROLS	1000 ft	0
US INST CONTROL	1000 ft	0
ERNS	1000 ft	21
HMIRS	1000 ft	5
DOT OPS	1000 ft	0
US CDL	1000 ft	0
US BROWNFIELDS	1000 ft	0
DOD	1000 ft	0
FUDS	1000 ft	0
LUCIS	1000 ft	0
CONSENT	1000 ft	0
ROD	1000 ft	0
UMTRA	1000 ft	0
DEBRIS REGION 9	1000 ft	0
ODI	1000 ft	0
US MINES	1000 ft	1
TRIS	1000 ft	2

Source	Applicable Search Distance from Stream Center Line	Within EDR Search Distance
FEDERAL RECORDS		
TSCA	1000 ft	1
FTTS	1000 ft	0
HIST FTTS	1000 ft	0
SSTS	1000 ft	2
ICIS	1000 ft	8
PADS	1000 ft	0
MLTS	1000 ft	0
RADINFO	1000 ft	0
FINDS	1000 ft	161
RAATS	1000 ft	0
RMP	1000 ft	2
ABANDONED MINES	1000 ft	0
IHS OPEN DUMPS	1000 ft	0
SCRD DRYCLEANERS	1000 ft	0
US HIST CDL	1000 ft	0
PCB TRANSFORMER	1000 ft	0
US FIN ASSUR	1000 ft	0
EPA WATCH LIST	1000 ft	0
PRP	1000 ft	1
2020 COR ACTION	1000 ft	0
COAL ASH DOE	1000 ft	0
FUSRAP	1000 ft	0
UXO	1000 ft	0
DOCKET HWC	1000 ft	0
FUELS PROGRAM	1000 ft	0
ECHO	1000 ft	132
FEMA UST	1000 ft	0
FEDERAL FACILITY	1000 ft	0
LEAD SMELTERS	1000 ft	0
US AIRS	1000 ft	12

Source	Applicable Search Distance from Stream Center Line	Within EDR Search Distance
FEDERAL RECORDS		
COAL ASH EPA	1000 ft	0
STATE AND LOCAL RECORDS		
GA SHWS	1000 ft	1
GA NON-HSI	1000 ft	1
GA SWF/LF	1000 ft	1
GA AUL	1000 ft	0
GA NPDES	1000 ft	13
GA HIST LF	1000 ft	0
GA SWRCY	1000 ft	2
GA LUST	1000 ft	22
GA UST	1000 ft	42
GA DEL SHWS	1000 ft	0
GA AST	1000 ft	7
GA SPILLS	1000 ft	65
GA INST CONTROL	1000 ft	0
GA DRYCLEANERS	1000 ft	4
GA BROWNFIELDS	1000 ft	0
GA CDL	1000 ft	0
GA AIRS	1000 ft	11
GA TIER 2	1000 ft	39
AL TIER 2	1000 ft	1
GA VCP	1000 ft	0
GA COAL ASH	1000 ft	0
TRIBAL RECORDS		
INDIAN RESERV	1000 ft	0
INDIAN ODI	1000 ft	0
INDIAN LUST	1000 ft	0
INDIAN UST	1000 ft	0
INDIAN VCP	1000 ft	0

Source	Applicable Search Distance from Stream Center Line	Within EDR Search Distance
EDR PROPRIETARY RECORDS		
EDR MGP	1000 ft	0
EDR Hist Auto	1000 ft	85
EDR Hist Cleaner	1000 ft	14
GA RGA LUST	1000 ft	31
GA RGA LF	1000 ft	0
GA RGA HWS	1000 ft	0
Well Search Report	1000 ft	1

There are site/facility environmental concerns listed in the above table that meet criteria concerns for the site, adjoining sites, or within the EDR search distance of 1000 feet from the stream centerline. Therefore, there are environmental concerns associated with the areas identified in the proposed alternatives for Sweetwater Creek. Specific information on the search criteria and

results are reported in the EDR database report included in Appendix 13.5.

4.2 Additional Environmental Record Sources

No additional environmental record sources were reviewed as part of this assessment.

4.3 Physical Setting Sources

The Sweetwater Creek Watershed is within the Piedmont region of Georgia. Physiographically, this area is considered the non-mountainous portion of the old Appalachians Highland; the northeast-southwest trending Piedmont region comprises a transitional area between the mostly mountainous regions of the Appalachians to the northwest and the relatively flat coastal plain to the southeast. It is a complex mosaic of Precambrian and Paleozoic metamorphic and igneous rocks with moderately dissected irregular plains and some hills. The soils tend to be fine-grained saprolite resulting from weathering of the underlying crystalline rock. Once largely cultivated, much of this region has reverted to pine and hardwood woodlands, and, more recently, spreading urban- and suburbanization.

Additional sources of information reviewed during the current assessment include an EDR Well Search Report and historical aerial photography, both located in Appendix 13.5. The following historical aerial photography was reviewed:

List of Aerial Photographs	
Year	File Name
1951	A007111516728
1951	A007111516730
1951	A007111516744
1951	A007112718152
1968	1VCAX00020061
1968	1VCAX00020063
1968	1VCAX00020065
1968	1VCAX00020095
1968	1VCAX00020140
1968	1VCAX00020142
1968	1VCAX00030021
1968	1VCAX00030023
1974	1VDLS00010114
1974	1VDLS00010115
1974	1VDLS00030036
1988	NP0NAPP000721114
1988	NP0NAPP000721116
1988	NP0NAPP000723063
1988	NP0NAPP000723064
1988	NP0NAPP000723138
1988	NP0NAPP000724046
1999	NP0NAPP011107115
1999	NP0NAPP011107117
1999	NP0NAPP011107159
1999	NP0NAPP011107160
1999	NP0NAPP011111181
1999	NP0NAPP011113012

4.4 Historical Use Information on Property

Based on the review of aerial photographs, historical use of the study area appears to be

somewhat consistent with previous use but at a considerably higher rate of development than historical documents show. Commercial development activities could result in recognized environmental concerns.

4.5 Historical use Information on Adjoining Properties

Historical use of adjoining/adjacent properties appears to be residential, commercial, and/or undeveloped as far as records are available.

5 Site Reconnaissance

5.1 Methodology and Limiting Conditions

Visual and physical inspections conducted as part of this investigation included external inspection, where accessible, of various properties within the FEMA 100-year flood zone for each alternative area identified for the Feasibility Study. Observations of site conditions were noted, as well as the presence and condition of any on-site buildings, utilities, or other improvements. This visual and physical inspection of the property focused primarily on its surface features. Photographs of each alternative area are included in Appendix 13.3.

5.2 General Site Setting Exterior Observations

Evidence of use, storage, or disposal of hazardous substances was observed during the site inspection. Additionally, some areas contained minor amounts of non-hazardous debris including plastic, metal, glass, etc. Recognized environmental concerns were noted to be associated with portions of this debris.

5.3 Interior Observations

Evidence of use, storage, or disposal of hazardous substances was observed within the study area interior during the site inspection.

6 Interviews

A copy of the ASTM E-1528 (Environmental Site Assessment: Transaction Screen Questionnaire) form documenting the findings of interviews completed during this assessment is presented in Appendix 13.4.

6.1 Interviews with Property Owners and Workers

After the site inspection, local property owner Randall Maxwell and local worker Ken Elsberry were interviewed. The results of the interview are included in Appendix 13.4. Only Ken Elsberry had knowledge of one recognized environmental condition in the Sweetwater Creek study area. Mr. Elsberry is the Construction Manager for Paulding County School District, including South Paulding High School. He indicated the only environmental concern to his knowledge for the South Paulding High School property is a land disposal system used for sewage disposal. Mr. Maxwell is the property owner of Classic Paintball, located adjacent to Sweetwater Creek in Lithia Springs for 14 years. He indicated that during those 14 years at this location he had not observed or heard of any areas of hazardous material or waste storage or

disposal. He did state that the area was prone to flooding and any improvements to the watershed would be helpful.

6.2 Interviews with Others

No other parties were interviewed during this assessment.

6.3 Transaction Screen Interview Questionnaire (ASTM E-1528)

Few questions on the interview questionnaire were answered yes. This indicates that persons interviewed had limited knowledge of environmentally-related issues in the study area. In addition, no recognized environmental conditions were observed during the site inspection of the properties associated with the questionnaire.

7 Findings

An environmental site assessment was completed for the nine measures included in the proposed alternatives for the Sweetwater Creek Flood Risk Management Feasibility Study. The objective of the assessment was to identify areas of recognized environmental conditions that may impact the project.

Available environmental records and databases were reviewed to identify known areas of hazardous material/waste storage or disposal within the entire watershed area. A site inspection was completed to visually inspect each of the alternative study areas for evidence of recognized environmental conditions. Properties within each alternative area were photographed to document conditions at the time of the inspection and interviews were completed to document conditions in the area known by local residences, officials, and workers.

Areas of recognized environmental conditions were observed during the site visit and areas of concern were noted in the database searches. Observations of recognized environmental conditions (RECs) for each measures area are available in Appendix 13.2. The EDR database search report is available in Appendix 13.5.

8 Opinion

There were on-site concerns noted for the current and historical use of the properties in the study area, and there appears to be environmental liability associated with some of the subject properties in the study area. No *de minimus* conditions were noted at the subject properties in the study area during this investigation. It is recommended that for any alternative selected that utilizes a property where a recognized environmental condition has been observed, or where there may be other hazardous, toxic or radiological waste (HTRW) concerns, additional environmental assessment be conducted. Additional assessment may be limited to additional records searches or may include a Phase II environmental investigation.

9 Conclusions

This Environmental Site Assessment has revealed evidence of recognized environmental conditions associated within the study areas. Measures SC1, SC2 and SC6 were the only areas

investigated where no RECs were reported within the search parameters of the EDR database search or observed during the site investigation. For all other measures, including Buyouts, additional environmental assessment may be required to avoid potential assumption of any possible environmental liability associated with select properties.

10 Deviations

No deviations were encountered. The Environmental Site Assessment was completed in accordance with ASTM E 1527-05.

11 Additional Services

No additional services were provided as part of this Environmental Site Assessment to evaluate asbestos-containing materials; radon; lead-based paint; lead in drinking water; wetlands; regulatory compliance; cultural and historical resources; industrial hygiene; health and safety; ecological resources; endangered species; air quality; or other potential concerns not addressed in ASTM E 1527-05 and/or not identified as a potential concern during the site visit and investigation.

12 References

ASTM, E 1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process

ASTM, E 1528, Guide for Environmental Site Assessments: Transaction Screen Process

APPENDIX F: Federal and State Agency Coordination

Section 1: Fish and Wildlife Coordination Act Report

Section 2: Cultural Resources Coordination

Section 3: Cooperating Agency Letters and Invitation

Section 1: Fish and Wildlife Coordination Act Report



**US Army Corps
of Engineers®**

**DRAFT -- Fish and Wildlife Coordination Act Report-- DRAFT
March XX, 2018**

**Mobile District, US Army Corps of Engineers
Sweetwater Creek Flood Risk Management
Cobb County, Georgia**



Sweetwater Creek near Austell, Georgia 2009 (photo by USGS)

**Preparer: Robin B. Goodloe, Ph.D.
Georgia Ecological Services, Athens, GA
US Fish and Wildlife Service, Southeast Region**

Executive Summary

The Corps of Engineers, Mobile District, and its non-Federal partner, Cobb County, Georgia, propose to address flooding in the Sweetwater Creek watershed in Cobb County through purchase/demolition of 20 structures in Cobb County, the City of Austell, and the City of Powder Springs. This alternative reasonably maximized net benefits with the least uncertainty, compared to six other alternatives that relied on stormwater detention or channel modification.

Federally-listed species are not known to occur on or near the structures slated for demolition. The demolition is not expected to impact, and may provide limited benefit, to downstream aquatic communities. Terrestrial species that might be affected by structure removal include birds or bats that are roosting or rearing young in any of the buildings. We recommend the following conservation measures to protect bats, birds, and human health when the flood reduction project is implemented.

1. A qualified biologist should conduct surveys during summer to determine if maternity colonies or roosting bats are utilizing the structure(s) and where points of access are located. Surveys should include searching for indications of bat presence (guano and staining), as well as presence of bats.
2. If bats are found using a structure, Cobb County should contact the Georgia Department of Natural Resources (Nongame Conservation Section, 2065 US HWY 278 SE, Social Circle, GA 30025; 770-918-6411) or our office for help in determining the species of bat present and guidance for safe exclusion of the bats. Maternity colonies should not be moved.
3. Contaminated soil or accumulations of bird or bat manure can contain the histoplasmosis fungus. Humans can become infected with this respiratory infection when spores are inhaled. Most infections are mild and produce either no symptoms or a minor influenza-like illness. On occasion, the disease can cause high fever, blood abnormalities, pneumonia and even death. Workers should avoid breathing dust in areas where there are animal droppings and should wear respirators that guard against particles as small as two microns if the droppings are to be disturbed.

Conclusion: With implementation of these conservation measures, the project is not likely to adversely affect fish and wildlife resources and may provide limited benefit to downstream aquatic resources.

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AUTHORITY

The Army Corps of Engineers Mobile District's (Corps) involvement in the Sweetwater Creek Flood Risk Management project is authorized by House Resolution 2445 of the Committee on Public Works and Transportation, US House of Representatives, as adopted 28 September 1994. U.S. Fish and Wildlife Service (Service) involvement is authorized by the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act of 1973 as amended (16 U.S.C. 1531 et seq.).

The FWCA requires Federal agencies that propose water resource development projects to provide equal consideration to fish and wildlife resources as to other project features. It also requires Federal agencies that construct, license or permit water resource development projects to first consult with the Service and State fish and wildlife agencies regarding project impacts on fish and wildlife resources and measures to mitigate these impacts. This report constitutes the report of the Secretary of the Interior as required by Section 2(b) of the FWCA.

The Endangered Species Act requires Federal agencies, in consultation with the Service and/or NOAA Fisheries Service to ensure that actions they authorize, fund, or carry out are not likely to jeopardize continued existence of a listed species or result in destruction or adverse modification of designated critical habitat.

PROJECT PURPOSE AND SCOPE

The Corps and its non-Federal partner, Cobb County, Georgia, propose to address flooding in the Sweetwater Creek watershed in Cobb County through purchase/demolition of 20 structures in Cobb County, the City of Austell, and the City of Powder Springs—all of the structures have first floor elevations lower than the anticipated water surface elevation of the 10% ACE floodplain.

Sweetwater Creek is a 45.6-mile-long tributary to the Chattahoochee River (Figure 1). The Corps' study area encompassed the entire Sweetwater Creek watershed; however, the intended area of flood risk improvement is limited to the portion of the basin in Cobb County. Existing problems in the flood risk improvement area include:

- Routine rainfall events cause flooding along Sweetwater Creek, increasing flood risk and damaging residential and commercial structures throughout Cobb County. The Cities of Austell and Powder Springs and the surrounding areas experience the most extensive and frequent flooding in the study area.
- Emergency services are disrupted during routine flood events.
- Channel conveyance capacity is reduced due to continual sedimentation from erosion and run-off.

The primary goals of the project are to:

- Reduce flood damages along Sweetwater Creek and its tributaries within Cobb County.
- Reduce impacts to emergency services in Cobb County during flood events.
- Reduce stream bank erosion in the basin in Cobb County.
- Improve flood risk communication among stakeholders.

Major flooding occurred in the Sweetwater Creek basin July 2005, after Hurricanes Cindy and Dennis. The creek rose to one of its highest levels ever, flooding dozens of homes well beyond what

was considered the 100-year flood plain. About 15 inches (380 mm) of rain fell at the Sweetwater Creek gage near Austell before the gage was damaged by the flood.

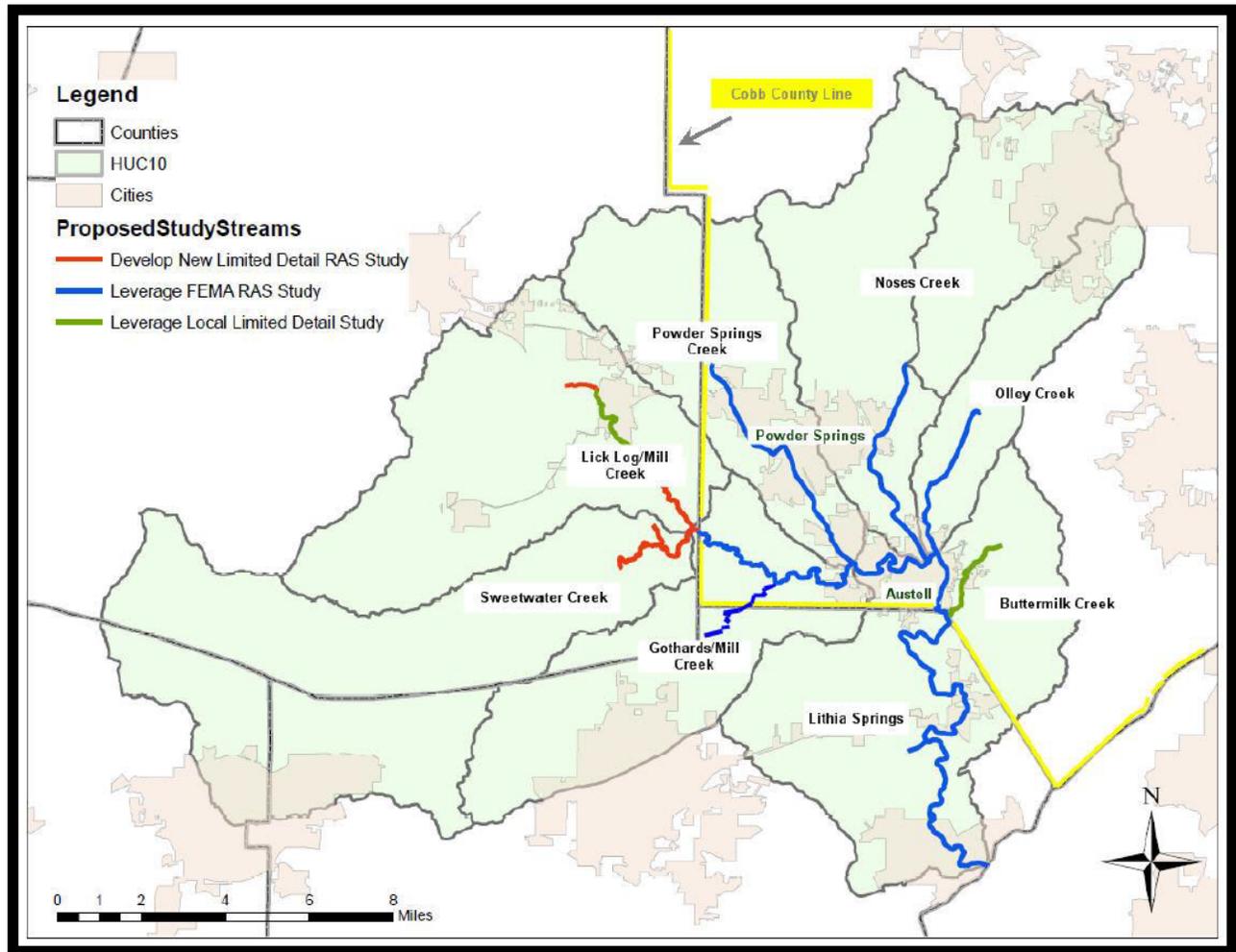


Figure 1. Map of Sweetwater Creek and major tributaries, Lick Log, Powder Springs, Noses, and Olley Creeks. The area outlined in yellow is the intended area of flood risk improvement.

Catastrophic flooding impacted much of the Atlanta metropolitan area September 15-22, 2009. At the height of the event, September 20-21, the maximum 24-hour rainfall total was 21 inches, observed at the Douglas County Water and Sewer Authority. Historic flash flooding resulted, with river basins remaining swollen for weeks. USGS estimated the storm was well above the 500-year-recurrence interval, and National Weather Service projections put it at the 10,000-year-recurrence interval. There were 79 river gages that rose above flood stage, with 35% of those cresting above major flood stage. More than a third of the gages rose to historic levels; some went underwater and stopped reporting. At Sweetwater Creek near Austell, the new record was 20 feet above flood stage and nine feet above the previous record crest (Table 1). Swollen river basins resulted in damage to 21 Category One dams. The total damage assessment was over \$500,000,000, including 20,000 homes and businesses that sustained major damage. Two public schools in Austell flooded or were surrounded by water and many roads were underwater, including Interstate 20. Ten people were killed (National Weather Service https://www.weather.gov/ffc/atlanta_floods_anniv).

Table 1. Gage data for Sweetwater Creek and tributaries, September 21-22, 2009.

USGS Gage	Drainage Area (mi ²)	Flood Stage (ft)	Crest Stage (ft)	Feet Above Flood Stage
Sweetwater Creek at I-20 below Austell (02337000)	238.0	10	30.8	20.8
Sweetwater Creek at Powder Springs (02336840)	97.7	13	31.4	18.4
Noses Creek at Powder Springs (02336968)	44.5	11	23.2	12.2
Olley Creek at Clay Rd. near Austell (02336986)	13.5	12	27.4	15.4
Powder Springs Creek at Powder Springs (02336870)	23.7	12	19.8	7.8

Data from National Weather Service (<https://www.weather.gov/ffc/0909epicflood>) and USGS gage information (https://waterdata.usgs.gov/ga/nwis/current/?type=flow&group_key=basin_cd).

The Sweetwater Creek watershed, like much of the area around the City of Atlanta, is urbanizing. Urban development within watersheds can cause major changes to streamflow. One of the dominant impacts of urbanization is increased peak flows and stream flashiness. Researchers at Georgia State University recently examined trends in streamflow from 1986 to 2015 in eight metro Atlanta watersheds where the percentage of developed land ranged from 34-83% and percent impervious surface ranged from a low of 9% to a high of 32% (Diem et al. 2018; Table 2). The increase in developed land in the eight watersheds was almost entirely due to loss of forest land.

Table 2. Sweetwater Creek urbanization, compared to other metro Atlanta watersheds, during the peak of the area’s rapid expansion.

Watershed	Drainage Area (mi ²)	Population Density (person/mi ²)			%Developed		%Impervious	
		1990	2010	%Increase	1992	2011	1992	2011
Peachtree Creek	86	3133	4244	35	80	83	31	32
Sope Creek	30	2067	2381	15	68	77	18	21
South River	184	2145	2401	12	58	67	18	21
Flint River	127	1258	1749	39	50	64	19	25
Suwanee Creek	48	336	1240	269	29	61	9	21
Big Creek	73	287	1370	377	28	55	8	17
Sweetwater Creek	238	574	1116	95	29	41	7	10
Line Creek	100	287	671	133	22	34	6	9

Data from Diem et al. (2018).

Diem et al. (2018) found that the two fastest growing/developing study areas, the Big Creek and Suwanee Creek watersheds, doubled their impervious surface and experienced a 26 percent increase in annual stream flow and a doubling of high-flow days – the basins, during a storm event, now see more runoff, more extreme flows, and more flooding than would have occurred for a similar storm event in 1986. Sweetwater Creek was one of the less urbanized watersheds studied, with 41% of the land developed and 10% impervious cover, but with a relatively rapid population increase. Diem et al. (2018) found that Sweetwater and the other lower developed watershed, Line Creek, had the lowest maximum stream flows, but noted that both basins are on trajectories to becoming majority-developed basins in the next several decades.

STUDY AREA

Sweetwater Creek’s headwaters in Georgia’s Paulding and Carroll Counties drain largely forested lands. As the creek flows east into Cobb County, the land becomes more urbanized (Figures 1 and 2), particularly areas drained by Sweetwater tributaries, Powder Springs, Nunes, and Olley Creeks.

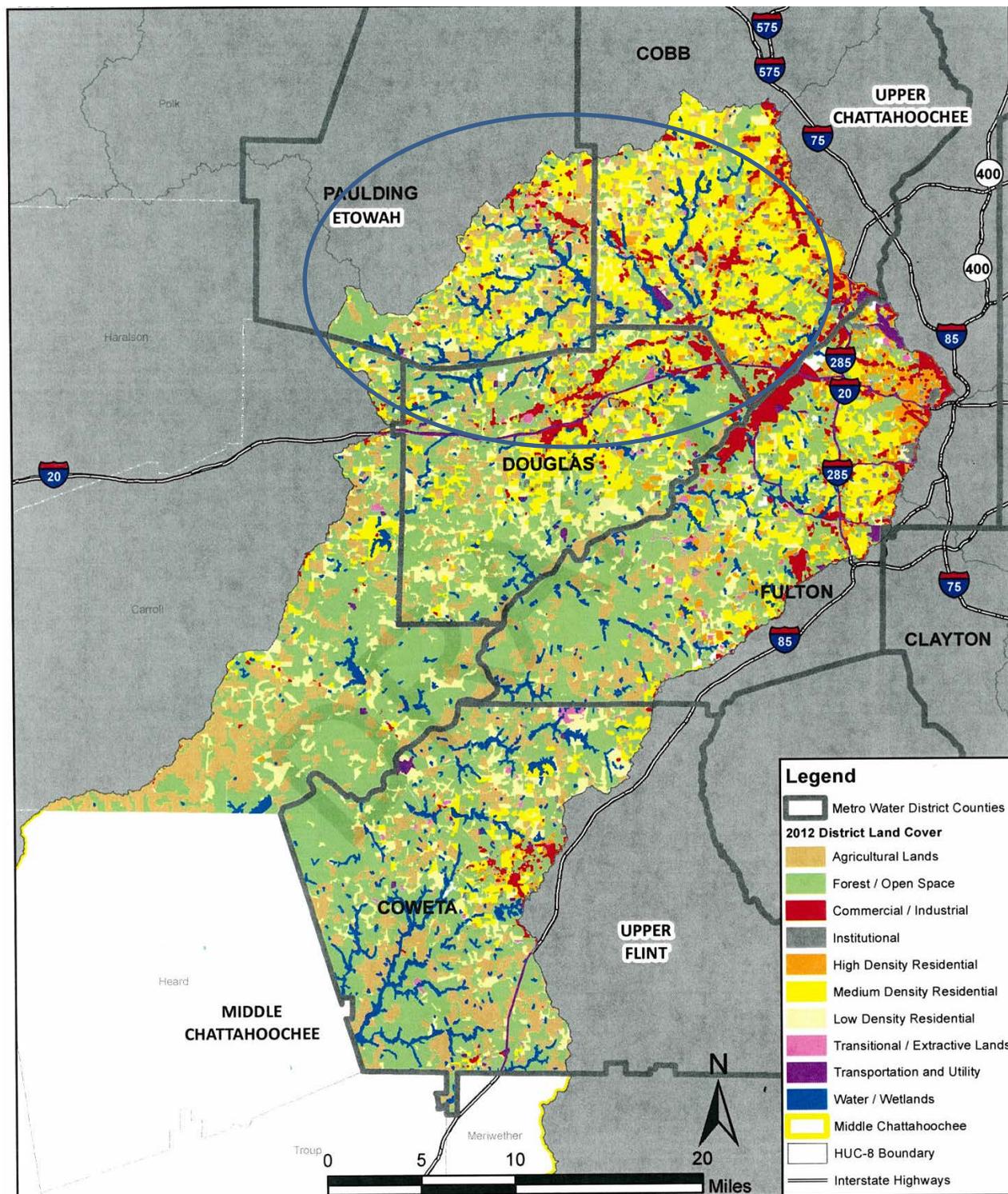


Figure 2. Middle Chattahoochee land cover, 2012. The Sweetwater Creek basin is circled.

Major Georgia municipalities in the watershed include Powder Springs, Austell, Lithia Springs, and portions of Douglasville, Mableton, Marietta, and Villa Rica. Conservation lands in the basin include Kennesaw Mountain National Battlefield Park, the Georgia Department of Natural Resources' Sweetwater Creek State Park, and several Corps of Engineers mitigation properties and county greenspace properties.

Sweetwater Creek flows across portions of the Central Uplands and Gainesville Ridge Districts of the Piedmont Physiographic Province. The boundary between these two districts serves as the approximate boundary between the east-flowing portion of Sweetwater Creek upstream of Austell, where the creek flows in broad valleys, and the south-flowing section downstream of Austell, where the creek occupies a narrow, v-shaped valley (McConnell and Abrams 1978). The eastward flow upstream of Austell is due to the influence of a geologic structure known as the Austell-Frolona Anticlinorium, an up-warped fold (Figure 3). The Austell-Frolona is higher in elevation than the surrounding rocks, preventing Sweetwater Creek from crossing the anticlinorium and forcing the creek to flow around the nose of the structure at Austell. From Austell to its junction with the Chattahoochee River, Sweetwater Creek drops 120 feet in elevation, and falls and turbulence occur. (Abrams and McConnell 1977).

Before Sweetwater Creek joins the Chattahoochee River, it crosses a series of northeast-trending rock units. Some of these rocks, such as quartzites, are more resistant to erosion than the surrounding rocks. These quartz-rich rocks divert the creek at right angles to its southeastward direction of flow. Other rocks in the creek contain open joints and allow the creek to flow through these openings and across the rock units. This control of the creek's direction by the rocks and the structures within them gives Sweetwater Creek a rectangular drainage pattern, characterized by right angle bends in the stream and its tributaries (Fig. 3) (Abrams and McConnell 1977). At Sweetwater Creek State Park, close to the confluence with the Chattahoochee, the creek crashes over 6-foot ledges and churns through complex rock gardens for nearly a mile before hurtling over Sweetwater Falls.

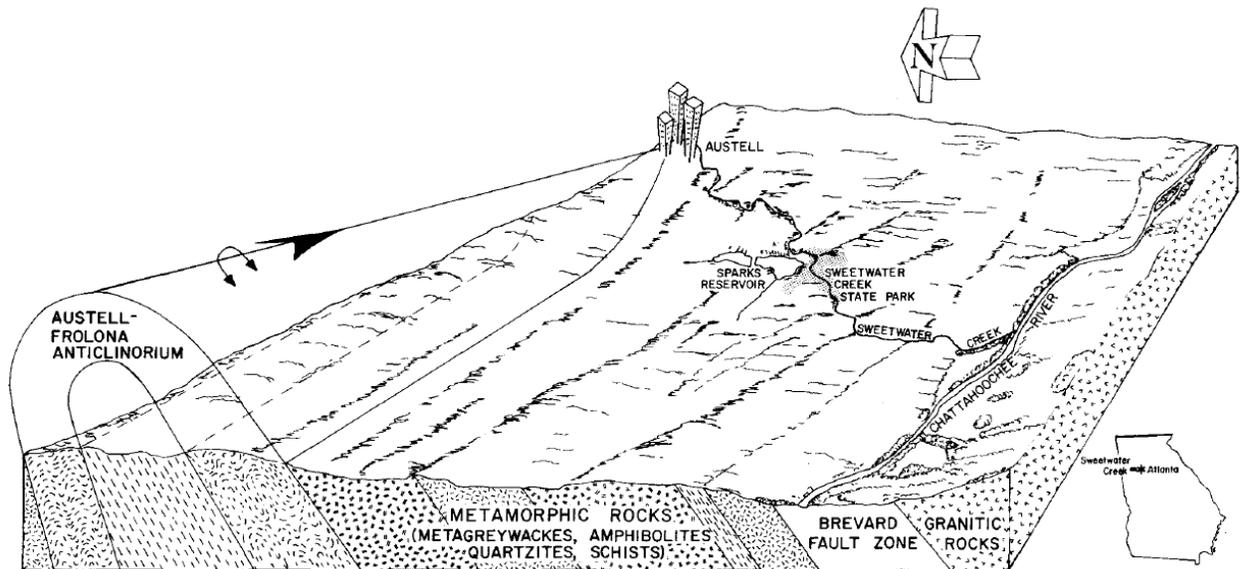


Figure 2. Geology of the Sweetwater Creek basin (figure from Abrams and Mc Connell 1977).

PREVIOUS STUDIES AND REPORTS

The Corps investigated six alternatives to provide flood risk management for Sweetwater Creek:

- Alternative 1 involves purchase and demolition of commercial and residential structures affected by flooding at various ACEs (Annual Chance of Exceedance), ranging from the 10% to the 1% ACE (aka the 10-year to 100-year flood). Under this alternative, total number of structures to be purchased/ demolished would range from 20 for the 10% ACE storm up to 117 for the 1% ACE storm. The majority of the buyouts would be in the Powder Springs and Austell area.
- Alternative 2: The Brown Road Detention Alternative consists of a 33-foot dry detention structure located upstream of Brown Road in Cobb County. The structure would impound stormwater in a 900-1000-acre site and drain dry to base flow within 24 hours after an event.
- Alternative 4: The Austell Channel Modification would increase channel conveyance of floodwaters by widening the channel of Sweetwater Creek to 80 feet between the CH James Parkway to the rapids in Sweetwater Creek State Park (14.2 miles). An estimated 3 million cubic yards of material would be removed from the channel.
- Alternative 5H consists of two in line dry detention structures on Sweetwater Creek near Bakers Bridge Road in Paulding County and upstream of Brown Road in Cobb County. Both sites would drain dry to base flow within 24 hours after an event. Collectively, they would impound 1,300 acres in Paulding, Douglas, and Cobb Counties.
- Alternative 5D consists of six dry detention structures on Sweetwater, Powder Springs, Ollie, and Mill Creeks. All would drain dry to base flow within 24 hours after an event and, collectively, would impound 2,500 acres.
- Alternative 5J: The Upper End Sweetwater Detention Alternative would consist of a dry detention structure near Bakers Bridge Road in Paulding County. The 725-acre detention site would hold water in both Paulding and Douglas Counties.

The Corps selected Alternative 1, at the 10% ACE storm level (10-year flood), as the plan that reasonably maximized net benefits with the least uncertainty. Under the 10% ACE buyout plan, a total of 20 structures on 19 parcels in Cobb County, the City of Austell, and the City of Powder Springs will be purchased and demolished to reduce the threat of flood. Seven of the structures are in the Noses Creek floodplain, seven are in the Powder Springs Creek floodplain, and six are in the Sweetwater Creek floodplain.

FISH AND WILDLIFE RESOURCES IN SWEETWATER CREEK BASIN

The endangered Indiana bat (*Myotis sodalis*) and threatened Northern long-eared bat (*Myotis septentrionalis*) may occur in the study area, but are not likely to occur in the Cobb County flood risk improvement area. Neither has been collected in multiple bat surveys in the study area over the past five years, although four other bat species have been found: the big-brown bat (*Eptesicus fuscus*), Eastern red bat (*Lasiusus borealis*), evening bat (*Nycticeius humeralis*), and Eastern pipistrelle (*Pipistrellus subflavus*).

No other species listed under the Endangered Species Act occur in the study area. An active bald eagle (*Haliaeetus leucocephalus*) nest was observed in the lower portion of Sweetwater Creek basin in 2014 – this species is protected under the Bald and Golden Eagle Protection Act. Several species listed by the State of Georgia have recently been found in the lower part of the basin, including the Chattahoochee crayfish (*Cambarus howardi*), bay star-vine (*Schisandra glabra*), pink ladyslipper

(*Cypridium acaule*), and yellow ladyslipper (*C. parviflorum*). The state-listed highscale shiner (*Notropis hypsilepis*) historically occurred, but hasn't been collected in the basin in decades.

Our database has records from five fish surveys in Sweetwater Creek, with 16 species collected: Yellow bullhead (*Ameiurus natalis*), bluefin stoneroller (*Camptostoma pauciradii*), chain pickerel (*Esox niger*), Eastern and western mosquitofish (*Gambusia holbrooki*) and *G. affinis*), redbreast sunfish (*Lepomis auritus*), green sunfish (*Lepomis cyanellis*), warmouth (*Lepomis gulosus*), bluegill (*Lepomis macrochirus*), spotted sunfish (*Lepomis punctatus*), large-mouthed bass (*Micropterus salmoides*), bluehead chub (*Nocomis leptcephalis*), golden shiner (*Notomigonus crysoleucas*), longnose shiner (*Notropis longirostris*), black-banded darter (*Percina nigrofasciata*), and black crappie (*Pomoxis nigromaculatus*).

Other species in the study area include white-tailed deer (*Odocoileus virginianus*), eastern wild turkey (*Meleagris gallopavo silvestris*), cottontail rabbit (*Sylvilagus spp.*), raccoon (*Procyon lotor*), nine-banded armadillo (*Dasypus novemcinctus*), opossum (*Didelphis virginiana*), red fox, (*Vulpes vulpes*), fox and gray squirrel (*Sciurus niger* and *S. carolinensis*), river otter (*Lontra canadensis*), and a variety of birds, reptiles, and amphibians.

PROJECT IMPACTS AND BENEFITS

Big brown bats are known to both roost and rear pups in buildings or under bridges during the spring, summer, and fall. These bats also may roost in the eaves of buildings during winter unless the temperatures become too extreme. Eastern pipistrelles may roost and form small maternity colonies in trees, buildings, and rock crevices. Evening bats only occasionally use buildings and attics. Various bird species also may nest in buildings. The Corps proposes to inspect each structure for bats and other wildlife and will remove individuals before demolition. With implementation of the conservation measures below, impact to bats and birds should be minimized.

The demolition of 20 structures will restore a portion of the Sweetwater Creek floodplain, giving Olley, Powder Springs, and Sweetwater Creeks more space to spill over and slow down during floods. This may reduce downstream channel and bank scour and erosion, reduce sedimentation in downstream reaches, and improve water quality due to reduced input of contaminants from impervious surface at the 20 structures.

FISH AND WILDLIFE CONSERVATION MEASURES

In Georgia, all native bats are protected under Georgia state law (Official Code of Georgia § 27-1-28). The Migratory Bird Treaty Act makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The following conservation measures are designed to protect both bats/migratory birds and human health if any of the 20 structures to be bought out and demolished is occupied by wildlife:

1. A qualified biologist should conduct surveys during summer to determine if maternity colonies or roosting bats are utilizing the structure(s) and where points of access are located. Surveys should include searching for indications of bat presence (guano and staining), as well as presence of bats.

2. If bats are found using a structure, Cobb County should contact the Georgia Department of Natural Resources (Nongame Conservation Section, 2065 US HWY 278 SE, Social Circle, GA 30025; 770-918-6411) or our office for help in determining the species of bat present and guidance for safe exclusion of the bats. Maternity colonies should not be moved.
3. Contaminated soil or accumulations of bird or bat manure can contain the histoplasmosis fungus. Humans can become infected with this respiratory infection when spores, carried by the air, are inhaled. Most infections are mild and produce either no symptoms or a minor influenza-like illness. On occasion, the disease can cause high fever, blood abnormalities, pneumonia and even death. Workers should avoid breathing dust in areas where there are animal droppings and should wear respirators that guard against particles as small as two microns if the droppings are to be disturbed. Additional information can be found at this website on safety equipment and risk:
<https://www.cdc.gov/niosh/docs/2005-109/pdfs/2005-109.pdf>.

OTHER RECOMMENDATIONS

The anticipated cost of the proposed buyout/demolition of 20 structures in the Sweetwater Creek basin's floodplain is \$4,858,864. The Federal share of this cost would be ?????????? The Corps' March 2018 Sweetwater Creek Flood Risk Management Study Integrated Feasibility Report and Environmental Assessment estimates that another 213 residential structures will be constructed in the Sweetwater Creek basin's floodplain by 2050, an almost 13% increase over the number of structures currently in the floodplain. We strongly recommend that, contingent on receiving providing this large sum of Federal money, Cobb County, at a minimum, require future development in the floodplain, including structures and utilities, be elevated to 1 foot above the 500-year flood level.

SUMMARY AND SERVICE POSITION

With implementation of the conservation measures above, the project is not likely to adversely affect fish and wildlife resources and may provide limited benefit to downstream aquatic resources.

COORDINATION WITH THE GEORGIA DEPARTMENT OF NATURAL RESOURCES

The Georgia Department of Natural Resources currently is reviewing this draft. Their comments will be included in the final document.

LITERATURE CITED

- Abrams, C.E., and K.I. McConnell. 1977. Geologic guide to Sweetwater State Park. Georgia Department of Natural Resources, Geologic and Water Resources Division publication.
- Diem, J.E., T.Chee Hill, and R.A. Milligan. 2018. Diverse multi-decadal changes in streamflow within a rapidly urbanizing region. *J. Hydrology* 556:51-61.
- McConnell, K.I., and C.E. Abrams. 1978. Short contributions to the geology of Georgia. Georgia Department of Natural Resources, Geologic and Water Resources Division. Bulletin 93.

Section 2: Cultural Resources Coordination

Section 3: Cooperating Agency Letters and Invitation



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Mr. Jess D. Weaver
Regional Director, Southeast Region
U.S. Geological Survey, Leetown Science Center
1770 Corporate Drive, Suite 500
Norcross, Georgia 30093

Dear Mr. Weaver:

The U.S. Army Corps of Engineers (USACE), Mobile District is preparing an Integrated Feasibility Report and Environmental Assessment (EA) for Sweetwater Creek Flood Risk Management project located in Cobb, Paulding, and Douglass Counties, Georgia.

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As lead agency in the preparation of the integrated feasibility report and EA, the USACE, Mobile District is requesting your participation as a cooperating agency in this effort and would appreciate a confirmation of your willingness to do so. We look forward to working with you on this project and if you should have any questions, please contact Ms. Heather Bulger at (251) 694-3889 or heather.p.bulger@usace.army.mil.

Sincerely,

Curtis M. Flakes
Chief, Planning and Environmental
Division



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Mr. Brian P. Kemp
Georgia Secretary of State
214 State Capitol
Atlanta, Georgia 30334

Dear Mr. Kemp:

The U.S. Army Corps of Engineers (USACE), Mobile District is preparing an Integrated Feasibility Report and Environmental Assessment (EA) for Sweetwater Creek Flood Risk Management project located in Cobb, Paulding, and Douglas Counties, Georgia.

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Curtis M. Flakes
Chief, Planning and Environmental
Division



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DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Mr. Mitch Attaway
Executive Director, Georgia Soil and Water Conservation Commission
4310 Lexington Road
Athens, Georgia 30605

Dear Mr. Attaway:

The U.S. Army Corps of Engineers (USACE), Mobile District is preparing an Integrated Feasibility Report and Environmental Assessment (EA) for Sweetwater Creek Flood Risk Management project located in Cobb, Paulding, and Douglas Counties, Georgia.

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Curtis M. Flakes
Chief, Planning and Environmental
Division



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MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Ms. Gracia B. Szczech
Regional Director
Federal Emergency Management Agency, Region 4
3003 Chamblee Tucker Road
Atlanta, Georgia 30341

Dear Ms. Szczech:

The U.S. Army Corps of Engineers (USACE), Mobile District is preparing an Integrated Feasibility Report and Environmental Assessment (EA) for Sweetwater Creek Flood Risk Management project located in Cobb, Paulding, and Douglass Counties, Georgia.

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Chief, Planning and Environmental
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MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Mr. Homer Bryson
Director, Georgia Emergency Management and Homeland Security Agency
935 East Confederate Avenue, Southeast
Atlanta, Georgia 30316

Dear Mr. Bryson:

The U.S. Army Corps of Engineers (USACE), Mobile District is preparing an Integrated Feasibility Report and Environmental Assessment (EA) for Sweetwater Creek Flood Risk Management project located in Cobb, Paulding, and Douglass Counties, Georgia.

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Chief, Planning and Environmental
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MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Mr. Russell McMurry
Commissioner, Georgia Department of Transportation
One Georgia Center
600 West Peachtree NW
Atlanta, Georgia 30308

Dear Mr. McMurry:

The U.S. Army Corps of Engineers (USACE), Mobile District is preparing an Integrated Feasibility Report and Environmental Assessment (EA) for Sweetwater Creek Flood Risk Management project located in Cobb, Paulding, and Douglass Counties, Georgia.

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Curtis M. Flakes
Chief, Planning and Environmental
Division



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MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Director, Office of Environmental Policy and Compliance
Department of the Interior
Main Interior Building, MS2462
1849 C Street, Northwest
Washington, D.C. 20240

Dear Sir or Madam:

The U.S. Army Corps of Engineers (USACE), Mobile District is preparing an Integrated Feasibility Report and Environmental Assessment (EA) for Sweetwater Creek Flood Risk Management project located in Cobb, Paulding, and Douglas Counties, Georgia.

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Curtis M. Flakes
Chief, Planning and Environmental
Division



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DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Colonel Mark McDonough
Commissioner
Georgia Department of Public Safety
959 East Confederate Avenue Southeast
Atlanta, Georgia 30316

Dear Colonel McDonough:

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Chief, Planning and Environmental
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MOBILE DISTRICT, CORPS OF ENGINEERS
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MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Ms. Heather McTeer Toney
Regional Administrator
U.S. Environmental Protection Agency, Region 4
Sam Nunn Federal Building
61 Forsyth Street South West
Atlanta, Georgia 30303

Dear Ms. Toney:

The U.S. Army Corps of Engineers (USACE), Mobile District is preparing an Integrated Feasibility Report and Environmental Assessment (EA) for Sweetwater Creek Flood Risk Management project located in Cobb, Paulding, and Douglass Counties, Georgia.

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MOBILE DISTRICT, CORPS OF ENGINEERS
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MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Ms. Cynthia Dohner
Southeast Regional Director
U.S. Fish and Wildlife Service
1875 Century Boulevard
Atlanta, Georgia 30345

Dear Ms. Dohner:

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Chief, Planning and Environmental
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MOBILE DISTRICT, CORPS OF ENGINEERS
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MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Mr. Richard E. Dunn
Director, Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Drive, Suite 1456
Atlanta, Georgia 30334

Dear Mr. Dunn:

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Curtis M. Flakes
Chief, Planning and Environmental
Division



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DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Mr. Dan Forster
Director, Georgia Department of Natural Resources
Wildlife Resource Division
2070 U.S. Highway 278 Southeast
Social Circle, Georgia 30025

Dear Mr. Forster:

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MOBILE DISTRICT, CORPS OF ENGINEERS
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MOBILE, AL 36628-0001

December 20, 2017

Inland Environment Team
Planning and Environmental Division

Mr. Mark Williams
Commissioner Southeast Regional Director
Georgia Department of Natural Resources
2 Martin Luther King Jr. Drive, Suite 1456, East Tower
Atlanta, Georgia 30334

Dear Mr. Williams:

The U.S. Army Corps of Engineers (USACE), Mobile District is preparing an Integrated Feasibility Report and Environmental Assessment (EA) for Sweetwater Creek Flood Risk Management project located in Cobb, Paulding, and Douglass Counties, Georgia.

The Sweetwater Creek Feasibility Study is a cost-share agreement between the USACE and Cobb County, Georgia that was initiated on May 25, 2016. The study has identified 10 alternatives which meet the goals and objectives. These alternatives will be compared and evaluated based on engineering, cost, and benefits in order to create a focused array of alternatives from which a tentatively selected plan will be chosen.

The Council on Environmental Quality (CEQ), Regulations on Implementing National Environmental Policy Act Procedures (NEPA) (40 CFR 1500-1508) emphasizes agency cooperation early in the NEPA process through the establishment of Cooperating Agency status. In essence any Federal or State agency which has jurisdiction over activities to be considered in the EA has the opportunity to serve as a Cooperating Agency. Responsibilities of a Cooperating Agency include but are not limited to provision of data and/or information, and review of the preliminary draft EA for completeness. Information relative to the rights and responsibilities of lead and cooperating agencies may be found in CEQ Forty Most Asked Questions Concerning CEQ's NEPA Regulations (<http://ceq.eh.doe.gov/nepa/regs/40>).

As lead agency in the preparation of the integrated feasibility report and EA, the USACE, Mobile District is requesting your participation as a cooperating agency in this effort and would appreciate a confirmation of your willingness to do so. We look forward to working with you on this project and if you should have any questions, please contact Ms. Heather Bulger at (251) 694-3889 or via email at heather.p.bulger@usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "Curtis M. Flakes", written over a horizontal line.

Curtis M. Flakes
Chief, Planning and Environmental
Division

From: Bulger, Heather P CIV USARMY CESAM (US)
To: ["Glenn.trey@epa.gov"](mailto:Glenn.trey@epa.gov); ["Militscher.chris@epa.gov"](mailto:Militscher.chris@epa.gov); ["Gracia.szczecz@dhs.gov"](mailto:Gracia.szczecz@dhs.gov); ["hsweyers@usgs.gov"](mailto:hsweyers@usgs.gov); ["Michael_oetker@fws.gov"](mailto:Michael_oetker@fws.gov); ["robin_goodloe@fws.gov"](mailto:robin_goodloe@fws.gov); ["Joyce_stanley@ios.doi.gov"](mailto:Joyce_stanley@ios.doi.gov); ["Richard.dunn@dnr.ga.gov"](mailto:Richard.dunn@dnr.ga.gov); ["Carol.stowe@dnr.ga.gov"](mailto:Carol.stowe@dnr.ga.gov); ["Mark.williams@dnr.ga.gov"](mailto:Mark.williams@dnr.ga.gov); ["Mitch.attaway@gaswcc.ga.gov"](mailto:Mitch.attaway@gaswcc.ga.gov); ["Homer.bryson@gema.ga.gov"](mailto:Homer.bryson@gema.ga.gov); ["rmmcmurry@dot.ga.gov"](mailto:rmmcmurry@dot.ga.gov); ["mmcdonough@gsp.net"](mailto:mmcdonough@gsp.net); ["rherron@sos.ga.gov"](mailto:rherron@sos.ga.gov)
Cc: [Malsom, Michael F CIV USARMY CESAM \(US\)](#); [Jacobson, Jennifer L CIV USARMY CESAM \(US\)](#); [Flakes, Curtis M CIV \(US\)](#); [Grunewald, Matthew M CIV CESAM CESAD \(US\)](#); [Smith, Alexandria N CIV USARMY CESAM \(US\)](#); [Trawick, Eubie D Jr CIV USARMY CESAM \(US\)](#); [Jester, Thomas S CIV CESAM CESAD \(US\)](#); [Rooney, Katherine T CIV USARMY CESAM \(US\)](#)
Subject: Sweetwater Creek Watershed, Cobb County, Georgia Flood Risk Management Feasibility Study
Date: Friday, February 09, 2018 11:02:00 AM

Good Afternoon,

The U.S. Army Corps of Engineers (USACE), Mobile District has been involved in evaluating the Sweetwater Creek Watershed predominantly in Cobb County, Georgia for potential flood risk management solutions. Coordination letters regarding this study were mailed in December 2017. The USACE is inviting you to attend our internal milestone meeting on February 23, 2018 at 13:00 Eastern Time to review the Tentatively Selected Plan (TSP), or Recommended Action, for the study area. Should you, or a representative from your agency, be interested in attending please let me know at your earliest convenience. I will schedule a pre-briefing for those who plan to attend the TSP milestone meeting to discuss USACE procedural matters and expectations of your agency.

Thank you,

Heather P. Bulger
Biologist, Inland Environment Team
U.S. Army Corps of Engineers, Mobile District
(251) 694-3889



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

CFPD-9 J
CF PD-EI/

JAN 09 2018

Mr. Curtis M. Flakes
Chief, Planning and Environmental Division
Department of the Army
Mobile District, Corps of Engineers
P.O. Box 2288
Mobile, Alabama 36628-0001

Re: U.S. Army Corps of Engineers' (USACE) Cooperating Agency Request for the Sweetwater Creek Flood Risk Management Integrated Feasibility Report and Environmental Assessment; Cobb, Paulding, and Douglas Counties, Georgia

Dear Mr. Flakes:

The U.S. Environmental Protection Agency (EPA) has received your letter dated December 20 15, 2017, concerning the above referenced project which was addressed to the former Regional Administrator, Ms. Heather McTeer Toney, and has been forwarded to this office for response. Thank you for offering EPA an opportunity to become a "cooperating agency" under the National Environmental Policy Act (NEPA) to the USACE in the development of the Environmental Assessment (EA) for the proposed project.

The EPA lacks the special expertise for a flood control project and does not have specific jurisdiction by law to be a cooperating agency under Title 40 Code of Federal Regulations Section 1501.6. However, we plan to fully participate in interagency teleconferences and meetings at important milestones at your request. The EPA will be a participating agency with respect to our authorities under Section 102(2)(C) of NEPA, Section 309 of the Clean Air Act and the Clean Water Act.

We appreciate the opportunity of working with the USACE as a participating agency on this project. Please contact Ms. Ntale Kajumba, as our primary agency representative for this project at (404) 562-9620, should your staff have any questions during the development of the EA.

Sincerely,

Christopher A. Militscher
Chief, NEPA Program Office
Resource Conservation and Restoration Division