

## **APPENDIX 5F**

### **BIRD AND WILDLIFE POINT COUNTS AND AREA SEARCH SURVEYS BY HABITAT TYPE**



**Appendix Table 5F-1. Total numbers of birds detected during 2002 avian plot and facility surveys by Project area.**  
(Birds detected during plot and facility surveys listed in order of decreasing total abundance.)

Bird Species	Copco Bypass (n=7)	Copco Reservoir (n=37)	Fall Creek (n=20)	Iron Gate Reservoir (n=41)	JC Boyle Bypass (n=24)	JC Boyle Peaking Reach (n=73)	JC Boyle Reservoir (n=20)	Keno Canyon (n=19)	Keno Reservoir (n=23)	Link River (n=21)	Iron Gate-Shasta (n=19)	Total (All Sections; n=304)
Cliff Swallow	80	24	9	226	124	26	67	214	100	236	123	1229
Double-crested Cormorant		4		3	2	4	2	41	77	454	3	590
Red-winged Blackbird		21	11	44	5	57	9	68	126	121	26	488
American White Pelican		20		53	3	8	28	14	140	122	25	413
Canada Goose	1	24	4	49	4	26	1		139	49	14	311
Brewer's blackbird	15	40	4	31	16	29	17	21	28	54	31	286
Western Wood Peewee	3	32	17	28	19	100	21	20	8	3	10	261
Song Sparrow	2	5	8	7	29	74	17	46	39	12	8	247
Yellow Warbler	6	12	7	16	20	42	7	47	8	45	30	240
Brown-headed Cowbird	7	12	6	17	21	30	11	12	75	31	13	235
Black-headed Grosbeak	13	14	5	19	13	73	2	12	6	21	29	207
Tree Swallow	4	19	1	32	15	34	7		56	15	4	187
Western Tanager	1	9	16	5	23	90	19	3	2		3	171
Bullock's Oriole	8	36	12	33	1	48			1	14	14	167
American Robin	6	6		10	19	54	30	12	4	16	2	159
Forster's Tern		12		3	5	2	16	3	44	55		140
Yellow-rumped Warbler		6	7		27	62	27	10	1			140
Mourning Dove	3	26	6	30	1	14	5	5	20	10	13	133
Violet-green Swallow	2	44	4	28	3	26	6		7	8	4	132
Acorn Woodpecker	4	61	8	21		27	1				1	123
European Starling		21			2	11	5		46	11	6	102
Chipping Sparrow		4	12	4	14	36	18	7	1	4	1	101
Spotted Towhee		3	6	7	10	30	4	26	4	10	1	101
Turkey Vulture	18	9	9	41		4	2	4	3	6		96
Wilson's Warbler		6	19	30	3	25	1	3	2	1	6	96
Killdeer		12		33	8	1	8	2	23	1	6	94
Mallard		9	1	7	5		5	3	43	10	6	89
Red-shafted Flicker	1	4	2	9	17	25	17	1	4	3	1	84
Great Blue Heron	4	31		23	3	1	2		1	2	13	80
Dark-eyed Junco	1	4	1	2	35	12	17	6				78
Stellar's Jay			7		22	24	7	10	1	6		77
Mountain Chickadee		2		1	21	15	19	15	1			74
House Wren		23	4	12	2	12	4	2	1	1	10	71
Ash-throated Flycatcher	5	25		27		5					5	67
Cedar Waxwing		50	10						7			67
Great Egret					1		3	18	4	41		67
Vaux's Swift		7	13	8	4	31	2				1	66
Caspian Tern		17		22	1		7	3	9	4	2	65
Lazuli Bunting		3	9	10	2	31		3		5	2	65
Western Grebe		3			1				15	46		65
Ring-billed Gull		8	4	9	4		2	14	19		4	64
Bushtit	1	18	8	5	8	7	2	3	4	5		61
Osprey		16	4	15	6	6	6	6			1	60
American Crow		9		8		14				1	14	46
Belted Kingfisher	1	6	1	4	3	9	4	3	4	4	6	45
House Sparrow									29	15		44
Western Meadowlark		8		23					9		4	44
Common Merganser		5		2				11		13	12	43
Lesser Goldfinch		22	6	9		2		1			3	43
Oak/Juniper Titmouse	7	16	3	8	1	1		1			5	42
House Finch	1	6	6	3					13	2	9	40
Barn Swallow				15	5	1	3		12		3	39
Northern Rough-winged Swallow		5		12	5	7			2	6		37
Black-crowned Night Heron								14	9	13		36
Marsh Wren									36			36
Scrub Jay		7	9	12						3	4	35
American Goldfinch		4	5			20		1	4			34
Purple Finch			8	8	3	6	1	1		2	2	31
Bald Eagle	1	8		2	1	4	11		2			29
Bewick's Wren	1	6	6	12		2				1	1	29
Cassin's Vireo	1	4	3		3	17				1		29
Black-necked Stilt									27			27
California Quail	2	5	4	11		1		1		1	2	27
Western Kingbird	2	15	4			2					4	27
Spotted Sandpiper		1			2		2	3	8		9	25
Wood Duck		3		18				2	1			24
Yellow-headed Blackbird					3				21			24
Nashville Warbler			4		7	11	1					23
Rock Dove				1					21			22
Yellow-breasted Chat		2	1			7					12	22
Red-breasted Nuthatch					10	8	3					21
Unidentified Mammal	2	1	1	2	2	2	3	1	2	1	1	18
Unknown Swallow		1							3	14		18
Red Crossbill						15		2				17
White-breasted Nuthatch		1		4	3	6	3					17
Red-tailed Hawk	3	1	2	1	1			2	5	1		16
Warbling Vireo			3			11	1			1		16
Magillivrays's Warbler		3		2	1	5	2			1	1	15
Orange-crowned Warbler		4	1	1		3				4	2	15
Black-billed Magpie				10			3		1			14

**Appendix Table 5F-1. Total numbers of birds detected during 2002 avian plot and facility surveys by Project area.**  
(Birds detected during plot and facility surveys listed in order of decreasing total abundance.)

Bird Species	Copco Bypass (n=7)	Copco Reservoir (n=37)	Fall Creek (n=20)	Iron Gate Reservoir (n=41)	JC Boyle Bypass (n=24)	JC Boyle Peaking Reach (n=73)	JC Boyle Reservoir (n=20)	Keno Canyon (n=19)	Keno Reservoir (n=23)	Link River (n=21)	Iron Gate-Shasta (n=19)	Total (All Sections; n=304)
Unknown Empidonax Flycatcher	1	2	2	1		2		2	1	1	2	14
Lewis' Woodpecker				3		2					8	13
Pileated woodpecker			2		6	4		1				13
Savannah Sparrow							3		10			13
Willow Flycatcher		2		5		2	1			1	2	13
Canvasback								6	6			12
Golden-crowned Kinglet				6	6							12
Pygmy Nuthatch							7		5			12
California Gull				3		1				1	6	11
Green Heron			1	4		1					5	11
Olive-sided Flycatcher						1	3	3	3	1		11
Swainson's Thrush			1	4	2	4						11
Brown Creeper					2	2	6					10
Cinnamon Teal									10			10
Downy Woodpecker		1			1	8						10
Dusky Flycatcher					3	7						10
Common Raven						5	2	2				9
Redhead								2	7			9
Unknown Gull		3			2				2	2		9
Black-throated Gray Warbler			2	2		4						8
Calliope Hummingbird		1	1	1		5						8
Common Yellowthroat		1			1	1			5			8
Unknown Woodpecker		2		1	1	1	3					8
American Dipper	2				1	4						7
Black Tern							7					7
Cassin's Finch					1	1	3	2				7
Eared Grebe									7			7
Hairy Woodpecker			2		3		1	1				7
Rock Wren	3			2							2	7
Rufus Hummingbird		3	2		1	1						7
Anna's Hummingbird		4		2								6
Canyon Wren	2	3	1									6
Lark Sparrow		5		1								6
Townsend's Warbler						5		1				6
Hermit Thrush			3			1	1					5
Hermit Warbler					1	4						5
Lesser Scaup									5			5
Red-breasted Sapsucker			1		1	2	1					5
Snowy Egret								4		1		5
Unknown Flycatcher		1			1	1					2	5
Black-capped Chickadee		1		1						2		4
Clark's Grebe									2	2		4
Gadwall							1		3			4
Mountain Quail			1				1				2	4
Northern Harrier									4			4
Ruddy Duck									4			4
Vesper Sparrow							4					4
Western Bluebird	1		1	2								4
Unknown Egret								4				4
Blue-winged Teal							3					3
Bufflehead		1							2			3
Pacific Slope Flycatcher					2	1						3
White-faced Ibis							3					3
Unknown Hummingbird			2	1								3
Unknown Sparrow					1		1		1			3
American Kestrel			1			1						2
Blue-gray Gnatcatcher				2								2
Common Snipe				1							1	2
Fox Sparrow					1			1				2
Golden Eagle				1		1						2
Golden-crowned Sparrow						2						2
Prairie Falcon		1				1						2
Virginia Rail			2									2
Wrentit				1		1						2
Unidentified Amphibian				1	1				1			2
Unknown Warbler						2						2
American Avocet									1			1
Common Loon				1								1
Great-horned Owl					1							1
Hammond's Flycatcher								1				1
White-crowned Sparrow			1									1
White-headed Woodpecker					1							1
Wild Turkey		1										1
Unidentified Reptile					1							1
Unknown Bird Species				1								1
Unknown Chickadee			1									1
Unknown Finch		1										1
Unknown Tern		1										1
<b>Total</b>	<b>215</b>	<b>879</b>	<b>328</b>	<b>1135</b>	<b>610</b>	<b>1334</b>	<b>505</b>	<b>727</b>	<b>1357</b>	<b>1517</b>	<b>542</b>	<b>9157</b>

**Appendix Table 5F-2. Total numbers of birds detected during 2002 point count and area search surveys by habitat type.**  
(Birds detected during plot and facility surveys listed in order of decreasing total abundance.)

Bird Species	Unk <sup>1</sup>	DST	FAC <sup>2</sup>	FLY <sup>3</sup>	GL	J	KMC	LUB	MHO	MHOC	MHOJ	MXC	PA	PEM	PP	R/PFO	R/PSS	RG	RM	RT	RUB	SB	Total
Cliff Swallow	50	40	455	33				135			2	13	45	105	1	10	34	1			275	30	1229
Double-Crested Cormorant		3	272	138			1	73						1		1		23			78		590
Red-Winged Blackbird	5	6	24	24	20	13		15	2		1	2	14	102	7	61	138	49				5	488
American White Pelican	30		82	45		5		194						8		1					48		413
Canada Goose			8	77				173	2		1	3	1	8		1	9	1			27		311
Brewer's Blackbird	1	10	43	54	24	15		1	3	1	2	4	13	11	1	35	48	8				12	286
Western Wood Peewee	12		9		4	4	7	1	42	34	16	10		1	51	31	22	3	14				261
Song Sparrow	10		1	1	2	2	2		2	3	5	8	4	27	4	27	100	36	11		1	1	247
Yellow Warbler	3	2	9						8	8	5	17	3	5	6	48	104	14	7		1		240
Brown-Headed Cowbird	26	4	23	21	8	6			11	3	5	4	9	26	21	41	21	4	1		1		235
Black-Headed Grosbeak	3	2	13	3	1	11	11		23	20	6	6		2	6	38	42	11	7		2		207
Tree Swallow	51	1	7	8	6	1		8	14		1		4	7	4	13	29	21			12		187
Western Tanager	5		1	3	4	1	30		13	29	12	3	1	1	32	13	11	2	9		1		171
Bullock's Oriole			11	7	2	4	1		24	15	4	8		4	2	56	19	6	3	1			167
American Robin	6	3	18	3	6	4	9		16	14	1	6	2	4	25	14	16	6	2	1		3	159
Forster's Tern			22	23				69					4	1	2						19		140
Yellow-Rumped Warbler					2	1	17		4	24	4	6		1	58	5	12	1	5				140
Mourning Dove	13	7	11	8	14	3	2		13	5	6	6		3	10	18	10	3				1	133
Violet-Green Swallow			10	8				23	1		2	20	3	18	2	23	13				9		132
Acorn Woodpecker	3		14		7	1			45	13	10	8		2	1	14	3		2				123
European Starling	1	4	11	8	5	7		5	8	1	4	2	1	7	1	29	3	1			3	1	102
Chipping Sparrow	3	1	3		7	7	10		6	17	5	8	1		30		2					1	101
Spotted Towhee	7		5		1	5	6		7	7	6	18			21	10	7	1					101
Turkey Vulture			4	49	1									1	1	40							96
Wilson's Warbler			7			1			14	2	7	6		5		26	20	1	6	1			96
Killdeer	11	14	2	3	10			8	1				6	15	1	10	6	1			3	3	94
Mallard		6	5	18	1			24					7	13		1	1				9	4	89
Great Blue Heron			5	33				15			1	16				2	2	1	1		2	2	80
Stellar's Jay	7	2	2	2		6	6		2	12	4	3		1	17	1	9		2		1		77
Mountain Chickadee	1		11	1	2	6	7		2	1		4			36		3						74
House Wren		1			5	2			6	3	3	5	1		7	24	12	1	1				71
Ash-Throated Flycatcher	2		5	1	3	5			20	1	11	4				6	9						67
Cedar Waxwing				60														7					67
Great Egret		1	15	13				5						1		1	3				28		67
Vaux's Swift			20	6	1			2	1				3	1	2	6	4	3			17		66
Caspian Tern	11		6	7				32			2				2		2				2	1	65
Lazuli Bunting			3		1	1	1		7	3	7	10	1	1	1	11	7	3	8				65
Western Grebe			2			1		52													10		65
Ring-Billed Gull	2		16	4				31					2			1					8		64
Bushtit					4	4	1		2	2	10	3				13	18	2	2				61
Osprey	3			21	7		6	9			4			1	1	1	4	1			2		60
American Crow	5			12	4	1		1	5	1	1	1	5			5	2	2	1				46
Belted Kingfisher	2		5	2		2		6		3						5	8				11	1	45
House Sparrow		29	14														1						44
Western Meadowlark	1	1	2		25	1		1	3		3	1	1	4		1							44
Lesser Goldfinch			2		8	5			4	2	2		1			14		1	4				43
Oak/Juniper Titmouse			14		1				8		8				1	7	3						42
House Finch		1	9	1	2	3			1	1				1		16	1	5					40

**Appendix Table 5F-2. Total numbers of birds detected during 2002 point count and area search surveys by habitat type.**  
(Birds detected during plot and facility surveys listed in order of decreasing total abundance.)

Bird Species	Unk <sup>1</sup>	DST	FAC <sup>2</sup>	FLY <sup>3</sup>	GL	J	KMC	LUB	MHO	MHOC	MHOJ	MXC	PA	PEM	PP	R/PFO	R/PSS	RG	RM	RT	RUB	SB	Total	
Barn Swallow	2		3	3								1	5	17		1	5				1	1	39	
Northern Rough-Winged Swallow			4	6		4		4						14		1	4						37	
Black-Crowned Night Heron		1	11	5				1								5	11				2		36	
Marsh Wren														36									36	
Scrub Jay			11	1		2			9		4	2				4		2					35	
American Goldfinch				3	1				3	8	1	3	2	1		4	2		6				34	
Purple Finch			3						1	2	6				5	5	4	1	4				31	
Bewick's Wren			5			2	1		6		3	5				4	1		1	1			29	
Cassin's Vireo							8		6	6	2	1			1	3			2				29	
Black-Necked Stilt		4						1						22									27	
California Quail	3		5		2	1			3		4	1				2	4		2				27	
Western Kingbird	1	1	3	3	6				1	1	4	3		1		1		2					27	
Spotted Sandpiper			4					6						1		6	2	2				3	1	25
Wood Duck	5		1					14						2								2		24
Yellow-Headed Blackbird				2									3	6		12		1						24
Nashville Warbler			1		2		2		3	6	2	1		1	2		1	1	1					23
Bald Eagle	1		1	10				3	2						1	2	1					1		22
Rock Dove			1					21																22
Yellow-Breasted Chat					1										1	10	6	4						22
Unidentified Mammal	2	2	3		1		2	1	2		1					2		2						18
Unknown Swallow				11												3						4		18
White-Breasted Nuthatch							1		4		5				6				1					17
Warbling Vireo			1		1		1		2	1	1				1		5		3					16
Magillivrays's Warbler							3		1	1	2	1				4	3							15
Orange-Crowned Warbler									4			2				7	2							15
Black-Billed Magpie				1					1					1			9						2	14
Unknown Empidonax Flycatcher			2			2					1	1		3		3	2							14
Lewis' Woodpecker			2	2					4			1				1	2	1						13
Pileated Woodpecker							3			3	1				4		1		1					13
Savannah Sparrow													6	4									3	13
Willow Flycatcher														1		2	9	1						13
Canvasback			6					6																12
Golden-Crowned Kinglet							3								3	6								12
California Gull			5	2				3														1		11
Green Heron	1			4												2	3	1						11
Olive-Sided Flycatcher	1					1									9									11
Swainson's Thrush					1		4			2						4								11
Brown Creeper							1			1					8									10
Cinnamon Teal		2						6						2										10
Dusky Flycatcher					3		2			2					1		1		1					10
Redhead			2											7										9
Black-Throated Gray Warbler									1		1				3	1			2					8
Calliope Hummingbird									1			1				2	1	1	2					8
Common Yellowthroat														5		1	2							8
Unknown Woodpecker	3									1					2	1	1							8
American Dipper			1													4	1					1		7
Black Tern								7																7
Cassin's Finch										1		2			4									7

**Appendix Table 5F-2. Total numbers of birds detected during 2002 point count and area search surveys by habitat type.**  
(Birds detected during plot and facility surveys listed in order of decreasing total abundance.)

Bird Species	Unk <sup>1</sup>	DST	FAC <sup>2</sup>	FLY <sup>3</sup>	GL	J	KMC	LUB	MHO	MHOC	MHOJ	MXC	PA	PEM	PP	R/PFO	R/PSS	RG	RM	RT	RUB	SB	Total
Eared Grebe								7															7
Hairy Woodpecker			1		1		2								1				2				7
Rock Wren			4		2						1												7
Rufus Hummingbird			1							1						2	2		1				7
Anna's Hummingbird				2							2					1	1						6
Canyon Wren	1		2									2					1						6
Lark Sparrow					1	1					4												6
Townsend's Warbler										5					1								6
Hermit Thrush									1		1			2	1								5
Hermit Warbler			1						1	3													5
Lesser Scaup								5															5
Red-Breasted Sapsucker			2							1							1		1				5
Snowy Egret			4																			1	5
Black-Capped Chickadee					1												1	2					4
Clark's Grebe			1					3															4
Gadwall								4															4
Mountain Quail	1									1							2						4
Northern Harrier				3										1									4
Ruddy Duck								4															4
Vesper Sparrow															1							3	4
Western Bluebird									2	1	1												4
Unknown Egret	2			2																			4
Blue-Winged Teal								3															3
Bufflehead								3															3
Pacific Slope Flycatcher							1			1							1						3
White-Faced Ibis															3								3
Unidentified Amphibian								1						2									3
Unknown Sparrow														1			1					1	3
American Kestrel				1												1							2
Blue-Gray Gnatcatcher																2							2
Fox Sparrow			1		1																		2
Golden Eagle			1	1																			2
Golden-Crowned Sparrow	1																		1				2
Prairie Falcon	1			1																			2
Virginia Rail																	2						2
Wrentit											1					1							2
Unknown Warbler									1			1											2
American Avocet								1															1
Common Loon								1															1
Great-Horned Owl															1								1
Hammond's Flycatcher															1								1
White-Crowned Sparrow														1									1
White-Headed Woodpecker																	1						1
Wild Turkey	1																						1
Unknown Finch				1																			1
Unknown Tern								1															1
<b>Total</b>	<b>330</b>	<b>150</b>	<b>1305</b>	<b>786</b>	<b>216</b>	<b>145</b>	<b>186</b>	<b>998</b>	<b>395</b>	<b>286</b>	<b>214</b>	<b>238</b>	<b>150</b>	<b>520</b>	<b>499</b>	<b>807</b>	<b>868</b>	<b>247</b>	<b>122</b>	<b>4</b>	<b>604</b>	<b>79</b>	<b>9149</b>

<sup>1</sup>UNK=unidentified habitat; <sup>2</sup>FAC=facilities survey detection (all habitats); <sup>3</sup>FLY=flyover.