

Appendix D. Summer birds of the Luckiamute watershed

Legend:

Parenthesized species almost surely do not breed in the watershed, but may feed in it.

BBA: From Oregon Breeding Bird Atlas (Adamus et al. 2001). May include some records from outside the watershed.

CO= confirmed breeder, PR- probable breeder, PO= possible breeder.

BBS Extent: From Breeding Bird Survey route #33 that traverses the eastern part of the watershed, surveyed mainly by Adamus. Proportion of the route's 50 points at which the species was found, summed for 16 years during the period 1971-1997. About half the route is outside the Luckiamute watershed. Data from Sauer et al. (2003).

BBS Annual Mean: From Breeding Bird Survey route #33 that traverses the eastern part of the watershed, surveyed mainly by Adamus. Average number of individuals per route (50 points) per year, 1971-1997. Data from Sauer et al. (2003).

BBS Trend Local: from BBS route #33. N= negative (declining), P= positive (increasing). Blanks indicate no statistically-significant trend from earliest to latest years of the survey. About half the route is outside the Luckiamute watershed. Calculated by Sauer et al. (2003).

BBS Trend Oregon: Trend from 70+ BBS annual surveys statewide, 1966 to 2002. Only the asterisked codes are statistically significant. Calculated by Sauer et al. (2003).

EE Wilson Wildlife Area: C= common, U= uncommon, O= occasional, R= rare, * = nesting confirmed. From ODFW checklist.

Adair Military T.A.: Adair Military Training Area southeast of Airlie. Mostly from spring 1998 point counts by Henny et al. (1999). C= common (>0.20 detections per point), U= uncommon (0.10-0.19 detections/point), O= occasional (0.05-0.09 detections/point), R= rare (<0.05 detections/point). S= detected only by Schreiber (2002).

McDonald State Forest: from Larson (1991), M. Stoddard (pers.comm.), and personal observations.

Ritter Cem. area: Cemetery and private farmland bordering NE part of E.E. Wilson Wildlife Area, bounded on north by Soap Creek and on east by Independence Hwy. From Joel Geier.

Luckiamute Landing: From Joel Geier.

	BBA	BBS Adair Extent	BBS Adair Mean	BBS Trend Local	BBS Trend Oregon	EE Wilson	Adair Military T.A.	McDonald Forest	Ritter Cem. area	Luckiamute Landing
Pied-billed Grebe	CO	6	0.01	P	P	C*				
(Western Grebe)	PR				N					
American Bittern	PR	4	0.38	P	P	O				
Great Blue Heron	PO	30	1.25	P*	N	C		R	O	U
Green Heron	CO				N	U*			O	
(Great Egret)	--	2	0.12		N	R			R	
(Black-crowned Night-Heron)	PO				P					
Canada Goose	CO	56	3.88	P	P	C*		R	U	U
Wood Duck	CO	4	0.01		N	C*	R		U	U*
(Green-winged Teal)	PR				N					
Mallard	CO	352	23.88	P	N	C*		R	U	U
(Northern Pintail)	PR				N*					
Blue-winged Teal	CO				N	R				

	BBA	BBS Adair Extent	BBS Adair Mean	BBS Trend Local	BBS Trend Oregon	EE Wilson	Adair Military T.A.	McDonald Forest	Ritter Cem. area	Luckiamute Landing
Cinnamon Teal	CO		0.25	P*	N*	C*			O	O
(Northern Shoveler)	CO	12	0.75	P	N					
(Gadwall)	PO				P					
(Ring-necked Duck)	CO				P					
(Lesser Scaup)	PO				P					
Hooded Merganser	CO	2	0.01		N	C*				
Common Merganser	CO				P				R	O
(Ruddy Duck)	PO				P					
Turkey Vulture	CO	66	2.25	P	N	C	O	U	C*	C
Osprey	CO	2	0.12		P*	U			O	U*
White-tailed Kite	CO									
(Bald Eagle)	PO				P			R	R	O
Northern Harrier	CO	30	1.75	N	P	C*	U	O	U*	U
Sharp-shinned Hawk	CO					O		O	R	O
Cooper's Hawk	CO				N	O		O	O	O
(Northern Goshawk)									X	
(Red-shouldered Hawk)	PO					O				
Red-tailed Hawk	CO	68	2.88	P	P*	C*	O	O	C*	C*
(Golden Eagle)									X	
American Kestrel	CO	78	2.00	N	N*	C*		O	U	U
(Peregrine Falcon)	PO					R				
(Prairie Falcon)	--	2	0.01		N					
Ring-necked Pheasant	CO	674	11.00	N	N*	U*	C		R	O*
Blue Grouse	PR				N			U		
Ruffed Grouse	CO							O		O*
Wild Turkey	CO				P*		R		R/E	R/E
(Northern Bobwhite)	PR									
California Quail	CO	282	6.62	N	N	C*		O	C*	U*
Mountain Quail	CO	2	0.12		N			U		
Virginia Rail	CO				P	C*				
Sora	CO				N	U*				
American Coot	CO		0.50	P	P	C*				

	BBA	BBS Adair Extent	BBS Adair Mean	BBS Trend Local	BBS Trend Oregon	EE Wilson	Adair Military T.A.	McDonald Forest	Ritter Cem. area	Luckiamute Landing
Killdeer	CO	238	6.62	P	N*	C*	U		C*	U*
Spotted Sandpiper	CO	2	0.01							U*
(Wilson's Snipe)	PR				N*	O*				
(Wilson's Phalarope)	CO				N					
(Ring-billed Gull)	--	4	0.01		N*					
(California Gull)	--	4	0.12		N					
(Black Tern)	CO				N					
Marbled Murrelet	--									
Rock Dove	CO	612	2.88	N		U*			O	O
Band-tailed Pigeon	CO	46	0.62		N*	C	R	U	O	O
Mourning Dove	CO	494	7.50	N	N*	C*	O	C	C	C
(Yellow-billed Cuckoo)	--					R				
Barn Owl	CO				N	U*			O	R
Western Screech-Owl	CO					U*				U
Great Horned Owl	CO	14	1.38	P	P	U*	O	O	U*	U
Northern Saw-whet Owl	--									
Northern Pygmy-Owl	--				P			O		
Spotted Owl	CO									
Barred Owl	PO									
Long-eared Owl	CO					R				
(Short-eared Owl)	PR					U				
Northern Saw-whet Owl	PO							R		
Common Nighthawk	CO				N	U*		O	O	U*
(Black Swift)	PO	6	0.01							
Vaux's Swift	CO	22	1.25	P	P			O	U*	U
Anna's Hummingbird	PO				P					
Rufous Hummingbird	CO	44	1.12	N*	N*	U*	O	C	C*	U*
Belted Kingfisher	PR				N*	U*		R	U	U*
Acorn Woodpecker	CO	16	0.25	P	P	R			R	
Red-breasted Sapsucker	CO	10	0.25		P	U*	U	U	U*	U*
Downy Woodpecker	CO	10	0.38	P	N	C*		U	U*	U*
Hairy Woodpecker	CO	6	0.38	P	N		U	U	O	U*

	BBA	BBS Adair Extent	BBS Adair Mean	BBS Trend Local	BBS Trend Oregon	EE Wilson	Adair Military T.A.	McDonald Forest	Ritter Cem. area	Luckiamute Landing
Northern Flicker	CO	126	2.50		N	C*	C	C	C*	C*
Pileated Woodpecker	CO	4	0.25	N	P*	O	R	U	R	O
Olive-sided Flycatcher	PR	32	0.38	N	N*	O		U		R
Western Wood-Pewee	CO	508	14.88	P	N*	C*		U	C*	C*
Willow Flycatcher	CO	36	0.75	N	N*	U*		C	O	U
Hammond's Flycatcher	CO				P*					
(Dusky Flycatcher)	PO				P					
Pacific-slope Flycatcher	CO		0.12		N*	U*	C	C	C	U
(Black Phoebe)						R				
Western Kingbird	CO				N	R				
Horned Lark	CO	368	5.00	N*	N*				U*	
Purple Martin	CO				P	R				
Tree Swallow	CO	124	0.38	N*	N	C*	O		O	U*
Violet-green Swallow	CO	548	18.88	P	N	C*	R	U	U*	C
N. Rough-winged Swallow	CO	18	0.01	P	N	O			R	U*
Cliff Swallow	CO	644	11.88	N*	P*	C*			O	U
Barn Swallow	CO	1516	44.00	N	N*	C*	O	O	C*	C
Gray Jay	PR				P			O		
Steller's Jay	CO	30	0.88	N	N	R	C	A	U	C*
Western Scrub-Jay	CO	316	9.62	N	P	C*	U	R	C*	U
American Crow	PR	578	16.38	P	P*	C	U	U	U	U
Common Raven	PR	6	0.01		P	O		O	O	O
Black-capped Chickadee	CO	180	6.50	P	N	C*	O	C	C*	C*
Chestnut-backed Chickadee	CO	18	0.62	P	N		R	C	O	
Bushtit	CO	54	1.62	P	N	U*		U	C	C
Red-breasted Nuthatch	CO	26	0.88	P	N*	O	C	C	U*	R
White-breasted Nuthatch	CO	22	0.01	N	N	U*		C	U*	
Brown Creeper	CO	16	1.00	P	P	O		U	U	C
Rock Wren	PR				N*					
Bewick's Wren	CO	198	5.75	P*	P	C*	U	C	C*	C
House Wren	CO	64	3.50	N	N*	U*		U	U*	O
Winter Wren	CO				P*		C	U	O	

	BBA	BBS Adair Extent	BBS Adair Mean	BBS Trend Local	BBS Trend Oregon	EE Wilson	Adair Military T.A.	McDonald Forest	Ritter Cem. area	Luckiamute Landing
Marsh Wren	CO				P	U*				O
American Dipper	CO				P					
Golden-crowned Kinglet	PR				N*		U	R		
Western Bluebird	CO				P	U*		O		
Townsend's Solitaire	PO				P*					
Swainson's Thrush	CO	202	3.75	P*	N*	C*		C	C*	A*
Hermit Thrush	PR				N*					
American Robin	CO	2204	53.75	P	N*	C*	C	C	C*	C*
Varied Thrush	PR							U		
Wrentit	PO				P	O		U?	O	
Cedar Waxwing	CO	598	16.88	P	N	C*		U	C	C
European Starling	CO	3790	119.12	N	P	C*	U		C*	U*
Cassin's Vireo	CO	2	0.12		N*			O	U	U
Hutton's Vireo	CO	6	0.12		P			O	U	U
Warbling Vireo	CO	6	0.38	P	P			O	O	O
Red-eyed Vireo	--				N					R
Orange-crowned Warbler	CO	102	4.38	N	N*	U*	C	C	C*	C
Nashville Warbler	PO				N	R				
Yellow Warbler	PR	18	0.12	P	N	O		R	O	U
Yellow-rumped Warbler	PO				P		R	U		
Black-throated Gray Warbler	PR				N	U	C	U	U*	U*
Hermit Warbler	PR				P			O		
MacGillivray's Warbler	CO				N	R		C	R	R
Common Yellowthroat	CO	854	33.25	N	P	C*	C	U	C*	A*
Wilson's Warbler	PR	14	0.25	N	N	O	C	C	O	O
Yellow-breasted Chat	CO	34	0.25	P	N	U*	O	O	O	R
Western Tanager	CO	38	1.00	P	N	U*	U	U	U*	U
Black-headed Grosbeak	CO	512	14.00	N	P	U*	C	U	U*	C*
Lazuli Bunting	CO	24	0.12	N	N	U*		U	U*	U*
Spotted Towhee	CO	534	15.50	P	N	C*	C	C	U*	C*
Chipping Sparrow	CO	144	5.12	P	N*			O/U	R	
Vesper Sparrow	CO	28	0.01	N*	P	R		O/U	R	U*

	BBA	BBS Adair Extent	BBS Adair Mean	BBS Trend Local	BBS Trend Oregon	EE Wilson	Adair Military T.A.	McDonald Forest	Ritter Cem. area	Luckiamute Landing
Savannah Sparrow	CO	1236	27.62	N*	N	C*	U		A*	C*
Song Sparrow	CO	1032	26.25	P	N*	C*	C	C/A	C*	A*
White-crowned Sparrow	CO	226	7.62	P	N*	C*	R	C	U*	C*
Dark-eyed Junco	CO	28	0.38		N	O	C	A	O	O
Red-winged Blackbird	CO	2590	68.25	P	N	C*	O		O	O
Western Meadowlark	CO	506	1.50	N*	N	U*			R*	
Yellow-headed Blackbird	PR	12	0.75		P					
Brewer's Blackbird	CO	2710	58.62	N	N*	C*			C*	C
Brown-headed Cowbird	CO	428	5.50	N	N	C*	U	O/U	U*	C*
Bullock's Oriole	CO	36	0.62	P	N	U*			O	
Purple Finch	CO	124	0.50	P	N	U*	U	O	U	O
House Finch	CO	1006	27.50	P	N	U*			U	U*
Red Crossbill	PR				N	R		O	R	
Pine Siskin	CO	4	0.25	P	N			O		
Lesser Goldfinch	PR				N*	R				O
American Goldfinch	CO	1600	45.75	N*	N*	C	O	U	U*	C*
Evening Grosbeak	CO	12	0.12		P		O	O		O
House Sparrow	CO	910	17.00	N*	N	O			R	

Appendix B. Wintering bird relative abundance and trends documented from Christmas Bird Counts that include part of the Luckiamute watershed

Dallas CBC: % of years found (of most recent 33), maximum count, maximum per observer-hours. Includes some records from outside the watershed, e.g., Baskett Slough NWR.

Airlie CBC: % of years found (of 5), maximum count, maximum per observer-hours. May include some records from outside the watershed, e.g., Ankeny NWR, Albany.

Dallas CBC Trend: P= positive (increase), N= negative (decrease). Computed for counts from 1970 through 2002. Asterisk indicates trend was statistically significant, based on Spearman rank correlation of numbers with year after partialling out the influence of observer hours. Some positive trends may be an artifact of increasing observer efficiency.

Species	Dallas CBC			Airlie CBC			Dallas CBC trend
	PctYrs	MaxC	Max/hr	PctYrs	MaxC	Max/hr	
Pacific Loon	3	1	0.01				
Pied-billed Grebe	82	12	0.17	100	63	0.80	N
Horned Grebe	3	1	0.01				
Eared Grebe	6	1	0.02				
Western Grebe	15	2	0.03	20	1	0.01	
Double-crested Cormorant	27	9	0.14	100	158	2.00	P*
Great Blue Heron	100	47	0.8	100	88	1.11	P*
Great Egret	21	3	0.05	100	51	0.31	
Green Heron	9	1	0.01	20	2	0.01	
Turkey Vulture	6	2	0.03				
Greater White-fronted Goose	33	12	0.21	20	3	0.02	
Emperor Goose	6	1	0.01				
Snow Goose	48	31	0.38	20	1	0.01	
Canada Goose	100	25211	492.98	100	39327	240.83	P*
Brant	3	0	0				
Trumpeter Swan	15	18	0.31	80	57	0.35	
Tundra Swan	82	350	5.47	100	260	2.24	P*
Wood Duck	91	40	0.6	100	37	0.24	P*
Gadwall	39	45	0.77	100	45	0.27	P*
Eurasian Wigeon	52	5	0.07	100	3	0.03	
American Wigeon	100	5300	96.36	100	1759	18.21	N
Mallard	100	20144	300.66	100	2322	14.12	N*
Blue-winged Teal	3	1	0.01				
Cinnamon Teal	6	5	0.06				

Species	Dallas CBC			Airlie CBC			Dallas CBC trend
	PctYrs	MaxC	Max/hr	PctYrs	MaxC	Max/hr	
Northern Shoveler	100	860	14.7	80	334	3.28	P*
Northern Pintail	100	18722	264.75	100	2560	22.64	N*
Eurasian Green-winged Teal	3	1	0.01				
Green-winged Teal	100	15000	254.24	100	1763	22.32	
Canvasback	45	28	0.41	80	11	0.07	N
Redhead	9	10	0.12	20	4	0.02	
Ring-necked Duck	91	1741	27.2	100	463	5.94	P*
Greater Scaup	24	15	0.22	20	2	0.01	
Lesser Scaup	100	327	5.59	100	118	1.49	P*
Surf Scoter	6	1	0.01				
Bufflehead	94	523	8.94	100	138	0.94	P*
Common Goldeneye	18	6	0.09	80	4	0.05	
Hooded Merganser	100	83	1.22	100	45	0.48	P
Common Merganser	79	145	1.69	100	55	0.33	P
Ruddy Duck	100	358	6.12	100	410	2.49	P
White-tailed Kite	48	10	0.17	100	2	0.01	P*
Bald Eagle	55	8	0.16	100	14	0.09	P*
Northern Harrier	100	52	0.59	100	61	0.37	P*
Sharp-shinned Hawk	97	8	0.11	100	14	0.09	P
Cooper's Hawk	85	9	0.1	100	15	0.14	N
Northern Goshawk	9	1	0.02				
Red-shouldered Hawk				40	2	0.01	
Red-tailed Hawk	100	368	5.33	100	279	2.34	P*
Rough-legged Hawk	91	42	0.55	100	13	0.12	N*
Golden Eagle	27	4	0.05	20	1	0.01	
American Kestrel	100	92	1.21	100	120	0.99	N
Merlin	52	5	0.07	100	4	0.02	P
Gyrfalcon	3	1	0.02	80	4	0.05	
Peregrine Falcon	27	1	0.02	60	1	0.01	
Prairie Falcon	30	2	0.03	100	36	0.22	
Ring-necked Pheasant	100	124	1.54	80	10	0.06	N*

Species	Dallas CBC			Airlie CBC			Dallas CBC trend
	PctYrs	MaxC	Max/hr	PctYrs	MaxC	Max/hr	
Ruffed Grouse	64	5	0.07				N
Blue Grouse				20	1	0.01	
Wild Turkey	12	24	0.31	100	89	0.54	
Mountain Quail	48	24	0.27	100	12	0.15	P
California Quail	100	228	2.83	100	192	1.24	N
Virginia Rail	27	8	0.11	40	2	0.01	N
Sora	3	1	0.02				
American Coot	97	287	3.22	100	281	3.56	P
Black-bellied Plover				20	1	0.01	
Killdeer	97	1427	26	100	1871	23.68	N
Greater Yellowlegs	3	1	0.01	60	21	0.27	
Spotted Sandpiper	18	4	0.06	80	6	0.04	
Western Sandpiper	18	100	1.69				
Least Sandpiper	33	102	1.5	80	152	0.92	N
Dunlin	67	1767	39.27	100	21206	128.91	P*
Long-billed Dowitcher	42	130	2.4	100	154	1.94	P
Wilson's Snipe	94	119	1.72	80	170	2.15	N
Franklin's Gull	3	1	0.01				
Bonaparte's Gull	6	1	0.01				
Mew Gull	58	320	3.79	80	141	1.78	P*
Ring-billed Gull	61	58	0.73	80	24	0.30	N*
California Gull	30	60	0.83	40	13	0.16	
Herring Gull	21	6	0.09	40	1	0.01	
Thayer's Gull	3	1	0.01				
Western Gull	3	1	0.02				
Glaucous-winged Gull	36	31	0.53	60	5	0.03	
Rock Dove	88	289	2.98	100	437	2.85	P*
Band-tailed Pigeon	12	5	0.11	20	1	0.01	
Mourning Dove	100	303	3.76	100	301	1.83	N
Barn Owl	79	7	0.07	80	7	0.04	N
Western Screech-Owl	24	12	0.12	60	9	0.06	

Species	Dallas CBC			Airlie CBC			Dallas CBC trend
	PctYrs	MaxC	Max/hr	PctYrs	MaxC	Max/hr	
Great Horned Owl	79	10	0.11	100	22	0.14	
Snowy Owl	3	1	0.02				
Northern Pygmy-Owl	12	2	0.02	60	4	0.05	
Burrowing Owl	6	1	0.02	20	0	0.00	
Spotted Owl	3	1	0.01				
Barred Owl	3	1	0.02				
Long-eared Owl	3	1	0.02				
Short-eared Owl	48	27	0.39	80	6	0.04	N
Northern Saw-whet Owl	12	2	0.02	80	4	0.05	
Anna's Hummingbird	6	1	0.01				
Belted Kingfisher	91	11	0.11	100	25	0.16	N
Lewis's Woodpecker	39	26	0.34	20	1	0.01	N*
Acorn Woodpecker	97	18	0.24	100	18	0.13	P
Red-breasted Sapsucker	88	16	0.24	100	30	0.38	N
Downy Woodpecker	100	35	0.39	100	82	0.50	N
Hairy Woodpecker	82	8	0.16	100	14	0.09	P
Northern Flicker	97	258	3.91	100	310	1.91	N*
Pileated Woodpecker	73	7	0.09	100	12	0.13	P
Black Phoebe				40	1	0.01	
Say's Phoebe	6	1	0.02	60	1	0.01	
Loggerhead Shrike	9	6	0.09	40	7	0.09	
Northern Shrike	94	8	0.09	100	14	0.09	N*
Hutton's Vireo	55	6	0.07	100	15	0.15	P
Gray Jay	36	12	0.16	100	268	1.73	N
Steller's Jay	100	152	1.96	100	650	4.21	P
Western Scrub-Jay	100	383	4.47				P
Black-billed Magpie	3	1	0.02				
American Crow	100	1583	28.07	100	1283	8.30	N
Common Raven	94	63	0.76	100	62	0.63	P*
Horned Lark	42	201	2.96	60	29	0.27	N
Tree Swallow	3	1	0.02	20	1	0.01	
Violet-green Swallow	6	1	0.02				

Species	Dallas CBC			Airlie CBC			Dallas CBC trend
	PctYrs	MaxC	Max/hr	PctYrs	MaxC	Max/hr	
Barn Swallow				20	0	0.00	
Black-capped Chickadee	100	296	5.09	100	1270	8.22	N*
Mountain Chickadee	3	1	0.01	20	0	0.00	
Chestnut-backed Chickadee	97	130	1.53	100	212	1.37	P
Bushtit	100	407	5.32	100	481	2.92	N
Red-breasted Nuthatch	100	117	1.29	100	137	0.89	N
White-breasted Nuthatch	100	35	0.39	100	96	0.62	N*
Brown Creeper	100	22	0.29	100	82	0.53	N
Bewick's Wren	100	80	0.88	100	275	1.68	P
Winter Wren	100	59	0.9	100	203	2.48	P
Marsh Wren	70	18	0.4	100	27	0.33	P
American Dipper	82	92	1.39				N*
Golden-crowned Kinglet	100	328	3.76	100	1584	13.01	P*
Ruby-crowned Kinglet	100	145	1.61	100	333	2.16	P*
Western Bluebird	94	140	1.69	100	162	0.98	P
Mountain Bluebird	3	1	0.01				
Townsend's Solitaire	6	1	0.02	20	1	0.01	
Hermit Thrush	61	10	0.12	100	33	0.42	P
American Robin	100	4143	64.73	100	8472	51.50	P
Varied Thrush	100	224	2.78	100	344	2.11	N
Wrentit	24	7	0.09	100	9	0.06	
Northern Mockingbird	3	1	0.01				
European Starling	100	16793	219.52	100	14291	163.29	P*
American Pipit	82	405	4.71	100	229	2.90	P
Cedar Waxwing	33	12	0.22	40	44	0.27	N
Orange-crowned Warbler	12	5	0.09	60	1	0.01	
Yellow-rumped Warbler	97	143	1.92	100	132	0.85	P
Townsend's Warbler	36	8	0.09	100	28	0.35	P
Common Yellowthroat				20	1	0.01	
Spotted Towhee	100	300	3.09	100	550	3.90	P
American Tree Sparrow	6	1	0.02				
Chipping Sparrow	15	6	0.11	40	5	0.03	

Species	Dallas CBC			Airlie CBC			Dallas CBC trend
	PctYrs	MaxC	Max/hr	PctYrs	MaxC	Max/hr	
Clay-colored Sparrow	3	1	0.01				
Vesper Sparrow	6	5	0.06				
Lark Sparrow	3	1	0.01				
Savannah Sparrow	88	205	4.46	100	150	0.92	N
Fox Sparrow	100	219	2.29	100	568	3.48	P*
Song Sparrow	100	438	5.44	100	1431	8.76	P*
Lincoln's Sparrow	76	44	0.98	100	55	0.38	P*
Swamp Sparrow	15	2	0.03	60	1	0.01	
White-throated Sparrow	70	8	0.12	100	19	0.15	P
Harris's Sparrow	9	1	0.02	40	1	0.01	
White-crowned Sparrow	100	330	4.62	100	638	3.88	P*
Golden-crowned Sparrow	100	1086	12	100	851	5.81	P*
Dark-eyed Junco	100	3403	41.5	100	3088	18.77	N*
Red-winged Blackbird	100	8357	85.28	100	2648	16.10	P
Tricolored Blackbird	3	0	0	20	0	0.00	
Western Meadowlark	97	241	3.67	100	141	1.15	P
Yellow-headed Blackbird	3	0	0				
Brewer's Blackbird	97	6036	102.31	100	2590	15.74	N*
Brown-headed Cowbird	52	75	1.28	60	12	0.07	P
Bullock's Oriole	3	1	0.01				
Purple Finch	91	93	1.13	100	98	0.60	P
House Finch	100	737	12.49	100	1039	6.32	N
Red Crossbill	21	53	0.59	20	1	0.01	
Pine Siskin	85	2106	24.49	100	381	2.32	N
Lesser Goldfinch	48	52	0.58	100	68	0.41	N
American Goldfinch	88	109	1.46	100	181	1.11	P
Evening Grosbeak	52	116	1.51	20	2	0.01	N*
House Sparrow	100	367	4.56	100	466	2.83	P

Appendix xx. Migrating and/or wintering birds documented from the vicinity of the Luckiamute watershed.

EE Wilson Wildlife Area: Fall, Winter, Spring status: A= abundant, C= common, U= uncommon, O= occasional, R= rare.

Adair Military T.A.: From winter 1998 point counts by Henny et al. (1999) at National Guard facility southeast of Airlie. C= common (>0.20 detections per point), U= uncommon (0.10-0.19 detections/point), O= occasional (0.05-0.09 detections/point), R= rare (<0.05 detections/point, or noted incidentally)

McDonald State Forest: From checklist published in Oregon Birds. A= abundant, C= common, U= uncommon, O= occasional, R= rare, E= extirpated, X = single record

Ritter Cemetery area: Observations and abundance assessments, mostly on private farmland bordering NE part of E.E. Wilson Wildlife Area, bounded on north by Soap Creek and on east by Independence Hwy. From Joel Geier (pers. comm.).

Luckiamute Landing: Observations and abundance assessments mainly by Joel Geier during fall, winter, spring. Also includes sightings by Roy Gerig, Trent Bray, Sean Burgett, Bill Tice, John Lundsten, and others.

Species	EE Wilson (F, W, Sp)	Adair Military T.A.	Mc-Donald State Forest	Ritter Cemetery area (F, W, Sp)	Luckiamute Landing (F, W, Sp)
Pied-billed Grebe	C, C, C				
Horned Grebe	--, R, --				
Western Grebe	--, R, --				
Double-crested Cormorant	O, U, O			R, O, R	C
American Bittern	O, --, O				
Great Blue Heron	C, C, C			U, U, U	U
Great Egret	R, R, R			R, O, R	O, U, O
Green Heron	--, U, U			-, -, O	
Black-Crowned Night-Heron	U, --, U				
Sandhill Crane	R, R, R			R, -, -	
White-faced Ibis	--, --, R				
Turkey Vulture	R, C, C			U, R, U	C, -, C
Greater White-fronted Goose	--, R, R			-, -, R	-, -, R
Snow Goose	R, --, --			-, R, -	
Canada Goose	C, C, C	R	R	C, A, C	C, A, C
Trumpeter Swan	R, R, --			O, U, O	
Tundra Swan	U, U, U			O, U, O	-, O, -
Wood Duck	C, C, C			U, O, U	U, U, U
Gadwall	O, R, R			-, R, -	R, O, R
Eurasian Wigeon	--, --, U			-, R, -	
American Wigeon	U, O, U			O, C, O	O, U, O

Species	EE Wilson (F, W, Sp)	Adair Military T.A.	Mc-Donald State Forest	Ritter Cemetery area (F, W, Sp)	Luckiamute Landing (F, W, Sp)
Mallard	C, C, C	R	R	U, C, U	U, U, U
Blue-winged Teal	--, R, O				--, R
Cinnamon Teal	R, C, C			--, O	--, O
Northern Shoveler	U, U, U			O, C, U	O, U, O
Northern Pintail	U, U, U			O, C, U	O, U, O
Green-winged Teal	C, C, C			O, C, U	O, U, O
Canvasback	R, R, --				
Redhead	--, --, R				
Ring-necked Duck	C, U, C				O, U, U
Greater Scaup	R, --, --				
Lesser Scaup	U, U, U				
Surf Scoter	R, --, U				
Bufflehead	U, --, U				O, U, O
Hooded Merganser	C, C, C	R		O, O, O	
Common Merganser	U, --, --			O, O, O	U, C, C
Ruddy Duck	R, R, --				
White-tailed Kite	O, O, O				
Bald Eagle	O, O, O			R, O, R	O, U, O
Northern Harrier	U, C, C	R		U, U, U	U, U, U
Sharp-shinned Hawk	U, U, U	R	O	O, U, O	U, U, U
Cooper's Hawk	U, U, U	R	O	O, U, O	U, U, U
Northern Goshawk	R, --, R				
Red-shouldered Hawk	R, R, --			--, R, -	
Red-tailed Hawk	C, C, C	C		U, C, U	U, U, U
Rough-legged Hawk	U, R, U	R		O, O, O	
Golden Eagle	--, R, --			-	--, R
American Kestrel	C, C, C	U		U, U, U	U, U, U
Merlin	O, O, O			O, O, O	O, U, O
Peregrine Falcon	--, R, --			R, R, R	--, R, -
Prairie Falcon	R, --, --			--, R, -	
Ring-necked Pheasant	U, C, U	R		O, R, R	R, R, O
Ruffed Grouse	R, R, R	R	O		R, R, O

Species	EE Wilson (F, W, Sp)	Adair Military T.A.	Mc-Donald State Forest	Ritter Cemetery area (F, W, Sp)	Luckiamute Landing (F, W, Sp)
Blue Grouse	--	R	O		
Wild Turkey	--			R/E	R/E
Mountain Quail	R, R, R	R	O		
California Quail	C, C, C	R	O	C, U, U	C, U, U
Virginia Rail	R, U, C			-, -, R	
Sora	U, --, --				
American Coot	U, U, C				
Black-necked Stilt	--, R, --				
Black-bellied Plover	--				
Semipalmated Plover	--, --, R				
Killdeer	C, C, C	O		C, A, C	C, C, C
Greater Yellowlegs	R, C, C			O, O, U	U, O, U
Lesser Yellowlegs	R, U, U			-, -, R	
Solitary Sandpiper	--, O, O			-, -, R	
Spotted Sandpiper	--, O, U			-, -, R	U, O, U
Sanderling	---, --, R				
Western Sandpiper	O, U, U			-, -, O	
Least Sandpiper	U, C, C	R		-, -, U	-, -, O
Semipalmated Sandpiper	--, R, --				
Baird's Sandpiper	--, R, --				
Pectoral Sandpiper	--, O, U				
Wilson's Phalarope	--, --, O				
Red Phalarope	--, R, --				
Red-necked Phalarope	--, R, --				
Dunlin	U, U, C			O, U, O	R, O, R
Long-billed Dowitcher	U, U, U			R, O, O	
Short-billed Dowitcher	---, --, O				
Wilson's Snipe	U, U, U	R		O, U, U	O, U, U
Bonaparte's Gull	--, R, --				
Mew Gull	---, --, O			--, O, R	-, -, R
Ring-billed Gull	U, --, U			R, O, O	

Species	EE Wilson (F, W, Sp)	Adair Military T.A.	Mc-Donald State Forest	Ritter Cemetery area (F, W, Sp)	Luckiamute Landing (F, W, Sp)
California Gull	---, --, U			R, O, R	
Herring Gull	O, --, O			--, R, R	
Thayer's Gull	--, U, --				
Western Gull	--, R, --				
Glaucous-winged Gull	U, O, U			R, O, O	
Rock Dove	U, U, U			O, O, O	
Band-tailed Pigeon	--, U, C			-, -, O	-, -, U
Mourning Dove	U, C, C			U, O, U	C, C, C
Barn Owl	U, U, U	R		O, O, O	R, R, R
Western Screech-Owl	U, U, U	R		-, -, R	U, U, U
Great Horned Owl	U, U, C	R	O	U, U, U	U, U, U
Snowy Owl	--				
Northern Pygmy-Owl	--	R	O		
Long-eared Owl	O, O, O		R		
Short-eared Owl	R, --, O			R, O, R	
Northern Saw-whet Owl	R, --, --				-, R, -
Common Nighthawk	--O, O			-, -, R	-, -, O
Vaux's Swift	--U, U	R		O, -, U	O, -, O
Anna's Hummingbird	--				
Calliope Hummingbird	--			-, -, R	
Rufous Hummingbird	O, --, U			O, -, U	O, -, U
Belted Kingfisher	U, U, U		R	U, O, U	U, U, U
Lewis's Woodpecker	--, R, --			-, -, R	
Acorn Woodpecker	U, U, U			R, -, R	
Red-breasted Sapsucker	O, U, U		U	U, U, U	U, U, U
Downy Woodpecker	U, U, C	U	U	U, U, U	U, U, U
Hairy Woodpecker	R, R, R		U	O, O, O	U, U, U
Northern Flicker	C, C, C	C	C	C, C, C	C, C, C
Pileated Woodpecker	U, O, O	R	U	R, O, O	O, O, U
Eastern Kingbird	--, R, R				
Western Kingbird	--, --, O				
Black Phoebe	R, R, R				

Species	EE Wilson (F, W, Sp)	Adair Military T.A.	Mc-Donald State Forest	Ritter Cemetery area (F, W, Sp)	Luckiamute Landing (F, W, Sp)
Say's Phoebe	R, R, R				
Olive-sided Flycatcher	--, --, U	R			
Western Wood-Pewee	--, U, C	R		O, -, U	O, -, U
Willow Flycatcher	--, U, U			R, -, O	-, -, O
Hammond's Flycatcher	--			-, -, O	-, -, O
Dusky Flycatcher	--			-, -, R	
Pacific-slope Flycatcher	--, O, U			O, -, U	-, -, U
Loggerhead Shrike	--, R, --				
Northern Shrike	U, U, U	R		O, O, O	
Hutton's Vireo	--, O, O		O	U, U, U	O, O, O
Gray Jay	--		O		
Steller's Jay	U, R, U	C	A	U, U, U	C, C, C
Western Scrub-Jay	C, C, C	O	R	C, C, C	U, U, U
Black-billed Magpie	--				
American Crow	C, C, C		U	U, U, U	U, U, U
Common Raven	U, U, U	R	O	U, U, U	O, O, O
Horned Lark	--	R		U, C, U	---
Tree Swallow	C, U, O			-, -, R	-, -, U
Violet-green Swallow	O, C, C			C, -, C	U, -, U
Barn Swallow	--, C, C				
Black-capped Chickadee	C, C, C	U	C	C, C, C	C, C, C
Mountain Chickadee	--				
Chestnut-backed Chickadee	O, --, O	U	C	O, O, O	
Bushtit	C, C, U	C	U	C, C, C	C, C, C
Red-breasted Nuthatch	O, O, O	U	C	U, U, U	R, R, R
White-breasted Nuthatch	U, U, U	R	C	U, U, U	-, -, R
Brown Creeper	O, O, O	O	U	U, U, U	C, C, C
Bewick's Wren	C, C, C		C	C, C, C	C, C, C
Winter Wren	O, O, --	C	C	U, C, U	C, C, C
Marsh Wren	R, U, U			O, O, O	O, U, U
Golden-crowned Kinglet	U, U, U	C	C	U, C, U	C, A, U
Ruby-crowned Kinglet	U, U, C	U		U, C, U	C, C, U
Western Bluebird	U, U, U	R		-, -, R	-, O, -

Species	EE Wilson (F, W, Sp)	Adair Military T.A.	Mc-Donald State Forest	Ritter Cemetery area (F, W, Sp)	Luckiamute Landing (F, W, Sp)
Townsend's Solitaire	--, R,--		R	R, -, -	R, -, -
Swainson's Thrush	--, U, C			U, -, U	U, -, U/C
Hermit Thrush	R, --, R	O		O, U, O	O, U, O
American Robin	C, C, C	C	C	C, A, C	C, A, C
Varied Thrush	U, R, C	U	U	U, C, U	U, C, U
Wrentit	--, --, R		O	O, O, O	
Northern Mockingbird	R, --, --				
European Starling	C, C, C	U		C, A, C	U, C, U
American Pipit	O, U, U			U, C, U	O, U, O
Cedar Waxwing	C, C, C		U	C, U, U	C, U, U
Orange-crowned Warbler	--, O, C			O, -, U	O, -, U
Nashville Warbler	--, R, R			R, -, O	-, -, O
Yellow Warbler	--, R, U			R, -, O	-, -, U/C
Black-throated Gray Warbler	--, U, U			U, -, U	U, -, U
Yellow-rumped Warbler	C, U, C		O	U, U, C	U, U, C
Hermit Warbler	--			-, -, R	-, -, R
Townsend's Warbler	R, --, --	O	O	R, O, R	R, O, R
Common Yellowthroat	--, U, C			U, -, C	U, -, C
Black-and-white Warbler	--			-, -, X	
MacGillivray's Warbler	--, --, O			R, -, -	R, -, -
Spotted Towhee	C, C, C	C	O	C, C, C	C, C, C
American Tree Sparrow	R, --, --				
Chipping Sparrow	--, U, U			O, -, O	-, -, O
Clay-colored Sparrow	--				
Vesper Sparrow	R, R, O			R, -, -	O, -, U
Savannah Sparrow	O, U, C			C, U, A	U, U, C
Fox Sparrow	C, C, C	U	U	U, U, U	C, A, C
Song Sparrow	C, C, C	C	C	C, C, C	C, A, C
Lincoln's Sparrow	C, C, C			O, U, O	U, C, U
Swamp Sparrow	O, R, --			-, R, -	-, R, R
White-throated Sparrow	U, O, U			O, O, O	O, U, O
Harris's Sparrow	R, R, --				

Species	EE Wilson (F, W, Sp)	Adair Military T.A.	Mc-Donald State Forest	Ritter Cemetery area (F, W, Sp)	Luckiamute Landing (F, W, Sp)
White-crowned Sparrow	R, R, --			O, U, U	U, C, C
Golden-crowned Sparrow	C, C, C	O	O	U, C, C	C, A, C
Dark-eyed Junco	C, C, C	U	A	U, A, C	C, A, C
Red-winged Blackbird	U, C, C			C, C, C	C, C, C
Western Meadowlark	U, U, U	O		O, U, U	O, U, U
Yellow-headed Blackbird	--, --, R				
Brewer's Blackbird	C, C, C			A, A, C	C, C, C
Brown-headed Cowbird	--, U, C			U, R, U	O, -, U
Bullock's Oriole	--, U, --				
Purple Finch	C, U, C		O	U, C, U	O, U, O
House Finch	U, C, C	R		U, U, U	C, A, C
Red Crossbill	--, R, --		O		
Pine Siskin	C, U, U	O	O	O, U, O	O, C, O
Lesser Goldfinch	O, O, O			-, R, R	O, U, O
American Goldfinch	U, C, U		O	U, U, U	C, A, C
Evening Grosbeak	R, R, U			R, R, O	R, R, O
House Sparrow	C, C, C			-, -, O	

Appendix xx. Topographic characteristics of subunits of the Luckiamute watershed

HUC7	Area (acres)	Elevation, median	Elevation, mimumum	Elevation, maximum	Slope, median	Slope, maximum
17090003060101	5922.72	487	230	981	9	34
17090003060102	5668.6	363	230	861	8	46
17090003060201	3230.87	418	177	981	10	41
17090003060202	5622.91	327	118	818	11	54
17090003060203	7207.68	196	97	551	6	45
17090003060204	7211.93	217	97	597	5	38
17090003060301	3393.33	181	89	635	4	45
17090003060302	2748.3	357	108	625	8	33
17090003060303	3358.29	307	92	637	8	39
17090003060304	5849.73	287	89	638	7	33
17090003060305	4206.43	168	80	309	5	34
17090003060401	6044.2	181	79	763	5	49
17090003060402	4630.46	370	129	809	8	41
17090003060403	2443.17	192	92	563	6	31
17090003060404	6371.19	211	80	860	7	36
17090003060501	2646.55	145	72	298	5	38
17090003060502	5449.35	160	72	431	5	32
17090003060503	8336.57	82	59	261	1	28
17090003060504	5543.55	147	59	531	4	22
17090003060601	6044.48	738	294	1010	7	44
17090003060602	1880.39	627	295	834	12	36
17090003060603	3381.37	401	227	711	6	42
17090003060701	4969.67	332	127	612	6	40
17090003060702	3320.33	227	89	613	3	34
17090003060703	2447.36	225	89	422	4	33
17090003060704	3548.01	133	76	269	2	48
17090003060801	2206.75	585	349	809	6	43
17090003060802	4930.24	244	76	669	5	40
17090003060803	2038.5	213	86	466	5	36
17090003060901	5014.4	118	71	233	3	19
17090003060902	6474.7	80	59	268	1	19
17090003060903	4905.97	115	60	245	3	29
17090003061001	4419.95	83	54	197	1	23
17090003061002	2395.89	85	54	185	1	13
17090003061003	2847.88	62	49	144	0	30
17090003061004	3795.77	83	49	147	1	23
17090003061005	3308.22	61	48	133	0	36
17090003061101	5918.17	267	109	615	8	39
17090003061102	4353.44	135	73	479	4	29

HUC7	Area (acres)	Elevation, median	Elevation, mimumum	Elevation, maximum	Slope, median	Slope, maximum
17090003061103	3074.23	76	57	481	1	30
17090003061201	3482.58	258	61	578	5	33
17090003061202	2482.92	102	64	392	2	17
17090003061203	3704.75	86	61	200	1	18
17090003061204	3323.89	70	57	225	1	26
17090003061301	4545.68	63	48	224	0	20
17090003061302	4148.89	68	48	225	0	39
17090003061303	2884.11	57	47	158	0	14

Appendix xx. Topographic characteristics of subunits of the Rickreall watershed

HUC7	Area (acres)	Elevation, median	Elevation, mimumum	Elevation, maximum	Slope, median	Slope, maximum
17090007020404	1978.06	64	44	137	1	46
17090007020501	2541.48	49	44	53	0	8
17090007020502	2952.72	53	45	144	0	16
17090007020503	3160.93	54	41	117	0	11
17090007020601	2755.96	149	97	277	3	21
17090007020602	3623.2	98	65	253	1	24
17090007020603	3450.47	58	41	129	0	10
17090007020604	4411.2	81	50	252	1	22
17090007020605	5713.14	92	58	245	2	28
17090007020606	3299.6	60	45	114	0	9
Total	235621.13					
Mean	4133.70	195.6	94.0	445.9	3.8	31

Appendix xx. Estimates of recent and historical wetland area (in acres) by subunit for Luckiamute watershed

HUC7	HUC Area	% of HUC mapped by NWI	Probable wetland area (NWI, early 1980s)	Possible wetland + water area (FSL, early 1990s)	Possible original wetland area (NRCS estimate #1)	Possible original wetland area (NRCS estimate #2)	% of original wetland area remaining
17090003060101	5922.72	0		0	408.14	408.14	
17090003060102	5668.6	0		0	212.63	864.16	
17090003060201	3230.87	0		0	59.12	91.17	
17090003060202	5622.91	0		0.65	43.09	43.09	
17090003060203	7207.68	72.36		9.48	524.08	721.28	
17090003060204	7211.93	95.39		7.00	95.67	172.31	
17090003060301	3393.33	100	0	7.40	159.70	731.65	0
17090003060302	2748.3	100	3.12	1.33	94.88	343.35	3
17090003060303	3358.29	100	1.17	1.33	40.87	188.62	3
17090003060304	5849.73	100	0.56	17.08	266.81	567.19	0
17090003060305	4206.43	100	0	10.13	85.52	564.12	0
17090003060401	6044.2	92.81		12.13	288.83	1169.62	
17090003060402	4630.46	83.63		0	12.98	907.55	
17090003060403	2443.17	96.08		0.90	0.73	6.15	
17090003060404	6371.19	46.72		3.15	113.98	614.82	
17090003060501	2646.55	100	0	5.43	85.12	487.39	0
17090003060502	5449.35	100	0	8.15	621.17	1042.05	0
17090003060503	8336.57	100	82.16	45.20	1543.63	4829.51	5
17090003060504	5543.55	100	77.75	16.48	715.61	1661.45	11
17090003060601	6044.48	0		0	7.00	12.58	
17090003060602	1880.39	0		0	0	43.40	
17090003060603	3381.37	0.32		0	0	1444.82	
17090003060701	4969.67	82.69	0	0	44.66	815.96	
17090003060702	3320.33	100	0	4.73	41.75	1088.07	0
17090003060703	2447.36	100	0	3.35	25.56	241.81	0
17090003060704	3548.01	100	9.83	19.15	358.46	1432.67	3
17090003060801	2206.75	36.72		0	0	218.07	
17090003060802	4930.24	100	0	10.78	101.90	1403.60	0
17090003060803	2038.5	100	0	1.10	45.27	248.24	0
17090003060901	5014.4	100	51.58	22.08	820.30	1703.64	6
17090003060902	6474.7	100	134.81	53.10	637.78	3732.18	21
17090003060903	4905.97	100	79.17	32.63	499.52	1754.88	16
17090003061001	4419.95	100	79.13	99.05	875.87	2747.46	9
17090003061002	2395.89	100	29.52	6.28	602.49	1643.45	5
17090003061003	2847.88	100	170.23	141.10	1079.33	2381.94	16

HUC7	HUC Area	% of HUC mapped by NWI	Probable wetland area (NWI, early 1980s)	Possible wetland + water area (FSL, early 1990s)	Possible original wetland area (NRCS estimate #1)	Possible original wetland area (NRCS estimate #2)	% of original wetland area remaining
17090003061004	3795.77	100	148.47	44.30	698.79	2898.06	21
17090003061005	3308.22	100	230.05	170.13	1042.73	2758.31	22
17090003061101	5918.17	100	24.07	2.53	98.49	98.49	24
17090003061102	4353.44	100	163.64	17.10	647.97	953.95	25
17090003061103	3074.23	100	364.95	15.98	1138.78	1578.72	32
17090003061201	3482.58	100	42.05	6.05	154.12	538.11	27
17090003061202	2482.92	100	82.04	6.30	495.14	858.58	17
17090003061203	3704.75	100	54.77	5.00	920.41	2216.02	6
17090003061204	3323.89	100	67.49	20.70	995.60	2142.33	7
17090003061301	4545.68	100	143.76	17.08	2962.10	4012.35	5
17090003061302	4148.89	100	160.96	42.13	1708.56	3254.22	9
17090003061303	2884.11	100	227.95	64.10	772.59	2318.26	30
Total	201734.4		2254.64	777.52	16297.74	39242.79	14

NWI = National Wetland Inventory

FSL = Forest Sciences Laboratory (ERC project) at Oregon State University

NRCS = hydric soil acreage from Natural Resources Conservation Service; estimate #1 is based only on soils that are listed as being hydric, estimate #2 also includes soils that only sometimes have hydric inclusions

Appendix xx. Estimates of recent and historical wetland area (in acres) by subunit for Rickreall watershed

HUC7	Area	% of HUC mapped by NWI	Probable wetland area (NWI, early 1980s)	Possible wetland + water area (OSU, early 1990s)	Possible original wetland area (NRCS estimate #1)	Possible original wetland area (NRCS estimate #2)	% of original wetland area remaining
17090007020404	1978.06	100	183.39	212.00	291.10	1362.29	63
17090007020501	2541.48	100	253.13	214.43	265.15	2336.08	95
17090007020502	2952.72	100	72.78	36.70	778.11	2630.94	9
17090007020503	3160.93	100	261.40	248.20	1726.89	2982.43	15
17090007020601	2755.96	100	15.97	9.65	256.18	547.41	6
17090007020602	3623.2	100	43.20	8.33	1061.87	1801.02	4
17090007020603	3450.47	100	125.74	92.48	2129.57	3402.57	6
17090007020604	4411.2	100	93.33	23.63	720.69	2523.85	13
17090007020605	5713.14	100	28.19	15.80	757.30	2273.88	4
17090007020606	3299.6	100	30.03	7.85	1377.95	2960.32	2
	33886.76		1107.16	869.07	9364.81	22820.79	12

Appendix xx. Characteristics of wetlands of the Luckiamute watershed

Data are in acres unless noted otherwise.

Legend

Driest, Intermediate, Wettest: Most “driest” and many “intermediate” wetlands do not look like wetlands to some people because they are dry most of the year (“DriestW”) or a minority of the year (“IntermediateW”). Based on hydroperiod codes on NWI maps.

StreamThru: Acres of NWI wetlands bisected by or along a channel according to the 1:24000 stream layer (not comprehensive)

InFloodplain: Acres of NWI wetlands located in floodplain according to FEMA

Emergent, Water, Shrub, Forested: Acres of wetland in each vegetation category according to NWI

DepresWetland, RIwetland, FlatsWetland, SlopeWetland: Acres of wetlands in Depressional, Riverine Impounding (RI), Flats, and Slope hydrogeomorphic classes (Adamus 2001). Based on inference from soil type, slope, NWI hydroperiod, and association with stream and/or floodplain. Needs field verification.

Unmodified, Modified: A minimal estimate of acres of wetland modified by artificial impoundment, drainage, excavation. From NWI map codes.

ElevationAv: Mean elevation of wetland polygons.

SlopeAv: Mean slope of wetland polygons.

HUC7	DriestW	IntermedW	WettestW	StreamThru	InFloodplain	Emergent	Water	Shrub	Forested	DepresWetlands	RiWetlands	FlatsWetlands	SlopeWetlands	Unmodified	Modified	ElevationAv (ft)	SlopeAv
17090003060302	1.95	1.17	0	1167.10	0	1.17	1.95	0	0	0	3.11	0	0	1.17	1.95	340.11	6.69
17090003060303	0	1.16	0	168.28	0	0	1.16	0	0	0	1.16	0	0	1.16	0	267.81	3.59
17090003060304	0	0	0.56	307.60	0	0	0	0.56	0	0	0.56	0	0	0.56	0	196.35	0.93
17090003060503	2.79	2.15	87.27	11198.92	77.24	15.54	4.41	3.16	69.09	2.95	75.07	13.63	0.56	77.27	14.94	71.51	1.04
17090003060504	7.73	1.64	68.37	9094.79	63.66	23.35	9.37	5.69	39.33	5.47	71.03	0.61	0.63	62.07	15.67	98.57	1.31
17090003060704	0.79	0	9.04	2113.49	0	1.34	0.79	0	7.71	0	9.84	0	0	7.71	2.13	151.85	3.41
17090003060901	7.41	7.92	37.62	6749.01	27.86	11.05	15.11	4.76	22.03	5.82	42.61	1.09	3.43	36.12	16.83	104.58	1.68
17090003060902	7.23	6.05	126.05	15384.22	119.67	22.17	10	1.30	105.86	1.14	122.84	14.69	0.67	116.23	23.10	71.53	1.00
17090003060903	1.74	2.30	75.52	12586.96	62.31	16.84	3.85	3.30	55.57	0.68	73.60	4.94	0.34	69.76	9.79	95.53	1.92
17090003061001	1.63	2.49	89.88	13374.56	69.69	16.61	4.13	0.52	72.75	0.34	87.28	4.78	1.61	87.73	6.28	72.83	1.71
17090003061002	1.51	2.07	28.62	4767.51	11.54	0.15	3.58	1.44	27.03	1.64	27.17	0.15	3.24	27.37	4.83	77.14	1.39

	DriestWV	IntermedWV	WettestWV	StreamThru	InFloodplain	Emergent	Water	Shrub	Forested	DepresWetlands	RiWetlands	FlatsWetlands	SlopeWetlands	Unmodified	Modified	ElevationAv (ft)	SlopeAv
HUC7																	
17090003061003	5.95	6.49	157.74	10445.61	157.43	53.16	10.89	9.36	96.77	4.86	151.87	13.17	0.28	151.42	18.75	59.55	1.17
17090003061004	28.30	3.71	116.41	18366.33	5.85	62.90	29.37	7.85	48.29	6.69	132.74	2.24	6.75	114.58	33.83	78.83	1.49
17090003061005	7.77	494.39	146.65	40291.49	594.29	547.69	8.49	20.56	72.07	4.27	637.09	6.72	0.73	624.52	24.29	56.38	1.21
17090003061101	0.95	0.50	37.60	6255.32	14.80	2.24	1.45	0	35.36	0.95	35.86	0	2.24	37.86	1.19	143.34	3.40
17090003061102	5.47	1.47	336.45	26579.11	153.29	2.38	6.94	3.37	330.70	6.83	335.16	0.66	0.74	336.45	6.94	94.90	1.19
17090003061103	2.58	3.16	374.40	23709.86	112.88	52.17	2.58	18.64	306.75	2.58	340.85	36.72	0	372.10	8.05	66.71	0.36
17090003061201	6.22	0.35	46.09	2768.23	41.63	13.44	6.56	0	32.65	6.22	36.94	9.49	0	46.43	6.22	77.69	0.98
17090003061202	0.82	0	88.97	6135.41	50.09	5.04	0.82	5.44	78.49	0	83.75	6.04	0	88.37	1.42	72.17	0.68
17090003061203	2.52	1.53	55.61	8261.03	43.32	15.73	4.06	0	39.89	2.23	56.49	0.57	0.38	55.04	4.63	75.37	0.69
17090003061204	14.04	0.05	85.47	10157.99	63.64	21.71	14.10	14.57	49.20	2.44	87.17	9.91	0.05	74.72	24.85	63.13	0.61
17090003061301	7.03	483.05	152.17	43277.24	537.96	514.41	8.02	1.63	118.19	8.02	603.01	31.22	0	615.36	26.90	60.42	1.12
17090003061302	10.44	5.47	144.99	11686.76	47.67	70.37	15.23	10.98	64.34	8.34	88.83	61.01	2.72	143.85	17.05	66.65	0.96
17090003061303	8.53	483.73	217.59	45411.07	663.32	583.04	8.71	18.06	100.04	1.05	692.35	1.90	14.55	699.96	9.89	56.35	0.85
Luckiamute Sum (* = mean)	133.39	1510.85	2483.07	330257.89	2918.13	2052.45	171.57	131.20	1772.08	72.51	3796.35	219.53	38.91	3847.80	279.50	104.97*	1.64*

Appendix xx. Topographic and other characteristics of wetlands of the Rickreall watershed

Data are in acres unless noted otherwise. See preceding table for legend.

HUC7	DriestW	IntermedW	WettestW	StreamThru	InFloodplain	Emergent	Water	Shrub	Forested	DepresWetlands	Rlwetlands	FlatsWetlands	SlopeWetlands	Unmodified	Modified	ElevationAv (ft)	SlopeAv
17090007020404	1.09	489.42	37.15	29499.67	499.72	497.00	2.61	9.31	18.73	0.53	523.71	3.09	0.32	518.69	8.96	56.30	1.19
17090007020501	18.88	488.09	94.06	31056.68	577.54	510.62	19.37	22.31	48.74	1.40	577.78	21.86	0	555.31	45.73	47.60	0.60
17090007020502	0.39	487.65	69.05	33532.49	528.67	528.17	2.00	1.65	25.27	1.22	531.78	22.29	1.80	522.47	34.63	56.40	0.70
17090007020503	6.25	524.97	84.01	33946.00	576.75	553.34	11.36	23.90	26.64	7.37	601.70	3.01	3.17	583.65	31.59	53.38	0.78
17090007020601	1.07	6.24	8.65	2582.83	4.91	2.90	6.24	4.61	2.21	1.67	10.07	1.12	3.11	5.11	10.86	124.70	2.60
17090007020602	0.63	1.89	40.68	1327.02	16.27	23.38	2.52	1.04	16.26	1.01	27.12	14.60	0.47	22.90	20.30	90.39	1.24
17090007020603	78.34	483.62	57.76	32673.79	494.12	510.26	79.90	1.67	27.89	2.84	605.33	11.16	0.39	525.82	93.90	55.64	0.45
17090007020604	15.92	3.13	79.51	13494.13	40.80	30.61	19.05	0	48.90	17.09	78.49	1.28	1.70	78.47	20.09	78.29	1.84
17090007020605	4.64	9.10	14.61	4267.44	2.59	6.74	12.75	2.14	6.72	5.09	18.03	3.38	1.86	13.53	14.82	89.78	1.85
17090007020606	6.93	3.87	19.40	4590.75	5.75	5.90	10.80	2.49	11.02	3.89	20.84	1.86	3.62	16.23	13.97	61.79	0.74
Rickreall Sum (* = mean)	134.15	2497.99	504.89	186970.79	2747.12	2668.93	166.61	69.13	232.37	42.09	2994.84	83.64	16.46	2842.19	294.84	71.43*	1.20*

Table xx. Ownership category of probable wetlands, by subunit within the Luckiamute watershed

Data are in acres unless noted otherwise.

HUC7	Federal	State	County	Municipal	Private: Landfill	Private: Weyco	Private: Boise	Private: Other Timber	Private Other	Owner Undetermined
17090003060302	0	0	0	0	0	0	0	1.95	1.17	0
17090003060303	0	0	0	0	0	0	0	1.16	0	0
17090003060304	0	0	0	0	0	0	0	0	0.56	0
17090003060503	0	0	0	0	0	0	0	0	92.02	0.18
17090003060504	0	0	0	0	0	0	0	0.22	77.06	0.45
17090003060704	0	0	0	0	0	0	0	0	9.83	0
17090003060901	0	0	0	0	0	0	0	0	52.69	0.26
17090003060902	0	0	0.01	0	0	0	0	0	139.04	0.28
17090003060903	0	0	9.81	0	0	0	0	0	69.62	0.13
17090003061001	16.62	0	0.36	0	0	0	0	0.20	76.78	0.05
17090003061002	0	0	0	0	0	0	0	0	32.20	0
17090003061003	0	0.23	0	0	0	0	0	0	168.31	1.64
17090003061004	0	0	0	0	0	0	0	0	145.89	2.52
17090003061005	9.42	63.47	0	0	0	0	0	0	198.82	341.81
17090003061101	0	0	0	0	0	0	0	0	33.79	5.06
17090003061102	22.84	0	0	0	45.89	0	0	0	184.39	87.70
17090003061103	23.57	0	25.17	0	0	0	0	0	321.78	6.11
17090003061201	0	0	0	0	0	0	0	0	52.02	0.47
17090003061202	0	12.23	0	0	0	0	0	0	76.85	0.54
17090003061203	0	0	0	0	0	0	0	0	59.50	0.17
17090003061204	0	0	0	0	0	0	0	0	99.13	0.44
17090003061301	9.42	22.75	0	0	0	0	0	0	233.59	341.12
17090003061302	0	58.10	0	0	17.38	0	0	0	66.19	18.25
17090003061303	9.42	30.96	0	0	0	0	0	0	243.75	390.27

HUC7	Federal	State	County	Municipal	Private: Landfill	Private: Weyco	Private: Boise	Private: Other Timber	Private Other	Owner Undetermined
Luckiamute subtotal (acres)	91.29	187.74	35.34	0	63.27	0	0	3.53	2434.98	1197.45

Table xx. Ownership category of probable wetlands, by subunit within the Rickreall watershed

Data are in acres unless noted otherwise.

HUC7	Federal	State	County	Municipal	Private: Landfill	Private: Weyco	Private: Boise	Private: Other Timber	Private: Other	Owner Undetermined
17090007020404	11.04	21.28	0	0	0	0	0	0	100.18	359.67
17090007020501	9.42	21.28	0	0	0	0	0	0	159.08	369.85
17090007020502	9.42	21.28	0	0.01	0	0	0	0	152.94	338.15
17090007020503	9.42	33.48	0	0	0	0	0	0	158.09	378.96
17090007020601	0	0	0	0	0	0	0	0	15.93	0.04
17090007020602	0	1.44	0	0	0	0.86	0	0	40.48	0.43
17090007020603	9.42	21.28	7.40	60.82	0	0	2.09	0	143.68	339.75
17090007020604	0	0.11	0	1.35	0	0	0	0	96.75	0.35
17090007020605	0	0	0	0.14	0	0	0	0	28.15	0.07
17090007020606	0	0	0.20	2.39	0	0	0	0	27.20	0.42
Rickreall subtotal (acres)	37.68	98.88	7.59	64.70	0	0.86	2.09	0	822.31	1428.00
Total acres, both watersheds	140.01	307.90	42.93	64.70	63.27	0.86	2.09	3.53	3357.47	2985.13
% of TOTAL	2.01	4.42	0.62	0.93	0.91	0.01	0.03	0.05	48.18	42.84

Table xx. Area (acres) of wetland in various zoning categories

Zoning Category	Luckiamute	Rickreall
Exclusive Farm Use	2049.77	739.80
Farm/Forest	48.35	24.98
Farm/Forest Overlay	53.38	3.97
Forest Conservation	123.59	1.45
Industrial	7.99	13.17
Mineral Extraction	0.04	0
Open Space	83.39	0
Public Park	0	11.04
Rural Residential	48.06	1.03
Suburban Residential	1.08	62.13
Urban	0	186.75

Table xx. Natural land cover of probable wetlands, early 1990's, by subunit within the Luckiamute watershed

Data are in acres unless noted otherwise.

HUC7	Permanent lentic water	Flooded/marsh	Stream orders 5-7	Main channel non-vegetated	Natural grassland	Hayfield	Pasture	Natural shrub	Forest Closed hardwood	Forest Closed mixed	Conifer Woodlot	Christmas trees	Conifers 0-20 yrs	Forest closed conifer 21-40 yrs	Forest closed conifer 41-60 yrs	Forest closed conifer 61-80 yrs	Forest closed conifer 81-200 yr	Forest closed conifer older than 200 yrs	Bare/fallow	Rural non-vegetated other
17090003060302	0.22	0	0	0	0	0	0	0	0	1.61	0	0	0	0	0	0	0.60	0.09	0	0
17090003060303	0	0	0	0	0	0	0	0	0	0.34	0.78	0	0	0	0	0	0	0.05	0	0
17090003060304	0	0	0	0	0	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17090003060503	0	3.11	0.73	0	0.27	2.14	4.38	7.39	24.48	13.08	0	0	0	0	0	0	0.19	0	0	0.92
17090003060504	0.90	1.16	0	0	0.50	4.41	2.33	15.43	16.08	1.98	0	0.52	0	0.03	0	0	0	0.13	0.72	2.08
17090003060704	0	0	0	0	0	0	0.70	0.83	2.46	4.72	0	0	0.26	0	0	0	0.19	0.59	0	0.10
17090003060901	0.60	1.99	0	0	1.91	2.71	10.76	11.70	5.20	0.28	0	0.10	0	0	0	0.20	0	0	0.21	0.40
17090003060902	0.65	6.19	0.73	0	0.66	6.98	7.13	16.99	60.21	7.29	0.39	0.04	0	0	0	0	0.47	1.17	0.12	0.82
17090003060903	0	5.12	0	0	1.55	4.33	9.50	14.37	18.03	0.82	0	0	0	0	0	0	0.12	0.03	0	0.39
17090003061001	0	2.52	12.38	0	0.39	0.51	1.10	6.71	32.75	7.05	0	0	0	0	0	0	0	0	0	0
17090003061002	0	0.76	0.45	0	0	1.33	4.07	5.28	1.13	0.02	0	0	0	0	0	0	0	0	0.14	0.07
17090003061003	0	8.52	16.27	0	1.18	3.38	19.54	16.38	51.47	5.67	0	0.31	0	0	0	0.01	0	0	0.91	0.66
17090003061004	13.04	7.62	0	0	0.57	3.73	25.28	28.67	14.53	1.19	0	0.20	0	0	0	0	0	0	0	4.24
17090003061005	11.91	10.27	57.43	0.55	0	1.58	32.93	17.72	40.55	9.74	0	0.21	0	0	0	0	0	0	0	2.09
17090003061101	0	0	0	0	0.22	2.20	0.31	3.25	4.48	27.13	0	0	0.16	0	0	0	0.12	0.33	0	0
17090003061102	0	10.94	0	0	11.34	6.48	6.84	42.53	125.00	70.33	1.15	0.75	2.50	0.45	0	0.15	0.27	1.02	0.33	1.47
17090003061103	0	9.05	0	0	14.36	13.52	7.65	79.20	126.71	0.57	1.15	1.46	0	0	0	0	0	0	0.33	2.80
17090003061201	2.35	2.01	0	0	1.79	0.16	0	3.73	5.81	0.64	0	0	0	0	0	0	0	0.12	0.22	0.26
17090003061202	0	2.80	0	0	2.97	6.13	5.88	15.37	21.45	0.22	0	0	0	0	0	0	0	0	0	0.88
17090003061203	0	1.01	0	0	1.65	0.59	1.30	8.97	1.48	0	0	5.20	0	0	0	0	0	0	0	0.49

17090003061204	7.45	1.12	0	0	1.82	1.60	1.41	17.19	13.91	0.10	0	0.68	0	0	0	0	0	0	0.61	0.84
17090003061301	9.75	5.64	36.11	0.51	4.37	5.40	5.21	25.22	43.12	3.64	0	1.00	0	0	0	0	0	0	0	2.78
17090003061302	2.28	11.18	0	0	11.20	12.24	14.35	28.82	19.87	3.13	0	0.45	0	0	0.07	0.11	0.66	0	0.13	2.54
17090003061303	11.21	25.94	44.57	0.97	0.57	12.96	26.35	32.69	46.89	9.23	0	0.58	0	0	0	0	0	0	0	2.33
Luckiamute subtotal	60.35	116.95	168.68	2.03	57.31	92.92	187.00	398.43	675.93	169.20	2.68	11.48	2.92	0.48	0.07	0.45	2.62	3.52	3.72	26.15

Table xx. Natural land cover of probable wetlands, early 1990's, by subunit within the Rickreall watershed

Data are in acres unless noted otherwise.

HUC7	Permanent lentic water	Flooded/marsh	Stream orders 5-7	Main channel non-vegetated	Natural grassland	Hayfield	Pasture	Natural shrub	Forest Closed hardwood	Forest Closed mixed	Conifer Woodlot	Christmas trees	Conifers 0-20 yrs	Forest closed conifer 21-40 yrs	Forest closed conifer 41-60 yrs	Forest closed conifer 61-80 yrs	Forest closed conifer 81-200 yr	Forest closed conifer older than 200 yrs	Bare/fallow	Rural non-vegetated other	
17090007020404	260.27	5.69	120.50	19.54	0.07	0.62	0.33	5.46	15.13	10.94	0	0.10	0	0	0	0	0	0	0	0	2.34
17090007020501	262.66	10.47	131.03	19.25	0.07	1.99	21.24	10.93	24.15	17.11	0	0.12	0	0	0	0	0.22	0	0	0	3.22
17090007020502	258.65	18.64	106.25	18.01	0.07	9.21	15.38	18.05	9.54	8.20	0	0.02	0	0	0	0	0	0	0	0	2.30
17090007020503	266.81	12.44	141.77	32.12	0.27	6.89	5.21	12.50	17.72	13.97	0	0.02	0	0	0	0	0	0	0.11	0	3.74
17090007020601	0	0.98	0	0	0.68	1.65	1.91	6.28	1.07	0.07	0	0.07	0	0	0	0	0	0	0.18	0	0.66
17090007020602	0	0.42	0	0	0.77	0.19	24.28	7.32	3.69	0	0	0	0	0	0	0	0	0	0	0	0.20
17090007020603	313.51	6.33	116.05	20.36	1.80	0.84	6.95	15.86	15.09	8.54	0	0.36	0	0	0	0	0	0	0.42	0	2.12
17090007020604	12.24	2.53	0	0	3.64	0.78	15.74	16.35	10.93	0.65	0	0.36	0	0	0	0	0	0.16	0.30	0	0.28
17090007020605	1.63	0.96	0	0	0.92	2.33	3.06	5.87	1.07	0.59	0	0.01	0	0.03	0	0	0.08	0.49	0	0	0.89
17090007020606	0.10	0.64	0	0	0.06	0.25	3.28	4.78	0.54	0.28	0	0.14	0	0	0	0	0	0	0	0	1.43
Rickreall acres subtotal	1375.87	59.10	615.60	109.28	8.36	24.73	97.37	103.39	98.92	60.35	0	1.19	0	0.03	0	0.01	0.30	0.65	1.01	0	17.18

Total acres, both watershed	1436.23	176.05	784.29	111.32	65.67	117.66	284.37	501.82	774.85	229.55	2.68	12.67	2.92	0.51	0.07	0.46	2.92	4.17	4.73	0	43.33
Percent of total	25.24	3.09	13.78	1.96	1.15	2.07	5.00	8.82	13.62	4.03	0.05	0.22	0.05	0.01	0	0.01	0.05	0.07	0.08	0	0.76

Table xx. Agricultural uses of probable wetlands, early 1990's, by subunit within the Luckiamute watershed

Data are in acres unless noted otherwise.

HUC7	Irrigated annual rotation	Irrigated perennial	Turfgrass	Grass	Burned grass	Grass seed rotation	Grains	Row crop	Radish seed	Double cropping	Field crop	Late field crop	Orchard	Nursery	Hybrid poplar	Berries & Vineyards	Hops	Mint
17090003060302	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17090003060303	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17090003060304	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17090003060503	0	0.35	0.04	1.05	0	12.99	10.58	0.11	1.00	0	3.92	0.48	4.55	0.05	0	0	0	0
17090003060504	0	3.92	0	0.80	0	4.80	5.88	0.99	0	0	6.88	1.24	6.03	0	0	0.28	0.01	0.22
17090003060704	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17090003060901	0	0.06	0.23	1.95	0	11.94	0.05	0.18	0	0	1.32	0.20	0.44	0	0	0.46	0	0
17090003060902	0.07	4.50	0.30	0.99	0	1.97	5.55	1.50	0	0	4.74	0.86	8.54	0	0.23	0.26	0	0
17090003060903	0	0	0.24	4.62	0	5.32	0	0.22	0	0	10.10	1.44	2.97	0	0	0	0	0
17090003061001	2.05	1.03	0	1.48	0.03	1.25	7.05	0.36	0	0.01	9.39	2.34	5.64	0	0	0	0	0
17090003061002	0	1.23	0	0.17	0	4.33	1.01	0	0	0	9.24	1.11	1.87	0	0	0	0	0
17090003061003	0	0.95	0.84	3.16	0	7.58	7.37	3.12	0.02	0.13	8.90	0.28	11.17	0	0	0.87	0	0.22
17090003061004	1.13	1.76	0	2.38	0	19.01	18.86	0	0	0	1.42	0	1.18	0	0	0.17	0	0
17090003061005	3.96	3.99	0.98	0.40	0	7.38	4.97	2.50	0	0.26	4.80	1.92	12.16	0	0	0	0.19	0.76
17090003061101	0	0.07	0.29	0	0	0.09	0	0.01	0	0	0.19	0	0	0	0	0	0	0
17090003061102	0	0.20	0.46	5.10	0	26.40	4.24	0.43	0	0	5.95	0.15	15.23	0	1.95	0	0	0
17090003061103	0	3.55	0	7.90	0	22.28	29.20	1.44	0	0	15.69	0.45	38.68	0	1.97	1.34	0	0.22
17090003061201	0	0.22	0.10	6.04	0	8.62	11.66	0.48	0	0	5.18	1.95	1.34	0	0	0	0	0
17090003061202	0	0.45	0.28	7.43	0	0.03	0	0.65	0	0	12.45	2.53	10.26	0	0	0	0	0
17090003061203	0	0.34	0.37	5.79	0.22	13.62	7.22	0	0	0	5.11	0.86	4.43	0	0	1.05	0	0

17090003061204	0	0.90	0	3.81	0	24.50	10.37	0.22	0	0	5.06	0.30	5.78	0	0	0	0	0
17090003061301	0.82	0.75	0.45	2.52	0	27.91	6.41	2.06	0	0	22.63	0.33	13.26	0	0	0.05	0.19	0
17090003061302	0	0.15	0.23	0.96	0	12.35	20.24	0.41	0	0	4.05	0.89	10.35	0	0	0.60	0	0.21
17090003061303	1.92	23.43	0.06	1.15	0	8.74	7.91	3.62	0.01	0	9.05	3.62	15.54	0	0	0.64	0.19	0
Luckiamute subtotal	9.93	47.83	4.86	57.65	0.25	221.09	158.55	18.30	1.03	0.40	146.06	20.93	169.41	0.05	4.15	5.72	0.58	1.64

Table xx. Agricultural uses of probable wetlands, early 1990's, by subunit within the Rickreall watershed

Data are in acres unless noted otherwise.

	Irrigated annual rotation	Irrigated perennial	Turfgrass	Grass	Burned grass	Grass seed rotation	Grains	Row crop	Radish seed	Double cropping	Field crop	Late field crop	Orchard	Nursery	Hybrid poplar	Berries & Vineyards	Hops	Mint	
HUC7																			
17090007020404	0.09	0.16	0.04	0	0	0.64	3.58	2.00	0	0	2.43	0.85	9.36	0	0	0	0.28	0	
17090007020501	6.14	2.56	0.04	0	0	0	0.52	5.19	0	0	2.39	0.91	11.80	0	0	0.67	0.54	0	
17090007020502	3.57	0.64	0.04	0	0	9.58	2.77	1.45	0	0	2.26	0.65	2.87	1.07	0	0	0.28	0	
17090007020503	0.31	7.25	0.04	0	0	8.21	2.59	2.21	0	0	2.43	0.96	4.14	0	0	0	0.28	0	
17090007020601	0	0	0	0	0	0	0	0.12	0	0	0.38	0.44	0.63	0	0	0.20	0	0	
17090007020602	0.17	0	0	0	0	4.21	0	0.01	0	0	0	0	0.29	0	0	0.17	0	0	
17090007020603	0.09	0.54	0.17	0.01	0	3.00	0.54	1.97	0	0	3.14	1.84	2.17	0	1.74	1.54	0.28	0	
17090007020604	0	0.26	0.57	0.23	0	4.09	12.82	0.78	0	0	1.30	0.58	0.14	0	0	2.18	0	0	
17090007020605	0	0.07	0.15	0.13	0	3.75	3.49	0.57	0	0.16	0.45	0.09	1.19	0	0	0.15	0	0	
17090007020606	0	0.03	0.04	0.05	0	5.59	5.16	0.04	0	0.10	0.87	0.05	0	0	0	0	0	0	
Rickreall subtotal	10.36	11.52	1.07	0.42	0	39.07	31.47	14.33	0	0.26	15.66	6.37	32.60	1.07	1.74	4.92	1.66	0	
Total acres, both watersheds	20.29	59.36	5.93	58.07	0.25	260.16	190.02	32.63	1.03	0.65	161.72	27.29	202.00	1.11	5.89	10.64	2.24	1.64	
Percent of Total	0.36	1.04	0.10	1.02	0	4.57	3.34	0.57	0.02	0.01	2.84	0.48	3.55	0.02	0.10	0.19	0.04	0.03	

Table xx. Development within or near probable wetlands, early 1990's, by subunit within the Luckiamute watershed

Data are in acres unless noted otherwise.

HUC7	Light duty roads	Secondary roads	Railroad	Rural structures	Residential 0-4 DU/ac	Residential 9-16 DU/ac	Urban tree overstory	Commercial	Commercial/Industrial	Industrial	Other urban bare
17090003060302	0	0	0	0	0	0	0	0	0	0	0
17090003060303	0	0	0	0	0	0	0	0	0	0	0
17090003060304	0	0	0	0	0	0	0	0	0	0	0
17090003060503	0.41	0	0	0	0	0	0	0	0	0	0
17090003060504	0.44	0	0	0.01	0	0	0	0	0	0	0
17090003060704	0	0	0	0	0	0	0	0	0	0	0
17090003060901	0.10	0	0	0	0	0	0	0	0	0	0
17090003060902	0.01	0	0	0	0	0	0	0	0	0	0
17090003060903	0.38	0	0	0	0	0	0	0	0	0	0
17090003061001	0	0	0	0	0	0	0	0	0	0	0
17090003061002	0	0	0	0	0	0	0	0	0	0	0
17090003061003	1.29	0	0	0	0	0	0	0	0	0	0
17090003061004	0	0	3.46	0	0	0	0	0	0	0	0
17090003061005	0.95	0	0	0	0	0	0	0	0	0	0
17090003061101	0	0	0	0.23	0	0	0	0	0	0	0
17090003061102	1.10	0	0	0.70	0	0	0	0	0	0	0
17090003061103	0.25	0	0	0.45	0	0	0	0	0	0	0
17090003061201	0	0	0	0	0	0	0	0	0	0	0
17090003061202	0.03	0	0	0	0	0	0	0	0	0	0
17090003061203	0	0	0	0	0	0	0	0	0	0	0
17090003061204	1.84	0	0	0.08	0	0	0	0	0	0	0
17090003061301	2.20	0	1.23	0.08	0	0	0	0	0	0	0

17090003061302	2.83	0	0.47	0.15	0	0	0	0	0	0	0
17090003061303	0.87	0	0	0	0	0	0	0	0	0	0
Luckiamute subtotal	12.68	0	5.17	1.70	0	0	0	0	0	0	0

Table xx. Development within or near probable wetlands, early 1990's, by subunit within the Rickreall watershed

Data are in acres unless noted otherwise.

HUC7	Light duty roads	Secondary roads	Railroad	Rural structures	Residential 0-4 DU/ac	Residential 9-16 DU/ac	Urban tree overstory	Commercial	Commercial/Industrial	Industrial	Other urban bare
17090007020404	1.05	0	0	0.07	0	0	1.05	0	0	0.21	0.75
17090007020501	1.05	0	0	0	0	0	1.05	0	0	0.21	0.75
17090007020502	1.49	0	0	0	0	0	1.05	0	0	0.21	0.75
17090007020503	3.21	0	2.11	0	0	0	2.92	0	0	0.21	0.75
17090007020601	0	0.02	0	0.01	0.32	0	0.07	0	0	0	0.25
17090007020602	0.62	0	0	0	0	0	0	0	0	0.86	0
17090007020603	2.88	0	0	0.05	6.22	0.06	11.67	0.64	0	0.21	8.68
17090007020604	0.68	0	0	0.05	1.21	0	7.47	0	0.02	0	2.23
17090007020605	0.07	0	0	0.01	0	0	0	0	0	0	0.15
17090007020606	0.20	0	0	0	0.37	0	0.67	1.34	0	1.35	2.84
Rickreall subtotal	11.26	0.02	2.11	0.18	8.12	0.06	25.95	1.99	0.02	3.24	17.12
Total acres, both watersheds	23.94	0.02	7.27	1.88	8.12	0.06	25.95	1.99	0.02	3.24	17.12
Percent of Total	0.42	0	0.13	0.03	0.14	0	0.46	0.03	0	0.06	0.30