

1. Review last meeting (NH)
2. City planning issues (NH)
3. Review information from Colorado publication (ems)
4. Natural resource impacts of additional trail construction (ems)
5. Wildlife use at Smith-Bybee (focus on sensitive species & habitats) (ems)
6. Review trail alignments from various planning processes (ems)
7. Bicycle conflict information (ems)
8. Siting criteria and best management practices (initial discussion) (NH)

Trail subcmte

11-20-02

Denise Rennis, Troy Clark, Holly Michael,  
Nancy Hendrickson, Jim Sjulin, Pam Arden

### City planning issues

1. Comp plan v. NRMP - OPDR does not know how to resolve conflicts - per OPDR 11/20/02 to NH.

Sjulin - asked OPDR some ques. some time ago but got dif answer - that NRMP trumped

✓ need to present preferred alignment & then OPDR can decide

2. Muddled answer from OPDR

3. Change/integrate new info - this is via legislative process.

Trail - criteria - objectives

- objectives in comp. plan re wildl. & trails (WTH)
- 40-mi loop master plan (early 80s)
- Col. document

Denise - criteria ideas

- site along edge habitat (don't create new edge)
- site where already receiving disturbance from recreation

Jim -

- connectivity of trails

NH -

- spurs where you want lower traffic

Holly -

- minimize impacts to riparian hab.

Troy -

- no wetland fill

Denise -

- what do you want users to get out of trail - go thru dif habs & educate?

Holly -

- what are people coming to SB for? e.g. biking for health & pass thru, or coming to see site itself

Troy -

- keep education focused @ one spot

Jim -

- alignments have to be truly viable  
(e.g. too many property owners?)

NH -

- look @ broad area - where else do trails go, where is riparian area

Next: Tue. 12/3 @ metro 3:30-5:30

ems

summarize info & get it out

## Principles from Colorado State Parks trail planning publication

### General concepts:

- Any trail will have at least some negative impact, which must be weighed with the benefits of the trail.
- Consider the wider area of influence, not just the limits of the trail itself.
- It is easier to balance competing wildlife and recreation needs across a region than on a specific trail project in a smaller area.
- Riparian areas play a disproportionately large role in maintaining biodiversity.
- Give trail users the opportunity to be near water or they will find ways themselves.
- It is better to concentrate recreational use rather than disperse it.

### Aligning trails:

- Align a trail along or near an existing habitat edge; don't fragment habitat.
- Keep a trail and its zone of influence away from sensitive habitat.
- Leave large, undisturbed areas of wildlife habitat untouched.
- Keep the density of trails lower within and near high-quality habitat.
- Minimize the number of times prominent landscape corridors – such as riparian zones – are crossed by a trail.
- Route a trail through varied habitat types to enrich user experiences, but avoid small patches of species-rich habitats.
- It is better to run a trail outside the riparian area and bring it in at strategic points than to keep it continuously close to a riparian area.
- Minimize the number of times a trail crosses a stream.
- Avoid crossings where two or more streams come together.
- When it is appropriate to provide access to a more sensitive area, use a spur trail instead of a through trail because spur trails tend to have lower traffic volumes.
- Either avoid wildlife breeding areas or close trails through them at strategic times.

### Building and managing trails:

- Disturb as narrow an area as possible when building a trail.
- Maintain an interior or upland buffer on both sides of a stream.
- Don't assume all wildlife impacts can be resolved through management. There may be situations where the negative impacts outweigh the benefits and trail should take a different alignment.
- If there won't be sufficient enforcement of trail closures, route the trail through another area.
- Don't depend on management to resolve wildlife conflicts that can be avoided by careful alignment.

• p. 30 – cumulative impacts s/b evaluated

## Natural Resource Impacts of Trails

### Wildlife Disturbance

- Energy use due to moving away
- Competitive advantage to those less disturbed (eagle-crow-gull example)
- Nest failures can increase (*predation, exposure*)
- Loss of nesting habitat for species that won't nest near disturbance
- Loss of use of habitat due to excessive disturbance (*N harrier, Swainson's thrush*)
- Can alter species richness, abundance and composition in wildlife communities – *spec. to gen.*
- Recreationists with dogs cause more disturbance than those without dogs
- Rapid movement causes more disturbance than slower movement
- Direct approach causes more disturbance than peripheral/tangential approach
- Unpredictable movement causes more disturbance than predictable movement

### Habitat Fragmentation

- Reduction of interior forest habitat for those who depend on it (*e.g. Swainson's thrush – focal sp @ SBLWA*)
- Reduction of patch size for size-dependent species
- Reduce/eliminate movement for species that don't cross openings – *amphibs?*
- Increased edge with change in habitat (light, wind, moisture, etc.)
- Introduction of generalists that compete with specialists for food, nest sites, etc.
- Increased nest parasitism and predation for songbirds (especially cowbird parasitism on songbirds using riparian habitat) – *willow flycatcher & yellow warbler @ SBLWA*
- Introduction of predators that now can encroach into habitat
- Most severe impact for riparian habitat because of wildlife dependence on it

### Invasive Plants

- Introduction of invasive plant species into habitat – *no exotics decr. w/ dist. into hab.*
- Human dispersal of invasives (seeds on boots, tires, etc.)

### Vegetation and Soil

- Trampling and loss of vegetation (loss of species and loss of cover)
- Soil compaction
- Erosion
- Loss of vegetation and soil compaction in area of disturbance (for trail construction)
- Loss of trees and/or canopy due to hazard limb and tree removal



Weekly Bird Counts  
South Side Smith Lake

	<u>1998 counts</u>		<u>1999 counts</u>		<u>2000 counts</u>		<u>Total</u>	
	# birds	# sightings	# birds	# sightings	# birds	# sightings	# birds	# sightings
American Coot	598	21	240	23	93	12	931	56
American Crow	234	30	225	29	142	29	601	88
American Goldfinch	69	21	95	21	111	21	275	63
American Pipit					6	2	6	2
American Robin	301	34	466	35	316	39	1083	108
American Wigeon	64	11	165	11	219	9	448	31
Anna's Hummingbird			2	1			2	1
American Avocet					1	2	1	2
★ Bald Eagle	17	12	11	8	38	21	66	41
Barn Swallow	672	18	138	17	173	16	983	51
Belted Kingfisher	36	20	23	16	6	6	65	42
Bewick's Wren	90	34	94	38	96	37	280	109
Black-capped Chickadee	208	35	243	39	228	39	679	113
Black-headed Grosbeak	44	8	23	9	23	11	90	28
Black-throated Gray Warbler	8	2	5	1	1	2	14	5
Blue-winged Teal	2	1					2	1
Bonaparte's Gull					1	2	1	2
Brewer's Blackbird	150	1	218	7	47	4	415	12
Brown-headed Cowbird	70	10	107	13	95	14	272	37
Brown Creeper	40	23	58	33	27	21	125	77
Bufflehead	25	7	94	11	42	13	161	31
Bullock's Oriole	29	8	27	8	18	7	74	23
Canada Goose	1381	27	2733	29	3683	33	7797	89
Canvasback			2	1			2	1
Caspian Tern	12	5	130	4	1	2	143	11
Cedar Waxwing	341	20	278	17	122	18	741	55
Chestnut-backed Chickadee			2	1			2	1
Cliff Swallow	29	6	56	11	34	6	119	23
Common Bushtit	146	12	135	24	176	20	457	56
Common Merganser	27	5	24	6	96	8	147	19
Common Yellowthroat	49	19	67	18	36	15	152	52
Cooper's Hawk	2	2	2	2			4	4
Dark-eyed Junco	13	3	4	2	9	4	26	9
Double-crested Cormorant	441	27	889	30	544	29	1874	86
Downy Woodpecker	88	30	81	32	84	35	253	97
Dunlin					50	2	50	2
Dusky Flycatcher	1	1					1	1
Eurasian Wigeon	501	34					501	34
European Starling	1	1	644	39	3106	40	3751	80
Fox Sparrow	10	6			8	8	18	14
Gadwall	44	14	20	7	33	10	97	31
Glaucous-winged Gull	13	8	55	12	11	8	79	28
Golden-crowned Kinglet	13	8	24	10	32	12	69	30
Golden-crowned Sparrow	42	12	50	17	61	11	153	40
Common Goldeneye			2	1			2	1
Great Blue Heron	92	34	96	39	582	38	770	111
Great Egret	70	5	163	4	46	5	279	14
Great Horned Owl	3	2	5	5	6	6	14	13
Green Heron	1	1					1	1
Green-winged Teal	65	13	56	8	1131	17	1252	38
Harris's Sparrow	2	2	1	1			3	3
Hermit Thrush	4	3	2	2	3	4	9	9
Hooded Merganser	12	3	13	4	11	2	36	9
Hooded Oriole			5	1			5	1
House Finch	213	29	222	29	136	26	571	84
House Sparrow	21	12	10	7	14	9	45	28
House Wren	40	15	26	13	24	12	90	40

Weekly Bird Counts  
South Side Smith Lake

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	# birds	# sightings	# birds	# sightings	# birds	# sightings	# birds	# sightings
American Kestrel			2	2	2	3	4	5
Killdeer	65	13	50	18	67	19	182	50
Lesser Scaup	625	7	749	8	135	4	1509	19
Long-billed Dowitcher					412	5	412	5
MacGillivray's Warbler					1	2	1	2
Mallard	549	36	1187	40	2052	36	3788	112
Marsh Wren	4	4	66	21	87	18	157	43
Mew Gull					62	8	62	8
Mourning Dove	98	18	69	27	100	28	267	73
Northern Flicker	64	30	41	26	43	26	148	82
Northern Harrier			1	1	1	2	2	3
Northern Shoveler	209	14	236	19	375	20	820	53
Northern Shrike			4	4			4	4
Olive-sided Flycatcher	1	1					1	1
Orange-crowned Warbler	6	5	1	1	4	4	11	10
Osprey	43	19	43	20	37	17	123	56
Pacific-slope Flycatcher			7	2	11	6	18	8
★ Peregrine Falcon			2	2	6	7	8	9
Pied-billed Grebe	13	9	7	6	10	7	30	22
Northern Pintail	12	4	35	2	7	4	54	10
Red-tailed Hawk	75	34	82	38	94	40	251	112
Red-winged Blackbird	88	21	51	18	48	19	187	58
Ring-necked Duck	7	2	10	2	1	2	18	6
Ring-billed Gull	72	10	257	27	468	26	797	63
Rock Dove	56	19	77	23	97	17	230	59
Rough-winged Swallow	3	2	1	1			4	3
Ruby-crowned Kinglet	59	17	68	18	67	22	194	57
Ruddy Duck	26	4	23	7	29	9	78	20
Rufous Hummingbird					2	3	2	3
Savannah Sparrow	6	1	2	2	2	2	10	5
Scrub Jay	51	24	42	25	54	26	147	75
Sharp-shinned Hawk	1	1	6	5	3	4	10	10
Song Sparrow	647	36	739	39	768	40	2154	115
Spotted Sandpiper	3	3	3	3	7	8	13	14
Spotted Towhee	17	11	16	10	14	12	47	33
Steller's Jay	3	1	7	6	12	11	22	18
Swainson's Thrush	14	6	22	9	15	10	51	25
Tree Swallow	219	16	208	15	446	17	873	48
Tundra Swan	41	2	10	1	8	3	59	6
Turkey Vulture			2	2	1	2	3	4
Varied Thrush	9	4	5	4	3	4	17	12
Vaux Swift	129	15	73	14	25	11	227	40
Violet-green Swallow	10	5	11	5			21	10
Warbling Vireo	1	1	2	2	4	3	7	6
Western Grebe	3	1	4	3	1	2	8	6
Western Sandpiper	15	3	2	1	318	8	335	12
Western Tanager	22	5	2	2	5	5	29	12
Western Wood-Pewee	44	13	73	15	60	14	177	42
White-crowned Sparrow	6	4					6	4
American White Pelican					4	2	4	2
★ Willow Flycatcher	16	10	31	13	38	6	85	29
Wilson's Warbler	17	6	4	1	8	7	29	14
Wood Duck	14	6	10	6	2	2	26	14
Yellow-breasted Chat	1	1					1	1
Yellow-rumped Warbler	104	15	44	8	43	13	191	36
Yellow Warbler	100	15	112	14	78	13	290	42
<b>Total birds or species</b>	<b>9,902</b>	<b>93</b>	<b>12,530</b>	<b>96</b>	<b>17,859</b>	<b>96</b>	<b>40,291</b>	<b>113</b>



## Sensitive Species at Smith and Bybee Lakes Wildlife Area

### *Anodonta californiensis* (California floater, a mussel)

Where found: throughout Smith and Bybee lakes and the channel between them

When found: year-round resident

ONHP status: list 3 (status undetermined, more information needed)

Federal status: species of concern (under review as possible ESA candidate)

### *Chrysemys picta* (western painted turtle)

Where found: mostly in ponds and sloughs on north and west sides of wildlife area

When found: year-round resident

ODFW status: sensitive-critical (listing as threatened or endangered is pending, or may be appropriate if immediate conservation action not taken)

ONHP status: list 2 (threatened with extirpation)

Federal status: none

### *Empidonax traillii brewsteri* (little willow flycatcher)

Where found: nests along the south sides of Bybee and Smith lakes, to a lesser extent in the shrub-scrub on the peninsula between the lakes

When found: during breeding season

ODFW status: sensitive-vulnerable (listing as threatened or endangered can be avoided with protection efforts and monitoring)

ONHP status: list 4 (of conservation concern and requiring continued monitoring)

Federal status: none

### *Falco peregrinus anatum* (American peregrine falcon)

Where found: hunts in open areas, particularly on the landfill and the south side of Smith Lake

When found: year-round (breeding and wintering birds)

ODFW status: listed endangered

ONHP status: list 2 (threatened with extirpation)

Federal status: none

### *Haliaeetus leucocephalus* (bald eagle)

Where found: hunts in open areas of both lakes including the slough between them

When found: year-round (breeding, juvenile and wintering birds)

ODFW status: listed threatened

ONHP status: list 2 (threatened with extirpation)

Federal status: listed threatened

### *Sturnella neglecta* (western meadowlark)

Where found: St. Johns Landfill

When found: late summer through winter (breeding not documented in recent years)

ODFW status: sensitive-critical (listing as threatened or endangered is pending, or may be appropriate if immediate conservation action not taken)

ONHP status: list 4 (of conservation concern and requiring continued monitoring)

Federal status: none

✓ = found at Smith-Bybee

Riparian and other habitat requirements of representative species that inhabit the Columbia Slough watershed. Riparian widths refer to that needed for core habitat. Minimum corridor width (on each side of stream) is typically regarded as 50 feet.

Species or group	Status (fed, state)	Preferred riparian width (feet)	Other habitat requirements
✓ (North Slough, Col. Slough) Salmonids (Coho and Chinook salmon)	LT, SC	to 200	Juveniles require large woody debris for cover.
Cutthroat trout		50-200	
Red-legged frog	SoC, SV/SU	100	Well-shaded ponds adjacent to woodlands; stems for attaching egg masses.
✓ Turtle (painted or pond)	Painted = SC, pond = SoC, SC	350	Basking logs; nesting sites sparsely vegetated with sunny exposure; low human disturbance.
✓ Great blue heron		600	Large trees for rookeries.
✓ Neotropical migrants (songbirds)		330	
✓ Willow flycatcher (neotropical migrant)	SV	125	Scrub-shrub habitat away from urban and cowbird areas.
✓ Red-eyed vireo (neotropical migrant)		165	Large cottonwoods, high degree of canopy closure with young trees recruiting.
✓ Yellow warbler (neotropical migrant)			Good shrub and subcanopy layers, high habitat heterogeneity.
✓ Swainson's thrush (neotropical migrant)			Dense understory/shrub layer; low recreational disturbance.
✓ Belted kingfisher		100-200	Snags in open water.
✓ Western meadowlark	SC		Low grasslands; 20 acres per pair, 100 acres for population.
✓ Northern harrier			Upland and wet prairie; grasslands not mowed before July 1st; nest more than 1/4 mile from human disturbance; 400 acres for home range.
✓ American kestrel			Savannah habitat; large trees with cavities for nesting.
✓ Downy woodpecker			Snags more than 10 in. diameter for nesting.
✓ Deer		200	Vegetation suitable for browsing.
✓ Beaver		300	Trees less than 1 ft. diameter.

LT = federally listed threatened species

SoC = federal species of concern

SC = state listed sensitive/critical; species for which listing as threatened or endangered is pending, or those for which listing as threatened or endangered may be appropriate if immediate action is not taken.

SV = state listed sensitive/vulnerable; species for which listing as threatened or endangered is not imminent and can be avoided through continued or expanded use of adequate protective measures and monitoring.

SU = state listed sensitive/undetermined status.

[illegible]

Trail alignment  
Camp plan  
from Jim Sjulien  
11-02