

Appendix A. Freshwater distribution of salmon and steelhead and a relative index of salmonid biodiversity among watersheds on Prince of Wales Island.

Watershed Name (6th-field HUC)	Freshwater distribution of salmon species (stream miles)					Relative Biodiversity Index
	Steelhead	sockeye	Coho	Pink	Chum	
Bucareli Bay Frontage	87.3	38.5	169.5	126.7	88.9	12.70%
<i>Black Bear Creek</i>	9.1	9.1	9.3	9.1	9.1	1.42%
<i>Delta</i>	0.0	0.0	13.4	2.9	0.1	0.23%
<i>Klawock River</i>	32.4	28.6	50.4	37.5	18.1	4.73%
<i>Lake Nicholas</i>	2.8	0.0	3.0	3.1	2.7	0.28%
<i>North Big Salt Lake</i>	19.0	0.0	19.7	10.2	9.2	1.42%
<i>Port St Nicholas-Trocadero Bay Frontage</i>	3.5	0.0	15.5	23.3	17.2	1.30%
<i>San Alberto Bay Frontage</i>	4.5	0.9	39.8	33.2	23.0	2.07%
<i>Shinaku Creek</i>	16.1	0.0	18.6	7.5	9.6	1.25%
Bucareli Bay-Siketi Sound	0.0	0.0	91.8	75.9	49.1	4.16%
<i>Baker Island</i>	0.0	0.0	8.0	13.6	6.1	0.55%
<i>Bucareli Bay</i>	0.0	0.0	0.0	0.0	0.0	0.00%
<i>Lulu Island</i>	0.0	0.0	16.9	12.3	11.8	0.82%
<i>Noyes Island</i>	0.0	0.0	7.7	9.5	5.4	0.45%
<i>San Alberto Bay</i>	0.0	0.0	0.4	0.0	0.0	0.01%
<i>San Fernando Island</i>	0.0	0.0	22.4	17.8	11.2	0.98%
<i>San Juan Bautista Island</i>	0.0	0.0	1.4	1.4	1.4	0.09%
<i>Suemez Island</i>	0.0	0.0	35.0	21.4	13.2	1.27%
Cholmondeley Sound	18.9	7.1	30.6	35.9	27.6	3.02%
<i>Clover Bay Frontage</i>	4.6	3.7	5.7	4.2	2.7	0.61%
<i>North Cholmondeley Sound Frontage</i>	5.2	3.0	3.7	3.8	0.0	0.48%
<i>South Arm Cholmondeley Sound Frontage</i>	0.0	0.0	1.6	3.6	2.9	0.18%
<i>South Cholmondeley Sound Frontage</i>	3.7	0.5	11.9	15.4	12.2	0.98%
<i>West Arm Cholmondeley Sound Frontage</i>	5.5	0.0	7.6	8.9	9.8	

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Watershed Name (6th-field HUC)	Freshwater distribution of salmon species (stream miles)					Relative Biodiversity Index
	Steelhead	Sockeye	Coho	Pink	Chum	
Clarence Strait	0.0	0.0	3.1	1.6	1.6	0.12%
<i>Clarence Strait Marine</i>	0.0	0.0	0.0	0.0	0.0	0.00%
<i>Kashevarof Islands</i>	0.0	0.0	0.0	0.0	0.0	0.00%
<i>Thorne Island</i>	0.0	0.0	3.1	1.6	1.6	0.12%
Dall Island	19.8	23.2	70.0	72.8	40.1	5.58%
<i>Devil Lake</i>	5.6	10.0	10.0	7.4	0.0	1.05%
<i>Essowah Lakes</i>	10.3	9.2	9.5	7.8	0.0	1.17%
<i>Northeast-Dall Island</i>	0.0	0.0	7.5	12.8	8.3	0.60%
<i>Northwest-Dall Island</i>	3.0	3.9	14.1	17.1	12.7	1.23%
<i>Southeast-Dall Island</i>	0.0	0.0	19.5	18.4	14.2	1.04%
<i>Southwest-Dall Island</i>	0.9	0.0	9.4	9.3	4.8	0.48%
Gold and Galligan Lagoon	22.7	26.9	116.8	23.4	20.8	4.96%
<i>Hatchery Creek</i>	20.3	24.5	34.4	0.0	0.0	2.58%
<i>Lojam Creek</i>	0.0	0.0	49.7	3.2	3.2	0.81%
<i>Sweetwater Lake-Gold and Galligan Lagoon</i>	2.3	2.3	32.7	20.2	17.6	1.57%
Kasaan Bay	92.4	24.8	135.4	88.3	67.2	10.25%
<i>Harris River</i>	20.5	0.0	26.5	22.7	22.3	2.20%
<i>Indian Creek</i>	5.6	0.0	5.7	4.7	3.1	0.46%
<i>Indian Creek-Harris River</i>	15.7	0.0	23.5	17.0	13.0	1.59%
<i>Karta Bay-Kasaan Bay Frontage</i>	13.0	0.0	18.4	6.9	3.8	0.95%
<i>Karta River</i>	21.6	21.5	28.1	6.3	3.8	2.61%
<i>Kasaan Bay Marine</i>	0.0	0.0	0.0	0.0	0.0	0.00%
<i>Maybeso Creek</i>	10.0	0.0	11.4	10.6	11.0	1.05%
<i>Spiral Creek Frontage</i>	0.0	0.0	2.0	1.3	0.0	0.05%
<i>Twelvemile Arm- Kasaan Bay Frontage</i>	0.0	3.4	12.9	12.4	5.0	0.75%
<i>Twelvemile Creek</i>	6.0	0.0	7.0	6.4	5.1	0.59%

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	Steelhead	sockeye	Coho	Pink	Chum	
Kosciusko Island	13.7	13.6	58.9	50.6	38.3	4.19%
<i>Kosciusko Island-El Capitan Passage</i>	0.0	0.0	7.6	7.6	5.9	0.43%
<i>Kosciusko Island-Sea Otter Sound</i>	0.0	3.9	20.5	21.8	14.8	1.37%
<i>Kosciusko Island-Summer Strait</i>	3.6	9.7	15.9	13.8	10.9	1.49%
<i>Shakan Bay</i>	0.0	0.0	0.0	0.0	0.0	0.00%
<i>Survey Creek</i>	0.0	0.0	2.4	2.4	2.4	0.15%
<i>Trout Creek</i>	10.1	0.0	12.5	5.1	4.3	0.75%
North Prince of Wales Island	2.5	2.1	59.2	34.7	18.3	2.21%
<i>Buster Creek</i>	0.0	0.0	9.6	5.7	5.7	0.41%
<i>Flicker Creek</i>	0.0	0.0	12.7	9.9	0.0	0.36%
<i>Prince of Wales Island-Summer Strait</i>	0.0	0.0	21.3	9.5	5.7	0.63%
<i>Red Bay</i>	0.0	0.0	5.8	4.2	1.4	0.20%
<i>Red Lake-Big Creek</i>	2.5	2.1	9.8	5.4	5.4	0.61%
North Prince of Wales Island-Clarence Strait	45.4	38.5	131.0	83.6	46.6	8.58%
<i>Eagle Creek</i>	13.9	6.7	15.9	2.9	2.9	1.23%
<i>East Kasaan Peninsula</i>	0.0	0.0	8.0	7.9	1.3	0.30%
<i>Kashevarof Passage Frontage</i>	0.0	0.0	15.2	11.0	8.7	0.68%
<i>Luck Point to Fores Cove</i>	4.0	0.0	14.7	12.1	10.2	0.88%
<i>Neek Lake</i>	0.0	0.0	0.4	0.4	0.4	0.02%
<i>Ragged Cove to Coffman Cove</i>	2.0	0.9	22.0	20.8	10.8	1.14%
<i>Ratz Creek</i>	8.2	8.2	9.1	4.9	3.0	1.06%
<i>Salmon Bay</i>	13.0	17.2	25.7	9.5	6.2	2.16%
<i>Thorn Bay-Tolstoi Bay</i>	0.0	0.0	14.0	11.9	0.8	0.44%
<i>Twin Island Lake</i>	4.4	5.6	6.1	2.2	2.2	0.67%

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Watershed Name (6th-field HUC)	Freshwater distribution of salmon species (stream miles)					Relative Biodiversity Index
	Steelhead	Sockeye	Coho	Pink	Chum	
South Prince of Wales Island-Clarence Strait	12.1	32.1	74.1	72.5	38.2	5.80%
<i>Brownson Bay-Nichols Bay Frontage</i>	1.7	1.7	12.3	10.1	0.0	0.51%
<i>Kendrick Bay</i>	0.0	0.0	0.0	0.0	0.0	0.00%
<i>North Arm Moira Sound Frontage</i>	1.0	1.0	4.4	6.5	3.2	0.38%
<i>Port Johnson Frontage</i>	0.0	1.8	7.5	5.0	0.0	0.30%
<i>Rip Point to Intum Cone</i>	1.2	1.2	10.8	15.7	7.8	0.79%
<i>South Arm Moira Sound Frontage</i>	7.7	17.7	27.6	23.3	18.2	2.66%
<i>West Arm Moira Sound Frontage</i>	0.5	8.7	11.4	11.8	9.0	1.17%
						0.00%
Southwest Prince of Wales Island	45.6	42.4	116.4	126.9	78.0	10.41%
<i>Hassiah Inlet</i>	0.0	0.0	1.4	2.3	1.4	0.10%
<i>Hessa Inlet</i>	4.0	0.0	2.2	6.1	2.2	0.36%
<i>Hetta Inlet Frontage</i>	10.5	10.7	15.8	17.4	11.0	1.87%
<i>Hunter Bay</i>	0.0	0.6	0.5	3.1	1.5	0.15%
<i>Kassa Inlet</i>	0.0	0.0	1.6	2.0	1.6	0.11%
<i>Klakas Inlet Frontage</i>	3.0	2.3	10.6	11.6	6.7	0.81%
<i>Klakas Lake</i>	5.9	6.3	5.9	5.9	5.9	0.94%
<i>Natzuhini Bay Frontage</i>	10.8	0.0	33.7	30.5	24.4	2.16%
<i>Nutkwa Falls</i>	5.8	8.1	9.9	9.6	6.4	1.18%
<i>Nutkwa Inlet Frontage</i>	0.0	0.0	3.5	3.6	2.5	0.19%
<i>Soda Bay Frontage</i>	2.1	0.0	15.6	21.0	10.9	1.01%
<i>South Bokan Mountain</i>	3.5	14.3	15.8	13.8	3.5	1.53%

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Watershed Name (6th-field HUC)	Freshwater distribution of salmon species (stream miles)					Relative Biodiversity Index
	Steelhead	Sockeye	Coho	Pink	Chum	
Thorne River	103.3	64.8	149.9	50.7	19.3	10.93%
<i>Central Thorne River</i>	19.0	15.3	23.6	17.2	15.1	2.66%
<i>Control Lake</i>	11.3	16.6	30.7	3.7	0.0	1.83%
<i>Goose Creek</i>	9.7	7.5	17.5	0.1	0.1	1.01%
<i>Gravelly Creek</i>	0.3	0.3	3.4	3.4	3.4	0.24%
<i>North Thorne River</i>	30.0	19.7	35.0	7.4	0.2	2.80%
<i>Rio Beaver Creek</i>	12.2	0.5	13.8	3.7	0.5	0.73%
<i>Rio Roberts Creek</i>	6.4	0.5	7.7	3.4	0.0	0.42%
<i>Thorne Lake</i>	14.2	4.6	18.2	11.8	0.0	1.23%
						0.00%
Tlevak Strait-Cordova Bay	1.8	0.2	29.0	30.9	7.1	1.27%
<i>Barrier Islands</i>	0.0	0.0	0.0	0.0	0.0	0.00%
<i>Cordova Bay</i>	0.0	0.0	0.0	0.0	0.0	0.00%
<i>Goat Island</i>	0.0	0.0	2.3	2.3	2.1	0.14%
<i>Hetta Inlet</i>	0.0	0.0	0.0	0.0	0.0	0.00%
<i>Long Island</i>	0.0	0.0	10.7	10.1	3.6	0.44%
<i>McFarland Islands</i>	0.0	0.0	0.0	0.0	0.0	0.00%
<i>Sukkwan Island</i>	1.8	0.2	15.7	18.5	1.4	0.68%
<i>Tlevak Strait</i>	0.0	0.0	0.4	0.0	0.0	0.00%
						0.00%
Grand Total	559.8	348.8	1,533.7	1,043.1	650.9	100%

Appendix B. Watershed condition on Prince of Wales Island including road density, connectivity and condition of riparian forests (modified watersheds)

Watershed (HUC6)	Road Density and Connectivity				Riparian Forest Condition		
	Watershed Area	Roads (miles)	Road Density (mi / sq. mi)	Red-pipes (USFS only)	Riparian (acres)	Young-growth (acres)	Percent Young-growth
Bucareli Bay Frontage	279.9	420.1	1.50	9	199.6	65.7	32.9%
<i>Black Bear Creek</i>	17.7	24.2	1.37	0	12.4	7.1	57.6%
<i>Delta</i>	12.7	0.0	0.00	0	9.4	0.1	1.3%
<i>Klawock River</i>	49.4	119.2	2.41	0	34.8	14.4	41.3%
<i>Lake Nicholas</i>	15.0	23.9	1.60	0	7.6	2.8	37.1%
<i>North Big Salt Lake</i>	31.8	51.5	1.62	8	39.0	12.6	32.2%
<i>Port St Nicholas-Trocadero Bay Frontage</i>	73.2	41.4	0.57	0	32.4	7.8	24.2%
<i>San Alberto Bay Frontage</i>	54.1	145.7	2.70	1	42.4	18.5	43.7%
<i>Shinaku Creek</i>	26.2	14.2	0.54	0	21.6	2.3	10.5%
Bucareli Bay-Siketi Sound	51.7	36.2	0.70	0	21.6	2.2	10.0%
<i>San Juan Bautista Island</i>	8.9	0.0	0.00	0	1.8	0.4	21.7%
<i>Suemez Island</i>	42.8	36.2	0.85	0	19.8	1.8	8.9%
Cholmondeley Sound	88.7	107.5	1.21	0	67.3	23.4	34.8%
<i>South Arm Cholmondeley Sound Frontage</i>	20.1	27.9	1.39	0	16.5	7.6	45.9%
<i>South Cholmondeley Sound Frontage</i>	39.3	70.3	1.79	0	32.7	14.1	43.2%
<i>West Arm Cholmondeley Sound Frontage</i>	29.4	9.3	0.31	0	18.1	1.7	9.5%
Clarence Strait	28.3	21.5	0.76	0	18.3	3.7	20.0%
<i>Clarence Strait Marine</i>	5.7	0.0	0.00	0	6.3	1.1	17.8%
<i>Kashevarof Islands</i>	10.5	21.5	2.05	0	3.3	1.8	54.7%
<i>Thorne Island</i>	12.1	0.0	0.00	0	8.7	0.7	8.5%
Dall Island	176.2	57.1	0.32	0	53.6	6.4	11.9%
<i>Essowah Lakes</i>	17.3	2.5	0.15	0	4.6	0.3	5.8%
<i>Northeast-Dall Island</i>	46.0	28.3	0.62	0	12.5	1.6	12.8%
<i>Southeast-Dall Island</i>	52.2	18.6	0.36	0	22.8	3.0	13.2%
<i>Southwest-Dall Island</i>	60.6	7.6	0.13	0	13.6	1.5	11.1%
Gold and Galligan Lagoon	127.4	186.2	1.46	47	135.7	26.7	19.6%
<i>Hatchery Creek</i>	45.2	48.2	1.07	7	46.3	8.1	17.4%
<i>Lojam Creek</i>	43.8	80.3	1.83	21	48.9	9.9	20.2%
<i>Sweetwater Lake-Gold and Galligan Lagoon</i>	38.5	57.8	1.50	19	40.6	8.8	21.6%
Kasaan Bay	274.8	251.8	0.92	4	185.2	72.1	38.9%
<i>Harris River</i>	30.0	42.6	1.42	0	27.6	15.5	56.1%
<i>Indian Creek</i>	10.0	5.6	0.56	0	4.1	0.6	13.8%
<i>Indian Creek-Harris River</i>	30.9	0.0	0.00	0	24.5	9.5	38.7%
<i>Karta Bay-Kasaan Bay Frontage</i>	41.5	43.9	1.06	4	22.3	8.1	36.2%
<i>Karta River</i>	61.6	0.8	0.01	0	33.6	0.1	0.1%
<i>Kasaan Bay Marine</i>	1.6	3.0	1.92	0	1.1	0.8	75.2%
<i>Maybeso Creek</i>	17.9	21.1	1.18	0	13.2	8.0	60.5%
<i>Twelvemile Arm- Kasaan Bay Frontage</i>	61.4	69.5	2.2	0.0	39.3	15.2	37.1%
<i>Twelvemile Creek</i>	20.0	65.4	3.27	0	19.6	14.5	74.1%

Appendix B. Watershed condition on Prince of Wales Island including road density, connectivity and condition of riparian forests (modified watersheds)

Watershed (HUC6)	Road Density and Connectivity				Riparian Forest Condition		
	Watershed Area	Roads (miles)	Road Density (mi / sq. mi)	Red-pipes (USFS only)	Riparian (acres)	Young-growth (acres)	Percent Young-growth
Kosciusko Island	146.4	174.6	1.19	17	139.0	56.5	40.6%
<i>Kosciusko Island-El Capitan Passage</i>	22.0	3.1	0.14	0	13.5	1.2	9.2%
<i>Kosciusko Island-Sea Otter Sound</i>	45.6	66.5	1.46	7	48.3	17.6	36.5%
<i>Kosciusko Island-Sumner Strait</i>	43.6	45.1	1.03	2	39.6	17.5	44.3%
<i>Shakan Bay</i>	6.2	0.0	0.00	0	1.9	0.1	3.1%
<i>Survey Creek</i>	10.0	29.6	2.95	1	14.9	12.8	85.8%
<i>Trout Creek</i>	18.9	30.3	1.61	7	20.9	7.3	34.8%
North Prince of Wales Island	113.7	177.8	1.56	51	97.6	21.6	22.1%
<i>Buster Creek</i>	12.0	13.8	1.15	4	11.5	1.8	16.0%
<i>Flicker Creek</i>	21.3	44.5	2.09	19	20.2	4.5	22.0%
<i>Prince of Wales Island-Sumner Strait</i>	48.8	68.4	1.40	14	42.5	9.4	22.1%
<i>Red Bay</i>	10.9	24.3	2.24	7	9.0	3.8	42.7%
<i>Red Lake-Big Creek</i>	20.8	26.8	1.29	7	14.5	2.1	14.2%
North Prince of Wales Island-Clarence Strait	308.5	578.8	1.88	112	261.8	100.3	38.3%
<i>Eagle Creek</i>	30.3	57.0	1.88	24	28.2	14.1	49.9%
<i>East Kasaan Peninsula</i>	29.2	65.5	2.24	0	19.0	8.6	45.4%
<i>Kashevarof Passage Frontage</i>	30.5	50.4	1.65	10	23.7	6.9	29.2%
<i>Luck Point to Fores Cove</i>	49.3	112.6	2.28	28	45.8	22.4	48.9%
<i>Neek Lake</i>	16.7	37.1	2.22	2	13.3	5.6	42.2%
<i>Ragged Cove to Coffman Cove</i>	53.3	57.3	1.07	10	46.7	9.6	20.6%
<i>Ratz Creek</i>	18.4	36.4	1.98	14	15.2	7.5	49.3%
<i>Salmon Bay</i>	31.1	24.2	0.78	3	23.7	1.9	8.1%
<i>Thorn Bay-Tolstoi Bay</i>	36.3	84.9	2.34	9	34.5	16.6	48.1%
<i>Twin Island Lake</i>	13.6	53.7	3.95	12	11.8	7.1	60.2%
Northwest Prince of Wales Island	299.6	486.6	1.62	94	330.6	108.4	32.8%
<i>East El Capitan Passage</i>	41.2	77.9	1.89	6	25.6	8.9	35.0%
<i>Naukati Creek</i>	12.4	36.3	2.93	5	16.6	5.9	35.7%
<i>North Calder Bay</i>	15.4	15.8	1.03	1	8.7	2.2	25.4%
<i>Prince of Wales Island-Sea Otter Sound</i>	70.5	114.6	1.63	27	82.2	27.5	33.4%
<i>Sarkar Creek</i>	48.5	36.0	0.74	11	47.5	6.1	12.8%
<i>Shaheen Creek</i>	28.1	39.8	1.42	10	37.6	8.3	22.0%
<i>Shakan Bay Frontage</i>	21.8	17.6	0.81	3	8.1	0.9	10.9%
<i>Staney Creek</i>	61.7	148.6	2.41	31	104.3	48.6	46.6%
Sea Otter Sound-Iphigenia Bay	121.7	257.4	2.11	30	144.4	61.1	42.3%
<i>Heceta Island</i>	65.6	151.5	2.31	24	70.3	30.0	42.7%
<i>Marble Island</i>	10.0	22.4	2.24	4	10.3	3.9	38.2%
<i>Orr Island</i>	11.1	10.9	0.98	0	12.8	5.4	42.2%
<i>Sea Otter Sound</i>	6.5	0.9	0.14	0	11.3	4.3	38.4%
<i>Tuxekan Island</i>	28.5	71.7	2.51	2	39.8	17.4	43.9%

Appendix B. Watershed condition on Prince of Wales Island including road density, connectivity and condition of riparian forests (modified watersheds)

Watershed (HUC6)	Road Density and Connectivity				Riparian Forest Condition		
	Watershed Area	Roads (miles)	Road Density (mi / sq. mi)	Red-pipes (USFS only)	Riparian (acres)	Young-growth (acres)	Percent Young-growth
Skowl Arm	122.7	184.6	1.50	0	84.1	30.4	36.1%
<i>Dry Salmon Creek</i>	14.6	28.3	1.94	0	10.6	3.8	35.6%
<i>McKenzie Inlet-Skowl Arm Frontage</i>	23.0	12.9	0.56	0	11.8	2.9	24.5%
<i>Old Franks Creek</i>	30.6	22.8	0.75	0	19.4	3.7	18.8%
<i>Polk Inlet-Skowl Arm Frontage</i>	54.5	120.6	2.21	0	42.4	20.1	47.3%
South Prince of Wales Island-Clarence Strait	41.0	71.1	1.73	0	29.3	13.9	47.5%
<i>North Arm Moira Sound Frontage</i>	10.0	10.3	1.03	0	6.3	2.5	39.1%
<i>Port Johnson Frontage</i>	31.0	60.8	1.96	0	23.0	11.4	49.7%
Southwest Prince of Wales Island	273.1	135.3	0.50	0	125.3	33.4	26.6%
<i>Hassiah Inlet</i>	14.3	0.0	0.00	0	3.7	0.0	0.3%
<i>Hetta Inlet Frontage</i>	60.0	63.8	1.06	0	27.8	14.7	52.8%
<i>Hunter Bay</i>	8.4	0.0	0.00	0	1.3	0.0	0.8%
<i>Kassa Inlet</i>	11.6	0.0	0.00	0	2.4	0.1	4.6%
<i>Klakas Inlet Frontage</i>	37.0	0.0	0.00	0	9.7	0.9	9.4%
<i>Natzuhini Bay Frontage</i>	59.8	71.5	1.20	0	42.8	15.4	36.0%
<i>Nutkwa Falls</i>	34.3	0.0	0.00	0	18.3	0.1	0.4%
<i>Nutkwa Inlet Frontage</i>	19.9	0.0	0.00	0	6.3	0.3	4.9%
<i>Soda Bay Frontage</i>	27.9	0.0	0.00	0	12.9	1.8	14.2%
Thorne River	169.0	185.3	1.10	77	162.7	37.9	23.3%
<i>Central Thorne River</i>	19.6	48.5	2.47	13	19.9	8.3	41.9%
<i>Control Lake</i>	29.1	24.4	0.84	7	24.7	0.9	3.7%
<i>Goose Creek</i>	21.1	30.7	1.45	9	16.6	2.6	15.7%
<i>Gravelly Creek</i>	10.7	28.9	2.70	12	12.2	6.4	52.5%
<i>North Thorne River</i>	35.3	40.7	1.15	29	38.4	11.9	31.0%
<i>Rio Beaver Creek</i>	14.1	0.0	0.00	6	15.9	7.1	44.5%
<i>Rio Roberts Creek</i>	13.8	4.5	0.33	0	12.4	0.1	0.4%
<i>Thorne Lake</i>	25.2	7.7	0.31	1	22.7	0.6	2.7%
Tlevak Strait-Cordova Bay	99.6	130.9	1.31	0	37.3	18.0	48.2%
<i>Hetta Inlet</i>	0.7	0.0	0.00	0	0.8	0.7	91.4%
<i>Long Island</i>	48.1	127.4	2.65	0	23.0	17.0	73.7%
<i>Sukkwan Island</i>	48.9	0.0	0.00	0	13.1	0.2	1.5%
<i>Tlevak Strait</i>	1.9	3.4	1.79	0	0.5	0.1	26.7%
Grand Total	2,722.2	3,462.7	1.27	441	2,093.5	681.4	32.6%

Appendix C. Forest condition on winter range for Sitka black-tail deer, estimated habitat capability (avg. density) and harvest of deer by people during 1987-2007 among watersheds on Prince of Wales Island.

Watershed (HUC6)	Primary Winter Range <i>(south & west exposure; <500' elevation)</i>				Winter Habitat Capability <i>(TLMP Model)</i>	Estimated Deer Harvest
	Productive Forest Land <i>(acres)</i>	Old Growth <i>(%)</i>	All Young Growth <i>(%)</i>	>25 yr Young Growth <i>(%)</i>	Avg. Density <i>(deer / sq. mi.)</i>	Avg. harvest per year <i>(1987 - 2004)</i>
Bucareli Bay Frontage	27,738	51.7%	48.3%	0.4%	14.2	339.5
<i>Black Bear Creek</i>	1,146	10.3%	89.7%	0.0%	4.8	27.3
<i>Delta</i>	822	96.8%	3.3%	0.0%	17.6	13.5
<i>Klawock River</i>	4,839	42.9%	57.1%	0.0%	11.2	69.4
<i>Lake Nicholas</i>	579	40.6%	59.4%	0.0%	9.0	19.2
<i>North Big Salt Lake</i>	2,625	39.8%	60.3%	2.7%	20.5	47.8
<i>Port St Nicholas-Trocadero Bay Frontage</i>	6,551	71.2%	28.8%	0.7%	18.3	42.5
<i>San Alberto Bay Frontage</i>	9,664	40.3%	59.7%	0.0%	16.6	89.1
<i>Shinaku Creek</i>	1,513	71.8%	28.2%	0.0%	15.6	30.6
Bucareli Bay-Siketi Sound	20,844	90.9%	9.1%	1.2%	35.6	75.2
<i>Baker Island</i>	3,635	100.0%	0.0%	0.0%	33.8	5.6
<i>Bucareli Bay</i>	1,196	70.8%	29.2%	13.7%	42.5	0.8
<i>Lulu Island</i>	2,026	100.0%	0.0%	0.0%	25.7	5.2
<i>Noyes Island</i>	3,459	99.6%	0.4%	0.0%	37.3	7.4
<i>San Alberto Bay</i>	1,673	53.3%	46.7%	0.0%	20.0	8.1
<i>San Christoval Channel</i>	150	100.0%	0.0%	0.0%	64.7	0.1
<i>San Fernando Island</i>	1,908	100.0%	0.0%	0.0%	19.8	8.4
<i>San Juan Bautista Island</i>	954	73.4%	26.6%	0.0%	25.1	2.2
<i>Siketi Sound</i>	206	100.0%	0.0%	0.0%	59.5	0.1
<i>St Nicholas Channel</i>	7	100.0%	0.0%	0.0%	38.7	0.0
<i>Suemez Island</i>	5,612	94.1%	5.9%	0.4%	31.7	37.5
<i>Ulloa Channel</i>	18	100.0%	0.0%	0.0%	63.8	0.0
Cholmondeley Sound	11,138	79.6%	20.4%	2.3%	32.4	44.7
<i>Cholmondeley Sound Marine</i>	157	95.6%	4.5%	0.0%	66.0	0.0
<i>Clover Bay Frontage</i>	1,129	100.0%	0.0%	0.0%	16.1	11.0
<i>North Cholmondeley Sound Frontage</i>	1,403	100.0%	0.0%	0.0%	31.4	3.8
<i>South Arm Cholmondeley Sound Frontage</i>	1,806	45.0%	55.0%	8.0%	25.0	9.1
<i>South Cholmondeley Sound Frontage</i>	4,678	60.3%	39.7%	0.7%	29.5	14.0
<i>West Arm Cholmondeley Sound Frontage</i>	1,964	76.5%	23.5%	5.4%	26.0	6.9

Appendix C. Forest condition on winter range for Sitka black-tail deer, estimated habitat capability (avg. density) and harvest of deer by people during 1987-2007 among watersheds on Prince of Wales Island.

Watershed (HUC6)	Primary Winter Range (south & west exposure; <500' elevation)				Winter Habitat Capability (TLMP Model)	Estimated Deer Harvest
	Productive Forest Land (acres)	Old Growth (%)	All Young Growth (%)	>25 yr Young Growth (%)	Avg. Density (deer / sq. mi.)	Avg. harvest per year (1987 - 2004)
Clarence Strait	7,626	78.0%	22.0%	19.9%	36.4	9.2
<i>Clarence Strait Marine</i>	1,113	90.8%	9.2%	8.5%	44.8	1.6
<i>Kashevarof Islands</i>	4,497	67.5%	32.5%	24.9%	37.4	0.0
<i>Thorne Island</i>	1,946	91.2%	8.8%	8.8%	31.4	7.5
<i>Whale Passage</i>	70	62.5%	37.5%	37.5%	31.9	0.1
						0.0
Dall Island	22,464	94.5%	5.5%	0.0%	31.4	7.3
<i>Baldy Bay</i>	3	100.0%	0.0%	0.0%	11.9	0.0
<i>Devil Lake</i>	1,000	100.0%	0.0%	0.0%	31.2	0.2
<i>Essowah Lakes</i>	828	100.0%	0.0%	0.0%	27.8	0.2
<i>Northeast-Dall Island</i>	2,368	78.7%	21.3%	0.0%	20.8	2.2
<i>Northwest-Dall Island</i>	6,805	100.0%	0.0%	0.0%	43.7	2.0
<i>Sea Otter Harbor</i>	27	100.0%	0.0%	0.0%	54.8	0.0
<i>Southeast-Dall Island</i>	4,633	82.4%	17.6%	0.0%	27.8	1.4
<i>Southwest-Dall Island</i>	6,801	94.5%	5.5%	0.0%	33.0	1.3
Gold and Galligan Lagoon	17,269	73.1%	26.9%	10.2%	28.6	159.1
<i>Hatchery Creek</i>	5,146	76.7%	23.3%	14.3%	29.1	52.5
<i>Lojam Creek</i>	5,172	65.0%	35.0%	6.5%	23.2	53.6
<i>Sweetwater Lake-Gold and Galligan Lagoon</i>	6,951	77.5%	22.5%	9.8%	33.4	52.9
Kasaan bay	24,191	54.1%	45.9%	25.0%	18.2	228.8
<i>Harris River</i>	2,459	29.9%	70.1%	46.2%	15.0	32.9
<i>Indian Creek</i>	260	86.9%	13.2%	0.0%	11.9	7.1
<i>Indian Creek-Harris River</i>	1,981	53.9%	46.1%	38.4%	15.7	15.8
<i>Karta Bay-Kasaan Bay Frontage</i>	7,361	52.1%	47.9%	13.3%	25.9	58.3
<i>Karta River</i>	2,563	99.8%	0.3%	0.0%	28.5	46.6
<i>Kasaan Bay Marine</i>	556	50.9%	49.1%	7.7%	26.2	0.4
<i>Maybeso Creek</i>	1,440	8.4%	91.6%	78.5%	12.1	13.6
<i>Spiral Creek Frontage</i>	359	100.0%	0.0%	0.0%	19.4	5.0
<i>Twelvemile Arm-Kassan Bay Frontage</i>	6,004	48.7%	51.3%	8.6%	18.9	33.4
<i>Twelvemile Creek</i>	1,207	15.7%	84.3%	73.8%	7.6	15.8

Appendix C. Forest condition on winter range for Sitka black-tail deer, estimated habitat capability (avg. density) and harvest of deer by people during 1987-2007 among watersheds on Prince of Wales Island.

Watershed (HUC6)	Primary Winter Range <i>(south & west exposure; <500' elevation)</i>				Winter Habitat Capability <i>(TLMP Model)</i>	Estimated Deer Harvest
	Productive Forest Land <i>(acres)</i>	Old Growth <i>(%)</i>	All Young Growth <i>(%)</i>	>25 yr Young Growth <i>(%)</i>	Avg. Density <i>(deer / sq. mi.)</i>	Avg. harvest per year <i>(1987 - 2004)</i>
Kosciusko Island	23,150	63.5%	36.5%	34.3%	36.6	62.1
<i>El Capitan Passage</i>	4	53.6%	46.4%	46.4%	22.7	0.0
<i>Kosciusko Island-El Capitan Passage</i>	1,687	87.3%	12.7%	12.7%	20.9	8.2
<i>Kosciusko Island-Sea Otter Sound</i>	9,285	61.7%	38.3%	37.4%	32.9	17.5
<i>Kosciusko Island-Sumner Strait</i>	6,526	54.8%	45.2%	41.4%	28.1	24.0
<i>Shakan Bay</i>	1,102	86.2%	13.8%	13.8%	45.1	2.1
<i>Shiple Bay</i>	4	100.0%	0.0%	0.0%	86.5	0.0
<i>Survey Creek</i>	2,058	5.1%	94.9%	90.7%	20.1	3.8
<i>Trout Creek</i>	2,484	59.4%	40.6%	31.7%	36.3	6.5
North Prince of Wales Island	13,257	62.6%	37.4%	11.4%	24.3	195.1
<i>Buster Creek</i>	845	58.8%	41.2%	9.0%	14.7	22.0
<i>Flicker Creek</i>	2,025	58.5%	41.5%	3.0%	20.6	35.3
<i>Prince of Wales Island-Sumner Strait</i>	6,792	75.5%	24.5%	12.9%	32.2	85.8
<i>Red Bay</i>	1,896	47.6%	52.4%	31.6%	28.8	25.5
<i>Red Lake-Big Creek</i>	1,699	72.4%	27.6%	0.6%	25.2	26.5
North Prince of Wales Island-Clarence Strait	27,925	59.2%	40.8%	27.6%	23.6	502.3
<i>Eagle Creek</i>	2,473	28.9%	71.1%	61.8%	12.6	84.1
<i>East Kasaan Peninsula</i>	1,228	53.1%	46.9%	0.0%	14.3	19.4
<i>Kashevarof Passage Frontage</i>	2,013	72.7%	27.3%	12.7%	23.2	55.6
<i>Luck Point to Fores Cove</i>	2,481	47.7%	52.3%	44.8%	18.3	103.9
<i>Neck Lake</i>	1,617	65.7%	34.3%	26.6%	25.9	25.9
<i>Ragged Cove to Coffman Cove</i>	6,855	76.8%	23.2%	14.4%	27.1	64.8
<i>Ratz Creek</i>	1,022	26.9%	73.1%	63.8%	12.5	26.8
<i>Salmon Bay</i>	2,338	87.1%	12.9%	6.3%	28.9	35.8
<i>Thorn Bay-Tolstoi Bay</i>	6,466	55.9%	44.1%	13.6%	26.7	54.4
<i>Thorn Bay-Tolstoi Bay Marine</i>	57	100.0%	0.0%	0.0%	51.0	0.1
<i>Twin Island Lake</i>	1,374	36.0%	64.0%	59.8%	19.1	31.6

Appendix C. Forest condition on winter range for Sitka black-tail deer, estimated habitat capability (avg. density) and harvest of deer by people during 1987-2007 among watersheds on Prince of Wales Island.

Watershed (HUC6)	Primary Winter Range <i>(south & west exposure; <500' elevation)</i>				Winter Habitat Capability <i>(TLMP Model)</i>	Estimated Deer Harvest
	Productive Forest Land <i>(acres)</i>	Old Growth <i>(%)</i>	All Young Growth <i>(%)</i>	>25 yr Young Growth <i>(%)</i>	Avg. Density <i>(deer / sq. mi.)</i>	Avg. harvest per year <i>(1987 - 2004)</i>
Northwest Prince of Wales Island	44,846	61.8%	38.2%	22.6%	24.9	456.4
<i>East El Capitan Passage</i>	5,419	61.3%	38.8%	20.5%	21.5	41.3
<i>Naukati Creek</i>	2,987	55.8%	44.2%	15.7%	27.7	22.6
<i>North Calder Bay</i>	927	56.4%	43.6%	38.7%	18.4	14.0
<i>Prince of Wales Island-Sea Otter Sound</i>	15,050	64.5%	35.5%	17.6%	28.9	133.4
<i>Sarkar Creek</i>	7,651	82.6%	17.4%	11.2%	27.6	26.7
<i>Shaheen Creek</i>	2,252	59.4%	40.6%	7.8%	19.4	63.1
<i>Shakan Bay Frontage</i>	2,968	80.7%	19.3%	14.5%	37.5	21.5
<i>Staney Creek</i>	7,591	33.9%	66.1%	55.1%	17.9	133.8
Sea Otter Sound-Iphigenia Bay	29,406	83.0%	17.0%	11.8%	49.5	130.4
<i>Gulf of Esquibel</i>	126	100.0%	0.0%	0.0%	44.9	1.1
<i>Heceta Island</i>	11,195	60.5%	39.5%	28.5%	36.8	100.1
<i>Iphigenia Bay</i>	9	100.0%	0.0%	0.0%	64.5	0.0
<i>Marble Island</i>	1,685	62.1%	37.9%	1.5%	37.3	3.8
<i>Maurelle Islands</i>	1,429	100.0%	0.0%	0.0%	40.5	1.5
<i>Orr Island</i>	2,839	62.4%	37.6%	35.6%	38.0	4.4
<i>Sea Otter Sound</i>	2,816	77.6%	22.4%	21.1%	55.8	2.2
<i>Tonowek Bay</i>	443	97.7%	2.3%	2.3%	72.8	0.4
<i>Tuxekan Island</i>	7,294	53.2%	46.8%	41.0%	42.8	13.9
<i>Tuxekan Passage</i>	26	100.0%	0.0%	0.0%	77.4	0.3
<i>Warren Island</i>	1,544	100.0%	0.0%	0.0%	33.3	2.8
Skowl Arm	9,929	69.0%	31.0%	4.1%	20.9	74.5
<i>Dry Salmon Creek</i>	858	53.0%	47.0%	12.8%	15.9	10.7
<i>McKenzie Inlet-Skowl Arm Frontage</i>	2,191	82.5%	17.5%	4.6%	22.9	12.3
<i>Old Franks Creek</i>	1,337	77.6%	22.4%	0.0%	17.2	20.4
<i>Polk Inlet-Skowl Arm Frontage</i>	5,477	43.0%	57.0%	3.0%	16.5	31.2
<i>Skowl Arm Marine</i>	66	89.0%	11.0%	0.0%	32.1	

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	Productive Forest Land <i>(acres)</i>	Old Growth <i>(%)</i>	All Young Growth <i>(%)</i>	>25 yr Young Growth <i>(%)</i>	Avg. Density <i>(deer / sq. mi.)</i>	Avg. harvest per year <i>(1987 - 2004)</i>
South Prince of Wales Island-Clarence Strait	20,795	92.3%	7.7%	0.1%	30.9	24.4
<i>Brownson Bay-Nichols Bay Frontage</i>	2,927	100.0%	0.0%	0.0%	26.0	1.9
<i>Kendrick Bay</i>	193	100.0%	0.0%	0.0%	40.6	0.0
<i>Moira Sound</i>	238	100.0%	0.0%	0.0%	48.9	0.0
<i>North Arm Moira Sound Frontage</i>	2,579	86.4%	13.6%	0.0%	27.7	3.7
<i>Port Johnson Frontage</i>	3,551	52.2%	47.8%	1.0%	23.3	6.2
<i>Rip Point to Intum Cone</i>	5,451	100.0%	0.0%	0.0%	30.3	2.8
<i>South Arm Moira Sound Frontage</i>	2,927	100.0%	0.0%	0.0%	26.3	4.0
<i>West Arm Moira Sound Frontage</i>	2,929	100.0%	0.0%	0.0%	24.3	5.7
Southwest Prince of Wales Island	36,814	91.0%	9.0%	1.5%	27.4	55.3
<i>Hassiah Inlet</i>	1,904	97.0%	3.0%	0.0%	40.6	1.2
<i>Hessa Inlet</i>	2,820	100.0%	0.0%	0.0%	22.5	2.3
<i>Hetta Inlet Frontage</i>	5,678	60.8%	39.2%	0.0%	11.9	10.2
<i>Hunter Bay</i>	1,723	99.4%	0.6%	0.6%	31.1	1.5
<i>Kassa Inlet</i>	1,987	95.9%	4.1%	4.1%	41.6	1.1
<i>Klakas Inlet Frontage</i>	3,658	93.4%	6.6%	4.3%	33.9	2.9
<i>Klakas Lake</i>	460	100.0%	0.0%	0.0%	16.5	0.7
<i>Natzuhini Bay Frontage</i>	8,419	68.2%	31.8%	7.0%	22.3	14.8
<i>Nutkwa Falls</i>	2,057	98.2%	1.8%	0.0%	31.2	2.3
<i>Nutkwa Inlet Frontage</i>	2,414	93.3%	6.7%	0.3%	36.0	2.1
<i>Soda Bay Frontage</i>	4,348	85.9%	14.1%	1.5%	24.8	14.9
<i>South Bokan Mountain</i>	1,346	100.0%	0.0%	0.0%	16.3	1.2
Thorne River	16,459	68.6%	31.4%	21.9%	23.4	286.2
<i>Central Thorne River</i>	3,748	57.3%	42.7%	31.3%	30.7	41.2
<i>Control Lake</i>	1,965	87.1%	12.9%	0.0%	28.5	42.7
<i>Goose Creek</i>	1,954	71.3%	28.7%	5.6%	21.9	27.6
<i>Gravelly Creek</i>	580	12.4%	87.6%	83.9%	11.0	17.9
<i>North Thorne River</i>	4,391	61.6%	38.4%	20.3%	21.3	66.9
<i>Rio Beaver Creek</i>	872	63.1%	36.9%	33.8%	16.8	35.6
<i>Rio Roberts Creek</i>	450	100.0%	0.0%	0.0%	23.5	24.1
<i>Thorne Lake</i>	2,499	95.9%	4.1%	0.0%	33.7	30.2

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	Productive Forest Land <i>(acres)</i>	Old Growth <i>(%)</i>	All Young Growth <i>(%)</i>	>25 yr Young Growth <i>(%)</i>	Avg. Density <i>(deer / sq. mi.)</i>	Avg. harvest per year <i>(1987 - 2004)</i>
Tlevak Strait-Cordova Bay	19,996	88.2%	11.8%	0.0%	41.1	51.4
<i>Barrier Islands</i>	945	100.0%	0.0%	0.0%	37.9	0.0
<i>Cordova Bay</i>	384	100.0%	0.0%	0.0%	39.4	0.1
<i>Corlies Islands</i>	62	100.0%	0.0%	0.0%	56.8	0.0
<i>Goat Island</i>	1,011	100.0%	0.0%	0.0%	37.1	1.1
<i>Hetta Inlet</i>	234	29.5%	70.5%	0.0%	4.2	0.0
<i>Kaigani Strait</i>	21	100.0%	0.0%	0.0%	46.9	0.0
<i>Klakas Inlet</i>	58	100.0%	0.0%	0.0%	59.5	0.0
<i>Long Island</i>	10,510	18.4%	81.6%	0.0%	21.6	42.8
<i>McFarland Islands</i>	281	100.0%	0.0%	0.0%	40.1	0.2
<i>Meares Passage</i>	184	100.0%	0.0%	0.0%	56.3	0.0
<i>Natzuhini Bay</i>	153	92.9%	7.1%	0.0%	35.6	0.0
<i>Nichols Islands</i>	120	100.0%	0.0%	0.0%	56.6	0.0
<i>Nutkwa Inlet</i>	1	100.0%	0.0%	0.0%	42.1	0.0
<i>Sukkwan Island</i>	5,120	99.5%	0.5%	0.5%	26.2	7.2
<i>Sukkwan Strait</i>	7	100.0%	0.0%	0.0%	34.7	0.0
<i>Tlevak Strait</i>	905	71.7%	28.3%	0.0%	62.6	0.1
Grand Total	373,849	75.6%	24.4%	11.0%	30.3	2,701.9

Appendix D. Distribution and density of low-elevation, surface karst features, and % of lands within 100 ft. radius of karst features in young growth condition among watersheds (HUC6) on Prince of Wales and neighboring islands.

Watershed Name	Karst	Density			Forest
	Features	(features per sq. mile)			Condition
	count	mean	max	min	(% young growth)
Kosciusko Island	1,723	12.34	46.06	1.60	52.8%
<i>Kosciusko Island-Sea Otter Sound</i>	805	13.24	62.60	0.00	32.7%
<i>Trout Creek</i>	418	21.81	59.80	0.00	23.7%
<i>Kosciusko Island-Sumner Strait</i>	345	4.72	44.61	0.00	34.8%
<i>Survey Creek</i>	154	21.62	53.85	7.98	72.7%
<i>Kosciusko Island-El Capitan Passage</i>	1	0.33	9.42	0.00	100.0%
Sea Otter Sound-Iphigenia Bay	1,269	5.91	23.00	0.11	41.1%
<i>Heceta Island</i>	893	11.76	61.95	0.00	67.4%
<i>Tuxekan Island</i>	361	10.43	19.69	0.43	33.9%
<i>Marble Island</i>	14	1.16	2.93	0.00	63.2%
<i>Sea Otter Sound</i>	1	0.28	7.43	0.00	0.0%
North Prince of Wales Island-Clarence Strait	787	5.18	25.53	0.05	44.9%
<i>Twin Island Lake</i>	308	18.14	56.93	0.29	76.1%
<i>Kashevarof Passage Frontage</i>	204	6.25	20.01	0.00	63.1%
<i>Neck Lake</i>	148	8.12	39.00	0.09	42.8%
<i>Ragged Cove to Coffman Cove</i>	54	1.19	43.47	0.00	55.2%
<i>Salmon Bay</i>	54	2.08	13.74	0.00	51.1%
<i>Eagle Creek</i>	11	0.37	2.98	0.00	25.9%
<i>Luck Point to Fores Cove</i>	8	0.11	2.59	0.00	0.0%
Northwest Prince of Wales Island	624	2.38	12.33	0.02	34.0%
<i>East El Capitan Passage</i>	351	8.79	53.27	0.00	41.2%
<i>Prince of Wales Island-Sea Otter Sound</i>	102	1.02	9.62	0.00	56.7%
<i>North Calder Bay</i>	59	4.22	8.30	0.18	9.0%
<i>Staney Creek</i>	43	0.75	9.13	0.00	47.6%
<i>Shakan Bay Frontage</i>	41	2.22	6.90	0.00	2.3%
<i>Naukati Creek</i>	18	1.74	4.22	0.00	44.9%
<i>Sarkar Creek</i>	8	0.17	2.19	0.00	70.0%
<i>Shaheen Creek</i>	2	0.14	5.04	0.00	0.0%
North Prince of Wales Island	291	1.75	10.07	0.00	29.1%
<i>Prince of Wales Island-Sumner Strait</i>	209	3.20	12.90	0.00	28.7%
<i>Flicker Creek</i>	37	1.88	8.93	0.00	18.2%
<i>Red Bay</i>	29	2.27	12.90	0.00	66.9%
<i>Red Lake-Big Creek</i>	14	1.13	12.57	0.00	31.4%
<i>Buster Creek</i>	2	0.27	3.05	0.00	0.0%
Kasaan Bay	77	1.47	10.82	0.00	95.4%
<i>Indian Creek-Harris River</i>	43	1.63	10.98	0.00	91.4%
<i>Twelvemile Creek</i>	34	1.31	10.66	0.00	99.4%
Gold and Galligan Lagoon	61	0.49	3.36	0.00	45.6%
<i>Lojam Creek</i>	54	1.34	7.97	0.00	36.8%
<i>Hatchery Creek</i>	6	0.08	1.06	0.00	0.0%
<i>Sweetwater Lake-Gold and Galligan Lagoon</i>	1	0.05	1.06	0.00	100.0%
Dall Island	61	0.52	3.59	0.00	0.0%
<i>Southwest-Dall Island</i>	22	0.70	4.32	0.00	0.0%
<i>Northeast-Dall Island</i>	21	0.34	4.32	0.00	0.0%
<i>Northwest-Dall Island</i>	11	0.16	1.38	0.00	0.0%
<i>Devil Lake</i>	6	0.99	3.82	0.00	0.0%

Appendix D. Distribution and density of low-elevation, surface karst features, and % of lands within 100 ft. radius of karst features in young growth condition among watersheds (HUC6) on Prince of Wales and neighboring islands.

Watershed Name	Karst Features	Density (features per sq. mile)			Forest Condition
	count	mean	max	min	(% young growth)
<i>Southeast-Dall Island</i>	1	0.42	4.12	0.00	0.0%
Bucareli Bay-Siketi Sound	23	0.11	1.05	0.00	5.5%
<i>Suemez Island</i>	9	0.13	1.15	0.00	21.9%
<i>Baker Island</i>	8	0.11	1.58	0.00	0.0%
<i>Noyes Island</i>	5	0.03	1.21	0.00	0.0%
<i>Siketi Sound</i>	1	0.20	0.26	0.00	0.0%
Cholmondeley Sound	21	0.16	1.22	0.00	6.4%
<i>South Cholmondeley Sound Frontage</i>	18	0.40	2.88	0.00	19.1%
<i>West Arm Cholmondeley Sound Frontage</i>	2	0.03	0.51	0.00	0.0%
<i>North Cholmondeley Sound Frontage</i>	1	0.05	0.26	0.00	0.0%
South Prince of Wales Island-Clarence Strait	8	0.27	2.87	0.00	0.0%
<i>Port Johnson Frontage</i>	8	0.27	2.87	0.00	0.0%
Thorne River	7	0.13	0.88	0.00	0.0%
<i>Central Thorne River</i>	4	0.13	1.06	0.00	0.0%
<i>Control Lake</i>	3	0.12	0.69	0.00	0.0%
Tlevak Strait-Cordova Bay	1	0.02	0.30	0.00	0.0%
<i>Meares Passage</i>	1	0.02	0.30	0.00	0.0%
Grand Total	4,953	3.16	14.25	0.18	30.6%

Appendix E. Acres of young growth by age class and Land Use Designation (LUD)

LUD	Watershed Name	YG >50 years	YG 40-50 years	Grand Total
Development		4,535	28,362	32,896
	Cholmondeley Sound		0	0
	<i>South Cholmondeley Sound Frontage</i>		0	0
	Clarence Strait	11	165	177
	<i>Clarence Strait Marine</i>		76	76
	<i>Thorne Island</i>	11	80	91
	<i>Whale Passage</i>		10	10
	Gold and Galligan Lagoon		184	184
	<i>Lojam Creek</i>		184	184
	Kasaan Bay	196	8,443	8,639
	<i>Harris River</i>		1,886	1,886
	<i>Indian Creek</i>		18	18
	<i>Indian Creek-Harris River</i>		1,105	1,105
	<i>Karta Bay-Kasaan Bay Frontage</i>	63	139	202
	<i>Karta River</i>		19	19
	<i>Kasaan Bay Marine</i>	19		19
	<i>Maybeso Creek</i>		2,814	2,814
	<i>Twelvemile Arm- Kasaan Bay Frontage</i>		8	8
	<i>Twelvemile Arm-Kassan Bay frontage</i>	114	222	336
	<i>Twelvemile Creek</i>		2,232	2,232
	Kosciusko Island	3,066	4,581	7,647
	<i>Kosciusko Island-El Capitan Passage</i>		161	161
	<i>Kosciusko Island-Sea Otter Sound</i>	434	1,062	1,496
	<i>Kosciusko Island-Sumner Strait</i>	1,702	882	2,584
	<i>Survey Creek</i>	930	1,727	2,657
	<i>Trout Creek</i>		749	749
	North Prince of Wales Island	24	472	496
	<i>Buster Creek</i>		2	2
	<i>Flicker Creek</i>	14		14
	<i>Prince of Wales Island-Sumner Strait</i>	10	382	392
	<i>Red Bay</i>		87	87
	North Prince of Wales Island-Clarence Strait	4	9,299	9,303
	<i>Luck Point to Fores Cove</i>		4,000	4,000
	<i>Ragged Cove to Coffman Cove</i>		149	149
	<i>Ratz Creek</i>		1,717	1,717
	<i>Salmon Bay</i>		27	27
	<i>Thorn Bay-Tolstoi Bay</i>	4	840	844
	<i>Twin Island Lake</i>		1,711	1,711
	<i>Neck Lake</i>		855	855
	Northwest Prince of Wales Island	405	275	681
	<i>East El Capitan Passage</i>	4		4
	<i>Prince of Wales Island-Sea Otter Sound</i>	367	9	376
	<i>Sarkar Creek</i>	34		34
	<i>Staney Creek</i>		266	266
	Sea Otter Sound-Iphigenia Bay	416	772	1,187
	<i>Orr Island</i>		99	99
	<i>Tuxekan Island</i>	416	672	1,088
	Skowl Arm	406	292	698
	<i>Dry Salmon Creek</i>	50	105	155
	<i>McKenzie Inlet-Skowl Arm Frontage</i>	8	32	40
	<i>Polk Inlet-Skowl Arm Frontage</i>	348	155	503
	South Prince of Wales Island-Clarence Strait	6	2	7
	<i>Port Johnson Frontage</i>	6	2	7
	Southwest Prince of Wales Island		47	47
	<i>Hetta Inlet Frontage</i>		1	1
	<i>Natzuhini Bay Frontage</i>		46	46
	Thorne River		3,830	3,830
	<i>Central Thorne River</i>		1,125	1,125
	<i>Gravelly Creek</i>		1,153	1,153
	<i>Rio Beaver Creek</i>		1,552	1,552

Appendix E. Acres of young growth by age class and Land Use Designation (LUD)

LUD	Watershed Name	YG >50 years	YG 40-50 years	Grand Total
Natural Setting		516	2,111	2,627
Cholmondeley Sound			11	11
	<i>West Arm Cholmondeley Sound Frontage</i>		11	11
Clarence Strait		11	83	94
	<i>Clarence Strait Marine</i>		30	30
	<i>Whale Passage</i>	11	53	64
Dall Island		79	124	203
	<i>Southeast-Dall Island</i>		0	0
	<i>Southwest-Dall Island</i>	79	124	203
Kasaan Bay		127	442	570
	<i>Harris River</i>		29	29
	<i>Indian Creek</i>		6	6
	<i>Indian Creek-Harris River</i>		34	34
	<i>Karta Bay-Kasaan Bay Frontage</i>	53	31	83
	<i>Kasaan Bay Marine</i>	75		75
	<i>Twelvemile Arm- Kasaan Bay Frontage</i>		16	16
	<i>Twelvemile Arm-Kasaan Bay frontage</i>		222	222
	<i>Twelvemile Creek</i>		106	106
Kosciusko Island		157	736	893
	<i>El Capitan Passage</i>		10	10
	<i>Kosciusko Island-El Capitan Passage</i>		93	93
	<i>Kosciusko Island-Sea Otter Sound</i>	3	2	5
	<i>Kosciusko Island-Sumner Strait</i>	0	197	197
	<i>Shakan Bay</i>		186	186
	<i>Survey Creek</i>	154	17	171
	<i>Trout Creek</i>		232	232
North Prince of Wales Island		54	251	305
	<i>Prince of Wales Island-Sumner Strait</i>		67	67
	<i>Red Bay</i>	54	184	238
	<i>Red Lake-Big Creek</i>		0	0
North Prince of Wales Island-Clarence Strait		7	166	173
	<i>Kashevarof Passage Frontage</i>		21	21
	<i>Luck Point to Fores Cove</i>		48	48
	<i>Ragged Cove to Coffman Cove</i>	3	56	59
	<i>Ratz Creek</i>		6	6
	<i>Thorn Bay-Tolstoi Bay</i>	3	14	18
	<i>Twin Island Lake</i>		21	21
Northwest Prince of Wales Island		31	32	63
	<i>Prince of Wales Island-Sea Otter Sound</i>	10		10
	<i>Shakan Bay Frontage</i>	22		22
	<i>Staney Creek</i>		32	32
Sea Otter Sound-Iphigenia Bay		2		2
	<i>Tuxekan Island</i>	2		2
Skowl Arm		22	48	70
	<i>McKenzie Inlet-Skowl Arm Frontage</i>	22	15	36
	<i>Polk Inlet-Skowl Arm Frontage</i>		33	33
South Prince of Wales Island-Clarence Strait		0	0	0
	<i>Port Johnson Frontage</i>		0	0
Southwest Prince of Wales Island		15	45	60
	<i>Hassiah Inlet</i>	10		10
	<i>Kassa Inlet</i>	5		5
	<i>Natzuhini Bay Frontage</i>		3	3
	<i>Soda Bay Frontage</i>		42	42
Thorne River			171	171
	<i>Central Thorne River</i>		169	169
	<i>Gravelly Creek</i>		0	0
	<i>Rio Beaver Creek</i>		3	3
Tlevak Strait-Cordova Bay		12		12
	<i>Long Island</i>	1		1
	<i>Sukkwan Island</i>	11		11

Appendix E. Acres of young growth by age class and Land Use Designation (LUD)

LUD	Watershed Name	YG >50 years	YG 40-50 years	Grand Total
Beach fringe		2,065	5,403	7,468
Bucareli Bay Frontage		40	3	43
	<i>Port St Nicholas-Trocadero Bay Frontage</i>	40	3	43
Cholmondeley Sound			181	181
	<i>South Cholmondeley Sound Frontage</i>		75	75
	<i>West Arm Cholmondeley Sound Frontage</i>		106	106
Clarence Strait			456	456
	<i>Clarence Strait Marine</i>		125	125
	<i>Thorne Island</i>		330	330
Dall Island		63	93	156
	<i>Southeast-Dall Island</i>	63	2	65
	<i>Southwest-Dall Island</i>		91	91
Kasaan Bay		388	776	1,165
	<i>Karta Bay-Kasaan Bay Frontage</i>	319	233	552
	<i>Maybeso Creek</i>		74	74
	<i>Twelvemile Arm- Kasaan Bay Frontage</i>		33	33
	<i>Twelvemile Arm-Kassan Bay frontage</i>	69	283	352
	<i>Twelvemile Creek</i>		154	154
Kosciusko Island		149	493	642
	<i>Kosciusko Island-El Capitan Passage</i>		273	273
	<i>Kosciusko Island-Sea Otter Sound</i>	66	23	89
	<i>Kosciusko Island-Sumner Strait</i>	58	152	210
	<i>Shakan Bay</i>		45	45
	<i>Survey Creek</i>	25		25
North Prince of Wales Island		66	1,138	1,205
	<i>Buster Creek</i>		47	47
	<i>Flicker Creek</i>	19		19
	<i>Prince of Wales Island-Sumner Strait</i>	13	755	768
	<i>Red Bay</i>	34	316	350
	<i>Red Lake-Big Creek</i>		21	21
North Prince of Wales Island-Clarence Strait		88	1,011	1,099
	<i>Kashevarof Passage Frontage</i>		169	169
	<i>Luck Point to Fores Cove</i>		309	309
	<i>Ragged Cove to Coffman Cove</i>	33	268	301
	<i>Ratz Creek</i>		168	168
	<i>Thorn Bay-Tolstoi Bay</i>	55	97	151
Northwest Prince of Wales Island		471	35	506
	<i>East El Capitan Passage</i>	13		13
	<i>Prince of Wales Island-Sea Otter Sound</i>	457	27	484
	<i>Sarkar Creek</i>	1		1
	<i>Shakan Bay Frontage</i>		7	7
	<i>Staney Creek</i>		0	0
Sea Otter Sound-Iphigenia Bay		223	529	753
	<i>Orr Island</i>		302	302
	<i>Tuxekan Island</i>	223	228	451
Skowl Arm		261	301	563
	<i>Dry Salmon Creek</i>	21	29	50
	<i>McKenzie Inlet-Skowl Arm Frontage</i>	38	81	119
	<i>Polk Inlet-Skowl Arm Frontage</i>	203	191	394
South Prince of Wales Island-Clarence Strait		22	65	87
	<i>Port Johnson Frontage</i>	22	65	87
Southwest Prince of Wales Island		223	44	267
	<i>Hassiah Inlet</i>	68		68
	<i>Kassa Inlet</i>	144		144
	<i>Natzuhini Bay Frontage</i>		43	43
	<i>Nutkwa Inlet Frontage</i>	11		11
Thorne River			277	277
	<i>Central Thorne River</i>		277	277
Tlevak Strait-Cordova Bay		71		71
	<i>Long Island</i>	28		28
	<i>Sukkwan Island</i>	43		43

Appendix E. Acres of young growth by age class and Land Use Designation (LUD)

LUD	Watershed Name	YG >50 years	YG 40-50 years	Grand Total
Riparian buffer		867	5,693	6,560
Bucareli Bay Frontage		7		7
	<i>Port St Nicholas-Trocadero Bay Frontage</i>	7		7
Clarence Strait			49	49
	<i>Clarence Strait Marine</i>		27	27
	<i>Thorne Island</i>		23	23
Gold and Galligan Lagoon			20	20
	<i>Lojam Creek</i>		20	20
Kasaan Bay		43	1,698	1,740
	<i>Harris River</i>		1,015	1,015
	<i>Indian Creek</i>		0	0
	<i>Indian Creek-Harris River</i>		203	203
	<i>Karta Bay-Kasaan Bay Frontage</i>	19	42	61
	<i>Twelvemile Arm-Kassan Bay frontage</i>	24	15	39
	<i>Twelvemile Creek</i>		422	422
Kosciusko Island		379	617	997
	<i>Kosciusko Island-El Capitan Passage</i>		56	56
	<i>Kosciusko Island-Sea Otter Sound</i>	13	104	117
	<i>Kosciusko Island-Sumner Strait</i>	266	104	370
	<i>Survey Creek</i>	100	281	381
	<i>Trout Creek</i>		72	72
North Prince of Wales Island		5	96	100
	<i>Buster Creek</i>		18	18
	<i>Flicker Creek</i>	3		3
	<i>Prince of Wales Island-Sumner Strait</i>	1	63	65
	<i>Red Bay</i>	1	14	15
North Prince of Wales Island-Clarence Strait		4	1,958	1,963
	<i>Luck Point to Fores Cove</i>		1,029	1,029
	<i>Ragged Cove to Coffman Cove</i>		39	39
	<i>Ratz Creek</i>		472	472
	<i>Thorn Bay-Tolstoi Bay</i>	4	184	188
	<i>Twin Island Lake</i>		155	155
	<i>Neck Lake</i>		79	79
Northwest Prince of Wales Island		107	115	223
	<i>East El Capitan Passage</i>	3		3
	<i>Prince of Wales Island-Sea Otter Sound</i>	101	1	102
	<i>Sarkar Creek</i>	4		4
	<i>Staney Creek</i>		114	114
Sea Otter Sound-Iphigenia Bay		113	180	293
	<i>Orr Island</i>		70	70
	<i>Tuxekan Island</i>	113	111	223
Skowl Arm		161	129	289
	<i>Dry Salmon Creek</i>	12	55	66
	<i>McKenzie Inlet-Skowl Arm Frontage</i>	26	11	37
	<i>Polk Inlet-Skowl Arm Frontage</i>	123	63	186
South Prince of Wales Island-Clarence Strait		34	14	48
	<i>Port Johnson Frontage</i>	34	14	48
Southwest Prince of Wales Island		14	25	39
	<i>Hassiah Inlet</i>	1		1
	<i>Kassa Inlet</i>	10		10
	<i>Nutkwa Inlet Frontage</i>	3		3
	<i>Soda Bay Frontage</i>		25	25
Thorne River			792	792
	<i>Central Thorne River</i>		194	194
	<i>Gravelly Creek</i>		246	246
	<i>Rio Beaver Creek</i>		352	352
Grand Total		7,983	41,568	49,551

Appendix F. Attributes, Guidance and Considerations to Apply During Selecting Young Growth Treatment Stands and Designing Treatment Projects

Attribute	Why Consider This?	Guidance/Considerations
TOPOGRAPHIC ATTRIBUTES		
Slope/Aspect	<ul style="list-style-type: none"> - Habitat: Snow reduction - Predation refuge (slope) - Side-lighting 	<ul style="list-style-type: none"> - Consider slope along with aspect. - Generally: Highest value (winter range) is S aspect, >20% slope; medium W&E aspect; lowest N. - Look at deer pellet data (if available) for slope/aspect use.
Elevation	<ul style="list-style-type: none"> - Habitat: winter range 	<ul style="list-style-type: none"> - Consider elevation along with aspect. - Generally: Highest value (winter range) 0-500'; medium value 500-800'; lowest > 800'. - Look at deer pellet data (if available) for elevation use.
Shading	<ul style="list-style-type: none"> - Habitat: winter range 	<ul style="list-style-type: none"> - Avoid snow holes.
Cold air drainages	<ul style="list-style-type: none"> - Habitat: winter range 	<ul style="list-style-type: none"> - Avoid snow holes.
Wind-firmness	<ul style="list-style-type: none"> - Habitat: long-term benefit 	<ul style="list-style-type: none"> - Apply Wind Risk model (Kramer model). - Consider history of wind throw. - Retain higher densities as risk of wind throw increases. - Consider moving on landscape to areas of lower risk for wind throw.
SPATIAL ATTRIBUTES		
Proximity to Muskeg	<ul style="list-style-type: none"> - "Hunt-ability" – landscape suited to readily sighting deer - Habitat 	<ul style="list-style-type: none"> - If there are opportunities to treat stands proximate or adjacent to muskeg, that is a higher value area to treat.
Proximity to Alpine	<ul style="list-style-type: none"> - Hunt-ability - Habitat: summer range 	<ul style="list-style-type: none"> - If there are opportunities to treat stands proximate or adjacent to alpine, that is a higher value area to treat.
Proximity to Summer Range	<ul style="list-style-type: none"> - Habitat: summer range 	<ul style="list-style-type: none"> - It is a higher priority to treat winter range that is adjacent or proximate to valuable summer range. - Take advantage of naturally occurring patches that are productive summer habitats (e.g., alder). - Look for treatment opportunities that would benefit deer habitat in the proximate summer range (e.g., improve summer forage on a north facing slope).

Appendix F. Attributes, Guidance and Considerations to Apply During Selecting Young Growth Treatment Stands and Designing Treatment Projects

Attribute	Why Consider This?	Guidance/Considerations
Proximity to Old Growth	<ul style="list-style-type: none"> - Habitat: sustain displaced deer, winter range 	<ul style="list-style-type: none"> - If the ratio of old growth to young growth acreage in the area is high, may not be a priority for treatment, as old growth is providing quality habitat. - If the ratio is low, locating young growth treatment area adjacent to an old growth reserve can be beneficial as, (1) in the short-term it provides habitat for deer displaced from the treatment area, and (2) in the long-term the old growth offers winter range of higher quality than the treated area.
Beach	<ul style="list-style-type: none"> - Habitat: Winter refugia - Hunt-ability: important access for non-roaded communities 	<ul style="list-style-type: none"> - Beach stands won't be harvested for commercial timber again. While it may take multiple treatment entries to meet desired conditions for wildlife in the treated stand, once this condition is reached it wouldn't require future rehabilitation for wildlife. - Consider need to provide deer cover from predation on beach.
Proximity to Roads	<ul style="list-style-type: none"> - Hunt-ability - Operability/Feasibility - Merchantability 	<ul style="list-style-type: none"> - Review Access Travel Management Plan for future road condition. Closer to road is "better" for hunter access, reduced cost of operation, may make removed material merchantable.
Connectivity	<ul style="list-style-type: none"> - Habitat - Predation 	<ul style="list-style-type: none"> - Maintain/provide connectivity between important, diverse habitats: winter & summer range, old growth blocks, beach, alpine, muskeg. - Address need for connectivity to seek refuge from predation.
VEGETATION ATTRIBUTES		
Stand Structure & Composition (stand age, composition, tree size)	<ul style="list-style-type: none"> - Landscape character/diversity 	<ul style="list-style-type: none"> - How does the stand relate to the rest of the landscape? Does it, or could it if treated, offer desired habitat value and/or diversity?
Stand-specific Treatment History	<ul style="list-style-type: none"> - Effects "treatability" - understory characteristics, size of trees, taper - Merchantability 	<ul style="list-style-type: none"> - Consider when treated, type of treatment, history of wind-firmness issues.

Appendix F. Attributes, Guidance and Considerations to Apply During Selecting Young Growth Treatment Stands and Designing Treatment Projects

Attribute	Why Consider This?	Guidance/Considerations
Planned Timber Harvest	<ul style="list-style-type: none"> - Long-term effectiveness & benefit of treatment 	<ul style="list-style-type: none"> - Is there timber harvest planned in or adjacent to this area in the future?
Second Growth Patch Size	<ul style="list-style-type: none"> - Habitat diversity 	<ul style="list-style-type: none"> - Look for large blocks of contiguous second growth to improve age class, stand structure and patch size, based on deer home range requirements.
Understory Characteristics & Potential for Reinitiation of Productive Understory	<ul style="list-style-type: none"> - Habitat: winter/spring range; nutrients 	<ul style="list-style-type: none"> - <u>At project layout:</u> Would require field investigation (no database at this level of detail.) - Consider whether understory shows evidence of potential to regenerate important winter forage (<u>Vaccinium</u>, evergreen forbs, shield ferns, beard lichens) or spring forage (skunk cabbage.)
SOCIAL ATTRIBUTES		
Opportunities for Local Capacity Building	<ul style="list-style-type: none"> - Economic feasibility. - Community/Tribal support. - Partnerships. - Community economic sustainability. 	<ul style="list-style-type: none"> - Consider opportunities for local community and/or Tribal involvement
Contribution to Resource Economy	<ul style="list-style-type: none"> - Community economic sustainability. - Community/Tribal support. - Partnerships. - Economic feasibility. - Merchantability. 	<ul style="list-style-type: none"> - Consider merchantability, business partnerships.
Potential Partners to Accomplish Project	<ul style="list-style-type: none"> - Economic feasibility. - Community/Tribal support. - Partnerships. 	<ul style="list-style-type: none"> - Look for Partnership opportunities to gain additional funding and/or treatment capabilities (e.g., in-kind services).
Cost Effectiveness	<ul style="list-style-type: none"> - Economic feasibility. 	<ul style="list-style-type: none"> - Cost/benefit
Suitability of Site for Project Demonstration	<ul style="list-style-type: none"> - Community/Tribal support. - Public support can translate into additional Partnerships, funding, opportunity. 	<ul style="list-style-type: none"> - Location suited to demonstration and interpretation of project. - Inform public and build support for program.



Appendix G. Restoration Case Studies

The Nature Conservancy is working with partners to help rehabilitate and restore key fish and wildlife habitats on Prince of Wales Island, with the principal goal of maintaining and improving ecological function. In addition to ecological benefits, The Conservancy and the Forest Service are working to provide long-term economic and social benefits to local communities. These community benefits can occur through enhanced fish and game populations, employment opportunities, and new forest products from second-growth thinning. Furthermore, commercial, sport and subsistence users of salmon and deer reap the benefits of thriving wild salmon runs and an abundant deer population.

With thousands of acres of second growth in stem exclusion stage, hundreds of culverts that block fish passage, and many miles of degraded stream channel, there are significant opportunities in stream and forest rehabilitation, restoration, and forest stewardship. A number of old logging roads are either unnecessary for future use and should be decommissioned or stored properly to minimize soil erosion and siltation into salmon streams. Stream crossings need to be removed or improved to ensure they do not block salmon passage. This work requires significant labor and earth-moving equipment. It has been estimated that \$1.5 million invested in such stream restoration activities can create ten good paying jobs.

The Klawock and Kasaan Bay Watershed Councils, US Fish and Wildlife Service, Natural Resource Conservation Service, Trout Unlimited, and Sealaska have all participated in restoration projects, adding to the wealth of restoration resources and knowledge on Prince of Wales. Numerous partners have been participating in two major projects, Sal Creek and Fubar Creek. These are outlined in the following section to show just how watershed restoration needs are being addressed, one stream reach at a time.

Case 1: Restoration of Fubar Creek within the Harris River Watershed, Summer 2006 (from Prussian et al., 2006)

<p>Project Details</p> <ul style="list-style-type: none"> • Central Prince of Wales Till Lowlands • Watershed size of 4.2 sq mi • Tributary to the Harris River with anadromous and resident fish species present • Past management: timber harvest and road construction in the late 1950's • State of Alaska Highway Bridge crossing constructed across floodplain in the 1970's • 11 landslides in watershed resulting in excessive stream sediment, 1993 • Threatened 303d listing mid-1990's 	 <p>Figure 14. Restoration of historic stream channel (from Prussian et al., 2006)</p>
<p>Pre-project Condition</p> <ul style="list-style-type: none"> ❖ Excessively accumulated sediments, app. 2000 ft <ul style="list-style-type: none"> • reduced channel slope and decreased ability to transport sediment • buried large wood and other channel forming materials • raised the channel to the elevation of the floodplain ❖ Inadequate fish passage and loss of fish habitat <ul style="list-style-type: none"> • Existing condition of culverts did not provide fish passage at all required flow conditions • Fish (adult and juvenile) use original channel during high flows and become trapped during storm recession ❖ Road Maintenance Concerns <ul style="list-style-type: none"> • Existing culverts used to accommodate flow inhibit fish passage • Large wood transported during high flow commonly blocks culverts inhibiting flow 	 <p><i>(Photo by K Koski)</i></p> <p>Figure 15. Fubar Creek restoration work addressed sedimentation concerns, enhanced fisheries habitat, and re-established fish passage across the road. Notice the large woody debris placed in stream and water flowing in the historic channel.</p>
<p>Restoration Included:</p> <ul style="list-style-type: none"> ❖ Reconstruction of 2400 ft of channel - 2006 <ul style="list-style-type: none"> • 5 log jams engineered for hydraulic and ecological functions • 2 log drop structures at existing culvert inlets to maintain flood elevation • pool and riffle sequences • enhancement of floodplain to restore flood processes ❖ Removed drainage structures and closed 1.2 miles of road- 2004 ❖ Collected large wood material (200 logs) for use in channel reconstruction - 2004 and 2006 ❖ Total project cost including assessment, design and implementation: \$500,000 ❖ Over 600 salmon spawning in the targeted section of Fubar Creek within 2 weeks of project completion (Prussian et al., 2006) 	

Case 2: Restoration of Sal Creek within the Cobble Landscape, 2006-07 (from Prussian & Bair, 2006)

Project Details

- Located on Prince of Wales Island- Southern Southeast Alaska
- Watershed Size of 7 sq mi
- Supports over 8 miles of perennial mainstem streams
- Historical productive spawning and rearing habitat for coho, pink and chum salmon, steelhead and cutthroat trout, and dolly varden char
- Past management: 33% of the timber within the Sal Creek watershed including the entire floodplain area was harvested between 1966 and 1971
- Over 15 miles of road have been built since 1966
- Popular recreational areas for residents of Thorne Bay and Coffman Cove



Figure 16. The goal of the Sal Creek Watershed Restoration Project was to restore fisheries production and biodiversity. (Prussian & Bair, 2007) Note the extent of red alder trees (as non-green vegetation) along hillsides and the valley bottom.

Pre-project Condition

- ❖ Sal Creek watershed shows the effects of intensive and large scale timber harvest and road construction in the form of:
 - Landslide paths
 - widespread red alder regeneration along streams and non-native reed canary grass propagation along waterways and ponds (reed canary grass is largely associated with poor regeneration of trees)
 - erosion from roads within the floodplain
 - culverts that block both fish passage and tributary flows
 - poor wildlife forage and wintering grounds
- ❖ Additional density of food sources led to prolific beaver activity causing:
 - Closure of the mainstem of Sal Creek causing bank erosion and instability in the remaining overflow channels
 - less complex spawning and rearing areas for fish
 - less valuable substrates for spawning, and ultimately fewer numbers and species of fish



Figure 17. Moving large woody debris into the stream channel to re-establish structure in a 1-mile stretch of Sal Creek

Restoration Summary (Phase I):

- ❖ Reconnected 23 tributary streams blocked by 1 mile of abandoned logging road
- ❖ Removed 4 log culverts that blocked fisheries access to nearly 1 mile of habitat along the same road
- ❖ Thinning 50 acres of red alder within the riparian and floodplain area
- ❖ Strategically placed 85 whole trees to construct large woody debris (LWD) complexes to rehabilitate channel processes within disturbed reaches of stream

Phase II, Summer 2007

- Reconnect streams along half-mile of abandoned logging roads
- Thinning 50 acres of dense alder stands to release conifers within the riparian and floodplain areas
- Place additional 300 trees in the lower 3 miles of main-stem stream

The US Forest Service, in partnership with The Nature Conservancy and Trout Unlimited, has invested over \$360,000 in Sal Creek restoration work.