

# Appendix M

SHORELINE COVER TYPES  
AROUND THE 91 LAKES  
IN THE STUDY AREA

## APPENDIX M: SHORELINE COVER TYPES AROUND THE 91 LAKES IN THE STUDY AREA

The statistics for shoreline cover types shown in table M-1 were calculated by on-screen digitizing shoreline distance of cover types using 1:12000 black and white Digital Orthophoto Quads. 1:12000 color photos were analyzed in stereo (3-D) for additional interpretation. Cover types include forest, shrub, meadow, talus, bedrock, and cliff. If “cliff” was identified as the type, no other cover was specified; for example, if there was a bedrock cliff, it was just labeled cliff and not bedrock. Cover type values are percentages of the total perimeter for each lake.

The analyses presented in the “Special Status Plant Species” and “Vegetation” sections in the “Environmental Consequences” chapter used the information in table M-2 as a guide in determining the level of impacts on the two impact topics (resource categories).

**TABLE M-1: SHORELINE COVER TYPES AROUND THE 91 LAKES IN THE STUDY AREA**

Lake Name <sup>a</sup>	NPS Lake Code	Vegetation Zone	Percent of Shoreline Cover					
			Forest	Shrub	Meadow	Talus	Bedrock	Cliff
Azure Lake	MP-09-01	Alpine	0	12	2	31	0	55
Battalion	MLY-02-01	High Forest	9	39	20	32	0	0
Bear	MC-12-01	Subalpine	0	30	6	63	0	0
Berdeen	M-08-01	Subalpine	0	20	0	54	26	0
Berdeen, Lower	M-07-01	Subalpine	0	53	21	26	0	0
Berdeen, Upper	MR-09-01	Subalpine	0	63	7	30	0	0
Blum (Largest/Middle, No. 3)	M-11-01	Subalpine	0	47	0	53	0	0
Blum (Lower/West, No. 4)	LS-07-01	Subalpine	0	30	70	0	0	0
Blum (Small/North, No. 2)	MC-01-01	Subalpine	0	0	44	56	0	0
Blum #1 (Vista/Northwest, No. 1)	MC-02-01	Subalpine	0	37	14	49	0	0
Bouck, Lower	DD-04-01	High Forest	60	18	22	0	0	0
Bouck, Upper	DD-05-01	Subalpine	23	17	20	41	0	0
Bowan	MR-12-01	Subalpine	0	24	76	0	0	0
Coon	MM-10-01	Low Forest	29	13	58	0	0	0
Copper	MC-06-01	Subalpine	0	37	5	59	0	0
Dagger	MR-04-01	High Forest	3	36	60	0	0	0
Dee Dee, Upper	MR-15-01	Subalpine	0	14	6	80	0	0
Dee Dee/Tamarack, Lower	MR-15-02	Subalpine	16	29	39	16	0	0
Despair, Lower	M-14-01	Subalpine	0	43	0	57	0	0
Despair, Upper	M-13-01	Alpine	0	0	0	100	0	0
Diobsud No. 1	LS-01-01	High Forest	0	0	76	24	0	0
Diobsud No. 2, Lower	LS-02-01	High Forest	0	47	53	0	0	0
Diobsud No. 3, Upper	LS-03-01	Subalpine	0	24	76	0	0	0
Doubtful	CP-01-01	Subalpine	0	0	55	34	0	11
Doug's Tarn	M-21-01	Subalpine	10	53	29	7	0	0
East, Lower	MC-14-02	Subalpine	0	57	25	18	0	0
East, Upper	MC-14-01	Subalpine	0	0	12	88	0	0
Firn	MP-02-01	Subalpine	0	8	7	85	0	0
Green	M-04-01	Subalpine	0	71	10	19	0	0
Green Bench	LS-04-01	Alpine	0	0	9	13	78	0

**TABLE M-1: SHORELINE COVER TYPES AROUND THE 91 LAKES IN THE STUDY AREA (CONTINUED)**

Lake Name <sup>a</sup>	NPS Lake Code	Vegetation Zone	Percent of Shoreline Cover					
			Forest	Shrub	Meadow	Talus	Bedrock	Cliff
Hanging	MC-08-01	High Forest	20	14	8	58	0	0
Hidden	SB-01-01	Subalpine	0	30	2	69	0	0
Hidden Tarn	EP-14-01	Alpine	0	0	0	100	0	0
Hi-Yu	M-01-01	Subalpine	0	44	56	0	0	0
Hozomeen	HM-02-01	Low Forest	95	0	3	2	0	0
Ipsoot	LS-06-01	Subalpine	0	73	27	0	0	0
Jeanita	DD-01-01	High Forest	0	25	62	13	0	0
Kettling	MR-05-01	High Forest	60	35	0	5	0	0
Kwahnesum	MC-07-01	Subalpine	18	13	23	46	0	0
McAlester	MR-10-01	High Forest	57	9	29	5	0	0
Middle, Lower	MC-16-02	Subalpine	0	0	69	31	0	0
Middle, Upper	MC-16-01	Subalpine	0	0	14	86	0	0
Monogram	M-23-01	Subalpine	0	66	34	0	0	0
Monogram Tarn	M-23-11	Subalpine	NA <sup>b</sup>	NA	NA	NA	NA	NA
Nert	M-05-01	High Forest	0	35	53	0	0	12
Noisy Creek, Upper	LS-14-01	High Forest	0	39	61	0	0	0
No Name	PM-01-01	High Forest	5	58	37	0	0	0
Panther Potholes, Lower	RD-05-02	Low Forest	52	21	18	8	0	0
Panther Potholes, Upper	RD-05-01	Low Forest	0	37	34	30	0	0
Pegasus	EP-10-01	Alpine	0	37	0	63	0	0
Pond SE of Kettling Lakes	ML-09-01	Subalpine	0	69	8	23	0	0
Quill, Lower	M-24-02	Subalpine	0	38	30	33	0	0
Quill, Upper	M-24-01	Subalpine	0	0	50	50	0	0
Rainbow	MR-14-01	High Forest	24	33	42	0	0	0
Rainbow, Upper (North)	MR-13-01	Subalpine	0	38	33	29	0	0
Rainbow, Upper (South)	MR-13-02	Subalpine	0	8	18	74	0	0
Rainbow, Upper (West)	MM-11-01	Subalpine	0	13	16	60	11	0
Redoubt	MC-11-01	Subalpine	0	4	3	94	0	0
Reveille, Lower	MC-21-02	Subalpine	15	0	43	41	0	0
Reveille, Upper	MC-21-01	Subalpine	0	0	4	96	0	0
Ridley	HM-03-01	Low Forest	100	0	0	0	0	0
Sky	EP-13-01	Subalpine	0	37	0	63	0	0
Skymo	PM-03-01	Subalpine	0	28	14	58	0	0
Sourdough	PM-12-01	Subalpine	6	51	12	31	0	0
Sourpuss	ML-01-01	Subalpine	0	0	70	30	0	0
Stiletto	MR-01-01	Subalpine	0	42	0	58	0	0
Stout	EP-09-02	Subalpine	5	45	0	50	0	0
Stout, Lower	EP-09-01	Subalpine	0	35	55	10	0	0
Sweet Pea	ML-02-01	High Forest	0	23	10	35	0	31
Talus Tarn	M-06-01	Subalpine	0	0	10	90	0	0
Tapto, Lower	MC-17-03	Subalpine	0	16	22	63	0	0
Tapto, Middle	MC-17-02	Subalpine	0	58	42	0	0	0
Tapto, Upper	MC-17-01	Subalpine	0	28	10	62	0	0
Tapto, West	MC-17-04	Subalpine	0	15	85	0	0	0



TABLE M-1: SHORELINE COVER TYPES AROUND THE 91 LAKES IN THE STUDY AREA (CONTINUED)

Lake Name <sup>a</sup>	NPS Lake Code	Vegetation Zone	Percent of Shoreline Cover					
			Forest	Shrub	Meadow	Talus	Bedrock	Cliff
Thornton, Lower	M-20-01	High Forest	0	77	6	13	0	4
Thornton, Middle	M-19-01	Subalpine	0	5	0	82	0	13
Thunder	RD-02-01	Low Forest	42	42	15	0	0	0
Tiny	MC-15-01	Subalpine	0	0	50	50	0	0
Torment	ML-03-01	Subalpine	0	0	5	95	0	0
Trapper	GM-01-01	Subalpine	21	43	12	24	0	0
Triplet, Lower	SM-02-01	Subalpine	0	48	46	6	0	0
Triplet, Upper	SM-02-02	Subalpine	0	35	33	31	0	0
Triumph	M-17-01	Subalpine	0	7	21	72	0	0
Unnamed	FP-01-01	Alpine	0	0	0	100	0	0
Unnamed	MR-11-01	Subalpine	0	70	0	30	0	0
Unnamed	MR-16-01	Subalpine	0	57	43	0	0	0
Vulcan	ML-04-01	Subalpine	21	23	15	41	0	0
Wilcox/Lillie, Upper	EP-06-01	Subalpine	7	25	49	19	0	0
Wilcox/Sandie, Lower	EP-05-01	Subalpine	29	0	4	67	0	0
Wild	MC-27-01	Subalpine	0	0	60	40	0	0
Willow	HM-04-01	Low Forest	71	7	22	0	0	0

**Notes:**

a. Shaded rows indicate the 22 lakes that are in Ross Lake and Lake Chelan National Recreation Areas; the other 69 lakes are in the national park portion of the North Cascades Complex.

b. "NA" means that information on the shoreline cover type for the lake is not available.

**TABLE M-2: SHORELINE COVER TYPES AND LEVEL OF VISITATION**

This table corresponds with the backcountry overnight use visitation numbers in “Map 2 Table,” the shoreline cover types in table M-1, and the management action codes for each lake from table 5 in the “Alternatives” chapter. The lakes in the same-colored rows mean those lakes occur in the same backcountry zone or camp (see “Map Table 2”). The “X” means the lake would or may have fish (depending on the applied management action).

**Total estimated annual backcountry overnight use = 4,035**

Level of Visitation: H = High (3,210), M = Medium (594), L = Low (231)

Lake Name	NPS Lake Code	Level of Visitation in 2003	Number of Visitors	Lakes That Have or May Have Fish				Percent of Shoreline Cover					
				Alt A	Alt B	Alt C	Alt D	Forest	Shrub	Meadow	Talus	Bedrock	Cliff
Doubtful	CP-01-01	H	441	X	X-2C	2A	2A	0	0	55	34	0	11
NRA-McAlester	MR-10-01	H	372	X	X-2B	X-2B	2A	57	9	29	5	0	0
NRA-Panther Potholes, Lower	RD-05-02	H	342	X	4A	4A	4A	52	21	18	8	0	0
NRA-Panther Potholes, Upper	RD-05-01	H		1	1	1	1	0	37	34	30	0	0
NRA-Coon	MM-10-01	H	306	X	X-4C	X-4C	4A	29	13	58	0	0	0
NRA-Hozomeen	HM-02-01	H	280	X	2A	2A	2A	95	0	3	2	0	0
NRA-Ridley	HM-03-01	H		X	X-4C	X-4C	4A	100	0	0	0	0	0
Copper	MC-06-01	H	268	X	X-4B	4A	4A	0	37	5	59	0	0
Dagger	MR-04-01	H	221	X	X-2B	2A	2A	3	36	60	0	0	0
Stiletto	MR-01-01	H		X	X-4B	4A	4A	0	42	0	58	0	0
Tapto, Lower	MC-17-03	H	211	1	1	1	1	0	16	22	63	0	0
Tapto, West	MC-17-04	H		1	1	1	1	0	15	85	0	0	0
Thornton, Lower	M-20-01	H	203	X	X-3C	3A	3A	0	77	6	13	0	4
Thornton, Middle	M-19-01	H		X	X-4C	4A	4A	0	5	0	82	0	13
Unnamed	FP-01-01	H	193	1	1	1	1	0	0	0	100	0	0
Pegasus	EP-10-01	H		1	1	1	1	0	37	0	63	0	0
NRA-Rainbow	MR-14-01	H	132	X	X-2C	X-2C	2A	24	33	42	0	0	0
NRA-Rainbow, Upper (North)	MR-13-01	H		1	1	1	1	0	38	33	29	0	0
NRA-Rainbow, Upper (South)	MR-13-02	H		X	4A	4A	4A	0	8	18	74	0	0
NRA-Rainbow, Upper (West)	MM-11-01	H		X	4A	4A	4A	0	13	16	60	11	0
NRA-Bowan	MR-12-01	H		X	4A	4A	4A	0	24	76	0	0	0
Vulcan	ML-04-01	H	129	1	1	1	1	21	23	15	41	0	0
Hidden	SB-01-01	H	112	X	X-3C	3A	3A	0	30	2	69	0	0
Hidden Lake Tarn	EP-14-01	H		X	4A	4A	4A	0	0	0	100	0	0

TABLE M-2: SHORELINE COVER TYPES AND LEVEL OF VISITATION (CONTINUED)

Lake Name	NPS Lake Code	Level of Visitation in 2003	Number of Visitors	Lakes That Have or May Have Fish				Percent of Shoreline Cover					
				Alt A	Alt B	Alt C	Alt D	Forest	Shrub	Meadow	Talus	Bedrock	Cliff
Monogram	M-23-01	M	94	X	X-2C	2A	2A	0	66	34	0	0	0
Monogram Tarn	M-23-11	M		X		4A	4A	4A	NA	NA	NA	NA	NA
Jeanita	DD-01-01	M	92	X	X-3B	3A	3A	0	25	62	13	0	0
Sourdough	PM-12-01	M		X	X-2B	2A	2A	6	51	12	31	0	0
Trapper	GM-01-01	M	90	X	X-3B	3A	3A	21	43	12	24	0	0
Tapto, Middle	MC-17-02	M	64	1	1	1	1	0	58	42	0	0	0
Tapto, Upper	MC-17-01	M		1	1	1	1	0	28	10	62	0	0
Doug's Tarn	M-21-01	M	49	X	X-2C	2A	2A	10	53	29	7	0	0
Quill, Lower	M-24-02	M		X	X-4B	4A	4A	0	38	30	33	0	0
Quill, Upper	M-24-01	M		X	X-4B	4A	4A	0	0	50	50	0	0
Triumph	M-17-01	M		X	X-4C	4A	4A	0	7	21	72	0	0
Despair, Lower	M-14-01	M		1	1	1	1	0	43	0	57	0	0
Despair, Upper	M-13-01	M		1	1	1	1	0	0	0	100	0	0
Berdeen	M-08-01	M	48	X	X-2C	2A	2A	0	20	0	54	26	0
Green	M-04-01	M		X	X-2B	2A	2A	0	71	10	19	0	0
Ipsoot	LS-06-01	M		X	X-3B	3A	3A	0	73	27	0	0	0
Berdeen, Lower	M-07-01	M		X	2A	2A	2A	0	53	21	26	0	0
Berdeen, Upper	MR-09-01	M		X	2A	2A	2A	0	63	7	30	0	0
Green Bench	LS-04-01	M		1	1	1	1	0	0	9	13	78	0
Nert	M-05-01	M		X	4A	4A	4A	0	35	53	0	0	12
Talus Tarn	M-06-01	M		1	1	1	1	0	0	10	90	0	0
Stout	EP-09-02	M	45	X	X-3B	3A	3A	5	45	0	50	0	0
Sky	EP-13-01	M		1	1	1	1	0	37	0	63	0	0
Stout, Lower	EP-09-01	M		X	X-3B	3A	3A	0	35	55	10	0	0
Wilcox/Lillie, Upper	EP-06-01	M		X	2A	2A	2A	7	25	49	19	0	0
Wilcox/Sandie, Lower	EP-05-01	M		X	X-2C	2A	2A	29	0	4	67	0	0
NRA-Dee Dee, Upper	MR-15-01	M	38	X	X-2B	2A	2A	0	14	6	80	0	0
NRA-Dee Dee/Tamarack, Lower	MR-15-02	M		X	4A	4A	4A	16	29	39	16	0	0

TABLE M-2: SHORELINE COVER TYPES AND LEVEL OF VISITATION (CONTINUED)

Lake Name	NPS Lake Code	Level of Visitation in 2003	Number of Visitors	Lakes That Have or May Have Fish				Percent of Shoreline Cover					
				Alt A	Alt B	Alt C	Alt D	Forest	Shrub	Meadow	Talus	Bedrock	Cliff
Blum (Largest/Middle, No. 3)	M-11-01	M		X	X-2B	2A	2A	0	47	0	53	0	0
Blum (Lower/West, No. 4)	LS-07-01	M		X	X-2C	2A	2A	0	30	70	0	0	0
Blum (Small/North, No. 2)	MC-01-01	M		1	1	1	1	0	0	44	56	0	0
Blum #1 (Vista/Northwest, No. 1)	MC-02-01	M		1	1	1	1	0	37	14	49	0	0
Azure Lake	MP-09-01	M	37	1	1	1	1	0	12	2	31	0	55
Diobsud, No. 1	LS-01-01	L	34	X	2A	2A	2A	0	0	76	24	0	0
Diobsud, No. 2, Lower	LS-02-01	L		X	X-2B	2A	2A	0	47	53	0	0	0
Diobsud, No. 3, Upper	LS-03-01	L		X	4A	4A	4A	0	24	76	0	0	0
Hi-Yu	M-01-01	L		X	X-4B	4A	4A	0	44	56	0	0	0
Noisy Creek, Upper	LS-14-01	L		1	1	1	1	0	39	61	0	0	0
NRA-Willow	HM-04-01	L	32	X	X-4C	X-4C	4A	71	7	22	0	0	0
Bear	MC-12-01	L	30	X	X-2C	2A	2A	0	30	6	63	0	0
East, Lower	MC-14-02	L		1	1	1	1	0	57	25	18	0	0
East, Upper	MC-14-01	L		1	1	1	1	0	0	12	88	0	0
Reveille, Lower	MC-21-02	L		1	1	1	1	15	0	43	41	0	0
Reveille, Upper	MC-21-01	L		1	1	1	1	0	0	4	96	0	0
Sweet Pea	ML-02-01	L	28	X	X-4C	4A	4A	0	23	10	35	0	31
Sourpuss	ML-01-01	L		1	1	1	1	0	0	70	30	0	0
Torment	ML-03-01	L		X	4A	4A	4A	0	0	5	95	0	0
Wild	MC-27-01	L	26	1	1	1	1	0	0	60	40	0	0
Redoubt	MC-11-01	L	20	1	1	1	1	0	4	3	94	0	0
Middle, Lower	MC-16-02	L	13	1	1	1	1	0	0	69	31	0	0
Middle, Upper	MC-16-01	L		1	1	1	1	0	0	14	86	0	0
Tiny	MC-15-01	L		1	1	1	1	0	0	50	50	0	0
NRA-Bouck, Lower	DD-04-01	L	11	X	X-2C	X-2C	2A	60	18	22	0	0	0
Bouck, Upper	DD-05-01	L		X	4A	4A	4A	23	17	20	41	0	0
NRA-Thunder	RD-02-01	L		1	1	1	1	42	42	15	0	0	0
NRA-Triplet, Lower	SM-02-01	L	9	X	X-2C	X-2C	2A	0	48	46	6	0	0
NRA-Triplet, Upper	SM-02-02	L		X	2A	2A	2A	0	35	33	31	0	0

TABLE M-2: SHORELINE COVER TYPES AND LEVEL OF VISITATION (CONTINUED)

Lake Name	NPS Lake Code	Level of Visitation in 2003	Number of Visitors	Lakes That Have or May Have Fish				Percent of Shoreline Cover					
				Alt A	Alt B	Alt C	Alt D	Forest	Shrub	Meadow	Talus	Bedrock	Cliff
Kettling	MR-05-01	L	7	X	2A	2A	2A	60	35	0	5	0	0
NRA-Pond SE of Kettling Lake	ML-09-01	L		X	X-4C	X-4C	4A	0	69	8	23	0	0
NRA-Unnamed	MR-16-01	L	7	X	X-3B	X-3B	3A	0	57	43	0	0	0
NRA-Unnamed	MR-11-01	L	6	X	X-4C	X-4C	4A	0	70	0	30	0	0
Hanging	MC-08-01	L	5	X	2A	2A	2A	20	14	8	58	0	0
Kwahnesum	MC-07-01	L		X	4A	4A	4A	18	13	23	46	0	0
Firn	MP-02-01	L	3	X	X-3B	3A	3A	0	8	7	85	0	0
No Name	PM-01-01	L		X	X-4C	4A	4A	5	58	37	0	0	0
Skymo	PM-03-01	L		X	X-2C	2A	2A	0	28	14	58	0	0
NRA-Battalion	MLY-02-01	L	0	X	X-2B	X-2B	2A	9	39	20	32	0	0

**Management action codes at a glance**

- 1 Fishless
- 2A / 3A Remove fish
- 2B Remove fish, evaluate, potentially restock
- 2C Remove/restock
- 3B Evaluate fish/allow low density
- 3C Supplement by stocking
- 4A Discontinue stocking
- 4B Discontinue stocking, evaluate, potentially restock
- 4C Continue to stock





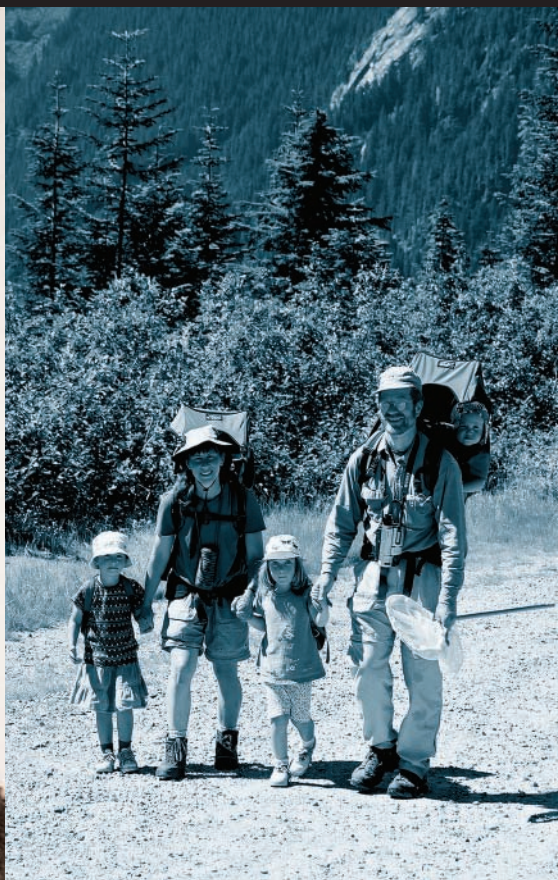
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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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Department of the Interior  
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