

IV. SOCIAL DOMAIN

A. Scenic Quality

1. Characterization

Compared to other areas on the district, the Blowout watershed is not valued as a highly scenic landscape. A few scenic features come to mind in the watershed including Blowout arm of Detroit Lake, Blowout Cliffs, Pinnacle Peak and Coffin Mountain, but overall the scenery is not spectacular. Much of the landscape lacks diversity and interesting topographic features found elsewhere on the district. Attesting to this, only about two percent of this watershed lies in scenic management allocations. The only scenic allocations in the watershed are located in the vicinity of Detroit Lake in the northwestern portion of the watershed. Also, Coffin and Pinnacle Peak Special Interest Areas are managed to meet higher quality scenic objectives.

The small scenic area near Detroit Lake is part of the larger North Santiam Viewshed, which covers a broad expanse of the district. The Forest Plan directs that the North Santiam Viewshed be managed for a high level of scenic quality. However, with the diverse land ownership within the viewshed, it makes achieving overall scenic quality more difficult.

2. *What Values Are Associated With Scenic Quality?*

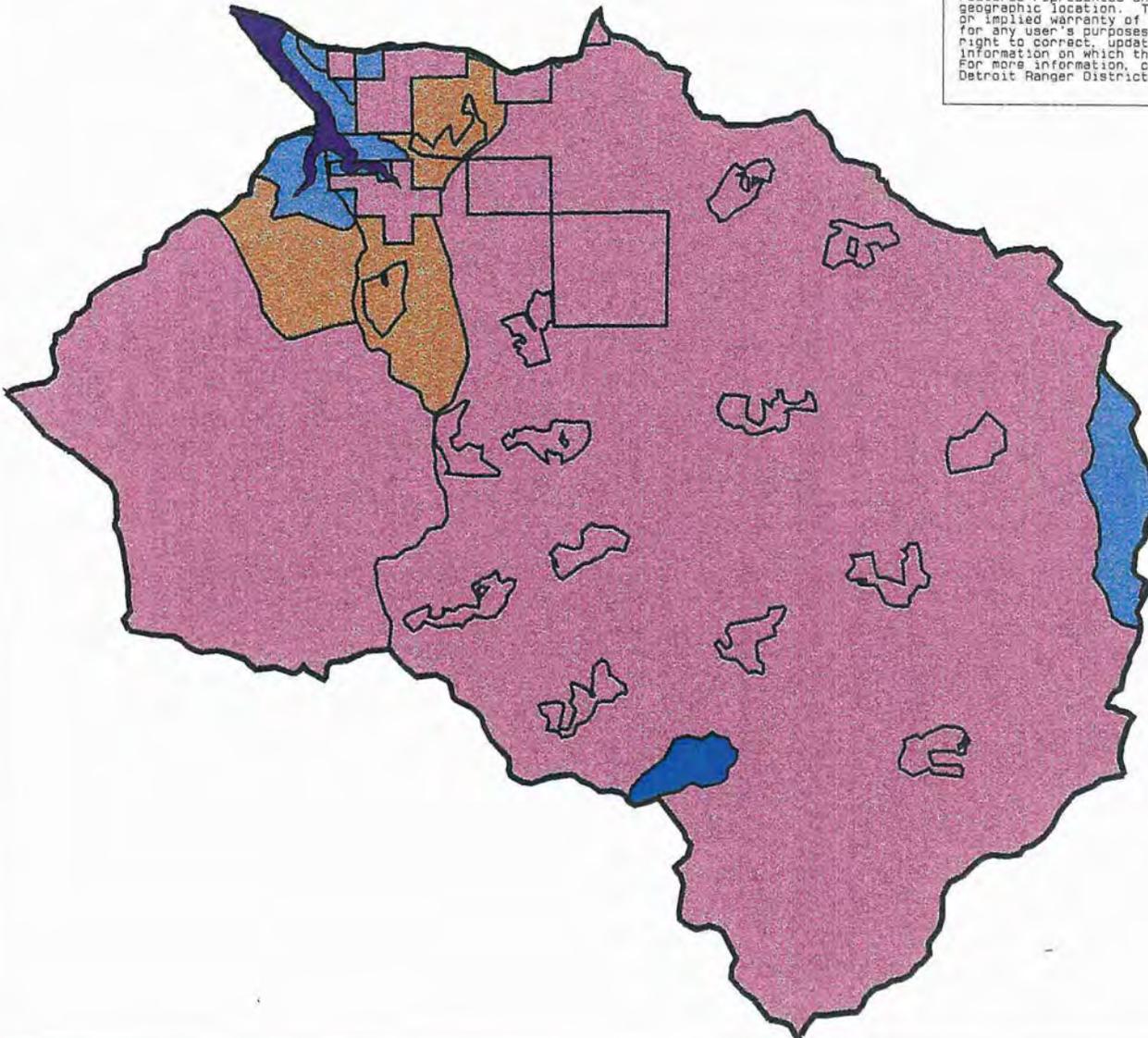
- a) Scenery has aesthetic, spiritual and economic value.

3. *What Are The Highest Priority Issues Or Resource Concerns Associated With Scenic Quality?*

- a. Management activities, primarily timber harvest and road construction have altered the landscape and changed the scenic quality of the watershed from pre-settlement conditions.
- b. Given existing vegetation patterns and land allocations, an important issue is the management of the landscape to maintain and/or enhance the inherent beauty of the North Santiam Viewshed. In some places, current land allocations do not meet the intent of scenic resource management.
- c. Some private lands in the watershed are managed intensively for timber production, without consideration of the scenic sensitivity of the surrounding area. People often confuse these lands as being federally owned.
- d. An important issue to reservoir users is preservation of the scenic backdrop of Detroit Lake, an important aspect of Detroit's tourism and economic interest.

Blowout WA Visual Quality Objectives

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Legend

- Modification
- Partial Retention
- Retention
- Max. Modification
- Detroit Lake

Request 2023z

Scale 1:100000

08/29/00

Map # 25



Detroit Lake is a prominent scenic attraction within a portion of this watershed. Approximately 198.5 acres of land surrounding Detroit Lake is owned by Army Corps of Engineers (COE) or are Forest Service lands withdrawn for COE purposes. The Forest Service administers these lands, however, no formal standards and guidelines have been developed for these areas within the Forest Plan. These lands are an important scenic resource and should be managed to maintain Visual Quality Objectives of retention to partial retention.

There are areas within the North Santiam Viewshed that are inconsistent with scenery management principles set forth by new handbook direction. For example, some middleground land visible from Detroit Lake currently has a modification visual quality objective and meets all the criteria for partial retention management. Detroit Lake is a visually sensitive area due to the amount and nature of use it receives, and expansive views from the lake surface. In some areas, land allocation designations were not applied from the perspective of the lake. On the other hand, there are also areas within the Viewshed that are not visually sensitive due to their juxtaposition within the landscape, and currently have a designated scenic allocation.

Existing Visual Condition Analysis by Management Area: At this time 20 percent of the analysis area is composed of stands in an early-seral stage with seedling and sapling size trees. About half of the watershed is in a mid-seral stage with pole and small size tree classes, primarily harvested in the 1960's and 1970's. Another 27 percent of the area contains a mix of medium to large size trees in a late seral stage. Four percent of land is non-forested such as lakes and meadows. With the high percentage of relatively young stands, the geometrical character along with the strong horizontal lines from cut and fill slopes, create a landscape that would appear Heavily Altered (*see table on page 4*).

The Late Successional Reserve (LSR) in Box Canyon Creek ranges from Slightly Altered to Heavily Altered. Harvest activities occurred in this portion of the Blowout Analysis Area over the last decade which contributed to an existing disturbed condition of 23 percent.

Blowout Visual Condition – Current											
Mgmt. Area	Harvest Rate Objective (%)	Current Decade Harvest Rate	Max. Disturbed Condition (%)	Existing Disturbed Condition (%)	Early Seral	MidSeral		Late Seral		Non-Forest (acres)	Total Acres
					Seedling Sapling (acres)	Poles (ac.)	Small Trees (ac.)	Med. Trees (ac.)	Old Growth /Large Trees (ac.)		
5a	0		0	4	8	8	8	135	33	19	211
10b	7		14	2	10	72	411	8	1	28	530
11a	12	0	24	3	183	100	529	149	790	146	1,897
11c	103	0	20	3	19	12	212	23	106	14	386
13b	0		0	0	0	0	3	0	0	0	3
14a	13		26	22	6,507	5,255	8,544	3,787	4,065	875	29,038
Private	N/A		N/A	5	74	314	1,018	22	2	156	1,586
COE	12		24	0	0	8	145	1	0	15	169
Lake	N/A	N/A	N/A	N/A						188	188
LSR				23	1,604	668	2,280	770	1,390	165	6,877
Total					6,801	5,769	10,870	4,125	4,997	1,441	34,008
Percent					20%	17%	32%	12%	15%	4%	100%

Although harvest activities are currently consistent with Forest Plan standards, the sizes, arrangements, and geometric character of treatments over the past forty years has had a lasting effect on the scenic quality of the area. The visibility, distribution and concentration of various treatments in contrast with older uncut stands contributes significantly to the current quality of the scenic resources. The Existing Visual Condition of the landscape in Blowout can be described as Moderately to Heavily Altered.

North Santiam Viewshed Condition Analysis: The Forest Plan's goal for scenic management areas are to "maintain desired visual characteristics of the forest landscape through time and space." Achieving long-term visual quality goals in a forest environment works in direct proportion to how well time and space are managed. Time sequence over a landscape involves combinations of old growth and younger age classes. This provides visual variety but will shift in location as trees are harvested and new ones grow to take their place. Planning this dynamic situation through space and time is important to achieve an attractive sequence of views. To address the time and space component, maximum disturbance rates and harvest rate objectives for each allocation was assigned to each subdrainage to determine area available for harvest over the landscape (*see chart on following pages*).

Overall existing disturbed condition for all Scenic allocations within the North Santiam Viewshed is consistent with Forest Plan Standards. Currently within the North Santiam Viewshed, MA-11f has met the maximum disturbed condition percentage, and no regeneration harvests can take place until this management area recovers. An analysis was completed looking at existing disturbed conditions within Blowout watershed by subdrainage to see how regeneration harvests were distributed. Only three Blowout subdrainages, 78i, 78s and 78t, lie within the North Santiam Viewshed, and all three are below maximum disturbed allowances. Most of 78t is now managed as a Late Successional Reserve, therefore no future regeneration harvests would be planned in the area. The most restrictive acreage between harvest rates and maximum disturbance allowances should be used as a guideline for planning future regeneration harvests in the Blowout in order to best distribute management activities (*see charts on following pages*).

Note: Those subdrainages that have existing disturbed condition and harvest rates shaded, have rates in excess of the standard within that allocation.

North Santiam Viewshed Condition Analysis

Mgmt Area/ Psub	HRO Harvest Rate Objective	EDC Existing Disturbed Condition (Forest Plan)	EDC Existing Disturbed Condition (NW Forest Plan)	MDC Maximum Disturbed Condition	Total Acres	Suited & Avail. (Forest Plan)	Suited & Avail. (NW Forest Plan)	Max Disturbed Allowed Acres (Forest Plan)	Max Disturbed Allowed Acres (NW Forest Plan)	Visually Disturb- ed Acres (Forest Plan)	Visually Disturb- ed Acres (NW Forest Plan)	MDC Avail. Harvest (Forest Plan)	MDC Avail. Harvest (NW Forest Plan)	HRO Acres Harvest Rate Objective Acres (Forest Plan)	HRO Acres Harvest Rate Objective Acres (NW Forest Plan)	Current Decade Harvest (Forest Plan)	Current Decade Harvest (NW Forest Plan)	HRO Avail. Harvest (Forest Plan)	HRO Avail. Harvest (NW Forest Plan)
11a	0.12	0.114	0.193	0.24	17810	12986	4894	3117	1175	1486	944	1631	231	1558	587	0	0	1558	587
03I	0.12	0.00	0.00	0.24	65	23	20	6	5	0	0	6	5	3	2	0	0	3	2
03J	0.12	0.10	0.11	0.24	1024	839	733	201	176	84	82	117	94	101	88	2	0	99	88
03K	0.12	0.00	0.00	0.24	241	218	192	52	46	0	0	52	46	26	23	0	0	26	23
03M	0.12	0.00	0.00	0.24	52	52	52	12	12	0	0	12	12	6	6	0	0	6	6
07U	0.12	0.47	0.40	0.24	1964	529	502	127	120	249	202	-122	-82	63	60	2	0	61	60
78B	0.12	0.00	0.00	0.24	877	489	348	117	84	0	0	117	84	59	42	0	0	59	42
78C	0.12	0.00	0.00	0.24	207	108	76	26	18	0	0	26	18	13	9	0	0	13	9
78D	0.12	0.26	0.61	0.24	1080	605	102	145	24	159	62	-14	-38	73	12	45	1	28	11
78E	0.12	1.83	0.00	0.24	140	35	0	8	0	64	0	-56	0	4	0	0	0	4	0
78F	0.12	0.04	0.06	0.24	1304	846	18	203	4	35	1	168	3	102	2	2	1	100	1
78G	0.12	0.15	0.18	0.24	703	434	301	104	72	66	55	38	17	52	36	1	1	51	35
78H	0.12	0.08	0.14	0.24	308	184	102	44	24	14	14	30	10	22	12	15	14	7	-2
*78I	0.12	0.03	0.04	0.24	816	611	429	147	103	16	16	131	87	73	51	0	0	73	51
78J	0.12	0.11	0.13	0.24	592	370	300	89	72	39	39	50	33	44	36	39	39	5	-3
78L	0.12	0.11	0.05	0.24	453	163	101	39	24	18	5	21	19	20	12	11	2	9	10

Mgmt Area/ Psub	HRO Harevest Rate Objective	EDC Existing Disturbed Condition (Forest Plan)	EDC Existing Disturbed Condition (NW Forest Plan)	MDC Maximum Disturbed Condition	Total Acres	Suited & Avail. (Forest Plan)	Suited & Avail. (NW Forest Plan)	Max Disturbed Allowed Acres (Forest Plan)	Max Disturbed Allowed Acres (NW Forest Plan)	Visually Disturbed Acres (Forest Plan)	Visually Disturbed Acres (NW Forest Plan)	MDC Avail. Harvest (Forest Plan)	MDC Avail. Harvest (NW Forest Plan)	HRO Acres Harvest Rate Objective (Forest Plan)	HRO Acres Harvest Rate Objective (NW Forest Plan)	Current Decade Harvest (Forest Plan)	Current Decade Harvest (NW Forest Plan)	HRO Avail. Harvest (Forest Plan)	HRO Avail. Harvest (NW Forest Plan)
*78S	0.12	0.00	0.01	0.24	764	614	399	147	96	3	3	144	93	74	48	0	0	74	48
*78T	0.12	0.02	0.00	0.24	679	380	2	91	0	6	0	85	0	46	0	0	0	46	0
78W	0.12	0.04	0.00	0.24	769	605	0	145	0	24	0	121	0	73	0	0	0	73	0
79A	0.12	0.00	0.00	0.24	457	367	0	88	0	0	0	88	0	44	0	0	0	44	0
79B	0.12	1.00	0.00	0.24	290	2	0	0	0	2	0	-2	0	0	0	0	0	0	0
79C	0.12	0.09	0.00	0.24	716	233	0	56	0	21	0	35	0	28	0	0	0	28	0
79D	0.12	0.00	0.00	0.24	91	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79E	0.12	1.69	1.82	0.24	492	86	65	21	16	145	118	-124	-102	10	8	0	0	10	8
79F	0.12	0.63	0.58	0.24	1000	449	336	108	81	282	196	-174	-115	54	40	4	0	50	40
79G	0.12	0.30	0.40	0.24	319	210	127	50	30	62	51	-12	-21	25	15	0	0	25	15
79H	0.12	0.15	0.18	0.24	716	484	304	116	73	74	55	42	18	58	36	5	4	53	32
79I	0.12	0.03	0.04	0.24	451	336	266	81	64	10	10	71	54	40	32	0	0	40	32
79J	0.12	0.32	0.30	0.24	379	191	114	46	27	62	34	-16	-7	23	14	0	0	23	14
79K	0.12	0.09	0.25	0.24	855	583	4	140	1	51	1	89	0	70	0	7	0	63	0
92Q	0.12	0.00	0.00	0.24	5	2	1	0	0	0	0	0	0	0	0	0	0	0	0
11C	0.10	0.141	0.130	0.20	12984	7063	3509	1413	702	994	456	419	246	706	351	0	0	706	351
03A	0.10	0.00	0.00	0.20	47	40	40	8	8	0	0	8	8	4	4	0	0	4	4
03B	0.10	0.00	0.00	0.20	604	288	241	58	48	0	0	58	48	29	24	0	0	29	24

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03C	0.10	0.14	0.12	0.20	949	464	312	93	62	65	38	28	24	46	31	0	0	46	31
03D	0.10	0.08	0.13	0.20	897	534	339	107	68	43	43	64	25	53	34	23	23	30	11
03E	0.10	0.03	0.04	0.20	1555	652	437	130	87	17	17	113	70	65	44	5	5	60	39
03F	0.10	0.02	0.02	0.20	812	309	230	62	46	5	5	57	41	31	23	2	2	29	21
03I	0.10	0.00	0.00	0.20	79	33	14	7	3	0	0	7	3	3	1	0	0	3	1
03J	0.10	0.21	0.17	0.20	444	380	326	76	65	81	57	-5	8	38	33	4	0	34	33
03M	0.10	0.00	0.00	0.20	202	150	132	30	26	0	0	30	26	15	13	0	0	15	13
78A	0.10	0.00	0.00	0.20	305	231	167	46	33	0	0	46	33	23	17	0	0	23	17
78B	0.10	0.00	0.00	0.20	118	98	92	20	18	0	0	20	18	10	9	0	0	10	9
78D	0.10	0.28	0.18	0.20	1077	465	106	93	21	128	19	-35	2	47	11	72	19	-26	-8
78E	0.10	0.00	0.00	0.20	97	87	0	17	0	0	0	17	0	9	0	0	0	9	0
78J	0.10	0.00	0.00	0.20	104	102	81	20	16	0	0	20	16	10	8	0	0	10	8
78K	0.10	0.00	0.00	0.20	967	560	346	112	69	0	0	112	69	56	35	0	0	56	35
78L	0.10	0.00	0.00	0.20	115	50	28	10	6	0	0	10	6	5	3	0	0	5	3
*78S	0.10	0.00	0.00	0.20	27	12	8	2	2	0	0	2	2	1	1	0	0	1	1
*78T	0.10	0.03	0.00	0.20	245	166	1	33	0	5	0	28	0	17	0	0	0	17	0
78V	0.10	0.05	0.00	0.20	354	272	0	54	0	14	0	40	0	27	0	0	0	27	0
78W	0.10	0.14	0.00	0.20	489	257	0	51	0	35	0	16	0	26	0	0	0	26	0

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79A	0.10	0.05	0.00	0.20	542	442	0	88	0	22	0	66	0	44	0	1	0	43	0
79B	0.10	0.00	0.00	0.20	22	21	0	4	0	0	0	4	0	2	0	0	0	2	0
79C	0.10	0.58	0.00	0.20	567	133	0	27	0	77	0	-50	0	13	0	0	0	13	0
79D	0.10	0.36	0.61	0.20	195	115	59	23	12	41	36	-18	-24	12	6	0	0	12	6
79E	0.10	0.35	0.40	0.20	1379	777	491	155	98	269	196	-114	-98	78	49	0	0	78	49
79F	0.10	0.80	0.78	0.20	113	70	58	14	12	56	45	-42	-33	7	6	0	0	7	6
79K	0.10	0.38	0.00	0.20	678	354	0	71	0	136	0	-65	0	35	0	19	0	16	0
11F	0.05	0.096	0.149	0.10	6396	4498	1845	450	185	433	274	17	-90	225	92	0	0	225	92
03B	0.05	0.00	0.00	0.10	47	13	12	1	1	0	0	1	1	1	1	0	0	1	1
03C	0.05	0.00	0.00	0.10	27	1	1	0	0	0	0	0	0	0	0	0	0	0	0
03D	0.05	0.11	0.10	0.10	170	93	68	9	7	10	7	-1	0	5	3	10	7	-5	-4
03E	0.05	0.00	0.00	0.10	28	22	14	2	1	0	0	2	1	1	1	0	0	1	1
03F	0.05	0.00	0.00	0.10	159	78	47	8	5	0	0	8	5	4	2	0	0	4	2
03I	0.05	0.00	0.00	0.10	25	20	17	2	2	0	0	2	2	1	1	0	0	1	1
03J	0.05	0.00	0.00	0.10	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
03M	0.05	0.00	0.00	0.10	28	2	2	0	0	0	0	0	0	0	0	0	0	0	0
07U	0.05	0.38	0.32	0.10	390	348	311	35	31	131	101	-96	-70	17	16	2	0	15	16
78A	0.05	0.00	0.00	0.10	20	18	12	2	1	0	0	2	1	1	1	0	0	1	1

78B	0.05	0.19	0.25	0.10	329	166	123	17	12	32	31	-15	-19	8	6	0	0	8	6
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78C	0.05	11.00	0.00	0.10	12	1	1	0	0	11	0	-11	0	0	0	0	0	0	0
78D	0.05	0.19	0.18	0.10	702	356	100	36	10	67	18	-31	-8	18	5	24	0	-6	5
78E	0.05	0.00	0.00	0.10	101	37	0	4	0	0	0	4	0	2	0	0	0	2	0
78F	0.05	0.11	0.00	0.10	289	228	51	23	5	26	0	-3	5	11	3	0	0	11	3
78G	0.05	0.00	0.00	0.10	91	62	38	6	4	0	0	6	4	3	2	0	0	3	2
78H	0.05	0.00	0.00	0.10	11	8	3	1	0	0	0	1	0	0	0	0	0	0	0
78K	0.05	0.00	0.00	0.10	153	118	17	12	2	0	0	12	2	6	1	0	0	6	1
78V	0.05	0.02	0.00	0.10	447	335	0	34	0	7	0	27	0	17	0	0	0	17	0
78W	0.05	0.00	0.00	0.10	96	85	0	9	0	0	0	9	0	4	0	0	0	4	0
79A	0.05	0.06	0.00	0.10	205	141	0	14	0	8	0	6	0	7	0	0	0	7	0
79C	0.05	0.00	0.00	0.10	546	410	1	41	0	1	0	40	0	21	0	0	0	21	0
79D	0.05	0.03	0.04	0.10	90	75	28	8	3	2	1	6	2	4	1	0	0	4	1
79E	0.05	0.08	0.13	0.10	1564	1190	720	119	72	100	91	19	-19	60	36	0	0	60	36
79F	0.05	0.12	0.27	0.10	312	247	92	25	9	30	25	-5	-16	12	5	0	0	12	5
79G	0.05	0.00	0.00	0.10	33	32	8	3	1	0	0	3	1	2	0	0	0	2	0
79H	0.05	0.00	0.00	0.10	89	79	35	8	4	0	0	8	4	4	2	0	0	4	2
79I	0.05	0.00	0.00	0.10	70	55	26	6	3	0	0	6	3	3	1	0	0	3	1

79J	0.05	0.00	0.00	0.10	162	133	62	13	6	0	0	13	6	7	3	0	0	7	3
79K	0.05	0.11	0.00	0.10	119	72	1	7	0	8	0	-1	0	4	0	0	0	4	0
Mgmt Area/ Psub	HRO Harvest Rate Objective	EDC Existing Disturbed Condition (Forest Plan)	EDC Existing Disturbed Condition (NW Forest Plan)	MDC Maximum Disturbed Condition	Total Acres	Suited & Avail. (Forest Plan)	Suited & Avail. (NW Forest Plan)	Max Disturbed Allowed Acres (Forest Plan)	Max Disturbed Allowed Acres (NW Forest Plan)	Visually Disturbe d Acres (Forest Plan)	Visually Disturbe d Acres (NW Forest Plan)	MDC Avail. Harvest (Forest Plan)	MDC Avail. Harvest (NW Forest Plan)	HRO Acres Harvest Rate Objective Acres (Forest Plan)	HRO Acres Harvest Rate Objective Acres (NW Forest Plan)	Current Decade Harvest (Forest Plan)	Current Decade Harvest (NW Forest Plan)	HRO Avail. Harvest (Forest Plan)	HRO Avail. Harvest (NW Forest Plan)
92A	0.05	0.00	0.00	0.10	15	13	10	1	1	0	0	1	1	1	1	0	0	1	1
92Q	0.05	0.00	0.00	0.10	65	59	45	6	5	0	0	6	5	3	2	0	0	3	2

Desired Future Condition: Willamette National Forest Land and Resource Management Plan (Forest Plan) Standards and Guidelines state that management activities shall be designed and implemented to achieve or exceed the assigned Visual Quality Objective (VQO) for the management area (FW-058).

The goals for desired future condition for recreation and scenic resources of each management area allocation have been described in the Forest Plan, Chapter IV, Forest Management Direction.

Trends: The future Visual Condition of the watershed is expected to improve over current conditions when considering several developments and trends affecting forest management activities. As forest managers begin to focus more attention on balancing human use and product extraction with management of natural processes, over time, the appearance of Blowout is expected to approach a Visual Condition of Moderately Altered in managed areas to Slightly Altered in areas such as the LSR and scenic Management Areas.

With the development of a new Forest Plan and associated standards for management of scenic resources; including the control of harvest rates, unit sizes and shapes, treatment alternatives, and methods such as thinnings and individual tree selection; the design and distribution of activities within the watershed are expected to be less apparent to the casual viewer.

Implementation of the Northwest Forest Plan; which allocated Late Successional Reserves, increased the size of riparian reserves, reduced annual harvest rates, and established standards for management for a wide range of forest resources, is expected to have a beneficial effect on the quality of scenic resources in the future. However, the Visual Condition of the landscape within the LSR ranges from Slightly Altered to Heavily Altered which suggests that portions of the landscape will need be restored to meet and subsequently improve scenic objectives of creating and maintaining late-successional habitats.

This watershed contains many acres of second growth within scenic allocations. These stands will primarily have commercial thinning treatments prescribed which is less likely to impact the scenic resource than regeneration harvests.

b. Reference condition: *What is the historical scenic condition in the watershed?*

Prior to development of road access within the Blowout watershed, the condition of the scenic resource was a natural appearing landscape shaped by a long history of natural processes including periodic flooding, landflows and wildfire. The basic landscape structure of steep slopes and long ridges covered by an older coniferous forest, accentuated with rock formations and meadow openings, and bisected by numerous streams tributary to the North Santiam River, formed the scenic resource of the watershed.

During the latter part of the 19th century, a significant portion of the Blowout drainage, 71 percent, was composed of medium, large and old growth trees. Less than one percent of the area contained stands of seedlings, saplings and poles. Wildfire occurrences during the mid to late 1800's are suggested by the evidence of the relatively young stands of small sized trees which represented 25 percent of the total area. Various non-forest habitats comprised four percent of the area. Natural in origin and random in composition, the Existing Visual Condition (EVC) of the watershed would be considered Natural Appearing.

Blowout Viewshed Condition - 1893							
	Seedlings and Saplings	Poles	Small Trees	Medium Trees	Large/Giant Trees	Non-Forest	Total
Age (years)	1-20	21-40	41-150	151-200	200+		
Acres	61	5	8,648	4,235	19,801	1,253	34,003
Percent	0.002%	0.001%	25%	13%	58%	4%	100%

Starting in the 1930's, humans initiated disturbances within the drainage which included timber harvest activities and road construction. The 1950's marked the post-war boom, when there was a rush to open the forests for rapid development through increased timber sales and road construction. By 1952, the Detroit Dam and reservoir were completed and represented a significant alteration at the mouths of Box Canyon and Blowout Creeks. Most significant to this alteration included the exposed stumps and barren slopes that are revealed during draw down periods. From the 1950's through the 1980's, increasing harvest activities and road construction, predominately in the southern and eastern halves of the watershed, produced significant alterations of the Natural Appearing landscape, resulting in a mosaic of patch cuts in various stages of regeneration.

By 1950, five percent of the Blowout area was harvested and planted. Other than this slight decrease in large and old growth trees, stand composition remained much the same since 1893. This is likely the result of aggressive fire suppression efforts. The scenic condition ranged from Natural Appearing in the areas that had not been developed to Slightly Altered where harvest activities and road construction had occurred. Between 1950 and 1994, management activities created significant changes to the landscape over time ranging from a Slightly to a Heavily Altered Visual Condition.

Blowout Viewshed Condition - 1950							
	Seedlings and Saplings	Poles	Small Trees	Medium Trees	Large/ Giant Trees	Non- Forest	Total
Age (years)	1-20	21-40	41-150	151-200	200+		
Acres	756	1,050	8,568	4,329	17,8590	1,441	34,003
Percent	2%	3%	25%	13%	53%	4%	100%

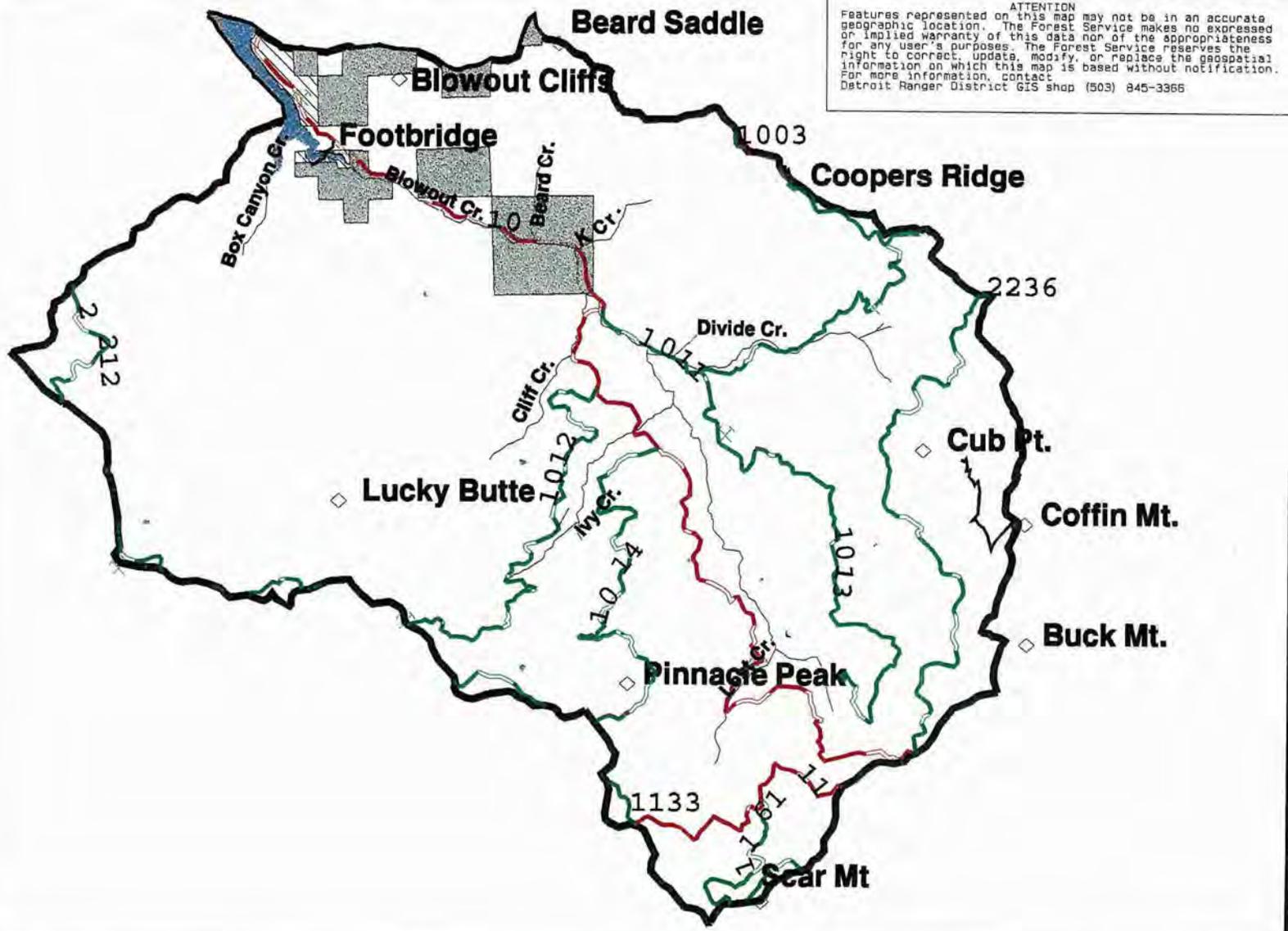
C: Table: Comparison of current and reference condition: *What are the natural and human causes of change between historical and current scenic conditions?*

Scenic quality has been affected by both resource management activities and natural events.

Scenic Characteristic	What was it like Historically?	What Changed?	Natural Causes of Change	Human Causes of Change
Scenic Quality	<p>Natural appearing landscape shaped by a long history of natural processes including periodic flooding, landflows and wildfire.</p> <p>The basic landscape structure of steep slopes and long ridges covered by an older coniferous forest accentuated with rock formations and meadow openings, and bisected by numerous streams, formed the scenic resources of the watershed.</p>	Alterations to the landscape changed the natural appearance and the scenic quality of the area.	Large Scale Fires	Management activities, primarily timber harvest and road construction have altered the landscape and changed the scenic quality of the watershed from pre-settlement conditions.
		Trends are that scenic quality is improving with time.	Re-growth of vegetation in areas denuded by timber harvest, road construction and fires.	With the development of a new Forest Plan and associated standards for management of scenic resources; including the control of harvest rates, unit sizes and shapes, treatment alternatives, and methods such as thinnings and individual tree selection; the design and distribution of activities within the watershed are expected to be less apparent to the casual viewer.
		Construction of Detroit Dam	Created scenic lake	During drawdown of the water levels in the winter, landscape alterations are visible such as stumps, barren slopes, etc.
				Implementation of the Northwest Forest Plan; which allocated Late Successional Reserves, increased the size of riparian reserves, reduced annual harvest rates, and established standards for management for a wide range of forest resources, is expected to have a beneficial effect on the quality of scenic resources in the future.

Blowout WA Human Uses

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- Legend**
- Non Federal Land
 - Forest Service Admin Site
 - Water
 - Corps of Engineer Land
 - Class 1 and 2 Streams
 - Arterial Roads
 - Collector Roads
 - Trail
 - Special Features
 - Rockpits

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 Scale 1:100000
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 Map # 26




IV. SOCIAL DOMAIN

B. Human Uses

1. **Characterization:** *What are the major human uses, including tribal uses and treaty rights? Where do they generally occur within the watershed?*

Human use of the Blowout area dates back to prehistoric times. A recently excavated site within the Blowout drainage yielded a hearth feature (prehistoric fire pit) containing charcoal which was radiocarbon dated at 2,690 B.P. (before present). Other relative dating methods (obsidian hydration) suggest the site was initially occupied around 5,000 B.P. (Draper et al, 1994). No botanical or faunal remains were recovered. Through site excavation archaeologists have discovered that humans have inhabited the western slopes of the Oregon Cascades for at least the past 10,000 years. Prehistoric human use within the Blowout watershed is seen mainly in the form of obsidian and crypto crystalline lithic scatters located along the ridge lines and near meadows. This suggests humans were using these ridge lines to access high elevation meadows, huckleberry fields and big game.

From prehistoric to historic times, human use of the area changed from travel and subsistence food gathering by native people to resource extraction of timber for use as construction materials by settlers.

Today human use of the area has become more varied. (See map #26) The local communities have been heavily dependent on federal land for their livelihoods. Saw timber and a variety of other special forest products provide employment opportunities while tourism associated with dispersed recreational activities such as hunting, camping, fishing, hiking, sightseeing, etc. generate economic benefits to local communities.

Humans utilize the Blowout watershed for a variety of resources, including: recreation, timber, special forest products, and personal use products such as firewood, plants and mushrooms.

Socio-Economic: The North Santiam Canyon is a rural area located at the base of the west side of the Cascade mountains. It extends for approximately 30 miles along the North Santiam River and includes five small communities: Lyons, Mill City, Gates, Detroit and Idanha and several unincorporated areas in two adjoining counties, Marion and Linn. The communities are clustered on either side of the North Santiam River and are between 25-50 miles from Salem, the nearest metropolitan area. The North Santiam Canyon serves as both a destination and a corridor for commerce. The total population of the region is about 6,617.

Forest products and tourism support the diversifying economies of many North Santiam Canyon communities. In 1996, 917 people were employed by private mills in the canyon. Until last year, the forest products industry and tourism generated from recreation in the Detroit Lake area and highway travel, provided the economic base for the Cities of Detroit and Idanha. This economic base was shaken recently when an Idanha mill, employing almost 100 people, closed down.

The region's forest resources are controlled by both public and private landowners. However, the vast majority of the land is managed by three public agencies, the USDI Bureau of Land Management, USDA Forest Service and Oregon State Forestry Department. The local communities affected by declining timber supplies have developed and are initiating economic development strategies to adjust to a different future.

Recreation: In comparison to other watersheds in the upper North Santiam Basin, Blowout has less recreational use and does not provide developed recreational opportunities such as campgrounds and picnic areas. The area offers an array of dispersed recreational opportunities. Activities typically associated with dispersed recreation in the watershed are camping, hiking, driving for pleasure, viewing scenery, hunting, fishing, swimming, huckleberry picking, biking, paragliding, and sail and motor boating. Peak use of dispersed sites is primarily during the summer months, May through September, with hunting activities occurring into the fall season. While dispersed camping use is concentrated in existing sites within the lower elevation riparian areas during the summer, it is broadly dispersed throughout the upland areas during the fall hunting season.

There are several areas within the Blowout analysis area where a concentration of recreation activity occurs. Detroit Lake encompasses a small portion of the analysis area, 188 acres, but contributes to a significant amount of use within this watershed. The Blowout Arm is popular area for fishing, swimming, picnicking, and shore/boat camping activities. The Suspension Bridge, an attraction located in the upper reaches of the Blowout Arm, is used as a jumping/diving platform by many young visitors. Concentrated dispersed camping occurs along Blowout Creek between the Suspension and Blowout Bridges. Many of these dispersed sites are located on private land.

Detroit Lake is primarily a summer destination due to the favorable climate. One of the primary influences of when use occurs within the watershed is tied with the fluctuation of the reservoir level for flood control. Full pool is reached early May and drawn down begins after Labor Day. At the beginning of fishing season, normally in late April, all boat ramps, campgrounds and marinas are usually operating.

Prevailing winds also affect the lake's recreation patterns during the summer. Generally, the wind comes up the canyon in the early afternoon and continues through late afternoon, causing people to move to sheltered areas of the lake, particularly to the east or at any of the arms like Blowout.

Finally, recreation use is weather dependant. Weather is too cold during the fall through spring for most water sports, except for fishing. Use peaks on those weekends and holidays that have favorable sunny, hot weather, and even during the week in the heat of summer. A summer with poor weather results in dramatic decreases in use when compared with more fair-weathered years.

The Blowout drainage is very accessible with two major arterial roads, Blowout and Straight Creek Roads, bisecting the watershed along with other system collector and local access roads. This area is composed of 185 miles of road access. These roads offer loop driving opportunities for pleasure auto drives and destination access. Visitors can access many areas outside of the drainage such as the Detroit Dam, many developed campgrounds, Highway 22, and Highway 20 at Sweet Home by way of the Quartzville Back Country Byway that follows Quartzville Creek, a Wild and Scenic River and Recreational Mining Corridor. The analysis area contains two system trails, Coffin Mountain and Coffin Lookout Trails, that lead to the District fire lookout structure.

2. *What values are associated with human uses?*

Heritage: People value the character of our communities and our cultural roots, as expressed in historic properties.

Socio-economic Uses (e.g., sustainable communities, tourism, etc.): Quality of life; preserving the environment and its natural beauty; availability of natural resources for sustained commodity production and year round recreational opportunities for economic benefits; are valued by many people, especially those who derive their livelihood from natural resources.

Recreational Uses: Recreational use of National Forest lands is valued for the experiences associated with the activity, such as the enjoyment, challenge, solitude or relaxation that it gives people. It refreshes people mentally, physically and emotionally. The Blowout Analysis Area is valued for its dispersed recreation opportunities, such as hunting, fishing, hiking, camping, sightseeing, etc.

3. *What are the highest priority issues or resource concerns associated with human uses?*

Heritage Resources: There is a concern about conserving the historic and/or scientific values of heritage sites and historic properties. These sites can give us invaluable insights into the past. Both natural and human processes have adversely impacted a high percentage of heritage sites. Many sites have incurred varying degrees of site degradation through root production of plants and trees, trampling by game animals, burrowing by small mammals, erosion, freeze-thaw cycles and wind thrown trees. In addition, sites have been unknowingly and knowingly disturbed by humans. Prior to 1978 very few sites were formally inventoried, recorded or protected. This coupled with the difficulty of finding undisturbed sites because of limited visibility due to dense vegetative cover and thick duff layers has resulted in heritage site degradation. In addition, artifact seekers have knowingly removed historic properties from sites. Very few heritage sites have been tested to determine the extent of disturbances to the sites or their eligibility to the Nation Register of Historic Places.

People are interested in learning about historic properties but very little has been accomplished toward interpreting past human activities.

Socio-economic Uses: The forest products industry, and tourism generated from recreation in the Detroit Lake area and highway travel, support the diversifying economies of North Santiam Canyon communities.

Species and watershed protection measures and changing public sentiment about selling forest resources (like old growth) as commodities, combined with a changing political climate, have resulted in a sharp reduction in the timber supply from National Forests and other public lands, to operate local mills. This reduction has threatened the economic sustainability of historically forest-dependent communities in the North Santiam Canyon, and have prompted them to develop economic strategies to adjust to a different future.

Decreasing firewood supplies are not able to keep up with the demand for fuel wood by people in the region.

Recreational Uses: There is more demand for recreational opportunities than supply available. In addition, available facilities and infrastructure associated with these opportunities are inadequate to meet demand. Growing recreational demand has resulted in impacts to resources; scenic quality, user experiences such as social crowding and user conflicts, increased fire risk and visitor safety.

Recreational access within the watershed is also an issue given road closures that have been implemented for a variety of resource reasons, coupled with road failures that occurred during the 1996 flood.

There is a demand for a diverse set of recreation opportunities (settings and activities) ranging from Primitive to Roaded Natural settings. As the physical environment is changed through various resource management practices so may the desired proportion of settings available to the public. The demand for Semi-primitive settings are not met in the Region, and future demand on the Forest will exceed the supply. Maintaining a diverse set of opportunities is also important to enhance tourism in the area and benefits to the local economy.

4. *What are the management direction/activities, human uses or natural processes that affect human uses?*

a. *Current Condition: What are the current conditions and trends of the relevant human uses in the watershed?*

Heritage Resources: A total of 5520 acres out of 34,154 acres have been surveyed for the occurrence of heritage resources within the Blowout Watershed. The surveys resulted in the location of more than a hundred sites and isolated finds which demonstrates human use in the Blowout drainage.

According to the district's Heritage Resource database, 70 historic properties (prehistoric/historic sites) have been recorded within the Blowout watershed. Nearly 95 percent of the recorded sites have already been impacted. Three factors have influenced the high percentage of site degradation: 1) prior to 1978 very few sites were formally inventoried, recorded or protected; 2) visibility within the Western Cascade forest environment is generally not conducive to finding undisturbed sites, and 3) natural environmental influences and animal activity.

The types of prehistoric sites recorded in the area include mainly "Open Air" lithic scatters of obsidian and crypto crystalline silica. Seventy-one percent of the total sites in this watershed are located on the top slope of a major ridge line (saddles, knolls, crest) and 23 percent are located on mid-slope benches mainly of ridge lines and 6 percent are located on stream terraces or flood plains. Eighty-four percent of the sites are located on slopes less than 10 percent.

Sites predominantly occupy areas within the Pacific Silver Fir Plant Association Series (Detroit Geographic Information systems database). Bear grass, rhododendron, and huckleberry were located at a majority of the sites. Other plants common to the sites in Blowout include blackberry, strawberry, bunchberry, and Oregon grape.

Thirty-two percent of the sites are located near or adjacent to a Class IV stream, 30 percent are located near or adjacent a Class III stream, 5 percent are located near a Class II stream, 27 percent are located near a marsh or spring and 6 percent are located near a lake or pond. Distance to water does not appear to be a factor. Water distance from the sites ranges from 1 to 800 meters with a majority of sites located within 100 to 300 meters.

Six prehistoric sites within the Blowout watershed have been excavated to evaluate their scientific and historic values and determine their eligibility to the National Register of Historic Places (NRHP). Three of the sites (lithic scatters) were found to be eligible to the National Register of Historic Places but none of these sites have actually been placed on the NRHP.

One historic site (Coffin trail shelter) has been evaluated to determine its eligibility to the NRHP. The trail shelter was considered to be not eligible for listing to the NRHP based on significant losses of integrity to the surrounding environment. The area around the trail shelter was clearcut sometime in the late 1970's.

Socio-economic Uses: The timber industry is still an important component of the North Santiam Canyon economy, however, timber related employment is not expected to reach past levels. Canyon communities realize they can no longer depend on the wood products industry as their sole economic provider. The North Santiam Canyon communities are working together to develop cooperative strategic plans for diversifying their economies. Several locally-based organizations, such as the North Santiam Economic Development Corporation, have been formed to help these communities plan for their future. Common objectives of the communities include increasing the number of family wage jobs (through new business and business expansion), improving infrastructure, improving education and workforce job skills, maintaining and improving quality of life, and improving human resources services.

Community strategic and action plans were developed by residents, businesses and industry interests in the community and with assistance from various local agencies, including the Forest Service. The Forest Service is a partner with community economic and tourism organizations since many community goals, objectives and projects affect or depend upon National Forest lands.

Federal programs such as President Clinton's Northwest Economic Adjustment Initiative, made money available to local communities to begin seeking ways to diversify their economies. One of the first things the communities began to do was look into ways of developing infrastructure so they could attract new businesses to the canyon. One of the major challenges smaller communities face is infrastructure requirements for major manufacturing. As part of a federal effort to aid these timber dependent communities, special funding has been provided through various agencies as grants and low interest loans. This money has helped

to fund such projects as the construction of the Canyon Life Museum, the development of a special forest products inventory modeling system, infrastructure feasibility studies (water systems, sewage treatment), industrial and business recruitment plans, etc. Until needed infrastructure upgrades can be completed, some of these communities are exploring the feasibility of retrofitting old timber mills and sites for other manufacturing activities or as recreational facilities (proposed North Santiam RV Park in Idanha), tourism/retail businesses, value-added wood manufacturing, cottage industries and telecommuting.

The Canyon communities began exploring ways of attracting more tourism dollars. Having Highway 22, the main link between Salem and Bend, running alongside the North Santiam River and up through the middle of the canyon offers tremendous potential. The highway carries campers and water enthusiasts to Detroit Reservoir, skiers to the Santiam Pass and central Oregon, and others wanting to take advantage of the natural beauty of the canyon. Along with the tourist traveler, it also carries enormous business and commercial traffic which has become an important component of the North Santiam Canyon economy. Detroit and Idanha City Comprehensive Plans recognize the importance of recreation and encourage future economic growth relating to the tourism industry. Both plans recommend pathways connecting communities, and adjacent campgrounds and day use areas. There is local interest in developing a loop trail around Detroit Lake and is identified as a Forest trail project in the Forest Plan. Tourism plans also incorporate this project and others including, expanding seasons at campgrounds, and developing a brochure on recreational opportunities in the Canyon and surrounding National Forest.

The North Santiam Canyon has also looked into economic diversification through secondary wood products manufacturing or through new markets in nontraditional forest products. The community received a grant to study market opportunities and developed methodology for companies and government agencies to evaluate available sustainable supplies of these products. A potential list of products could include: boughs, Christmas trees, bear grass, sword ferns, salal, prince's pine, mosses, Oregon grape, huckleberries, mushrooms, tree cones, post and poles, shakes and firewood.

Firewood is a forest commodity used by local communities which has been provided historically from the Blowout area. Even though public demand for firewood remains high, ability to fulfill the need has diminished steadily since 1992 with the reduction of timber harvest and land management changes to protect habitat for species dependent on down woody material. Firewood will only be available where current and future needs for large woody material are met in the area.

Visitation: The key attraction in the Blowout watershed is Detroit Lake. Detroit Lake ranks the third highest use lake in the state, and overall sixth among all water bodies in Oregon, just behind the Pacific Ocean (*1999 Boating in Oregon – Results of the 1999 Triennial Survey, Oregon State Marine Board*). Detroit Lake is one of the most popular recreation areas in the western Cascades, and is the highest recreation use area on the Detroit Ranger District, attracting well over 500,000 people a year. The Blowout is within a two hour drive of nearly 80 percent of Oregon's population. Because highway improvements over the years have made it more accessible, the Detroit Lake area has come to serve as a "backyard" destination for many Willamette Valley residents who once found it remote. A market study found that 46 percent of Detroit Lake area visitors originate from the Portland metropolitan area and 43 percent from the Mid-Willamette valley. Population growth in the Mid-Willamette Valley and Portland Metro area averages 1.9 percent during 1986-1990. This will likely lead to increasing numbers of visitors to the Detroit Lake recreation area in the future.

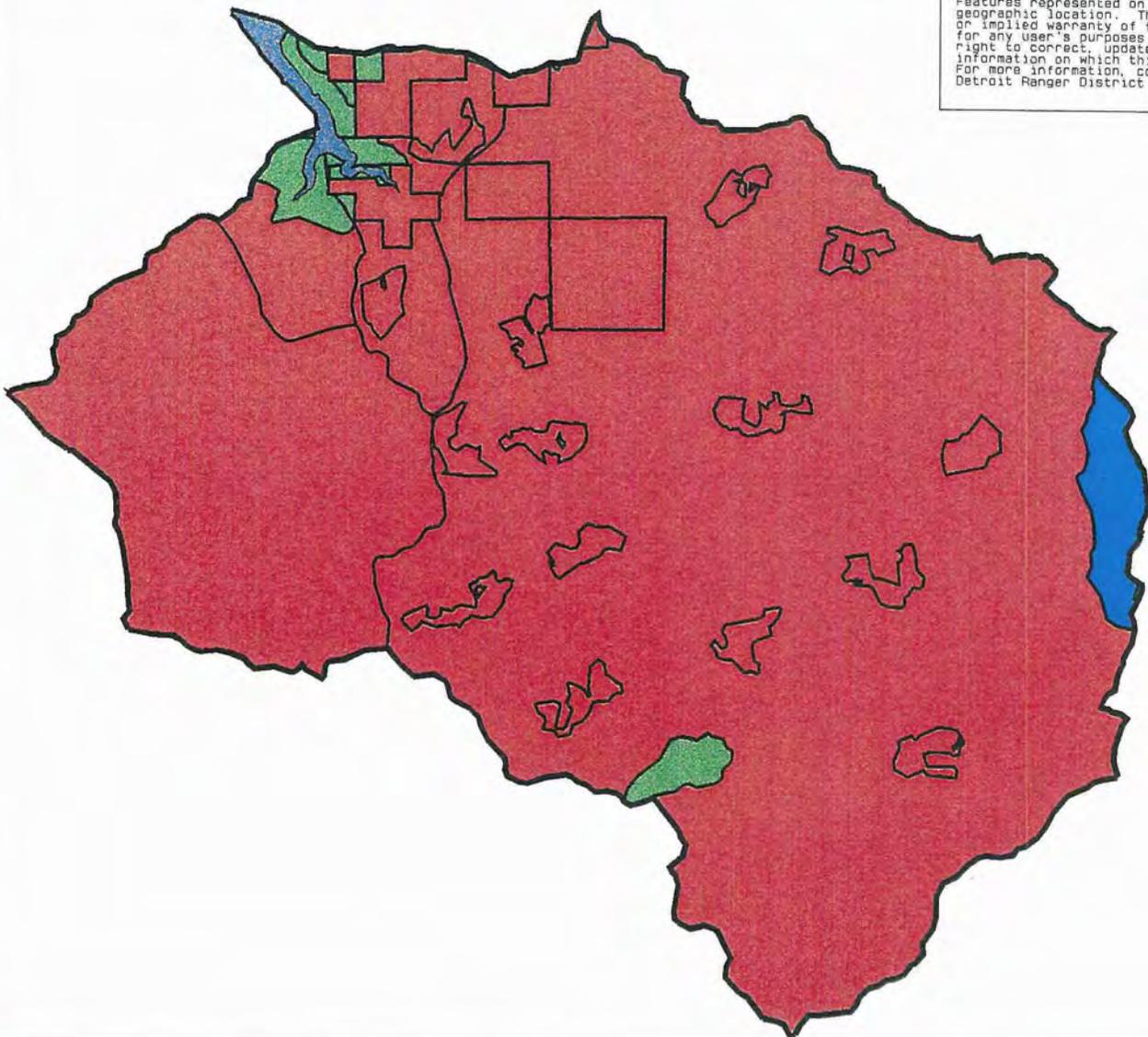
There is currently no data to support estimates of recreation visitation specifically for the Blowout analysis area. Field observations indicates that visitation ranges from light to moderate in the upper portion of the drainage, and high near Blowout Creek and Detroit Lake on the Blowout arm.

Recreation Opportunity Spectrum: The Willamette National Forest Land Management Plan (LMP) identified three land classifications of recreation experience in the Blowout Analysis Area. These classifications are based on the Recreation Opportunity Spectrum (ROS), a recreation planning and management framework which recognizes the continuum of recreation opportunities based on the activities, setting and experiences visitors desire. (See map #27) The basic assumption underlying the Recreation Opportunity Spectrum is that quality recreational experiences are best assured by providing a diverse set of recreation opportunities (Clark and Stankey 1979).

For the purpose of the analysis, it is assumed that private land will be managed and classified as Roded Modified; and Army Corps of Engineer land will meet Roded Natural characteristics. The predominant ROS class, Roded Modified (RM), comprises 95 percent of the Blowout Analysis Area or 30,930 acres. This setting is characterized by a substantially modified natural environment. Resource activities and structures may be strongly dominant from most any point in the setting. Historically, Blowout has been intensively managed as general forest which has created a significantly altered landscape. Resource management activities, primarily timber production and high road densities, are prevalent throughout the analysis area classified RM.

Blowout WA Recreation Opportunity Spectrum

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Legend

-  Roded Natural
-  Roded Modified
-  Semi Primitive Modified
-  Detroit Lake

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Scale 1:100000
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Map # 27



Three percent, 789 acres, of the analysis area is classified as Roaded Natural (RN) which encompasses the Pinnacle Peak Special Interest Area (SIA) and areas along Detroit Lake. Roaded Natural is characterized by predominantly natural appearing environments with moderate evidences of the sights and sounds of humans. Interaction between users may be low to moderate but with evidence of other users prevalent.

Finally, two percent of the watershed, 530 acres, has been classified Semi-primitive Motorized (SPM). Semi-primitive Motorized is characterized by predominantly natural or natural appearing environment of moderate to large size. User interaction is low but there is often evidence of other users. This SPM classification encompasses a 3498 acre area north and east of Coffin Mountain, most of which is to the east of Blowout analysis area.

Twenty percent, 6877 acres, of Blowout lies within a portion of a Late-Successional Reserve (LSR). Currently, there is no ROS classification for these areas under the new allocation. The LSR encompasses the Box Canyon drainage which had a predominately Roaded Modified classification under the Forest Plan. Box Canyon consists of 1,749 contiguous acres of unroaded area, and could be considered a Roaded Natural experience by visitors. With a newly designated allocation and it's objective of restoring late-successional habitats, ROS settings will likely change in the future.

ROS Demand and Supply: The information on recreation demand that is reported in the Oregon State Comprehensive Outdoor Recreation Plan indicates a high and increasing demand for recreation settings featuring low levels of development and management activity, with relatively low levels of use, and where motorized access is not permitted (SCORP 1988). The 1994 SCORP goes on to state that there is a pronounced preference by the public for more semi-primitive and primitive settings, and that this issue requires greater examination and direction of efforts statewide to meet this demand. Thus, it is clear that settings catering to these recreational standards are especially valuable to the public. However, the Blowout watershed offers limited potential for providing semi-primitive or primitive settings. Box Canyon is the largest unroaded parcel of land in the analysis area, although access by a trail would be difficult due to steep terrain.

Recreational use of the Coffin-Bachelor Mountain Semi-primitive Area will likely increase with population growth, and increasing demands for semi-primitive settings and experiences (SCORP 1988, 1994). According to the Forest Plan, even if existing inventories of semi-primitive opportunities were maintained, future demand is expected to exceed capacity by the year 2010. In addition, between the year 2010 and 2030, use within all Wilderness Resource Spectrum (WRS) classes will exceed inventory capacity. It is likely with future demands at Mt. Jefferson Wilderness, strategies for managing use will be required. This may have implications on semi-primitive areas outside of Wilderness, potentially displacing users to limited existing non-Wilderness semi-primitive areas such as

Coffin-Bachelor Mountain. "Promotion" of Coffin-Bachelor Mountain area trails on the Forest Service Website (Internet), and depicting these trails on the Quartzville Byway kiosk map and brochure, will likely encourage use of this area.

Visitor use of this area is relatively low and primarily day use in nature. Since user interaction is very low, the area meets the social setting defined within the semi-primitive motorized classification of the Recreation Opportunity Spectrum (ROS). However, the activities and experiences associated within the area are non-motorized in nature due to lack of facilities available for motorize types of activities.

Recreation Access- (Roads) The Blowout drainage is very accessible with two major arterial roads, Blowout and Straight Creek Roads, bisecting the watershed along with other system collector and local access roads. This area is composed of 185 miles of road of which 52 miles of road are closed or proposed to be closed to public access. These roads offer loop driving opportunities for pleasure auto drives and destination access.

Visitors can access many areas outside of the drainage such as the Detroit Dam, developed campgrounds, Highway 22, Highway 20 at Sweet Home, and the Quartzville Corridor which contains Quartzville Creek, a Wild and Scenic River and a Recreational Mining Corridor. Straight Creek Road which bisects the upper portion of the watershed has been designated a "Backcountry Byway" tour route by the Bureau of Land Management with cooperation from the Forest Service and Linn County.

The road system provides for a broad range of recreational opportunities in a variety of settings. The absence or presence of roads is one of the most critical aspects of a setting that affects people's recreation experience. Currently, there are more than enough roaded opportunities to support the current and future demand. The key is to provide a variety of opportunities which encompass all ranges of roaded and unroaded settings, that is consistent with use patterns, public demand and resource objectives. Currently, access is provided to both trails within Blowout. However, the condition of roads reaching Coffin Mountain Trailhead are not meeting established standards. Dispersed recreational opportunities have been reduced in areas behind roads closed by flood damage, and gates that prohibit motorized travel due to wildlife or other resource concerns.

Conditions of roads play a factor in whether or not a visitor has a satisfactory experience. Visitors driving for pleasure in a standard automobile or RV would require a well-maintained route while off road vehicles would prefer a more rugged experience. Driving for pleasure is a growing and popular activity within the watershed. Safety of roads is a concern within the roaded recreation settings. Currently, lack of maintenance and flood related damage is resulting in many roads becoming unsafe, requiring extra caution or are closed to access.

With the recent Flood of '96, several roads have been closed due to hazardous conditions and concern for public safety. The road closures have been an issue with the public who still want to drive those roads. Often signs and closure barriers and gates are ignored and vandalized. Public safety is a Forest Service priority, however, administration of road closures has been difficult and costly.

Increasingly roads will be closed for a variety of reasons or will naturally close themselves due to the absence of maintenance. With declining road maintenance budgets, and concerns related to watershed quality and wildlife habitat effectiveness, road decommissioning and obliteration will be common in the future. Closed access will remove some roaded dispersed opportunities that presently exist. As roads are closed, more pressure may be placed on roaded areas outside of closures, and former roaded dispersed areas will probably not receive the use that previously existed. "Established" users of an area may be displaced to other areas that remain accessible. Roads with the highest use will result with the most significant impact on users.

In contrast these closed roads have increased opportunities to bike and hike free from interference with motorized vehicles. "Roads to trails" opportunities could arise for mountain biking, horseback riding or lowering standards for maintenance could provide opportunities for off-road vehicles use such as trail bikes or all-terrain vehicles.

Access to private land is adequate at this time. With the decreased ability to maintain roads there is a need to renegotiate cooperative agreements to help meet the needs and management objectives of all parties.

Recreation Access- (Trails): The analysis area contains two maintained trail systems, Coffin Mountain and Coffin Lookout Trails, that lead to the District Lookout site. Coffin Mountain Lookout is still operated today and offers visitors an awesome panoramic view of prominent peaks of the Western Cascades. Coffin Mountain has recently gained attention by paragliders and is being considered and evaluated for feasibility by local paragliding clubs.

Coffin Mountain Lookout: Coffin Mountain Lookout Trail receives the highest visitor use among trails in the area. Use in 1998 was estimated at 225 visitors. Coffin Mountain contains an administrative site with a lookout structure that is seasonally staffed for detection of forest fires. The lookout staff expressed difficulties in keeping an "eagle eye" for fire detection when distracted by visitors on the lookout deck. There have been occasions during the evening hours when the lookout has been confronted with drunk and verbally abusive visitors that make the lookouts personal safety a concern. Other lack of considerations on behalf of visitors has made lookout operation disruptive or inconvenient. Visitors often want to use the lookout's water supply or pit toilet which are intended for lookout use only. In addition, camping adjacent the lookout has been disruptive

or inconsiderate to the privacy of the lookout. Recently, signs have been posted at the trailhead explaining courtesy and considerations while visiting the lookout.

Special Management Areas: MA-5A The Pinnacle Peak Special Interest Area contains exceptional geologic and biological characteristics. Management goals of these unique and special designated areas focus on protection and scientific study; and where appropriate, foster public use and enjoyment. Currently, there are no developed sites such as trails, interpretive signing or facilities. The area is accessible by roads, and contains dispersed camping sites, primarily used by big game hunters. The Forest Plan requires an Implementation Guide be complete for this area, however, a plan has not been done at this time.

MA-10b The Forest Plan designated the area surrounding Coffin Mountain as a Dispersed Recreation Area managed to provide Semi-primitive Motorized settings and experiences. An Implementation Guide was completed in April 1998 which provides management direction and project implementation guidance (*see Appendix A*).

Developed Recreation: No developed recreational sites such as campgrounds, boat ramps or picnic sites are located within the Blowout Analysis Area.

Interpretation: There are no interpretive opportunities provided within the Blowout watershed, although there are several potential opportunities. In a larger context, there has been minimal interpretation of natural and heritage resources within the North Santiam River Basin. There is a demand for these activities and are needed to promote resource protection and appreciation.

Suspension Bridge: The Blowout Creek Suspension Bridge has been closed for public safety due to corroding support braces and cables. However, regardless of posting closure notices it is still used as a jumping/diving platform by many young visitors which poses a safety concern.

Dispersed Camping: Based on observed conditions at thirty-two inventoried dispersed campsites within the Blowout drainage, it is apparent that visitors like to camp near water. Approximately 75 percent of the campsites found within the watershed are located near streams, particularly Blowout Creek at just over 50 percent. These areas receive the most frequent use and subsequently, the most impact to resources ranging from moderate to heavy damage site ratings with one site rating at extreme.

Although many dispersed campsites within the Blowout are associated with riparian reserves, the total disturbed riparian area attributable to these campsites is less than one percent. Access roads to some sites are not system roads and are not currently mapped.

Generally, there is a direct correlation between frequency of use and impact from that use. Those campsites that receive the most frequent use, subsequently, receive the most impact to resources ranging from moderate to extreme damage. Conditions of the most heavily impacted dispersed camping sites within the Blowout watershed include: soil compaction and large barren core areas, erosion, vegetation loss and tree damage. Many hazard trees are created as a result of recreational related damage. Vehicular access to sites is not limited which attributes to some of the degradation of these sites. Another contributing factor to the condition they exhibit is the amount of use individual sites receive each season due to their popularity or proximity to specific areas of interest such as Blowout Creek and Detroit Lake.

Dispersed campsites located away from riparian areas do not get the intensity of use or impact. These are generally located in the upper portions of the watershed, and are used by big game hunters during the fall. Often, these sites are located where existing developments have occurred such as a rock pit, landing, turnout or end of a spur road. Frequency of use is infrequent to moderate while impact is light to moderate. Lightly impacted sites are indicated by a fire ring or scar, and no other impacts from use by campers.

All the campsites inventoried had a least one fire ring. Almost all of the dispersed sites inventoried had no firewood available on the site.

Dispersed campsite conditions suggests that scenic quality and user experiences at many sites are being affected by use patterns and behaviors that shape the size and condition of sites.

Popular locations often lead to concentrated campsites within a confined area which leads to campsites located within sight and sound of each other. At these popular dispersed sites, sanitation, litter, and conflicts between campers is a common occurrence. Generally, campsites occupied by large groups tend to have more resource impacts to the site than small groups which have been apparent at some of the sites.

Dispersed site conditions within the watershed exhibit other characteristics that are a function of visitor behavior. It is common to find human waste proximal to dispersed sites. In addition, often waste associated with the camping experience; product containers, cigarette butts, discarded hygiene products, retired camping equipment and furniture, and other assorted goods, are left behind at the site. Garbage from home is discarded periodically in areas within the watershed.

This residue left by dispersed users is a concern in terms of public health and safety, particularly during periods of peak concentrated use. During this period the presence of human waste and other debris around dispersed camp areas may pose a threat to the health and safety of the users present. While visitation is of relative short duration and seasonal nature, effects to water quality are unknown.

The presence of human waste and debris, tree damage and loss, denuded and compacted camp areas, suggests that both the scenic quality and the intended recreation experience opportunity have been diminished for a significant number of sites within the watershed.

The Detroit Lake Composite Area Management Guide (1992) recommends phasing out of dispersed camping around the lake, and accommodating people in developed campgrounds as the highest management priority. Not all dispersed camp users will camp in a fee campground, and prefer a more primitive camping experience.

Dispersed Recreation Trend: The primary recreation emphasis on the Forest is on the management of dispersed recreation opportunities.

With projections of increased population growth for the mid-Willamette Valley and Portland Metropolitan areas, increased recreation use of the Blowout watershed can be expected for a wide range of dispersed recreation activities. For the period of 1980-1989, the Forest experienced an average 2.7 percent yearly increase in all forms of dispersed recreation use. With projections of increased use of 1.7-4.9 percent for all the different forms of dispersed recreation found in the Blowout, an increased demand for dispersed activities is anticipated. Based on these factors and the general trends of past use, it seems appropriate to assume that future participation in dispersed activities in the Blowout will increase as long as opportunities are provided.

According to the Detroit Lake Composite Area Management Guide summary of market demand analysis, demand for recreation use at Detroit Lake is expected to increase. Current demand for camping exceeds the number of developed campsites available. Furthermore, as the demand for developed recreation sites increase, so does the demand for dispersed recreation sites. Visitors who cannot be accommodated in campgrounds may seek out other previously "established" areas to camp. The number of dispersed sites, frequency of use, and impacts by use is expected to increase within the Blowout watershed. Additional camping areas will need to be developed to accommodate the demand.

The watershed will continue to receive a high intensity of dispersed use within accessible riparian reserves resulting in further needed management actions to resolve resource and social impacts. The demand will place additional pressure on the resources of the Blowout watershed and amplify the need for intensive management of recreational use within the watershed. A response to future use may require new strategies for responding to situations where human use exceeds ROS standards for extended periods of the normal use season or if resource degradation becomes a concern. This may possibly include: a change to a management area with standards more closely aligned with the type of use taking place or altering kinds of use based on resource driven issues; or hardening or development of the area to better accommodate the type and level of use.

Demand for winter sports opportunities is very high on the Forest with annual growth rates for cross-country skiing at 16.3 percent, and snowmobiling, snowshoeing and snow play at 4.9 percent. A Winter Sports Management Plan was developed for the District to establish the direction and management of winter recreation opportunities. Winter recreation suitability for most of the Blowout Road area rates very low and no formal development is planned here. The Five-Way Junction area located on the south Blowout boundary has a higher suitability rating. It may be developed as a winter recreation site to meet the demands of winter recreation in the future.

Data Gap: Dispersed campsite inventories were conducted in 1988. In order to more accurately monitor campsite conditions, a need exists to re-inventory the sites for more current information. It would also benefit to include other sites such as non-system access roads and social trails.

In addition, dispersed use data is insufficient to give an accurate picture of the kind of use patterns that occur on a watershed scale. Sampling dispersed use information within each opportunity class by watershed would enable managers to track the conditions and use patterns/trends in order to make better management decisions.

Water quality studies need to be conducted and monitored especially in areas such as lakes that receive intensive use.

b. Reference Condition: *What are the major historical human uses in the watershed, including tribal and other cultural uses?*

Heritage: Historically, the Molalla are reported to have inhabited the western slopes of the Oregon Cascade Range (Nilsson 1989; Snyder 1987). The Molalla were comprised of three subgroups: the Northern Molalla, Southern Molalla, and Upper Santiam Molalla. The Blowout Watershed lies within the tribal area of the Upper Santiam Molalla (Nilsson 1989).

Ethnographic evidence indicates that aboriginal groups, possibly Kalapuya, Mollala, and Warm Springs have used the Blowout Watershed for seasonal hunting, fishing, huckleberry picking and gathering of other wild plants. Information on the use of the general area can also be inferred from the oral history of the Warm Springs Confederation as told by the elder women. They relate stories of their grandparents utilizing and maintaining the huckleberry grounds through fire near Scar Mountain Area (Felicia Beardsley 1990; personal communication).

The site distribution pattern within the Blowout watershed conforms with the above information and suggests the aboriginal groups were traveling along the ridge lines to access high elevation meadows, huckleberry fields and big game. Other plants that may have been consumed include Oregon grape, trailing blackberry, and strawberry.

The Scar Mountain trail is a major east-west travel route along the major ridge that divides the North and Middle Santiam drainages. The Scar Mountain trail connects with the Buck Mountain, Coffin Mountain, and Bachelor Mountain trail systems located north and east. The Scar Mountain trail also intersects with the Volcano trail, a route which leads from the Little Meadows area to the North Santiam River. Many archaeological sites are located along these routes, indicating early use of the trail system to access key resources. These routes later became incorporated into the Forest Service trail system.

Socio-Economic/Recreation: Surrounded by forests, it was timber that drew the first white settlers to the North Santiam Canyon in the early 1800's. While timber has been the backbone of the region's economy, it has been a fickle one. As early as 1893, the community had to adjust to mill closures, then boom periods of little or no unemployment.

Historically, the Blowout Drainage was not considered a recreational resource for various reasons. Access was extremely limiting up until recent decades, and the drainage did not provide opportunities that were unique compared to other parts of the District that were already developed eg. Breitenbush Hot Springs, Mt. Jefferson Primitive Area.

During the 1890's, railroad tracks were laid along the North Santiam River to historic Detroit. The railroad provided a link between the communities when roads were impassable, making it possible to take logs and lumber down to the Willamette Valley, and bring goods and passengers back up the canyon. The earliest timber harvest occurred in this watershed during the first decade of the 1900's (see figure below). Watershed occupants relied on timber harvesting for their livelihoods and the forests - wood, fish and game - for their sustenance. In 1926, a road was constructed between Niagra and Detroit. Access to the watershed was primitive and in places, very difficult to negotiate. Scenic quality was heavily altered early due to timber harvesting and history of large wildfires which is still evident today.

From the early 1910's through the late 1950's, the Blowout drainage was covered by an extensive trail network connecting trail shelters, guard stations and fire lookout stations. The primary use for the trail network and structures were for fire detection and control purposes. Trails were used by trail maintenance and fire lookout personnel. Some of these trails are part of the recreational trail network that hikers enjoy today.

Historic use and management of the Blowout drainage appears in the form of land claims and early Forest Service administrative and communications networks including lookout stations, trail shelters, and guard stations. These networks were maintained by Forest Service personnel primarily through an extensive trail network (often adapting to pre-existing trails) connecting trail shelters and lookouts. The primary use of the stations was for forest fire control. The trails are recognized from numerous historical maps of the district (1913, 1920, 1931, 1937, 1948, 1950, and

1951). The trails were often confined to ridges and ridge slopes. A few of the more important administrative trails bear mentioning:

The Scar Mountain trail first appears on the 1931 Santiam National Forest Map. The trail had an associated telephone line that connected Scar Mountain Lookout with the Hula Shelter. The trail also connected the Volcano trail with the Coffin Mountain trail. The 1947 trail log notes thirteen springs and 10 meadows along the route.

The Coffin Mountain trail served as a main arterial for access to and from the Coffin Mountain lookout. The lookout and trail first appear on an historical map from 1913 depicting the Santiam National Forest lands; the two continue to appear on maps of the Santiam National Forest (1920, 1931), Willamette National Forest (1937, 1950), and the Detroit Ranger District (1948). According to these maps, the Hula Shelter, Coffin Mountain Lookout and Fish Lake Ranger Station were all connected by this trail, which also supported a telephone line for communication. The trail log from 1936 charts the course of the trail from the North Santiam near the location of Idanha to the Scar Mountain Trail.

The Volcano Trail is an arterial trail that served as an integral part of the Forest Service communication and administrative network. It connected the basin of the North Santiam River with the Box Canyon Shelter, the Volcano/Kinney Creek Shelter, and the Slate Rock Lookout on the divide between the North and Middle Santiam Rivers.

The General Land Office Survey of 1893 recognized the present Blowout Creek as Volcano Creek which was fed by Volcano Lake located in Section 26. The 1913 Santiam National Forest displays the creek as Blowout.

Most of the watershed was timbered from Box Canyon sub-basin on the west to Hawkins sub-basin to the east, and south to Lost sub-basin. This area was considered "primitive" by those who lived and worked in the area. Recreational activity frequency occurring within the drainage was very occasional.

During the late 1930's, some timber harvest activity occurred on private land in the north portion of the watershed. The Beard Saddle Road, and a segment of which is now identified as Blowout Road, provided the only access to the watershed at this time. In the 1940's, Divide Creek Road was constructed in conjunction with timber harvest activities. Some big game hunting by people from the local communities occurred on these roaded portions of the drainage during this time.

From the 1940's, the timber industry expanded, bringing more work and more residents to the canyon community. The local economy within the canyon has gone through boom and bust cycles since the 1940's and is very closely tied to a timber economy. Dependence on timber fueled, if not caused the boom and bust cycles of the economy, and consequently the local economy has been sensitive to changes in forest policy.

Decade Harvest in the Blowout since 1900	
Years	Acres Harvested
1900-1909	669
1910-1919	12
1920-1929	4
1930-1939	125
1940-1949	768
1950-1959	1153
1960-1969	3051
1970-1979	4366
1980-1989	2442
1990-1994	782
Total	13,372 acres

Prior to completion of the Dam, the Army Corps of Engineers built two suspension bridges over Box Canyon and Blowout Creeks in order to tie the existing Volcano trail together since a portion would have been inundated with water when the reservoir was full.

It wasn't until after completion of the new North Santiam Highway during 1948 and construction of Detroit and Big Cliff Dams in 1953, that created a significant change in recreation use in this watershed. In the first decade of the reservoir's existence, fishing from boats was the primary activity that occurred on the lake. In the late 1950's, the Forest Service began responding to the recreation need along the reservoir by developing Hoover and Southshore Campgrounds, and making Stahlman summer home tracts available to lease by the public. These facilities are located on Blowout Road just outside of the watershed. During the 1960's, visitors, typically family groups from the Santiam Canyon and mid-Willamette Valley, began to come to the lake for camping, water skiing and swimming activities. Recreation use of the lake has steadily increased over the decades and changed with new equipment technology, and facilities upgraded to accommodate use

In the 1950's, road construction and timber harvest activities started to take place in the southern portion of the District. From the early 1960's throughout the 1970's, many of the other sub-basins opened up through road construction and timber administration followed by fire management. This enhanced and created an abundance of forage which facilitated the growth in deer and elk populations. Subsequently, it increased the big game hunting activity within the drainage. Other

dispersed recreational activities, camping, huckleberry picking near Scar Mountain, driving for pleasure, sightseeing, and fishing became more common in the 1970's. Dispersed recreation use of the Blowout has increased ever since.

Beginning in the 1960's, increasing conflicts arose as land policy changed. In the 1980's the combination of high-tech mills requiring fewer workers, and a decrease in the timber harvest caused by environmental concerns over spotted owl habitat, significantly cut employment opportunities in the timber industry. The region was left with few employers that offered wages which could support families and unemployment began to rise. Communities began to realize the recreational potential of the area and have relied increasingly on tourism for their economic diversity and sustainability.

c. Comparison of current and reference condition: *What are the causes of change between historical and current human uses.*

Socio-Economic: The percentage of high-wage forest product industry jobs has decreased over time.

Local communities are starting to diversify their economies more than they have in the past. Many new businesses are associated with tourism but additional diversification is being investigated and recruitment of new commercial businesses and industry is being sought.

Timber from public lands is being offered in much smaller quantities than in the past.

Special forest products offered from this watershed are on the increase and will likely continue to increase in the near future.

Recreation use of the watershed has increased significantly, especially with the construction of the reservoir. The tourism economy associated with recreation has increased and is likely to continue to increase over time.

Recreation: Dispersed recreation areas and scenic quality have been affected by other resource management activities and natural events.

Recreation Use Patterns: Essentially we use the same corridors today that native Americans used for thousands of years, although we have changed their character greatly. People have always been drawn to areas along water, meadows, unique topographical features and vista points, whether for recreation, sustenance or cultural values. Future use patterns will likely follow the same corridors as long as access is provided and management direction allows use to continue.

Facility Construction: Prior to the 1950's, Blowout watershed was considered remote to a majority of the population, including Mill City. The transportation network to the watershed was primitive and slow. The construction and improvements of the highway and other roads in combination with economical transportation (modern automobiles), made access much easier and has resulted in more people recreating on National Forest lands than in historical times. In addition, construction of Detroit Dam created a highly demanded water-based recreational resource that did not previously exist.

Promotion of Recreation Opportunities/Increasing Use: In the 1920's-1950's, early national and regional efforts promoted National Forests for people to come and enjoy. Intensive use was not an issue as it is today. Conditions affecting leisure time and its use have changed quickly during the last 40 years. People began to have more leisure time, and better mobility through improved access and economical transportation. Considered Willamette Valley's "back yard," the watershed is receiving increase use. Local communities, with the decline of the timber industry, are trying to build strong, diversified rural economies by promoting tourism and recreational opportunities in the area. Areas in the watershed have reached or nearing capacity levels. The information highway is paving the way for promoting recreation opportunities on the Internet. Promoting and encouraging use can have adverse affects on the resources or create social issues within the watershed.

Changing Demographics and Recreational Demand: Changing demographics reflects on changing and increasing recreational use and demands. In 1910, the U.S. operated on a rural economy that had 90 percent of its population living in rural areas. The population had not achieved the mobility or the freedom from sustenance requirements that would give the time and means for recreation. After World War II, society became more affluent, urban growth started to boom, transportation systems improved and industrialization has been replaced by the information society, resulting in more leisure time. Rapid population growth has had the most dynamic influence on recreational use.

Many societal changes have occurred in the last few decades. Our society is becoming increasingly older, better educated and ethnically diverse. Americans are becoming increasingly concerned with environmental quality, quality of life, and the responsiveness of government to meet public needs. There is heightened concern with fitness and health. Americans are more urban and mobile, many wanting higher levels of services, developments, and conveniences. Changing lifestyles include smaller families, two-income family households, single-parent households, and non-family households. With new legislation and accessibility developments, people with disabilities are more "mobile" and able to visit the National Forest.

New Technology and Recreational Demand: Prior to World War II, recreation uses were traditional, eg. hunting and gathering, fishing and camping. Post World War II was marked by major changes in American recreational habits. The interest in

various types of recreation has varied as the population's way of living has varied. Accelerating technological advances, including the development of equipment, transportation, and sports, necessitated more space, and the need to set aside specialized areas for activities such as jet skis and water sports, cross-country skiing, snowmobiling, paragliding and hang-gliding, trail/mountain bikes, off-road vehicles, hi-tech backpacking/mountain climbing, whitewater boating, RV camping, and stream and lake fishing. This meant a need to develop more facilities for recreational groups enjoying the forest. Although difficult to predict, new uses will emerge in the future, but historical uses will continue. People have strong ties to traditional, long-standing activities and places they enjoy.

Funding Levels: Funding levels are decreasing and demand for recreation opportunities are increasing. In order to fulfill this demand, federal agencies are looking at new ways to provide recreational opportunities such as user fees and "privatization" of operation of facilities.

Management Activities: The Blowout Analysis area has been intensively managed for timber since the 1930's. Road construction opened up many sub-basins for access by humans and recreation opportunities began to emerge as a result (See discussion of past and existing conditions). Prior to development of road access within the Blowout watershed, the condition of the scenic resource was a natural appearing landscape shaped by a long history of natural processes. Significant alterations to the landscape by harvest patch and lineal road cuts changed the natural appearance and the scenic quality of the area.

Some management activities such as wildlife habitat and riparian zone management generally have no adverse effect on recreation settings. In fact, these activities can provide long term beneficial effects to the recreation resource such as improved fishing, and wildlife viewing opportunities. Other activities such as timber harvest, road construction or fire management may have differing effects on recreational settings depending on the visitor. It may not be desirable setting for someone seeking a Semi-primitive experience, however, for a big game hunter it would be a very desirable setting. With intensive management over the years, recreation settings have shifted towards the Roaded settings. A balance of recreational settings should be maintained to meet the expectations and demands of the public.

Natural processes and occurrences: Natural occurrences, fire, wind, floods, land flows, insects and disease, and old growth affect recreation opportunities in different ways: 1) They create various plant and wildlife habitats which provide opportunities for nature study, and plant and wildlife viewing. 2) These processes have significant interpretive potential that would allow visitors to experience and gain an understanding of the important natural aspects of the forest. 3) Natural processes can detract from a desired experience that a setting previously provided or may completely eliminate an opportunity. 4) Some of the processes can threaten visitor safety, especially in dispersed settings. 5) Scenic qualities may be enhanced or diminished. Natural events are often compounded by previous management activities

that frequently leave large scale impacts which may result in a less visually appealing landscape.

Fire: Fire patterns take on different shapes from a patchy mosaic to vast areas of burned over areas. The resulting habitat from a fire can enhance varying wildlife species. Fire can be a beneficial affect by re-establishing or perpetuating plant and animal diversity which would enhance wild flower, plant and wildlife viewing opportunities. Habitats created by fire that enhance big game populations and usage may provide a desirable opportunity for hunting.

With past and present fire suppression efforts there is an increased probability of high intensity fires. Such an occurrence could burn significant acreage within a recreational setting. Large tracts of burned land may diminish the scenic quality of the experience in any setting. Semi-primitive settings are affected to the greatest extent by landscape altering activities. If a fire burned an area classified and managed as Semi-primitive, it may no longer achieve the visitor's desired experience for that setting for a period of time. Especially if there was significant suppression activities such as snag falling, and dozer and standard hand fireline development. However, mitigation and rehabilitation measures can speed up the recovery to attain the desirable setting.

Not all fires of today are wildfires. Unnecessary human ignited fires may be caused during their recreational experience as a result of leaving campfires unattended. Public education and fire prevention programs will always be a continuing need.

Fire has also been used as a tool by humans. Native Americans ignited fires to perpetuate huckleberry fields near Scar Mountain. Over time and with fire suppression efforts, many of these sites have been slowly reforesting and berry production has been declining with tree encroachment and increasing crown cover.

Insects and Disease: Insects and disease can cause tree and stand mortality which creates a hazardous situation to recreation users on trails and at campsites. On the other hand, snags create habitat for various species which provides opportunities for wildlife viewing. Vast areas of unhealthy forests will diminish the visual quality and recreational experience desired by visitors.

Flood: Since a significant portion of dispersed recreation occurs along streams and lakes, floods may have an impact on recreational opportunities. Flood events have varying impacts on fish habitats and populations depending on the existing condition of the stream. Streams in Blowout which have been affected by the removal of streamside vegetation and large woody material from past management activities have a greater chance for impact to fish habitat and fish, if they can't find refuge, during a flood. With a flood event the implications involve the removal and redistribution of spawning gravels and food sources; increased quantities of sediment due to erosion; destruction of eggs; potential barriers from large jams can block passage, and increased stream temperatures from the additional removal of streamside

vegetation. In the long run, desirable fish habitats may be created with the placement of large debris. Over time fishing opportunities and experiences may be enhanced due to an abundance of fish that the habitat can support.

Dispersed campsites and user trails are often located next to streams. Heavy use within riparian areas may contribute to the instability of a stream, especially during a heavy rain or flood event. De-vegetation and soil compaction resulting from dispersed sites and user trails may lead to surface erosion of stream banks and releasing sediment into streams. If flood line reaches over stream bank, it may affect existing recreational dispersed sites by clearing out vegetation or depositing material.

Landflows: Land flows create elevated areas with localized wet depressions that provide varied habitat for plant and animal species. This may provide opportunities for wildlife and plant viewing. Massive land flow features within Blowout such as Blowout and Coopers Cliffs, can provide an interesting interpretive opportunity. Land flows have created several slumps on Blowout Road, a main arterial, which has made passage difficult with a standard pickup truck and impossible for automobiles and RV's.

IV. SOCIAL DOMAIN

C. Facilities

1. Characterization

The major facilities in the Blowout watershed include: a transportation system (roads, bridges, drainage structures, trails, etc.), a fire lookout, signs and gates.

The *transportation system* in the Blowout watershed provides access to approximately 34,000 acres of forest lands. The Forest Service maintains 185 miles of forest roads accessing public and private land in this area. Included in these are 17 miles of major forest arterials, 39 miles of forest collector roads and 129 miles of local timber access roads. Road densities average 3.58 miles per square mile over the study area.

Most of the roads in the Blowout were originally constructed to provide access for timber harvest. These roads were maintained by a fee collected from timber purchasers for every thousand board feet of logs they hauled down the roads. Once the roads were constructed, they provided access for other uses such as recreation, fire suppression, administrative use, etc.

Road 10, Blowout Road, is the major travel route used for all activities within the watershed. It accesses several developed campgrounds, permittee sites, private land holdings, and provides access to numerous dispersed recreation sites within and outside the watershed.

Road 11, Straight Creek Road, ties to the recently reconstructed Quartzville Road. This route provides a paved road between Sweet Home and Detroit Ranger Districts and opens up access to the historic Quartzville mining area. Three miles of the road pass through the Blowout analysis area.

The remaining system of collector and local roads provides access to federal, and private land for public use and resource management and protection.

With the recent Flood of 1996, several roads have been closed due to hazardous conditions and concern for public safety. The road closures have been an issue with the public who still want to drive those roads. Often signs, closure barriers and gates are ignored and vandalized. Public safety is a Forest Service priority, however, administration of road closures has been difficult and costly.

Trails: The watershed contains two maintained trail systems, Coffin Mountain and Coffin Lookout Trails.

Coffin Mountain Lookout is currently the only regularly staffed lookout on the Ranger District. It is staffed during fire season as a fixed point fire detection site.

Signs/gates: There are many regulatory, warning and informational signs located throughout the watershed. In addition, gates and barricades control access to selected portions of the transportation system. Frequently, vandalism of gates on closed roads may be found throughout the watershed, allowing access to areas that require resource protection. Administration of road closures have been difficult and costly. Many signs and closure devices are destroyed or removed.

2. *What values are associated with facilities?*

Commercial, administrative, private and public access to National Forest lands is valued for the opportunities it provides for recreation, commercial, and administrative operations, etc.

3. *What are the highest priority issues or resource concerns associated with facilities?*

- a. One of the basic issues regarding facilities focuses around the question of what kind of transportation network is necessary and desired in the watershed and what resource tradeoffs are we willing to make to have that transportation network?

The following discussion addresses some of the elements of this issue:

Access and Travel Management: Transportation system management is a balancing act that requires consideration of resource protection needs while also providing for a variety of recreational experiences and management opportunities. Road Management Objectives need to determine purpose and use of each road, regulate traffic use during wet weather to prevent damage to riparian resources, and establish maintenance levels that reflect our ability to schedule and perform maintenance activities. Below are listed and described the broad range of users who desire access to the Blowout analysis area. This list is not meant to be all inclusive, but only broad descriptive categories.

Recreation: Recreationists desired access to a broad range of recreational opportunities in a variety of settings. The absence or presence of roads is one of the most critical aspects of a setting that affects people's recreation experience. For visitors seeking a roaded natural experience, it is important to maintain these settings. Conditions of roads plays a factor in whether or not a visitor has a satisfactory experience. Visitors driving for pleasure in a standard automobile or RV desire a well maintained route while four wheel drive units and off road vehicles (ORV's) prefer a more rugged experience. Safety of roads is a concern within the roaded recreation settings. For visitors who would like a more Semi-

primitive experience, roads are a major detractor. Driving for pleasure is a popular activity within Blowout. Key access routes are desired by these users to continue this opportunity, and allow visitors to access recreation destinations within the Roaded settings.

Fire: There is a desire to address motor patrol needs for fire detection and allow for reasonable response time for initial attack of forest fires.

Commercial Operations and Permittees: Managers desire access to provide opportunities for timber harvest activities, Special Forest Products, mineral uses and personal use permits.

Ownership: Landowners desire to maintain access to private land and negotiate cooperative agreements to help meet the needs and management objectives of all parties.

Administrative: Managers desire access to provide access to meet resource management needs and management allocation requirements.

Road densities. Road densities are high in this watershed at 3.58 miles of road per square mile of land. The density of roads is an issue because it can affect the following:

Water routing efficiency: Roads can disrupt the natural hydrologic flow paths, including diversion of stream flow and interception of surface and subsurface flow.

Economics: The capacity of the Forest Service to maintain roads has declined greatly as funds for maintenance and timber purchaser conducted maintenance have been drastically reduced. Road closures and decommissioning could decrease future maintenance costs and reduce potential for storm damage, but will cause conflicts with other access needs. Deteriorating roads can also affect public safety.

Habitat Effectiveness Index for Big Game: Much of the watershed lies within High-Elk Emphasis areas and winter range. Road densities are substantially above recommended levels in all areas of the Blowout, adversely affecting the Habitat Effectiveness Index Models.

Sediment Production: Roads modify natural hill slope drainage networks and can accelerate erosion processes. Road related landsliding, surface erosion and stream channel diversions can deliver large quantities of sediments to streams, both chronically and catastrophically during large storm events. For major components that contribute to the discussion of sediment production from road systems are listed below:

Slope Stability: Slope stability addresses the geomorphology of a specific road location and its suitability to road construction. Most of the roads in this watershed have been constructed on stable benches and flats and do not have a significant effect of stream sedimentation. There are localized road locations in unsuited land types that pose high hydrologic risks.

Road Surfacing: Unsurfaced roads, especially those open to use during wet weather, result in sedimentation from surface erosion and the failure of designed drainage configurations. Roads with adequate surfacing protect drainage design and armor against surface erosion.

Road Structure and Stability: Problems with road structure stability exist primarily in sites where roads have been constructed through areas of unstable and unsuited land types. Standard design dimensions are not adequate and result in failures of cut and fill slopes. Permanent solution to these failures can be expensive and lack of funding results in quick inadequate fixes that produce chronic sediment production and ongoing maintenance requirements.

Drainage Structure Condition: Corrugated metal pipe has been the preferred design component for drainage on the majority of the roads constructed in the analysis area. Only in the most recent years have alternative drainage structures been used that reduce maintenance needs. Many of these metal pipes installed over the past 40 years are nearing or exceeding their design life. Failures are occurring.

Economics: In the past road construction and reconstruction were funded primarily from timber harvest activities. Annual funding for existing road maintenance was at a level that enabled the Forest Service to keep the entire road system open for safe public use and in good working condition. In recent years the capacity to maintain roads has declined dramatically. This is resulting in progressive degradation of road drainage and causing erosion rates and potentials to increase.

As timber harvest activities have decreased so have the traffic generated funds for maintenance and timber purchaser conducted maintenance.

In conjunction with timber revenues decreases, appropriated dollars from Congress are also decreasing.

Cooperative agreements with private land owners in the area have lapsed or ownership changes have voided previous agreements. New negotiations need to be made to meet the needs of all parties.

Road closure and decommissioning is an avenue that can help decrease the load on limited maintenance dollars through reducing miles of road requiring annual maintenance. Additional funding is needed to perform this work.

4. *What are the management direction/activities, human uses or natural processes that affect facilities?*

- a) **Current condition:** *What is the existing condition and trends of the facilities within the watershed? (Transportation facilities, road management, signs/gates, trails, etc.)*

Transportation Facilities: The existing condition of the 185 mile road system in Blowout covers a wide range of variables. A high percentage of the roads are built on stable benches and flats, and many of the roads that were built on full bench ground were not severely sidecast. There are also several cases of roads constructed through actively moving slide areas. Road 10 at M.P. 8.8 is the most obvious example of this. This road segment failed during the 1996 flood, thus closing the major access road into this drainage.

Many small local roads, built for timber harvest were designed for dry weather use and have little or no rock on them. Use of these roads in wet weather can cause serious impact to the drainage system and the road structure. Many of these roads in the Blowout have been closed by gates or barricades, not only to protect the road resource, but also to protect other resource values. Vandalism of the closure devices is high and enforcement of closures, due to the condition of closure devices, lack of adequate signing and the tendency for closures to be left open for long periods of time, is difficult. In addition, roads behind closures have not been put in a storage condition to reduce maintenance needs.

Recent social and economic trends have also impacted the transportation system in the Blowout. Deterioration has resulted due to the reduced levels of timber harvest revenue and other funding that financed annual maintenance activities. Reductions have resulted in the inability to maintain all roads at a level that provides adequate resource protection. Roads are becoming impassable due to lack of maintenance. If funding continues to be inadequate, more and more roads will be closing themselves through road prism and drainage failures.

Recreation: Dispersed recreational opportunities have been reduced in areas behind roads closed by flood damage, as well as, gates that exclude motorized travel due to wildlife or various other resource concerns.

Flood-related road closures have created friction between the Forest Service and some of the public. There has been a high vandalism rate to the closure devices and signs. Maintenance and repairs to these closures have been difficult to keep up with. Public safety is a major concern due to the difficulty of keeping the public out of unsafe situations.

Fire: Access for motor patrol needs for fire detection have been hampered in this watershed area. Road failures during the 1996 flood have made some areas impassable to vehicular traffic. Response time for initial attack for fires will likely be longer in some areas.

Commercial Operations and Permittees: The 1996 flood also reduced access opportunities to commercial operations; timber harvest activities, Special Forest Product harvest, mineral uses and personal use permits.

Ownership: Access to private land has been impacted by flood related road failures. With the decreased ability to maintain roads there is a need to renegotiate cooperative agreements to help meet the needs and management objectives of all parties.

Administrative: Access opportunities to meet resource management needs and management allocation requirements were reduced by the 96 flood. Preparation for commodities harvest; silvicultural and fuels treatments of managed stands; wildlife species and stream condition surveys; habitat enhancement, mitigation and restoration projects are just examples of management activities that are impacted. There will be an increase in cost in performing almost all aspects of resource management activities. This was a trend already being felt. The flood has accelerated the impacts.

Road Maintenance Funding: As stated above, declining road maintenance dollars are resulting in reduced access for all users in many areas of the watershed. Few of the local system roads receive annual maintenance. Overall, less surface, drainage and roadside maintenance is being done. At present roads are closing themselves through cut or fill slope failures, stream crossing failure and brush encroachment.

These "closures through neglect" do not provide protection against resource damage or protection of the large capital investment made when these roads were constructed.

Increasingly roads will be closed for a variety of reasons or will naturally close themselves due to the absence of maintenance. With declining road maintenance budgets, and concerns related to watershed quality and wildlife habitat effectiveness, road decommissioning and obliteration will be common in the future. As roads are closed, more pressure may be placed on roaded areas outside of closure, and former roaded dispersed areas will probably not receive the use that previously existed. "Established" users of an area may be displaced to other areas that remain accessible. Roads with the highest use will result with the most significant impact on users. The public perception of access is that they have grown accustomed to the current access and expect the same level of service.

In contrast these closed roads have increased opportunities to bike and hike free from interference with motorized vehicles.

Bridges: There are several bridges in the watershed. These bridges are in currently in good shaped with the exception of a log stringer bridge over Cliff Creek that was damaged during the 1996 flood. This bridge can no longer support heavy loads and is in need of replacement.

Culverts: A critical issue in looking at the condition of the roads in this watershed is the deterioration of the drainage system. Common design practices in the past did not call for consideration of the 100-year storm event as is called for in the current ROD. In order to meet the requirements of the ROD, numerous culvert replacements will be necessary.

b. Reference condition: *What were the major historical facilities in the watershed?*

Development of access in the Blowout watershed: Prior to the mid- 1940's this area was accessible only through a large trail system developed from Native American travelways and expanded on to meet the administrative needs of early forest managers. By the mid-1960's routes had been built into the major drainages. From the mid-1960's and through the 1970's the majority of the roads were built. Accessing tracts of timber for harvest was the primary driver for location of road systems. Long term transportation planning and integrated resource analysis were not normally used during this period of time. The result was a piecemeal system built for a single use without thought of long-term consequences.

Construction methods up until the mid seventies generally consisted of the side casting of fill material with no compaction requirements. Drainage structures were built to meet the minimum drainage requirements. Roads were often built landing to landing with little thought to long term needs. In 1973 new standards were implemented to improve the quality of Forest Service road construction to provide for a higher level of resource protection. By this time however, most of the major transportation routes had been constructed using the construction practices of the day.

Road Maintenance: Past emphasis on timber management has resulted in a large road system to gain access to timber and other Forest commodities. Timber sale revenue paid for the majority of road construction, reconstruction and maintenance.

Coffin Mountain Lookout: See the description of historic human uses for Coffin Mountain lookout and other facilities in the Human Uses Chapter (Chapter IV-B).

c) *Comparison of current and reference condition*

Road Management: Management of the road system is changing due to current and projected federal road maintenance budget declines and to the multiple resource objective needs described in the amended Forest Plan.

Economics: Decreases in annual maintenance budgets are down 70% from the late 1980's. Few of the remaining local roads receive annual maintenance. As a result, roads are closing themselves through cut or fill slope failures, stream crossing failures and brush encroachment.

Some of the damage that occurred in the 1996 storm event can be linked to the lack adequate maintenance.

Forest Plan as amended by the ROD: The Willamette National Forest Land Resource Management Plan established a goal for "the transportation system to provide visually pleasing and efficient access for the movement of people and material involved in the use, protection and management of forest lands". Two ROD designations introduce Standards and Guidelines substantially different from the earlier Forest Plan. These are Late-Successional Reserves and Riparian Reserves.

Late-Successional Reserves: 15,719 acres, 23% of this watershed lie in this designation. Road construction in Late-Successional Reserves is not recommended unless potential benefits exceed the cost to habitat impairment. Roads will be kept to a minimum and be routed through non-late-successional habitat where possible. Alternative access methods should be considered to provide access for activities in reserves.

Road maintenance may include felling hazard trees along rights-of-way. Leaving material on site should be considered if available coarse woody debris is inadequate. Topping trees should be considered as an alternative to felling.

With the exclusion of most timber harvest activities within this allocation, it may be hard to rationalize maintaining a large road system that was built to access land for timber harvest.

Limiting access will make enhancement and restoration projects more difficult and expensive to implement.

Risk to Late-Succession old growth habitat from catastrophic fire events will increase as access to large blocks of land is decreased.

Riparian Reserves: Standards and guidelines prohibit programmed timber harvests, and management of roads, grazing, mining and recreation to achieve objectives of Aquatic Conservation Strategy. See revised Forest Plan standards and guidelines for specific road management information.

Current standards in road design and construction practices and existing Road Management systems and programs go a long way in meeting the Aquatic Conservation Strategy objectives. Decreases in work force make it difficult to maintain existing systems and programs.

There is as estimated 58 miles of road located in riparian reserves. In addition, roads cross Class 1,2 and 3 streams approximately 182 times in this watershed.

Inventory and risk analysis to riparian conditions in a 100 year storm event have not been done. Analysis processes have been established but shortages of personnel available to do the work has delayed its completion. Probabilities that upgrading of stream crossings to accommodate the 100 year flood would occur are slim due to limited dollars and the high cost of such construction. Available restoration dollars should be spent on higher return projects such as stream restoration and road decommissioning and storage.

Roads will be storm proofed, decommissioned or obliterated as the localized sites are identified and analyzed.

Other Facilities:

Facility condition is affected by age, natural elements, and human use; including "wear and tear" and vandalism.

Declining maintenance funding for publicly owned facilities are resulting in the degradation of facilities.

Flood events and erosional processes have a severe impacts on facilities such as campgrounds, water systems, structures including summer homes and footbridges, and trails.

Demand for accessibility, regulations, resource protection, and change in user needs creates a need for upgrading and improvement of facilities

Blowdown and snow damages or destroys facilities.