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## INTRODUCTION

*Watershed analysis is a procedure used to characterize the human, aquatic, riparian, and terrestrial features, conditions, processes, and interactions . . . within the watershed. It provides a systematic way to understand and organize ecosystem information. In so doing, watershed analysis enhances our ability to estimate direct, indirect and cumulative effects of our management activities and guide the general type, location, and sequence of appropriate management activities within a watershed . . . Watershed analysis is not a decision making process. Rather it is a stage-setting process. The results of watershed analyses establish the context for subsequent decision making processes, including planning, project development and regulatory compliance.* From the introduction to Ecosystem Analysis at the Watershed Scale, Federal Guide for Watershed Analysis Aug. 1995, Ver. 2.2. (REO 1995).

### **Relation of this Document to Previous Work**

The 1.2 version of the South Fork Coos Watershed Analysis replaces all earlier versions of the document and also replaces the Tioga Watershed Analysis, which was originally prepared in 1996 and revised in 1999. This Watershed overlaps a large portion of LSR 261 and small corner of LSR 263. The South Coast-Northern Klamath Late-Successional Reserve Assessment (USDI; USDA 1998), hereafter referred to as the LSR Assessment, characterizes and gives criteria for developing appropriate treatments for those Late-Successional Reserves.

Older characterizations covering this Watershed include the Coos River Unit Resource Analysis (USDI 1978) and the Fish and Wildlife Services's 5 volume Ecological Characterization of the Pacific Northwest Coastal Region (Proctor, *et al.* 1980). These documents are dated. However, they provide the perspective of resource specialists from 20 years ago, which is useful for understanding how past perceptions and management decisions shaped the landscape.

In addition to the core topics, we included an Aquatic Conservation Strategy (ACS) section to examine how we may attain ACS objectives at the watershed scale. We also included a Density Management and Stand Conversion, and Attaining Riparian Reserves Functions section to examine tactical issues concerning attainment of various Riparian Reserve functions, necessary to meet ACS objectives, through a mix of active management and passive restoration at the stand level.

### **The Analysis Area**

The upper end of the South Fork Coos 5<sup>th</sup> Field Watershed (USGS Hydrological Unit code #1710030401) is on the crest of the Coast Range about 20 miles west of Roseburg. The lower end of the analysis area is at the confluence of the South Fork Coos River and the Millicoma River. The confluence is a little more than 5 river miles up stream from the Coos Bay estuary. The Watershed includes 4 subwatersheds: Panther Creek, Cedar Creek, Tioga Creek and South Coos. Tioga Creek is a Tier 1 Watershed. See Map Intro-1: Watershed Hierarchy, Map Intro-2: Subwatersheds in the South Fork Coos Watershed, Map Intro-3: Drainages in the South Fork Coos Watershed, and Table Intro-1: Acres by Subwatershed and Drainage. The Major landholders in the Watershed are Weyerhaeuser, Bureau of Land Management, Menasha, and Lone Rock Timber.

Table Intro-1: Acres by Subwatershed and Drainage

		BLM Acres	Private Acres	Total Acres	percent BLM
<b>Acres by drainage in the Panther Ck. Subwatershed</b>	Bear Gulch	391	1,981	2,371	16.5%
	Little Cow Creek	154	2,317	2,472	6.2%
	Lost1 Creek	0	4,689	4,689	0.0%
	Panther Creek	743	4,376	5,120	14.5%
	Williams River	0	7,482	7,482	0.0%
	Wilson Creek	477	4,861	5,338	8.9%
<b>Total for Panther Ck. Subwatershed</b>		<b>1,765</b>	<b>25,706</b>	<b>27,471</b>	<b>6.4%</b>
<b>Acres by drainage in the Cedar Ck. Subwatershed</b>	Arrow Creek	862	5,711	6,573	13.1%
	Goose Gulch	867	1,985	2,851	30.4%
	Middle Williams River	171	9,046	9,217	1.9%
	Lower Cedar Creek	88	4,261	4,349	2.0%
	Upper Cedar Creek	1,450	10,332	11,782	12.3%
<b>Total for Cedar Ck. Subwatershed</b>		<b>3,437</b>	<b>31,335</b>	<b>34,773</b>	<b>9.9%</b>
<b>Acres by drainage in the Tioga Ck. Subwatershed</b>	Burnt Creek	2,376	543	2,919	81.4%
	Lower Tioga Creek	5,170	3,797	8,967	57.7%
	Middle Tioga Creek	3,554	3,527	7,081	50.2%
	Upper Tioga Creek	4,687	1,001	5,688	82.4%
<b>Total for Tioga Ck. Subwatershed</b>		<b>15,787</b>	<b>8,867</b>	<b>24,654</b>	<b>64.0%</b>
<b>Acres by drainage in the South Coos Subwatershed</b>	Daniels Creek	3,757	6,270	10,028	37.5%
	Dellwood	0	12,098	12,098	0.0%
	Coos Mouth	283	3,181	3,464	8.2%
	South Fork Coos River	1,459	8,543	10,002	14.6%
	Cox Creek	1,493	276	1,769	84.4%
	Coal Creek	1,654	988	2,642	62.6%
	Fall Creek	0	12,942	12,942	0.0%
	Mink Creek	1,473	1,542	3,015	48.9%
	Bottom Creek	457	10,984	11,441	4.0%
	Lower Williams River	1,170	4,915	6,085	19.2%
<b>Total for South Coos Subwatershed</b>		<b>11,746</b>	<b>61,741</b>	<b>73,487</b>	<b>16.0%</b>
<b>Total for the South Fork Coos Field Watershed</b>		<b>32,736</b>	<b>127,649</b>	<b>160,385</b>	<b>20.4%</b>

Table Intro-2: BLM Land Use Allocations as of 1995, but Before Riparian Reserve Acres Are Subtracted. Land Use Allocations Are Displayed on Map Intro-4

		Conne- ctivity acres	GFMA acres	mapped LSR acres as of 1995	mapped MMR as of 1995	total BLM acres
<b>Acres by drainage in the Panther Ck. Subwatershed</b>	Bear Gulch	0	391	0	0	391
	Little Cow Creek	0	0	0	154	154
	Lost1 Creek	0	0	0	0	
	Panther Creek	486	257	0	0	743
	Williams River	0	0	0	0	
	Wilson Creek	0	49	0	427	477
<b>Total for Panther Ck. Subwatershed</b>		<b>486</b>	<b>697</b>	<b>0</b>	<b>581</b>	<b>1,764</b>
<b>Acres by drainage in the Cedar Ck. Subwatershed</b>	Arrow Creek	0	0	862	0	862
	Goose Gulch	0	867	0	0	867
	Middle Williams River	80	91	0	0	171
	Lower Cedar Creek	88	0	0	0	88
	Upper Cedar Creek	476	979	0	0	1,455
<b>Total for Cedar Ck. Subwatershed</b>		<b>645</b>	<b>1,936</b>	<b>862</b>	<b>0</b>	<b>3,443</b>
<b>Acres by drainage in the Tioga Ck. Subwatershed</b>	Burnt Creek	0	114	2,253	0	2,367
	Lower Tioga Creek	0	0	5,170	0	5,170
	Middle Tioga Creek	0	0	3,554	0	3,554
	Upper Tioga Creek	0	2,948	1,739	0	4,687
<b>Total for Tioga Ck. Subwatershed</b>		<b>0</b>	<b>3,062</b>	<b>12,716</b>	<b>0</b>	<b>15,778</b>
<b>Acres by drainage in the South Coos Subwatershed</b>	Daniels Creek	1,332	2,385	40	0	3,757
	Dellwood	0	0	0	0	
	Coos Mouth	242	40	0	0	282
	South Fk. Coos River	167	358	933	0	1,459
	Cox Creek	0	98	1,395	0	1,493
	Coal Creek	0	0	1,654	0	1,654
	Fall Creek	0	0	0	0	
	Mink Creek	0	0	1,474	0	1,474
	Bottom Creek	57	0	401	0	458
	Lower Williams River	423	0	746	0	1,169
<b>Total for South Coos Subwatershed</b>		<b>2,222</b>	<b>2,880</b>	<b>6,642</b>	<b>0</b>	<b>11,744</b>
<b>Total Ac for the South Fork Coos Watershed</b>		<b>3,352</b>	<b>8,575</b>	<b>20,220</b>	<b>581</b>	<b>32,729</b>
<b>percent BLM land by use allocation (before Riparian Reserve acres are subtracted)</b>		<b>10.2%</b>	<b>26.2%</b>	<b>61.8%</b>	<b>1.8%</b>	<b>100.0%</b>

Table Intro-2 shows the land use allocation acres at the time the District RMP went into effect in 1995 before Riparian Reserves are subtracted. Table ACS-1, later in this document, reflects the Riparian Reserve acres and shows the shift in acres among the land use allocations due to designing the northern spotted owl 100-core areas. Additional land changes from GFMA and Connectivity to reserve status occur when marbled murrelet occupied sites, or Survey and Manage buffers or other reserves designated in the Matrix.

Table Intro-3: BLM Land Status

Status	Acres
CBWR	4,271
O&C	23,582
PD	4,882
total	32,736

Table Intro-4: Acres by BLM Administrative Units

Coos Bay District-BLM	Roseburg District-BLM	Total
31,819	917	32,736

Site Potential Tree: The average site-potential tree height for this Watershed is 220 feet<sup>1</sup>. This was calculated using the heights of dominant Douglas-fir trees recorded in the 5-point inventory plot data, and following the procedures in Instruction Memorandum No. OR-95-75. These data are contained in ACS Appendix-E: Site Potential Tree Height Determination for the South Fork Coos Watershed.

**Data Limits and Cautions**

All acre figures in this document are from GIS data. Minor acre discrepancies in the document, and the differences between GIS and traversed acres are attributable to query sequence, rounding, the method used to resolve artifacts and slivers, and digitizing inconsistencies. We populated many of the tables in this document using GIS acres, which are carried out to 2 decimal places by the GIS program, and had the word processing program round the figures to the nearest whole number. We did this because it allowed for greater consistency and not because the GIS acres are accurate to 2 decimal places. The BLM data base does not cover the entire assessment area. BLM administered land is covered. As a result, we cannot generate many statistics found in previous watershed analyses like total miles of road, miles of road on private, road densities on land other than BLM, total stream miles *etc.* for some drainages.

Notice specific to maps and other data obtained from GIS: No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

**References**

Proctor, C.M., *et al.* 1980. *An Ecological Characterization of the Pacific Northwest Coastal Region*. 5 vol. U.S. Fish and Wildlife Service, Biological Service Program. FWS/OBS-79/11 through 79/15.  
 REO. 1995. *Ecosystem Analysis at the Watershed Scale, Federal Guide for Watershed Analysis Aug. 1995, Ver. 2.2*. Portland, OR. 26 pg.  
 USDI; USDA. 1998 *South Coast - Northern Klamath Late-Successional Reserve Assessment - Final May 1998*. On file Coos Bay Dist.-BLM, North Bend OR.  
 USDI. 1978. *Coos River Area Unit Resource Analysis*. On file Coos Bay Dist.-BLM, North Bend OR.

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<sup>1</sup> The average slope on Coos Bay District is 51%. At that slope, a 220 foot slope distance equals to 196 feet horizontal distance.