
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

This document is a second iteration watershed analysis that replaces the Middle Creek, Fairview and North Coquille watershed analyses, which had been completed in 1995. This document also supersedes those portions of the Middle Main Coquille/ North Fork Mouth/ Catching Creek Watershed Analysis that are specific to the North Fork Mouth Subwatershed (USDI 1997). We brought those parts of the earlier documents forward into this analysis that are still current. The South Coast - North Klamath Late-Successional Reserve Assessment (USDI; USDA 1998), hereafter referred to as the LSR Assessment, addresses issues specific to and has recommendations for managing the Late-Successional Reserve lands inside the North Fork Coquille Watershed.

In addition to the core topics, we included:

- Aquatic Conservation Strategy (ACS) section to examine how we may attain ACS objectives at the watershed scale.
- Density Management and Stand Conversion, and Attaining Riparian Reserves Functions appendix 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.
- Assessment of BLM managed recreation site with respect to attainment of ACS objectives.

Older characterizations covering this Watershed include the Burnt Mountain Unit Resource Analysis (USDI 1978a), Coos River Unit Resource Analysis (USDI 1978b) 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.

Assessments completed at larger scales

Regional Scale Assessment: The FEMAT document (1993) is an ecological, economic and social assessment prepared for a region that encompasses the physiographic provinces within the range of the northern spotted owl. One instruction given to the FEMAT scientists was to develop alternatives for long-term management that the objective of 'maintenance and/or restoration of spawning and rearing habitat on Forest Service, Bureau of Land Management, National Park Service, and other federal lands to support recovery and maintenance of viable populations of anadromous fish species and stocks and other fish species and stocks considered "sensitive" or "at risk" by land management agencies, or listed under the Endangered Species Act . . .' (FEMAT 1993, pg II-5). Chapter V in the FEMAT document is the Aquatic Ecosystem Assessment.

Subbasin Scale Assessments: The Coquille Watershed Action Plan was prepared by the Coquille Watershed Association for the Coquille Subbasin in 1997. That document includes:

- The mission, goals and objectives set by the Coquille Watershed Association
- A description of the setting and conditions at the subbasin scale
- The conditions and trends for the fish species found in the subbasin
- The limiting factors such as water quality, water quantity, physical barriers to habitat access, habitat condition
- A description of historical impacts on habitat components
- A stratification of the subbasin in to zones based on conditions and appropriate types of restoration projects
- Review of pertinent regulations and methods to build landowner support and cooperation
- A prioritization of restoration activities
- And a monitoring plan.

The Coquille Subbasin Working Atlas is a companion document, which is a map-based characterization of the Subbasin, to support ongoing assessment and restoration efforts by Coquille Watershed Association (Interrain Pacific, 1996).

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. For most data sets in GIS, distances and areas are not based on measurements made on the ground, but rather they are values calculated from the digitized line, point and polygon data. 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 for consistency and not because the GIS acres are accurate to 2 decimal places. The BLM GIS data is setup to assist planning for and management of BLM administered lands. Some GIS themes only cover BLM lands. GIS themes that do cover all lands may not reflect conditions on non-BLM lands as completely or with the same level of reliability as those on BLM land. As a result, values reported in this document for private land or all lands in the Watershed (for example total miles of road, miles of road on private, road densities on land other than BLM, total stream miles *etc.*) may be less reliable than those reported for BLM lands alone.

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.

The Analysis Area

The upper end of the North Fork Coquille 5th Field Watershed (USGS Hydrological Unit code #1710030505) shares a common boundary with the South Fork Coos Watershed. That boundary is approximately midway between the coast and the crest of the Coast Range. The lower end of the analysis area is the confluence of the North Fork Coquille River and the main stem of the Coquille River just north of Myrtle Point, Oregon. The Watershed includes 4 subwatersheds: North Coquille Mouth, Middle Creek, Fairview and North Coquille. The Watershed location, and component hydrologic units are shown on three maps. They are Map Intro-1: Watershed Hierarchy, Map Intro-2: Subwatersheds in the North Fork Coquille Watershed, and Map Intro-3: Drainages in the North Fork Coquille Watershed. The areas of each component hydrologic units are displayed on Table Intro-1: Acres by Subwatershed and Drainage. The North Fork Coquille Watershed contains two Tier 1 Watersheds. These are the Upper North Coquille Drainage and the Cherry Creek Drainage.

Table Intro-1: Acres by Subwatershed and Drainage

		BLM Acres	Private Acres	Total Acres	percent BLM
Acres by drainage in the North Coquille Subwatershed	No. Fk. Coquille Cr.	20	2,430	2,450	0.8%
	Upper No. Coquille	4,435	3,950	8,384	52.9%
	Little No. Fk. Coquille	720	1,605	2,325	31.0%
	Whitley Reach	0	6,935	6,935	0.0%
	Moon Cr.	1,270	2,711	3,981	31.9%
Total for North Coquille Subwatershed		6,444	17,631	24,075	26.8%
Acres by drainage in the Fairview Subwatershed	Steinon Cr.	1,398	858	2,256	62.0%
	Woodward Cr.	1,731	2,458	4,189	41.3%
	Fairview Reach	2,504	7,672	10,175	24.6%
	Hudson Cr.	1,099	2,645	3,744	29.3%
	Steele Cr.	1,092	1,546	2,638	41.4%
Total for Fairview Subwatershed		7,823	15,179	23,002	34.0%
Acres by drainage in the Middle Cr. Subwatershed	Alder Cr.	1,861	581	2,442	76.2%
	Upper Middle Cr.	2,333	1,660	3,993	58.4%
	Park Cr.	2,053	654	2,707	75.9%
	Vaughns Cr	1,600	54	1,654	96.7%
	Middle Lost	1,428	2,722	4,150	34.4%
	Cherry Cr.	6,118	2,214	8,332	73.4%
	Lower Middle Cr.	4,001	5,178	9,178	43.6%
Total for Middle Cr. Subwatershed		19,393	13,063	32,456	59.8%
Acres by drainage in the North Coquille Mouth Subwatershed	Echo Valley	1,829	13,620	15,449	11.8%
	Llewellyn Cr.	364	1,332	1,697	21.5%
	Johns Cr.	1,008	780	1,788	56.4%
Total for North Coquille Mouth Subwatershed		3,201	15,732	18,933	16.9%
Total for the North Fork Coquille 5th Field Watershed		36,861	61,606	98,467	37.4%

BLM Land Use Allocations: Map Intro-4, which shows the BLM land use allocations in the Watershed. Table Intro-2 shows the land use allocation acres for BLM lands inside the Watershed by subwatershed. Tables Intro_Apdx 1 through 4, in the Introduction Appendix, show land use allocation acres by drainage. The acres and percentages do not reflect the shift in acres among the land use allocations due to designing the northern spotted owl 100-core areas. Nor does the table reflect changes from GFMA and Connectivity to reserve status that have occurred due to marbled murrelet occupied sites, or Survey and Manage buffers or other reserves designated in the Matrix since 1994. The table also does not display those Matrix lands that are administratively removed from the timber base due to fragile site conditions. The standing timber volume and future growth on those fragile sites are not counted when determining the allowable sale quantity.

Table Intro-2: BLM Land Use Allocations in the North Fork Coquille Watershed

(Acres/ percentages do not reflect marbled murrelet and northern spotted owl core areas on Matrix land managed for LSR objectives)

		Subwatersheds:				Total BLM Acres	percent of BLM land (percent of 36,858 ac)	percent of all land in the Watershed (percent of 98,467 ac)
		North Coquille	Fairview	Middle Creek	North Coquille Mouth			
Land Use Allocation (LUA) acres before Interim Riparian Reserve acres are subtracted	Late-Successional Reserve (LSR)	5,434	101	10,121	0	15,656	42.5%	15.9%
	Research Natural Area (RNA)	0	0	565	0	565	1.5%	0.6%
	Matrix: Connectivity (CON)	0	751	0	96	847	2.3%	0.9%
	Matrix: General Forest Management Area (GFMA)	1,010	6,970	8,706	3,105	19,790	53.7%	20.1%
Total BLM all LUAs		6,443	7,823	19,391	3,200	36,858	100.0%	37.4%
Interim Riparian Reserve acres within other land use allocation blocks								
	Riparian Reserves inside LSR	3,092	37	5,353	0	8,483	23.0%	8.6%
	Riparian Reserves inside RNA	0	0	316	0	316	0.9%	0.3%
	Riparian Reserves inside CON	0	452	0	34	486	1.3%	0.5%
	Riparian Reserves inside GFMA	561	3,336	4,270	1,823	9,991	27.1%	10.1%
Total BLM Riparian Reserve acres		3,654	3,825	9,939	1,857	19,275	52.3%	19.6%
Percent BLM land in Riparian Reserve for each drainage		56.7%	48.9%	51.3%	58.0%			
Land Use Allocation (LUA) acres minus the Interim Riparian Reserve acres								
	LSR outside the Riparian Reserve	2,341	64	4,768	0	7,173	19.5%	7.3%
	RNA outside the Riparian Reserve	0	0	249	0	249	0.7%	0.3%
	CON outside the Riparian Reserve	0	300	0	62	361	1.0%	0.4%
	GFMA outside the Riparian Reserve	448	3,634	4,435	1,281	9,799	26.6%	10.0%
Total BLM land outside the Riparian Reserve		2,790	3,998	9,452	1,343	17,582	47.7%	17.9%

The Cherry Creek Research Natural Area (RNA) is in the Cherry Creek Drainage and was established by a public lands protective order (January 29, 1965, P.L.O. 3530-February 4, 1965, 30 F.R. 1193/1194) signed by Secretary of the Interior Stewart L. Udall¹. “The main purposes of research natural areas are to provide:

- Baseline area against which effects of human activities can be measured;
- Sites for study of natural processes in undisturbed ecosystems; and
- Gene pool preserves for all types of organisms, especially rare and endangered types.”

“The guiding principle for managing Research Natural Areas is to prevent unnatural encroachments, activities that directly or indirectly modify ecological processes on the tracts. Logging and uncontrolled grazing are not allowed nor is public use which threatens significant impairment of scientific or educational values” (Franklin *et al.* 1972).

Roads: Tables Intro-3 and Intro-4 provide information on the miles of road in the watershed by control, landownership, and closure status. Map Intro-6 show the roads by Control, and Map Intro-6 shows the closure status for the roads in the Watershed. The ACS chapter provides similar information specific to the Tier 1 Key Watersheds.

¹ The official title for this RNA in the public land protective order is the “Douglas-fir Natural Area.” However, nearly every document written since the establishment of the site refers to it as the “Cherry Creek Natural Area” or the “Cherry Creek Research Natural Area.” Also several times since 1993, the Cherry Creek RNA has been erroneously called a “congressional withdraw,” or a “congressional reserve.” This error comes about because, for the purpose of developing the Forest Plan, the acres in RNAs were included with congressionally reserved areas, which include wilderness areas, national parks and monuments, national wildlife refuges, wild and scenic rivers and military reservations. As a result, RNAs were assigned the attribute “CGRR” in the GIS data set. “CGRR” is shorthand for congressional reserve. Unfortunately, people unfamiliar with the administrative history of the RNA assume these sites are congressional reserves and not just tracked in the same category as congressional reserves.

Table Intro-3: Miles of Road in the North Fork Coquille Watershed - Includes all Open and Closed Roads (Miles calculated using line length data in GIS and rounded to the nearest tenth)

Control	BLM Land	Private Land	All Land
BLM	202.6	37.4	240.0
BLM/Private	4.0	1.1	5.1
Private/BLM	4.7	15.1	19.8
Other Agency	0.7	21.1	21.8
Private/ Other Agency	0.6	1.8	2.4
Private	16.1	54.5	70.6
No Data	17.4	374.4	391.8
Total	246.0	505.4	751.3

Table Intro-4: Miles of Road by Road Closure Status* and Road Control on BLM Lands in the North Fork Coquille Watershed (Miles calculated using line length data in GIS and rounded to the nearest tenth. Data edited to reflect the decommissioning of 27-10-6.2D, 28-1-19.02, 28-1-19.03, and spur off of 28-1-19.02)

Land	Control	Decommission: long term closure (>5yrs)	Full decommission: permanent closure	Obliterated road: permanent closure	Open*	Short term closure: temporary (1-5 yr)**	No data	Totals
BLM	BLM/Private	0.0	0.0	0.2	3.8	0.0	0.0	4.0
BLM	Private/BLM	0.5	1.2	0.0	3.0	0.1	0.0	4.7
BLM	Other Agency	0.0	0.0	0.0	0.7	0.0	0.0	0.7
BLM	Private/ Other Agency	0.0	0.0	0.0	0.0	0.0	0.6	0.6
BLM	Private	0.1	0.0	0.0	13.4	1.0	1.7	16.1
BLM	No Data	0.0	0.0	0.0	8.3	0.0	9.1	17.4
BLM	Subtotal of control types on BLM land other than wholly BLM control	0.6	1.2	0.2	29.1	1.0	11.3	43.4
BLM	BLM	4.2	1.0	0.0	171.2	22.0	4.3	202.6
BLM	Total all control types on BLM land	4.7	2.2	0.2	200.3	23.0	15.6	246.0
Private	BLM	0.0	0.0	0.0	34.7	6.0	0.0	40.7
Private	Control types, other than wholly BLM control	0.0	0.6	0.0	100.0	13.6	350.5	464.7
Private	Total of all control types on private land	0.0	0.6	0.0	134.7	19.6	350.5	505.4
all lands	Grand total all control types on all lands	4.7	2.8	0.2	335.0	42.5	366.0	751.3

* An unknown number of miles of officially "open" roads are in effect closed because they are undriveable due to vegetation encroachment, windthrows, slide debris or other natural process
 ** Includes roads blocked by barricades and roads with gates. The GIS data base does not show all barricaded roads. Gates may be open or locked.

Site Potential Tree: The average site-potential tree height for this Watershed is 220 feet². This was calculated using the heights of the dominant Douglas-firs heights recorded in the 5-point inventory plot data, and following the procedures in Instruction Memorandum No. OR-95-75. These data are contained in Table Intro Apdx-5: Site Potential Tree Height Determination for the North Fork Coquille Watershed, which is in the Introduction Appendix.

² The average slope on Coos Bay District is 51%. At that slope, a 220 foot slope distance equals to 196 feet horizontal distance.

Additional information: Other maps and tables that will provide the reader with an overview of the Watershed are:

- Map Intro-5 is a computer generated hillshade map that shows a three-dimensional representation of the topography in the Watershed.
- Table Intro-5 shows BLM acres by land status. Land status reflects land tenure history.

Table Intro-5: BLM Land Status

Status	Acres
CBWR	13,391
O&C	22,781
PD	690
total	36,861

The major landholders in the Watershed are the Bureau of Land Management, Menasha, and Georgia Pacific. Other government and industrial landowners in the Watershed are Coos County Forest, Lone Rock Timber, Weyerhaeuser, and Moore Mill. The Watershed contains the community of Fairview, farms, rural residential, developed and undeveloped county parks, developed and proposed BLM recreation sites, and power line corridors.

Photographs of the Watershed: The following pages show photographs of the Watershed taken in the 1935, 1936 and 1964. The Vegetation, Water Quality, Species & Habitat: Wildlife, Species & Habitat: Botany, and Human Use chapters include photographs from the 1940s, 1950s, and 1960s.

1935

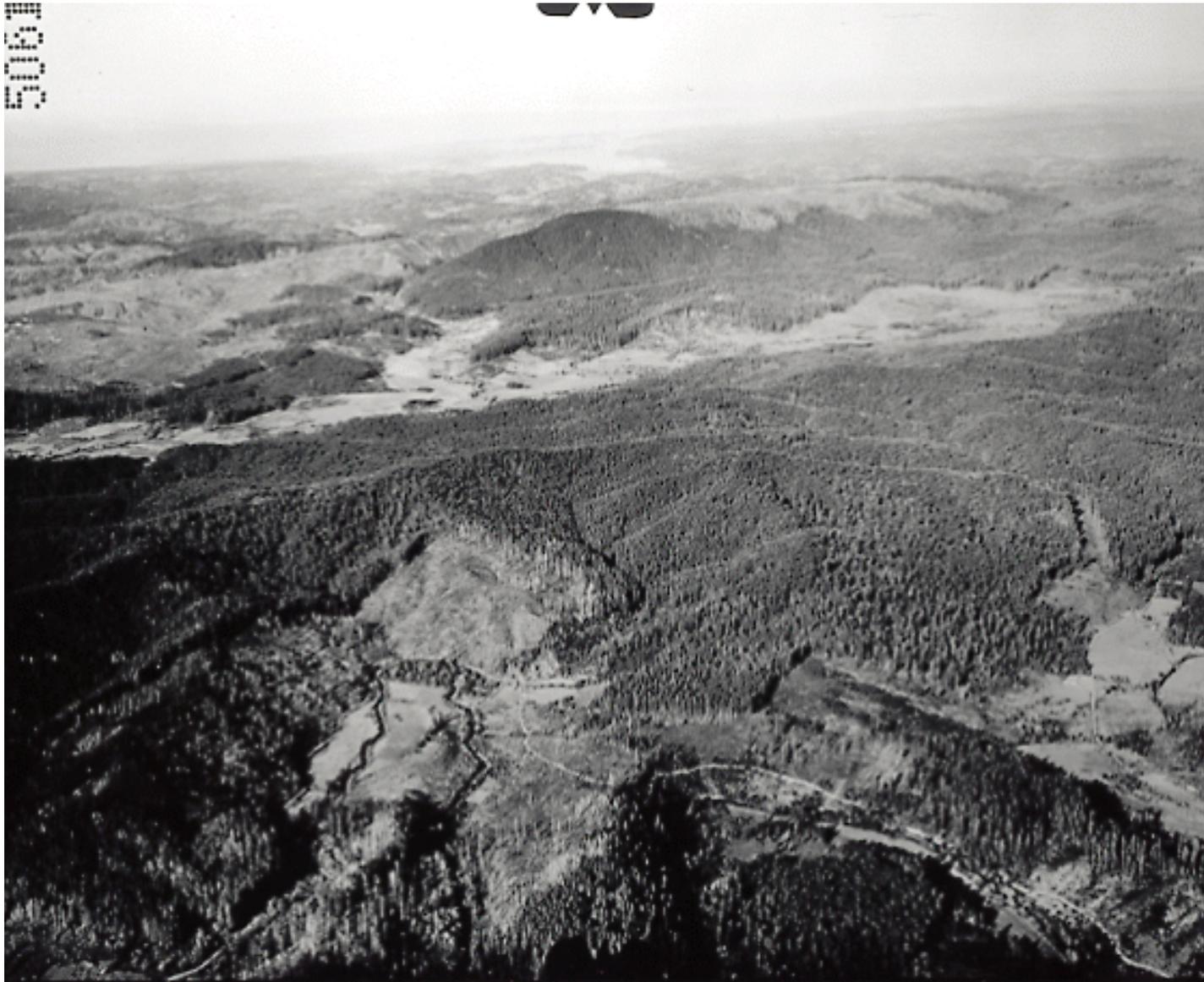


Figure 1 This photograph was taken from an airplane in 1935. The airplane was above the SE corner of section 6, T.28S.,R11W., and the view is toward the northwest. The lower part of the image shows the Big Bend Middle Creek area, sections 5 & 6, T.28S.,R.11W. The rectangular clearcut at the point of the west most bend of Middle Creek is the SE, SE, section 31, T27S.,R11W. The Coos Bay Wagon Road passes through the valley on the lower right edge of the image. The narrow cut area half way up the right side of the picture is the start of the clearing of the power line right-of-way. The narrow opening cutting across the upper half of the picture is Burton Prairie and the farm land around Fairview. Blue Ridge is in the center of the upper right quarter of the photograph.



Figure 2 This photograph was taken from an airplane in 1935. The cut over ridge top in the center of the photograph is Blue Ridge. Below Blue Ridge in the lower part of the photograph is Woodward Creek. Coos Bay is in the upper right hand corner.



Figure 3 This photograph was taken July 16, 1936 from the Blue Ridge Fire Lookout and is the south to east facing panel from a three panel 360° panoramic photograph taken using an Osborne camera. Then tick marks across the top and bottom, and the numbers at the top are degrees azimuth. The tick marks and numbers down the side are degrees up and down from level. Coos Mountain is on the horizon at 90° azimuth. The main stem of the North Fork Coquille River is hidden from direct view, however the valley side area are visible as linear opening at about -4° below level that extends from 95° azimuth to the right edge of the panel. LaVerne Park is hidden from direct view, but is located at approximately 110° azimuth in the North Fork Coquille Valley. The separate opening at approximately 130° azimuth, -2° below horizontal, is cutting in the Middle Creek Subwatershed near the present location of the Middle Creek Maintenance Shop. Fairview is at about 170 azimuth.



Figure 4 This 1964 photograph shows an old railroad logging trestle surrounded by second growth. The trestle was part of the rail system used to log the top of Blue Ridge during the 1920s.

References

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