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Forest  
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Reply To: 1920/2500

Date: December 15, 1997

Subject: Detroit Tributaries Watershed Analysis

To: District Ranger, Detroit

I have received and reviewed the final Detroit Tributaries Watershed Analysis (WA) documentation. The results meet my expectations for WA in FY 97 as agreed to at the Forest WA Workshop in November 1995 and is consistent with the guidance in the Federal Guide for WA, Version 2.2. The analysis provides an adequate background and understanding of processes and conditions within the watershed to proceed with project level planning.

The documentation is well written and thorough. While all sections of the WA are well developed and presented, the Social Domain section is especially complete and well done for a WA. The table format used in Section V. to display the Synthesis and Management Recommendations is also well done and provides useful information for future management decisions. Thank you for the quality work that will serve us well in the future.

/s/ Richard C. Stem

RICHARD C. STEM  
Deputy Forest Supervisor

cc:  
N.Forrester  
D.Bates

**Detroit Tributaries  
Watershed Analysis**

**Willamette National Forest  
Detroit Ranger District  
November 1997**

# Table of Contents

	<i>Page</i>
<b>I. Introduction</b>	
A. <i>The Document</i> .....	<i>I-1</i>
B. <i>Location</i> .....	<i>I-1</i>
C. <i>Distinguishing Features of the Watershed</i> .....	<i>I-2</i>
D. <i>Land allocations, management plans, etc.</i> .....	<i>I-4</i>
E. <i>Ownership</i> .....	<i>I-6</i>
F. <i>Importance to People</i> .....	<i>I-6</i>
 <b>II. Physical Domain (<i>yellow dividers</i>)</b>	
A. <i>Geology</i>	
Geologic Characterization of Watershed.....	<i>II-1</i>
Highest priority Issues or Resource Concerns.....	<i>II-2</i>
a) <b>Erosion Processes</b>	
1) <i>Current Conditions</i> .....	<i>II-3</i>
2) <i>Reference Conditions</i> .....	<i>II-4</i>
3) <i>Comparison of Current and Reference Conditions</i> .....	<i>II-5</i>
B. <i>Hydrology</i>	
Hydrologic Characterization of Watershed.....	<i>II-8</i>
Highest priority Issues or Resource Concerns.....	<i>II-9</i>
a) <b>Flows, especially peak flows and low flows</b>	
1) <i>Current Conditions</i> .....	<i>II-9</i>
2) <i>Reference Conditions</i> .....	<i>II-11</i>
3) <i>Comparison of Current and Reference Conditions</i> .....	<i>II-12</i>
C. <i>Stream Channels</i>	
Characterization of Stream Channels.....	<i>II-14</i>
Highest priority Issues or Resource Concerns.....	<i>II-16</i>
a) <b>Channelbank Stability</b>	
1) <i>Current Conditions</i> .....	<i>II-16</i>
2) <i>Reference Conditions</i> .....	<i>II-18</i>
3) <i>Comparison of Current and Reference Conditions</i> .....	<i>II-19</i>
D. <i>Water Quality</i>	
Characterization of Water Quality.....	<i>II-22</i>
Highest priority Issues or Resource Concerns.....	<i>II-24</i>
a) <b>Temperature</b>	
b) <b>Turbidity</b>	
c) <b>Biological Contaminants</b>	
1) <i>Current Conditions</i> .....	<i>II-25</i>
2) <i>Reference Conditions</i> .....	<i>II-26</i>
3) <i>Comparison of Current and Reference Conditions</i> .....	<i>II-27</i>

	<i>Page</i>
<i>E. Fire</i>	
Characterization of Fire.....	<i>II-29</i>
Highest priority Issues or Resource Concerns.....	<i>II-32</i>
a) <b>Fire Hazard and Risk</b>	
1) Current Conditions.....	<i>II-33</i>
2) Reference Conditions.....	<i>II-35</i>
3) Comparison of Current and Reference Conditions.....	<i>II-35</i>

### **III. Biological Domain (*green dividers*)**

<i>A. Vegetation</i>	
Vegetative Characterization of Watershed.....	<i>III-1</i>
Highest priority Issues or Resource Concerns.....	<i>III-9</i>
a) <b>Harvest of old growth</b>	
b) <b>Plant community and structural stage distribution</b>	
c) <b>Land Management Goals and Dynamic Natural Systems</b>	
d) <b>Insects and Diseases</b>	
e) <b>Non-native plants</b>	
f) <b>Plant Biodiversity</b>	
1) Current Conditions.....	<i>III-10</i>
2) Reference Conditions.....	<i>III-29</i>
3) Comparison of Current and Reference Conditions.....	<i>III-32</i>
 <i>B. Animal Species and Habitats- Aquatic</i>	
Characterization of Species and Habitats.....	<i>III-40</i>
Highest priority Issues or Resource Concerns.....	<i>III-43</i>
a) <b>Maintaining habitat components for native aquatic species</b>	
b) <b>Reintroduction of native species</b>	
1) Current Conditions.....	<i>III-44</i>
2) Reference Conditions.....	<i>III-50</i>
3) Comparison of Current and Reference Conditions.....	<i>III-53</i>
 <i>C. Animal Species and Habitats- Terrestrial</i>	
Characterization of Species and Habitats.....	<i>III-55</i>
Highest priority Issues or Resource Concerns.....	<i>III-61</i>
a) <b>Maintaining habitat components for native terrestrial species</b>	
b) <b>Conflicting habitat needs</b>	
1) Current Conditions.....	<i>III-61</i>
2) Reference Conditions.....	<i>III-112</i>
3) Comparison of Current and Reference Conditions.....	<i>III-113</i>

	<i>Page</i>
<b>IV. Social Domain (<i>pink dividers</i>)</b>	
<i>A. Human Uses</i>	
Characterization of Human Uses.....	<i>IV-1</i>
Highest priority Issues or Resource Concerns.....	<i>IV-6</i>
a) <b>Sustainability of forest-product dependent communities.</b>	
1) Current Conditions.....	<i>IV-8</i>
2) Reference Conditions.....	<i>IV-26</i>
3) Comparison of Current and Reference Conditions.....	<i>IV-31</i>
b) <b>Recreational supply and demand</b>	
1) Current Conditions.....	<i>IV-11</i>
2) Reference Conditions.....	<i>IV-26</i>
3) Comparison of Current and Reference Conditions.....	<i>IV-33</i>
<i>B. Facilities</i>	
Characterization of Facilities.....	<i>IV-37</i>
Highest priority Issues or Resource Concerns.....	<i>IV-38</i>
a) <b>Maintaining facilities</b>	
b) <b>Public Safety</b>	
1) Current Conditions.....	<i>IV-39</i>
2) Reference Conditions.....	<i>IV-55</i>
3) Comparison of Current and Reference Conditions.....	<i>IV-59</i>
<i>C. Scenic Quality</i>	
Characterization of Scenic Quality.....	<i>IV-62</i>
Highest priority Issues or Resource Concerns.....	<i>IV-64</i>
a) <b>Management of landscape for scenic quality</b>	
1) Current Conditions.....	<i>IV-64</i>
2) Reference Conditions.....	<i>IV-75</i>
3) Comparison of Current and Reference Conditions.....	<i>IV-75</i>
 <b>V. Management Implications (<i>blue dividers</i>)</b>	
<i>A. Synthesis</i> .....	<i>V-1</i>
<i>B. Recommendations</i> .....	<i>V-23</i>
<i>Issues/Topics</i>	
<i>Geology</i>	
<b>Erosion Processes</b> .....	<i>V-1 and V-23</i>
<i>Hydrology</i>	
<b>Flows, especially peak flows and low flows</b> .....	<i>V-3 and V-25</i>
<b>Channelbank Stability</b> .....	<i>V-5 and V-26</i>
<b>Water Temperatures</b> .....	<i>V-7 and V-27</i>
<b>Turbidity</b> .....	<i>V-7 and V-28</i>
<b>Biological Contaminants</b> .....	<i>V-8 and V-28</i>
<i>Fire</i>	
<b>Fire Hazard and Risk</b> .....	<i>V-9 and V-29</i>

	<i>Page</i>
<i>Issues/Topics (continued)</i>	
<i>Vegetation</i>	
Harvest of old growth.....	<i>V-10 and V-30</i>
Plant community and structural stage distribution.....	<i>V-11 and V-30</i>
Land Management Goals and Dynamic Natural Systems.....	<i>V-11 and V-31</i>
Insects and Diseases.....	<i>V-11 and V-34</i>
Non-native plants (noxious weeds).....	<i>V-12 and V-34</i>
Plant Biodiversity.....	<i>V-12 and V-34</i>
<i>Animal Species - Aquatic</i>	
Maintaining habitat components for native aquatic species.....	<i>V-13 and V-35</i>
Reintroduction of native species.....	<i>V-14 and V-35</i>
<i>Animal Species- Terrestrial</i>	
Maintaining habitat components for native terrestrial species.....	<i>V-16 and V-36</i>
Conflicting habitat needs.....	<i>V-18 and V-36</i>
<i>Human Uses</i>	
Sustainability of forest-product dependent communities.....	<i>V-19 and V-41</i>
Recreational supply and demand.....	<i>V-19 and V-42</i>
<i>Facilities</i>	
Maintaining facilities.....	<i>V-21 and V-44</i>
Public Safety.....	<i>V-21 and V-45</i>
<i>Scenic Quality</i>	
Management of landscape for scenic quality.....	<i>V-22 and V-47</i>

After Page

Visuals

Maps

Chapter I - Introduction:

**I-1.** Vicinity Map ..... I-2  
**I-2.** Project Boundary..... I-2  
**I-3.** Contour Map..... I-2  
**I-4.** Land Allocations..... I-4  
**I-5.** Ownership ..... I-6

Chapter II - Physical Domain:

Geology

**II-1.** Unstable/unsuited soils ..... II-2

Hydrology

**II-2.** Planning subdrainage Blocks ..... II-9  
**II-3.** Streams ..... II-9  
**II-4.** Riparian Reserves ..... II-9

Stream Channels

**II-5.** Soil Categories ..... II-19

Fire

**II-6.** Fuel Models ..... II-30  
**II-7.** Fire Hazard Matrix ..... II-30  
**II-8.** Slopes ..... II-30  
**II-9.** Aspects ..... II-30  
**II-10.** Fuel model and Fire Hazard Matrix ..... II-34

Chapter III - Biological Domain:

Vegetation

**III-1.** Plant Associations ..... III-2  
**III-2.** Plant Associations in Riparian Reserves ..... III-2  
**III-3.** Structural Stages ..... III-6  
**III-4.** Structural Stages in Riparian Reserves ..... III-6  
**III-5.** Information from the Historic 1901 and 1914 Vegetation Map ..... III-10  
**III-6.** Major Fires ..... III-12  
**III-7.** Natural and Managed Stands ..... III-12  
**III-8.** Timber Harvest by Decade..... III-14  
**III-9.** Late Successional by Fifth Field Watershed ..... III-18  
**III-10.** Special Habitats ..... III-28

Animal Species and Habitats - Aquatic

**III-11.** Existing Fish Habitat ..... III-51  
**III-12.** Historic Fish Distribution ..... III-51

Maps (continued)

After Page

Animal Species and Habitats - Terrestrial (continued)

**III-13.** Snag Levels ..... **III-68**  
**III-14.** Down Woody Material ..... **III-70**  
**III-15.** Bald Eagle Habitat and Reserves ..... **III-76**  
**III-16.** Spotted Owl Habitat ..... **III-78**  
**III-17.** Eleven Forty Conditions (owl dispersal habitat)..... **III-84**  
**III-18.** Pileated Woodpecker and Marten Areas ..... **III-92**  
**III-19.** Elk Emphasis Areas ..... **III-96**

Chapter IV - Social Domain:

Human Uses

**IV-1a.** Human Uses..... **IV-2**  
**IV-1b.** Human Uses - Enlargement ..... **IV-2**  
**IV-2.** Recreation Opportunity Spectrum ..... **IV-12**

Facilities

**IV-3.** Flood Impacted roads ..... **IV-46**

Scenic Quality

**IV-4.** Visual Quality Objectives ..... **IV-63**

Chapter V - Management Implications:

**V-1a.** Structural Stages in Riparian Reserves at 30 years with *no* silvicultural treatment ..... **V-32**  
**V-1b.** Structural Stages in Riparian Reserves at 30 years *with* silvicultural treatment ..... **V-32**  
**V-1c.** Structural Stages in Riparian Reserves at 50 years with *no* silvicultural treatment ..... **V-32**  
**V-1d.** Structural Stages in Riparian Reserves at 50 years *with* silvicultural treatment ..... **V-32**

Charts

Chapter II - Physical Domain:

Stream Channels

**II-1.** Longitudinal Profiles - Southeastern subdrainages ..... **II-15**  
**II-2.** Longitudinal Profiles - Northeastern subdrainages ..... **II-15**  
**II-3.** Longitudinal Profiles - Western subdrainages ..... **II-15**  
**II-4.** Rosgen Channel Types ..... **II-17**

Chapter III - Biological Domain:

Animal Species and Habitats - Terrestrial

**III-1.** Snag Levels..... **III-69**  
**III-2.** Down Wood..... **III-70**

# I. INTRODUCTION

## A. The Document

The purpose of this watershed analysis is to provide a general understanding of ecological conditions and processes within the Detroit Tributary watersheds. This information will serve as a basis for future project level analysis and decision-making for a wide range of potential management activities there. The analysis helps to ensure that those activities are consistent with ecosystem management objectives as described in the *Willamette National Forest Land and Resource Management Plans* (Forest Plan) as amended by the *Record of Decision for Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl*.

This document will be in a question and answer format. For each subject area, a mini-story will give an overview; an identification of values and the issues that result from differences in values; a discussion of current and reference conditions as they relate to the issues; a comparison of the differences between current and reference condition and the causes for the change. Finally, the last chapter of the document will discuss the influences and relationships between ecosystem processes and proposes recommendations for dealing with identified issues.

The *Federal Guide for Ecosystem Analysis at the Watershed Scale* (version 2.2) provided guidance for the watershed analysis process. Decisions have not been made about implementing recommendations contained in this document. The recommendations must be further analyzed in the NEPA process.

## B. Location

The Detroit Tributary watersheds drain into either Detroit or Big Cliff reservoirs along Oregon State Highway 22. These watersheds lie in the North Santiam river basin on the western slope of the Cascade mountain range (see *Map I-1*). They are on the west side of the Detroit Ranger District of the Willamette National Forest and extend outside the Forest boundary (see *Map I-2*, *Map I-3*). These watersheds are located in Marion County and Linn County, Oregon. Detroit Lake and the North Santiam river divide this 49,335 acre area into Marion and Linn Counties, Oregon. The dams that contain these reservoirs were constructed on the North Santiam River. From here, the North Santiam River flows into the Santiam, the Willamette and Columbia rivers before emptying into the Pacific Ocean.

## **C. Distinguishing Features of the Watershed**

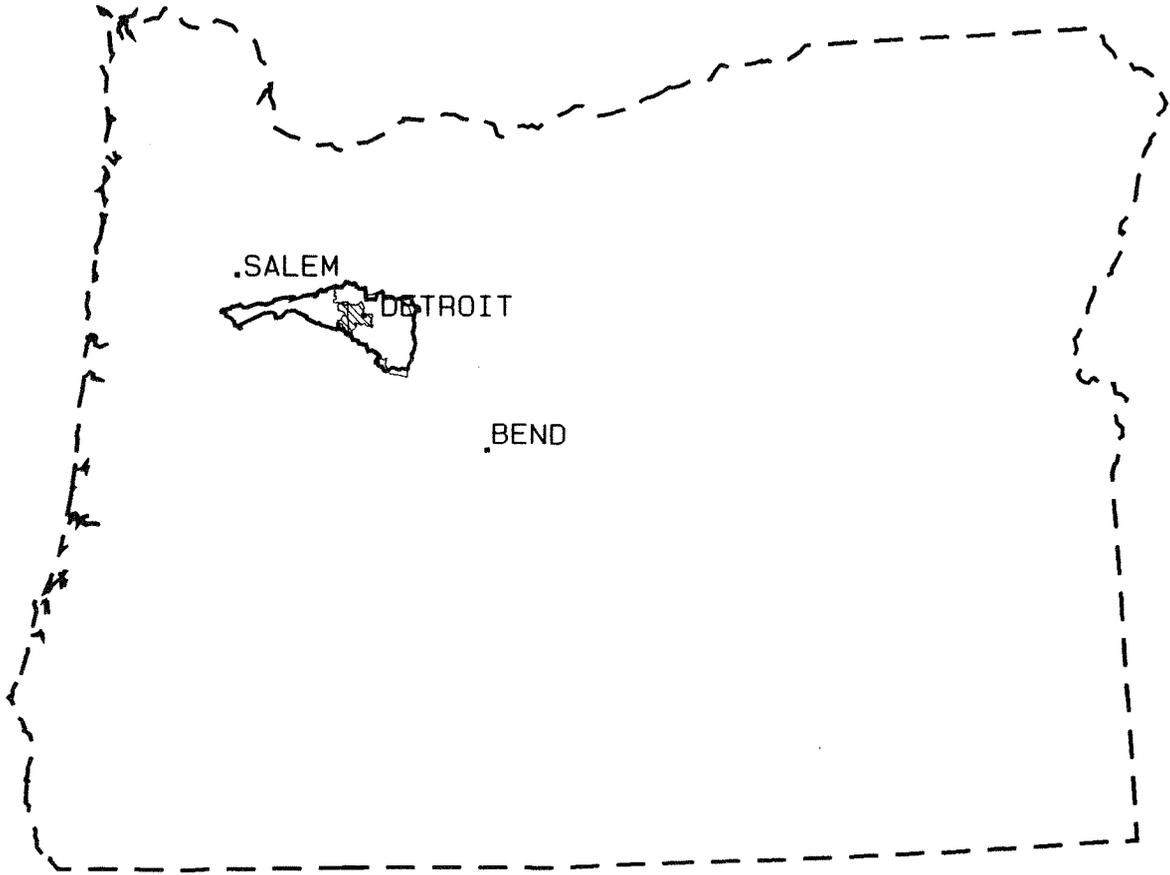
### ***Physical Domain***

- Detroit and Big Cliff Reservoirs
  - Detroit and Big Cliff Dams
  - Piety island
- Oregon State Highway 22
- The Cities of Detroit and Idanha
- At least two glaciers ended within center of these watersheds.
- There are few flat wetland areas and small lakes.
- Ten percent of the watersheds are under water (Detroit and Big Cliff reservoirs)
- There are large prominent points such as Needle Rock and Dog Tooth Rock.
- Other facilities include radio towers and powerlines.

### ***Biological Domain***

- The Detroit Reservoir has created habitats not previously there.
- Detroit Flats is the most unique area in the watershed for wildlife species, attracting large numbers of species, especially neo-tropical migrant birds.
- There is the highest population of osprey on the District.
- A long standing bald eagle nest is within the area.
- Dams are major barriers that keep anadromous fish out of the North Santiam River.
- There is less plant diversity than other watersheds with the exception of Monument Peak.
- A land locked spring chinook fisheries occurs within Detroit Reservoir.
- There is the largest population of Gorman's aster within its range.
- These watersheds are an entry point for noxious weeds to the Detroit District.

# Vicinity Map



^	Oregon Boundary
~	North Santiam Basin
—	Detroit Ranger District
▨	Detroit Tributary Watersheds



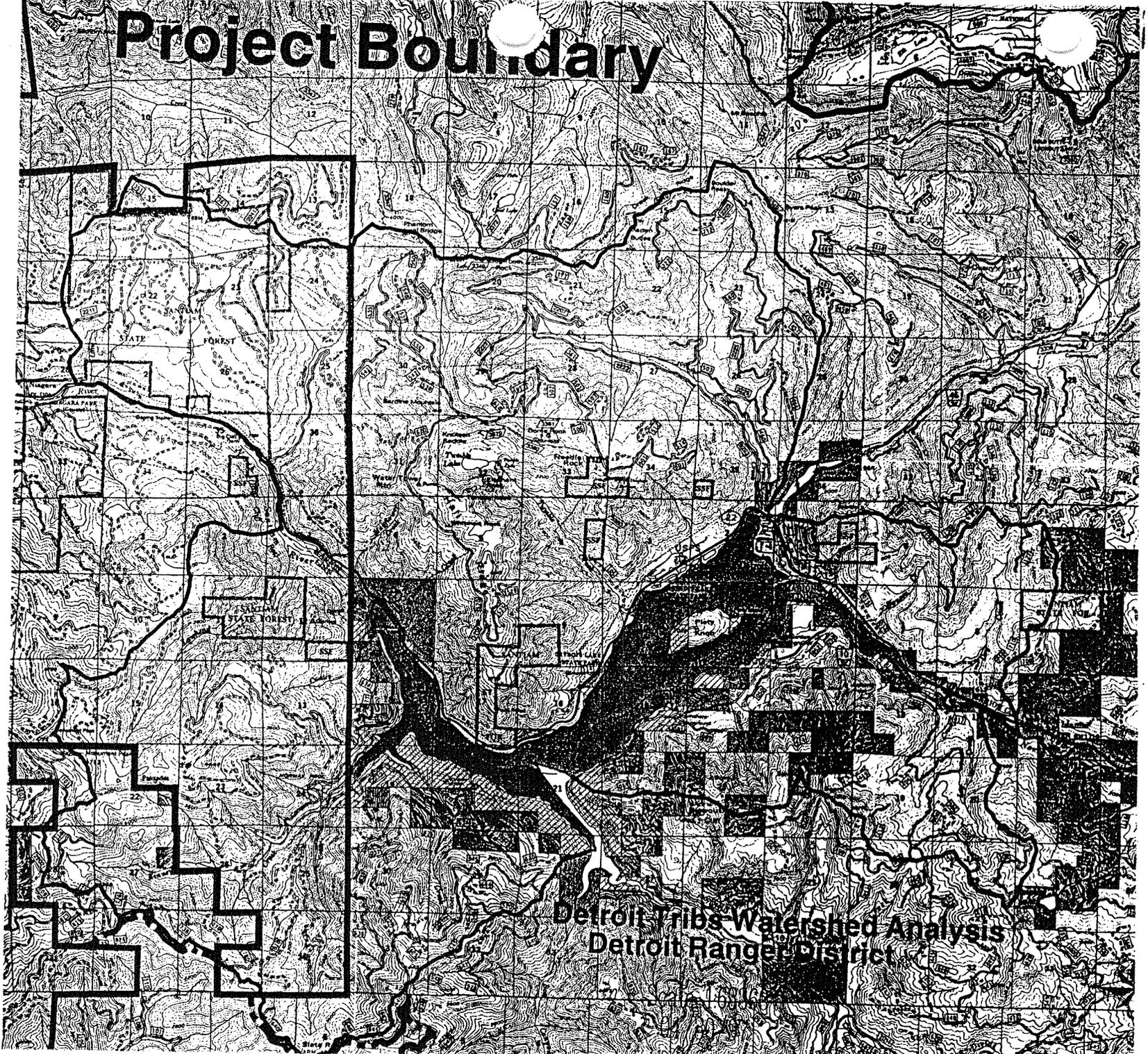
Detroit Tributaries Watershed Analysis  
Detroit Ranger District

Scale 1:400000  
10/05/97

Request #1461

**MAP I-1**

# Project Boundary

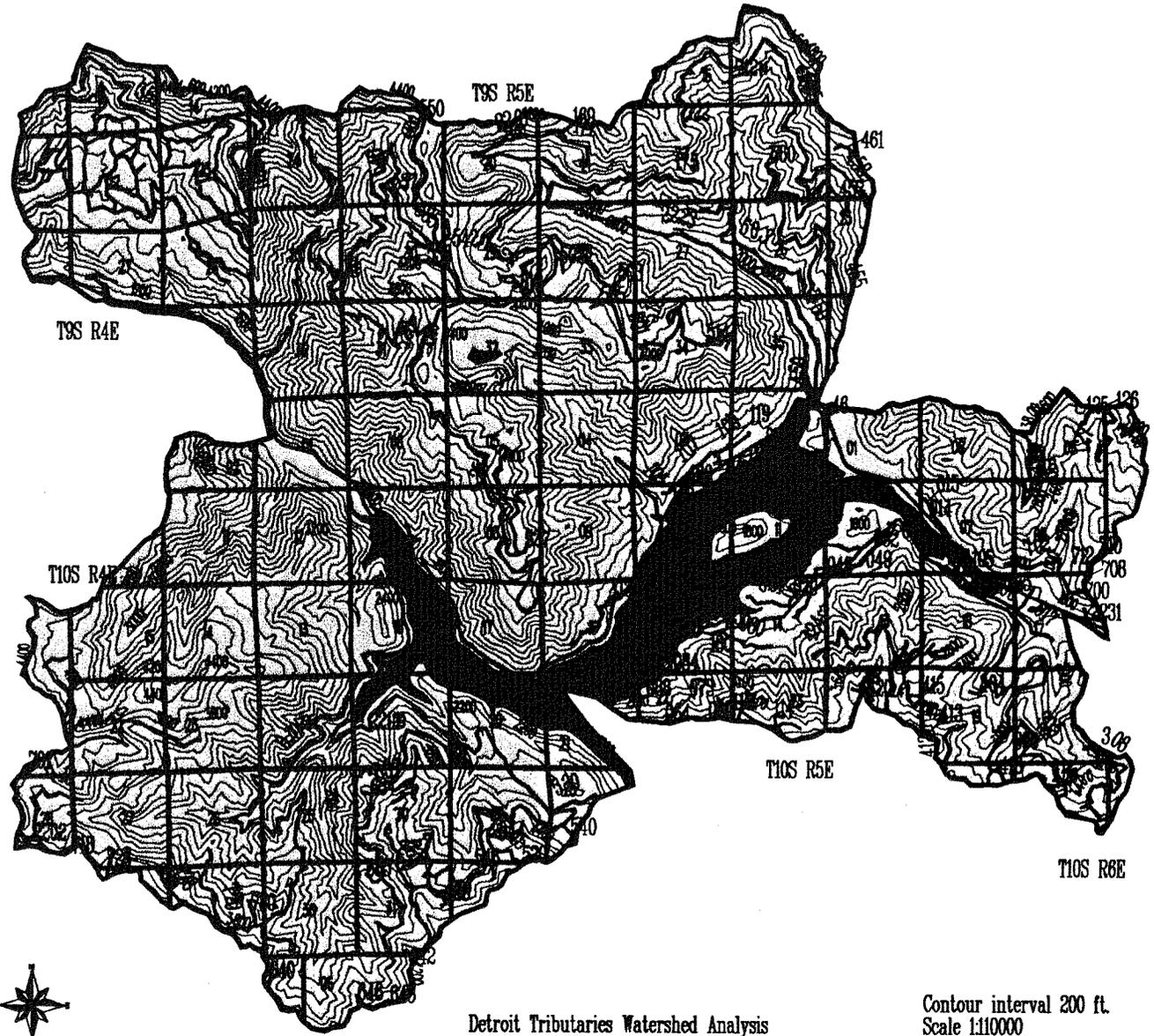


Detroit-Tribe Watershed Analysis  
Detroit Ranger District

# CONTOUR MAP

Legend

- Planning Area
- Wetlands



Detroit Tributaries Watershed Analysis  
Detroit Ranger District

Contour interval 200 ft.  
Scale 1:110000  
10/05/97

MAP I-3

Request #1488

## ***Social Domain***

- These watersheds lie in the North Santiam river basin, which is the municipal watershed for communities along the North Santiam River from Marion Forks, Oregon down to and including Salem, Oregon
- City of Detroit and portions of Idanha are in this watershed
- Only watersheds on Detroit District with urban characteristics
- Detroit Lake attracts highest recreational use on the District; second highest use lake in the State
- Reliance on Detroit Lake for City of Detroit tourism economy
- Provides only “roaded” recreational settings; no “semi-primitive” or “primitive” opportunities
- Domestic water supply- domestic water intake for City of Detroit
- Two power line corridors extend through the watershed
- Portions of the West Cascades Scenic Byway and Breitenbush-Clackamas National Scenic Byway.
- Watershed has the most diverse land ownership on the District, including federal, state, private, municipalities, counties, US Army Corps or Engineers; and largest percentage of private land ownership on the District
- Hall’s Ridge Communication Site provides local agencies with emergency two-way communication including Forest Service and law enforcement; and local cable television and regional cellular phone services
- Detroit Lake and Mongold State Parks; only State Parks on the Willamette National Forest
- Two privately owned marinas; only commercial marinas on the Willamette National Forest
- Earliest timber harvest anywhere on District
- Five Forest Service concessionaire operated campgrounds, Stahlman summer homes and Sportsmans Club organization site, Piety Island Campground and Detroit Flats Day Use Area
- Lies within the North Santiam Viewshed and managed for high scenic quality
- Scenic features include; first prominent viewpoint of Mt. Jefferson eastbound on Highway 22 overlooking Detroit Lake; Tumble Lake and Falls (Old Growth Grove); Monument Peak (botanical) Special Interest Area; rock/geologic features, such as Phantom Bridge Special Interest Area, Stahlman Point and Dog Tooth, Elephant, Dome and Needle Rocks.
- Only existing hang/para-gliding activities taking place in the Basin

## D. Most Important Land Allocations, Management Plan Objectives and Regulatory Constraints

### 1. Land Allocations (see Map I-4, Table I-1)

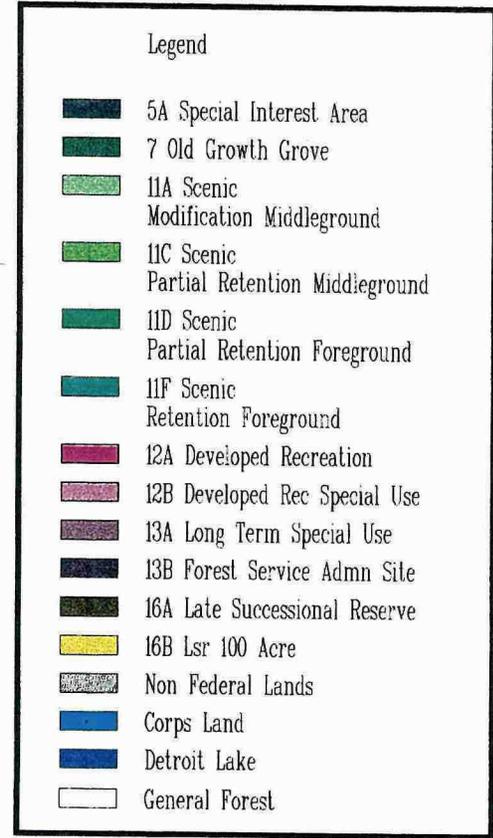
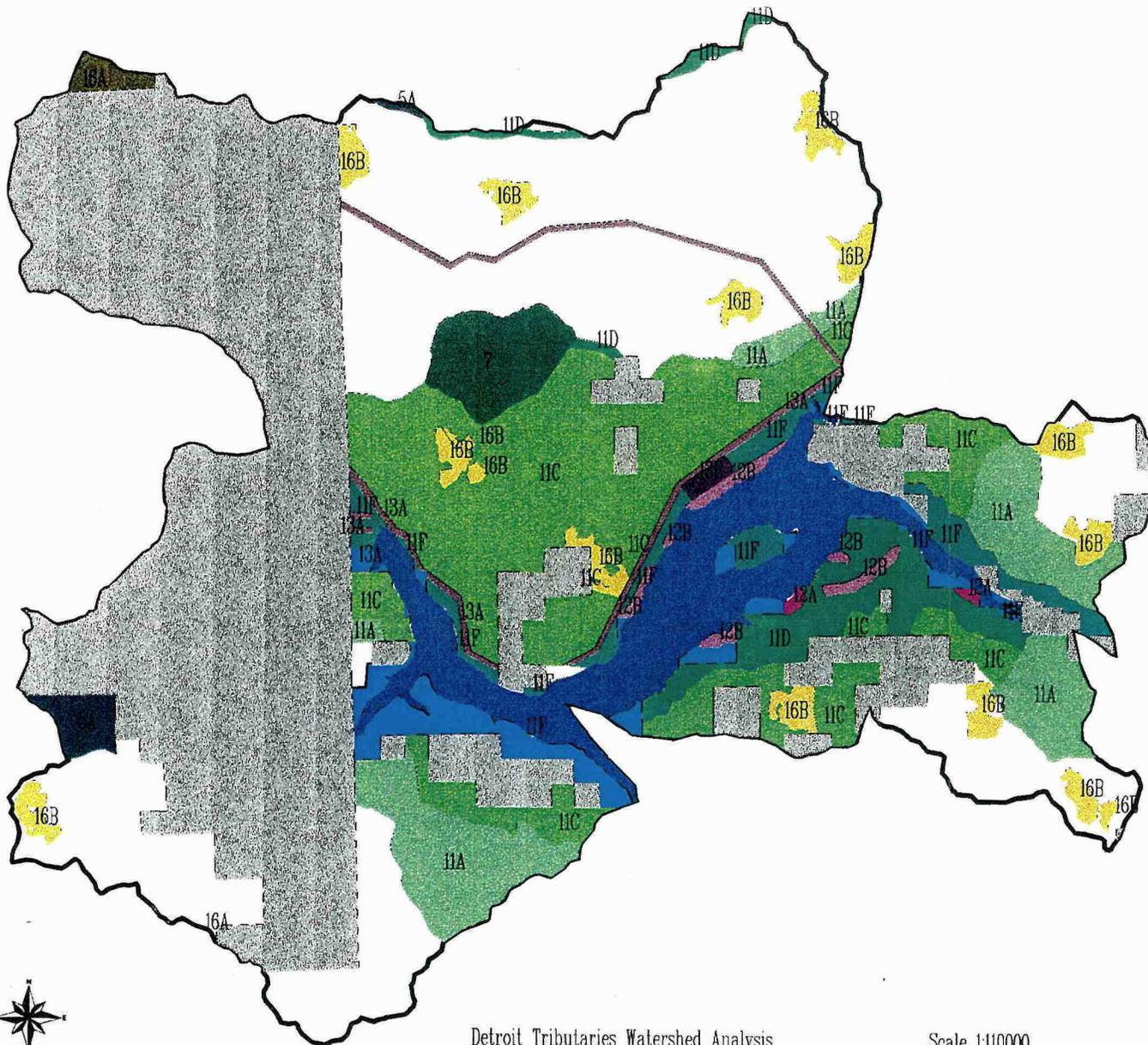
Land allocations and management direction for the allocations were established by forest plans for both the Willamette and Mt. Hood National Forests. The following is a summary of the allocations within the Detroit Tributaries watershed:

**Table I-1:**

Land Allocations within National Forest Boundary	Acres	Percent of Watersheds within National Forest Boundary
Detroit Reservoir	3275	9
Scenic	9300	26
General Forest	9560	26
Late Successional Reserves (100 acre Owl Cores)	1340	4
Late Successional Reserve	150	0
Currently mapped Riparian Reserves ** (not all streams have been field verified and mapped)	6135	17
Special Use Areas	485	1
Special Interest Area	285	1
Developed Recreation	45	0
Old Growth Grove (Tumble Creek)	830	2
F.S. Administrative Site	70	0
Developed Recreation (special use permit)	235	1
County Ownership	150	0
State Ownership	1015	3
Corps of Engineers Ownership	1115	3
Private Ownership	2120	6
<b>Watershed Acres within National Forest Boundary</b>	<b>36110</b>	<b>100</b>

\*\* This percentage will increase as unmapped streams are field verified in the future.

# Land Allocations



## 2. *Management Plans, Assessments and Guides within the watershed*

The management of this watershed is directed by the Willamette National Forest Land and Resource Management Plan (1990) and Mt. Hood National Forest Land and Resource Management Plan (1990) both of which were amended by the Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related species Within the Range of the Northern Spotted Owl (1994).

The land and resource management plan requires site specific direction for management of certain areas. The following existing and proposed plans apply to the Detroit Tributary Watersheds:

- North Santiam River Watershed: City of Salem and the Detroit R.D. Joint Water Quality Monitoring Plan
- New Management Guidelines for Water Quality from the State of Oregon
- Federal Wildland Fire Management Policy and Program
- Bald Eagle Management Plan
- Peregrine Falcon Management Plan\*
- Late Successional Reserve Assessment\*
- Access and Travel Management Guide\*
- Detroit Lake Composite Area Management Guide
- Power line Corridor Management Plan (outdated)
- Wild and Scenic River Management Plan\* (if rivers are determined eligible)
- Oregon Scenic Byway Corridor Management Plan
- Reservoir Management and Public Use Development Master Plan (outdated)
- Tumble Lake, Phantom Bridge, and Monument Peak Old Growth Grove and Special Interest Area Implementation Guides\*

\* = Proposed management plans

## 3. *Memoranda of Understanding/Agreements*

- Memorandum of Understanding between USDA Forest Service and US Army Corps of Engineers
- Memorandum of Understanding between the City of Salem, Oregon and USDA Forest Service Willamette National Forest

**4. Other Plans and Studies\*** - *Although these are not Forest Service plans, they affect activities taking place in the watershed, and have implications on Forest Service lands.*

- Willamette Reservoir Basin Study (Feasibility Report and EIS in progress by the US Army Corps of Engineers and Oregon Water Resources Dept.)
- North Santiam River Canyon Sewage Treatment Feasibility Study (Cities of Detroit/Idanha)
- North Santiam Economic Development Strategic Plan (NSCEDC)
- Cities of Detroit and Idanha Comprehensive and Land Use Plans
- North Santiam Canyon Tourism Assessment (NSCEDC)
- North Santiam Canyon Tourism Coalition Action Plan

\* There are other on going studies, this is not a complete list.

**E. Ownership** (see *Map I-5*)

- 64% National Forest system land
- < 1% County land
- 14% State land
- 2% Corps of Engineers land
- 19% Private land

**F. What makes the watershed important to people?**

- Detroit and Big Cliff Dams provide flood control, hydroelectric power generation, agricultural irrigation, reservoir and downstream recreation, and water supply (quantity) to municipal and industrial users.
- Domestic water source; water quality
- North Santiam Canyon economically dependent on timber and other commodity production, tourism, etc. These goods and services provide benefits to consumers.
- Cities of Detroit and Idanha; population centers-livelihood, recreation destination, quality of life
- Recreational opportunities; predominantly lake-based recreation
- Proximity to urban population centers, and easy day drive with improving highway access
- Facilities, such as electric power lines, dams and communications sites, serve people in the region
- Scenic quality
- Highway 22 provides a major east-west travel route through the state.

# Ownership

