

Date/Time: Monday, November 14, 2011, 3:00 PM

Location: Swauk Teanaway Grange

Attendees: Kittitas County IWRMP Land Use and Economic Analysis Citizens Advisory Committee:  
*Jill Arango, David Gerth, Anna Lael, Jason Ridlon, Tracy Rooney, Jan Sharar, Art Solbakken, Cynthia Wilkerson*  
Kittitas County: *Paul Jewell, Kirk Holmes*  
URS: *John Knutson, Will Guyton, Julie Blakeslee (via teleconference)*  
PRR: *Amy Danberg (via teleconference)*  
Cascade Economics: *Mike Taylor (via teleconference)*

Subject: **IWRMP Ecosystem and Habitat Restoration and Enhancement Land Use and Economic Analysis Project—Citizens Advisory Committee (CAC) Meeting No. 3**

Meeting Purpose: Review and Identify Additional Land Use and Economic Concerns and Benefits

## Welcome & Introductions

- Will Guyton welcomed the committee members, and the committee members provided a roundtable self-introduction.

## Meeting Purpose and Agenda

- Will reviewed the meeting agenda with the CAC Members.

## Discuss Land Use and Economic Analyses Example Approaches

- Julie Blakeslee explained the Land Use Analysis process for this project. The Land Use Analysis will evaluate the differences in land use between the current zoning and the proposed zoning, providing a quantitative number of acreage that is being converted and a qualitative assessment of changes in land use (e.g., increases or decreases in public access, recreational access, environmental protection, grazing opportunities).
- Tracy Rooney asked if the land use and economic analysis would have any impact on the valuation of the land in the Teanaway when setting a purchase price. Jill Arango and Paul Jewell explained that there will be an appraisal of the targeted lands for purchase that will be outside of this project.
- Jan Sharar asked for the land use and economic analysis to consider the impacts of lands designated as Critical Areas (constraints on future development).
- Mike Taylor defined an Economic Impacts Analysis and explained the process for this project. The Economic Impacts Analysis will review the totality of costs or benefits associated with the proposed changes. Qualitative changes for socioeconomic groups will be analyzed to determine their monetary impacts or benefits, using common terms that can be measured.
- Tracy asked how many years' worth of data would be reviewed for the Economic Impact Analysis when considering impacts to timber production. Mike responded that he typically looks at about 10 to 15 years of financial data regarding agricultural and timber products (e.g., excise taxes, timber prices, timber receipts).

### Discuss Land Use and Economic Analyses Example Approaches (continued)

- Cynthia Wilkerson asked how the Economic Analysis would account for the financial benefits specific to Kittitas County when considering ecosystem improvements that result from the TWPEC. Mike stated that he would use existing research and data available to help him generate financial data on a per capita basis for Kittitas County.
- Mike stated that there will be some concerns from the CAC that he will be able to measure in dollars, some concerns that he will only be able to measure in the direction of change (increase or decrease), and some concerns that he cannot address, given his scope for this project. The overall goal is to address the costs and benefits and where they accrue, with an eye toward who the affected entities are.
- Mike presented a list of economic impacts by category, demonstrating the elements that will be covered during the Economic Impact Analysis. Julie also provided highlights to the CAC's potential considerations table, showing the elements that she will be reviewing as part of the Land Use Analysis.
- John Knutson recommended that the items on the CAC's potential considerations table that could not be addressed at a detailed level through the Land Use and Economic Impact Analyses be consolidated and submitted to the Bureau of Reclamation and the WA State Dept. of Ecology as a list of further concerns. This list could also include the CAC's recommended or desired outcome.

### Wild and Scenic River Designation Discussion

- Julie provided a brief review of the Wild and Scenic River Designation, the different classifications within the designation, and examples of the other rivers within Washington that carry this designation and their classifications.

### Recreational Benefits and Impacts Discussion

- Julie provided some examples of the types of recreational impacts that will be analyzed as part of the Land Use Analysis. Julie will focus on existing recreational data from the public land owners (e.g., USFS, BLM), private sector recreational activities, and user data for these areas.

### Review, Revise, and Append Potential Land Use and Economic Considerations Table

- Will led a roundtable discussion to gather any additional thoughts and concerns regarding land use changes and economic benefits and potential impacts of the TWPEC proposal from the CAC.
- Mike stated that he will be looking into secondary impacts of the changes. The secondary impacts are the impacts to other entities resulting from the ripple effect of the changes (e.g., commercial business impacts due to changes in recreation, effects on wages and employment).
- Jill Arango recommended that Mike talk to the Chamber of Commerce or another economic development group to see if there are any potential projects on the horizon that would be impacted by the TWPEC.
- Cynthia stated the importance of ensuring that the CAC's concerns were considered in the all of the components of the TWPEC.
- David Gerth expressed his concern that the "Checkerboard" area (Taneum/Manastash area) targeted for acquisition will not be further analyzed as part of the Land Use and Economic Analyses. Julie stated that she is not sure that the Land Use and Economic analyses will be able to fully address that concern.
- Jill stated that the PILT program for the state is changing, and recommended that it be researched to determine the impacts.

**Review, Revise, and Append Potential Land Use and Economic Considerations Table**

- In summary, the additional concerns were as follows:
  - Potential for loss or delay of future utility improvements (e.g., broadband internet) due to the removal of developable land.
  - Some residents may be opposed to increases in residential land values.
  - Impacts to the biomass industry potential.
  - Impacts to roads in the AFLC lands, whether they will be maintained or closed.
  - Considering secondary forest products beyond what is listed.

**Next Meeting Dates & Topics**

- Will presented the current outline for upcoming CAC meetings. The next CAC meeting was tentatively scheduled for the end of December in Ellensburg; however, this is being delayed until the completion of the Land Use and Economic Analyses. At this next meeting, the Committee will be reviewing the Land Use and Economic Analyses and discuss possible economic compensation strategies.





# Meeting Agenda

Date/Time: Thursday, May 10, 2012, 3:00 PM

Location: Manastash Room, Kittitas Valley Event Center, 512 N Poplar Street, Ellensburg, WA 98926

Attendees: Kittitas County IWRMP Land Use and Economic Analysis Citizens Advisory Committee:  
*Jill Arango, Tony Aronica, Bill Boyum, David Gerth, Jim Halstrom, Anna Lael, Brian Lenz, Richard Low, Pamela McMullin-Messier, Jason Ridlon, Tracy Rooney, Jan Sharar, Art Solbakken, David Whitwill, Cynthia Wilkerson*  
Kittitas County: *Paul Jewell, Kirk Holmes, Doc Hansen*  
URS: *John Knutson, Will Guyton, Julie Blakeslee*  
PRR: *Amy Danberg*  
Cascade Economics: *Mike Taylor*  
Special Attendees: *Representatives of AFH, Plumb Creek, Eaton Ranch, IWRMP Lands Subcommittee*

Subject: **IWRMP Ecosystem and Habitat Restoration and Enhancement Land Use and Economic Analysis Project—Citizens Advisory Committee Meeting No. 4**

Meeting Purpose: Review and discuss the land use and economic analysis results, receive property owner input, discuss preliminary economic mitigation strategies.

Agenda Item

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|-------------|---|
| 3:00 – 3:05 | Welcome & Introductions   |
| 3:05 – 3:10 | Meeting Purpose & Agenda  |
| 3:10 – 3:40 | Present Summary of Land Use and Economic Analyses Results                             |
| 3:40 – 4:00 | Opportunity for Land Owner and Lands Subcommittee Input on Analyses                   |
| 4:00 – 4:35 | CAC Discussion and Feedback on Land Use and Economic Analyses Results                 |
| 4:35 – 4:55 | Discuss Need and Tools for Public Investments and Kittitas County Economic Mitigation |
| 4:55 – 5:00 | Next Meeting Dates & Topics   |
| 5:00        | Adjourn   |





*IWRMP TARGETED WATERSHED PROTECTIONS & ENHANCEMENT  
LAND USE AND ECONOMIC ANALYSIS PROJECT*

**KITTITAS COUNTY  
CITIZENS ADVISORY COMMITTEE  
MEETING No. 4**

Manastash Room, Kittitas Valley Event Center  
*May 10, 2012*

*WELCOME & INTRODUCTIONS*

- **Welcome & Thank you!**
- **Citizens Advisory Committee Members** (*Introductions*)
- **Kittitas County Participants**
  - Paul Jewell, County Commissioner, District #1
  - Kirk Holmes, Public Works Director (*Project Manager*)
  - Doc Hansen, Planning Official
- **Consultant Participants**
  - John Knutson, PE, URS Corporation (*Meeting Leader*)
  - Amy Danberg, PRR Inc. (*Meeting Facilitator*)
  - Will Guyton, URS Corporation
  - Julie Blakeslee, URS Corporation (*Land Use Planner*)
  - Michael Taylor, Cascade Economics (*Economist*)

## *MEETING PURPOSE & AGENDA*

- ✓ **Welcome & Introductions**
  - **Present Summary of Land Use and Economic Analyses Results**
  - **Opportunity for Land Owner and Lands Subcommittee Input on Analysis**
  - **CAC Discussion and Feedback on Land Use and Economic Analyses Results**
  - **Discuss Need and Tools for Public Investments and Kittitas County Economic Mitigation**
  - **Next Meeting Dates & Topics**

## *LAND USE ANALYSIS RESULTS SUMMARY*

### **INTRODUCTION**

- **Draft Memorandum Included Analysis of:**
  - Land acquisitions (~110,000 acres),
  - National Recreation Area designations (~155,000 acres),
  - Wild and Scenic River designations (~23,000 acres), and
  - Shrub-Steppe Habitat acquisitions/conservation easement (~14,000 acres).
- **Also included review of CAC concerns and benefits**



## LAND USE ANALYSIS RESULTS SUMMARY

Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
Upper Yakima River Basin High Elevation Watershed Preferred Option (Teaaway)	Commercial Forest	Acquisition as a Consortium/Community or as State Ownership	40,179 acquired	Public Access and Use Recreation Access Environmental Protection	↑ ↑ ↑
	Forest and Range		6,113 acquired	Logging/Timber Utility Access Grazing Opportunities Dams (when federally-funded)	NC NC NC N/A
	Rural-3		846 acquired	Residential/Agricultural Development Solar Development	↓ NC

Notes:  
 ↑ = improves or increases    ↓ = degrades or decreases    NC = little to no change    N/A = not applicable

## LAND USE ANALYSIS RESULTS SUMMARY

Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manastash)	Commercial Forest	Acquisition for Public Land	63,005 acquired	Public Access and Use Recreation Access Environmental Protection Logging/Timber Utility Access Grazing opportunities Dams (when federally-funded) Residential/Agricultural Development	↑ ↑ ↑ NC NC ↑ N/A ↓

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## LAND USE ANALYSIS RESULTS SUMMARY

Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
<b>Upper Yakima NRA</b>	Unzoned (public land)	Designation of Public Land as NRA and Wilderness	99,818 designated as NRA	Public Access and Use Recreation Access Environmental Protection Logging/Timber Utility Access Grazing Opportunities	↑ ↑ NC NC NC NC
			19,964 designated as Wilderness	Public Access and Use Recreation Access Environmental Protection Logging/Timber Utility Access Grazing Opportunities	NC NC ↑ ↓ ↓ ↓

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## LAND USE ANALYSIS RESULTS SUMMARY

Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
<b>Manastash-Taneum NRA</b>	Unzoned (public land)	Designation of Public Land as NRA	35,000 designated as NRA	Public Access and Use Recreation Access Environmental Protection Logging/Timber Grazing Opportunities	↑ ↑ NC NC NC

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## LAND USE ANALYSIS RESULTS SUMMARY

Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
<b>Wild/Scenic River Designations for the Upper Cle Elum, Wapatus, and Cooper Rivers</b>	Unzoned (public land)	Wild and Scenic River Designation on Public Land	15,719 designated as Wild and Scenic	Public Access and Use Recreation Access Environmental Protection Dams (when federally-funded) Residential/Agricultural Development	↑ NC ↑ ↓ NC

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## LAND USE ANALYSIS RESULTS SUMMARY

Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
<b>Wild/Scenic River Designations for the North, Middle, and West Forks of the Teanaway River</b>	Unzoned (public land)	Wild and Scenic River Designation on Public Land	7,632 designated	Public Access and Use Recreation Access Environmental protection Dams (when federally-funded) Residential/Agricultural Development	↑ NC ↑ ↓ NC

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## LAND USE ANALYSIS RESULTS SUMMARY

Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
Shrub-Steppe Habitat Preferred Option (Eaton Ranch)	Forest and Range	Land Acquisition and/or Conservation Easement	11,620 acquired	Public Access and Use Recreation Access Environmental protection Utility Access	↑ ↑ ↑ ↓
	Agricultural (AG-20)		2,211 acquired	Grazing Opportunities Residential/Agricultural Development Wind Farms	NC ↓ NC

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## LAND USE ANALYSIS RESULTS SUMMARY

### SUMMARY

- **Future residential development could be reduced with:**
  - Land acquisition under the Teanaway option
  - Land acquisition under the Taneum and Manastash option
  - Shrub-Steppe Habitat Preferred Option
- **Public/Recreation Access and Use, and Environmental Protection would increase for most options**
- **Wild and Scenic River designation would result in minimal land use changes**
- **Wind Farm potential would not change under the Shrub-Steppe Habitat Preferred Option**

## *ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY*

### OVERVIEW

- **What do we mean by “Economic Impacts?”**
  - Changes to Kittitas County commerce: sales and output, personal income, employment
  - Impacts to County government: revenues and obligations
  - Also urban and rural impacts
- **Not measuring “feasibility of the TWPEC,” as long-term benefits vs. costs**
- **Goal is to understand who is affected and by how much, and what mitigation would be necessary to compensate for the effects of the TWPEC**

## *ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY*

### TYPES OF IMPACTS MEASURED

- Recreation
- Property Development / Construction
- Agriculture
- Tourist Accommodations
- County Revenues and Expenditures

### ASSUMPTIONS AND SCENARIOS CONSIDERED

- Impacts of the Full Recommendation of the Land Subcommittee
- “Public Investment” versus “No Public Investment” in recreation facilities and infrastructure

## ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY

Option Name	Current Uses	Post IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations
<b>Upper Yakima River Basin High Elevation Watershed Preferred Option (Teanaway)</b>	Timber production	Public Acquisition for Conservation	Landowners	Timber revenues (\$/year)	NC
				Biomass industry development	?
	Grazing		Grazing	Grazing use by permittees	NC
			Recreationists		
	Recreation		• Hunters	Visitor days	↑
	Hunting		• Snowmobilers	Visitor days	↓
	Snowmobiling		• Nordic Skiers	Visitor days	↑
	Nordic Skiing		• Hikers	Visitor days	↑
	Hiking		• Campers	Visitor days	NC
	Camping		• OHV Use	Visitor days	↓
OHV Use	Property Developers	Residential development	↓		
		Solar Development	NC		
Solar development		Kitititas County	Property Tax Revenues	↑	
			Forest Health Management	↑	
<b>Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manatash)</b>	Timber production	Public Acquisition for Conservation	Landowners	Timber revenues (\$/year)	NC
				Biomass industry development	?
	Recreation		Recreationists		
	Hunting		• Hunters	Visitor days	↑
	Fishing		• Alpine Skiers	Visitor days	↑
	Snowmobiling		• Hikers	Visitor days	↑
	Skiing		• Campers	Visitor days	↑
			Property Developers	Residential development	↓
			Kitititas County	Property Tax Revenues	↑
				Forest Health Management	↑

Notes:

↑ = increases

↓ = decreases

NC = remains about the same

? = uncertain; depends on new rules (see text)

## ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY

Option Name	Current Uses	Post IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations
<b>Upper Yakima NRA</b>		Designation of 80% of Public Land as National Recreation Area	Landowners ( <i>adjacent private land only</i> )	Timber revenues (\$/year)	NC
			Grazing	Grazing use by permittees	NC
			Recreationists		
	Timber production		Hunters	Visitor days	↑
			Fishers	Visitor days	↑
	Grazing		Snowmobilers	Visitor days	↑
		Nordic Skiers	Visitor days	↑	
	Recreation	Hikers	Visitor days	↑	
	Hunting	Campers	Visitor days	↑	
	Fishing	OHV Use	Visitor days	↑	
	Snowmobiling	Kitititas County	Property Tax Revenues	NC	
	Skiing		Forest Health Management	↑	
	Hiking	Designation of 20% of Public Land as Wilderness	Recreationists		
	Camping		Hunters	Visitor days	↓
	OHV Use		Fishers	Visitor days	↑
			Snowmobilers	Visitor days	↓
	Nordic Skiers		Visitor days	↑	
	Hikers		Visitor days	↑	
	Campers	Visitor days	↑		
	OHV Use	Visitor days	↓		

Notes:

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## ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY

Option Name	Current Uses	Post IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations
<b>Manastash-Taneum NRA</b>	Timber production	Designation of Public Land as National Recreation Area	Loggers	Timber revenues (\$/year)	NC
	Grazing		Grazing	Grazing use by permittees	NC
	Recreation		Recreationists	Visitor days	↑
	Hunting		Hunters	Visitor days	↑
	Fishing		Fishers	Visitor days	↑
	Snowmobiling		Snowmobilers	Visitor days	↑
	Skiing		Alpine Skiers	Visitor days	↑
	Hiking		Hikers	Visitor days	↑
	Camping		Campers	Visitor days	↑
	OHV Use		OHV Use	Visitor days	↑
			Kitititas County	Property Tax Revenues	NC
			Forest Health Management	↑	
<b>Wild/Scenic River Designations for the Upper Cle Elum, Wapitus, and Cooper Rivers</b>	Residential	Wild and Scenic River Designation on Public Land	Property Owners	Residential Development	NC
	Recreation		Recreationists	Visitor days	↑
	Hunting		Hunters	Visitor days	↑
	Fishing		Fishers	Visitor days	↑
	Hiking		Hikers	Visitor days	↑
	Camping		Campers	Visitor days	↑
			Kitititas County	Property Tax Revenues	NC

Notes:

↑ = increases

↓ = decreases

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## ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY

Option Name	Current Uses	Post IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations
<b>Wild/Scenic River Designations for the North, Middle, and West Forks of the Teanaway River</b>	Residential	Wild and Scenic River Designation on Public Land	Property Owners	Residential Development	NC
	Recreation		Recreationists	Visitor days	↑
	Hunting		Hunters	Visitor days	↑
	Fishing		Fishers	Visitor days	↑
	Hiking		Hikers	Visitor days	↑
	Camping		Campers	Visitor days	↑
	Kitititas County	Property Tax Revenues	NC		
<b>Shrub-Steppe Habitat, Preferred Option (Eaton Ranch)</b>	Cattle production Irrigated hay production	Land Acquisition and/or Conservation Easement	Grazing	Grazing use by property owners	NC/↓
			Hay Producers	Irrigation and hay harvest	NC/↓
			Recreationists	Visitor days	↑
			Wildlife viewers	Visitor days	↑
			Hikers	Visitor days	↑
			Campers	Visitor days	↑
			Property Developers	Wind farm developers	?
Kitititas County	Property Tax Revenues	NC/↓			

Notes:

↑ = increases

↓ = decreases

NC = remains about the same

? = uncertain; depends on new rules (see text)

## ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY

### Teanaway

Summary of Impacts	
<b>Economic Benefits</b>	
◆ Hiking	\$196,719
◆ Snowmobiling	-\$109,802
◆ Construction	-\$500,000
<b>Net Benefits</b>	<b>-\$418,083</b>
<b>County Revenue and Expenses</b>	
◆ Tax Revenue	\$24,280
◆ Expenditures	\$100,000

### Taneum and Manastash

Summary of Impacts	
<b>Economic Benefits</b>	
◆ Camping	\$83,183
◆ Hiking	\$262,059
<b>Net Benefits</b>	<b>\$345,242</b>
<b>County Revenue and Expenses</b>	
◆ Tax Revenue	\$100,662
◆ Expenditures	\$150,000

## ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY

### Upper Yakima NRA

Summary of Impacts	
<b>Economic Benefits</b>	
◆ Snowmobiling	\$43,921
◆ Non-motorized rec.	\$308,188
◆ Camping	\$83,183
<b>Net Benefits</b>	<b>\$435,292</b>
<b>County Revenue and Expenses</b>	
◆ Tax Revenue	\$0
◆ Expenditures	\$300,000

### Manastash-Taneum NRA

Summary of Impacts	
<b>Economic Benefits</b>	
◆ Motorized Rec.	\$254,740
◆ Camping	\$83,183
<b>Net Benefits</b>	<b>\$337,923</b>
<b>County Revenue and Expenses</b>	
◆ Tax Revenue	\$0
◆ Expenditures	\$150,000



## ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY

### Wild & Scenic Rivers

Summary of Impacts	
County Revenue and Expenses	
◆ Tax Revenue	\$0
◆ Expenditures	\$100,000

### Shrub-Steppe Habitat

Summary of Impacts	
Economic Benefits	
◆ Agriculture	-\$100,000
◆ Wildlife Viewing	\$39,126
◆ Resort Operation	-\$150,000
<b>Net Benefits</b>	<b>-\$210,874</b>
County Revenue and Expenses	
◆ Tax Revenue	-\$16,000
◆ Expenditures	\$50,000

## ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY

### Summary of Impacts on Annual Sales, Income, and Employment

Impact Category	With Public Investment		Without Public Investment	
	Direct	Total	Direct	Total
Employment (jobs)	13.0	14.7	-2.8	-4.7
Personal Income	\$422,025	\$471,301	-\$23,018	-\$75,623
Output (Sales)	\$556,054	\$739,688	-\$471,104	-\$644,358

## ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY

Change in Spending in Urban and Rural Kittitas County,  
Under "With" and "Without" Public Investment Scenarios  
(\$ per year)

	With Public Investment		Without Public Investment	
	Urban	Rural	Urban	Rural
Private Sector Spending	\$606,470	-\$223,276	-\$576,677	-\$223,890
Public Sector Spending	\$0	\$356,493	\$0	\$156,209
<b>SUBTOTAL</b>	<b>\$606,470</b>	<b>\$133,218</b>	<b>-\$576,677</b>	<b>-\$67,681</b>
<b>TOTAL SPENDING</b>	<b>\$739,688</b>		<b>-\$644,358</b>	

## ECONOMIC IMPACT ANALYSIS RESULTS SUMMARY

Change in Tax Revenue in Urban and Rural Kittitas County,  
Under "With" and "Without" Public Investment Scenarios  
(\$ per year)

	With Public Investment		Without Public Investment	
	Urban	Rural	Urban	Rural
Sales Tax Revenue	\$9,353	\$1,651	-\$1,658	-\$293
Payment in Lieu of Taxes	\$0	\$108,942	\$0	\$108,942
<b>SUBTOTAL</b>	<b>\$9,353</b>	<b>\$110,593</b>	<b>-\$1,658</b>	<b>\$108,649</b>
<b>TOTAL REVENUE</b>	<b>\$119,946</b>		<b>\$106,992</b>	



*LAND OWNER AND LANDS SUBCOMMITTEE INPUT*

**PURPOSE OF THE CAC:**

- Not for or against Lands Committee recommendations.
- Participate in an analysis of land use and economic impacts that could occur if the preferred recommended actions move forward.
- Provide recommendations to the BOCC about possible economic mitigation strategies to pursue.



*LAND OWNER AND LANDS SUBCOMMITTEE INPUT*

**EXAMPLE INPUT TOPICS:**

- Are land uses generally correct?
- Are there any limitations on development options?
- Are land use projects considered feasible?
- What is the validity of a wind farm on Eaton Ranch?
- What is the status of the timber/grazing markets and their ability to grow?
- How do the recreational assumptions compare to actual activities?

## *CAC DISCUSSION AND FEEDBACK*

- Looking for questions, suggestions to correct mistakes, make improvements, and/or add clarifications to final report.
- Preliminary Feedback
  - County's remaining issues: Shrub-Steppe development, timing of improvements vs. impacts, certainty of PILT, importance of investment
  - Jill Arango's thoughts on importance of recreation and public investment tools
- Need CAC concurrence to move forward (mitigation approaches).

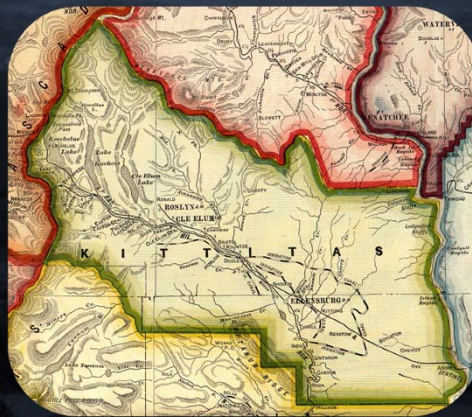
## *PUBLIC INVESTMENTS & ECONOMIC MITIGATION*

- Why is public investment in improvements needed?
- How will public investments be funded?
- Why is economic mitigation recommended for Kittitas County?
- What is an "economic mitigation" strategy?
- Several economic mitigation concepts:
  - PILT eligibility
  - Endowment Fund from IWRMP
  - Direct annual payments from sponsoring agencies
  - Contracts with land managers
  - Others

## NEXT MEETING DATES & TOPICS

Meeting & Topic	Approximate Meeting Dates
<b>✓ CAC Meeting 4</b> <ul style="list-style-type: none"><li>• Review consultant team land use and economic impact analyses results</li><li>• Obtain CAC feedback</li><li>• Discuss possible economic mitigation strategies</li></ul>	<i>May 10, 2012</i> Ellensburg
<b>CAC Meeting 5</b> <ul style="list-style-type: none"><li>• Review mitigation matrix</li><li>• Discuss and refine evaluation</li><li>• Identify preferred mitigation approach(es)</li></ul>	early June 2012 (Ellensburg)

ADJOURN





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## **DRAFT LAND USE REPORT FOR KITTITAS COUNTY**

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**PREPARED FOR:** KITTITAS COUNTY STAFF AND CITIZENS ADVISORY COMMITTEE

**AUTHORS:** JULIE BLAKESLEE, AICP, AND MARISSA GIFFORD, AICP, URS CORPORATION

**DATE:** 4/25/2012

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### 1.0 INTRODUCTION

The Yakima Basin Integrated Water Resource Management Plan (IWRMP) was developed by the Washington State Department of Ecology (Ecology) and the U.S. Bureau of Reclamation (USBR) with the involvement of numerous stakeholders (Ecology and USBR 2011). The IWRMP seeks to improve the reliability of water supplies in the Yakima River Basin in combination with improvements to fish and wildlife habitat and water conservation measures. The IWRMP includes a habitat and ecosystem restoration and enhancement component with proposals that impact Kittitas County and its citizens.

Kittitas County has hired URS Corporation to identify land use changes that arise from the IWRMP ecosystem and habitat restoration/enhancement component and to conduct a formal analysis of land use changes due to implementation of proposed actions. This report presents the land use analysis.

## 2.0 RELEVANT IWRMP COMPONENT ACTIONS

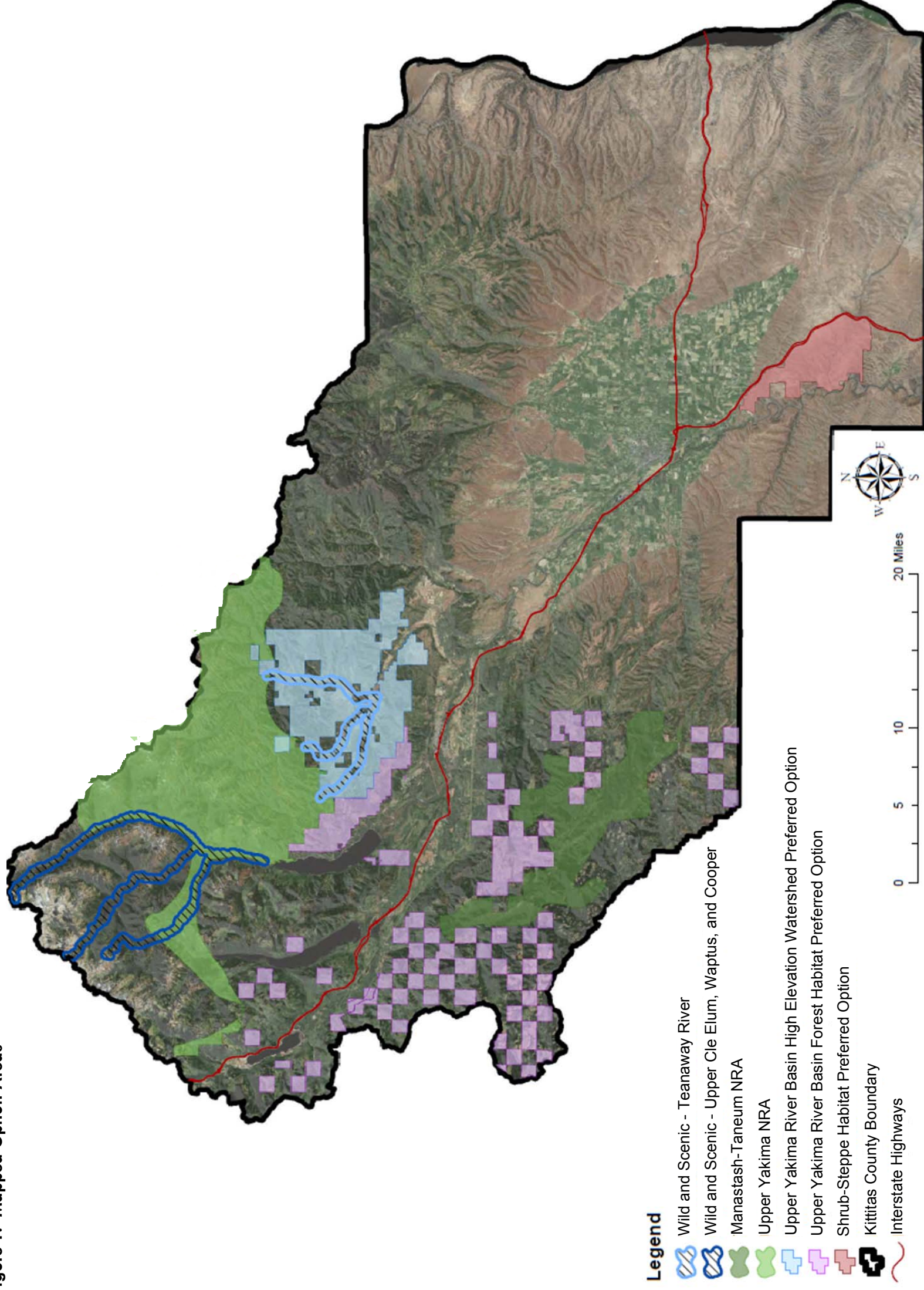
The IWRMP consists of seven elements, including a “Habitat/Watershed Protection and Enhancement Element”. This element includes Targeted Watershed Protections and Enhancement Components (TWPEC) (see Figure 1). Specific land conservation actions (see Figures 2, 3, 4, and 5) within Kittitas County under the TWPEC include:

- Land acquisitions from willing sellers in the Upper Yakima and Naches River watersheds;
  - Upper Yakima River Basin High Elevation Watershed Preferred Option: Acquisition of an approximately 47,000 acre tract in the middle and lower Teanaway River basin.
  - Upper Yakima River Basin Forest Habitat Preferred Option: Acquisition of lands at the headwaters of the Taneum and Manastash Creeks.
  - Alternatives:
    - Alternative 1: Acquisition of Plum Creek Holdings in the Big Creek, Taneum Creek, Cabin Creek and Cle Elum River watersheds.
    - Alternative 2: Acquisition of American Forest Lands Resource holdings in the Swauk and First Creek areas.
    - Alternative 3: Acquisition of additional private forest land holdings in Kittitas County.
- National Recreation Area Designations for existing U.S. Forest Service (USFS) land in the Teanaway Basin and in the Manastash-Taneum watershed;
  - Creation of the Upper Yakima National Recreation Area on approximately 100,000 acres of existing USFS land.
  - Creation of the Manastash-Taneum National Recreation Area on approximately 38,970 acres of existing USFS land.
- Wild and Scenic River Designations for the Upper Cle Elum, Waptus, and Cooper Rivers, and the North, Middle, and West Forks of the Teanaway River; and
- Shrub-Steppe Habitat Preferred Option: Acquisition of the Eaton Ranch property for shrub-steppe protection (dependent on the viability of the Wymer Reservoir project as described in the IWRMP).

The Kittitas County Citizens Advisory Committee was formed to review the TWPEC Proposal and to identify and discuss potential land use and economic concerns and benefits (Appendix A). These were reviewed and analyzed during the development of this report.

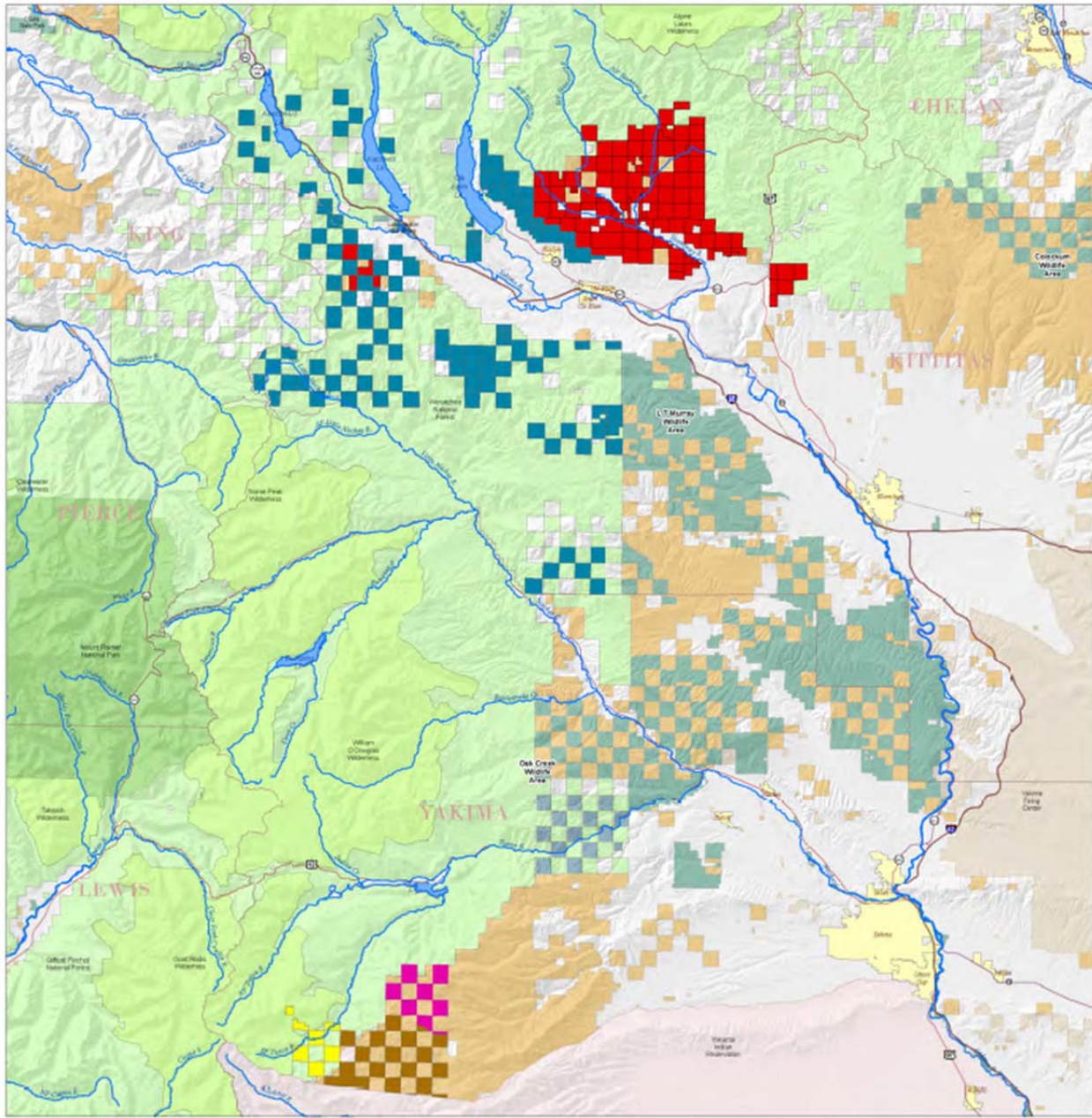


Figure 1: Mapped Option Areas



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**Figure 2: Options for Forest Land Acquisitions**



**Major Land Owners**

- American Forest Resources: 51,437 acres
- Plum Creek Timber : 63,619 acres
- Cowiche 1
- Cowiche 2
- Cowiche 3

**Land Management**

- WA Dept. of Fish and Wildlife
- WA Dept. of Natural Resources
- Tribal

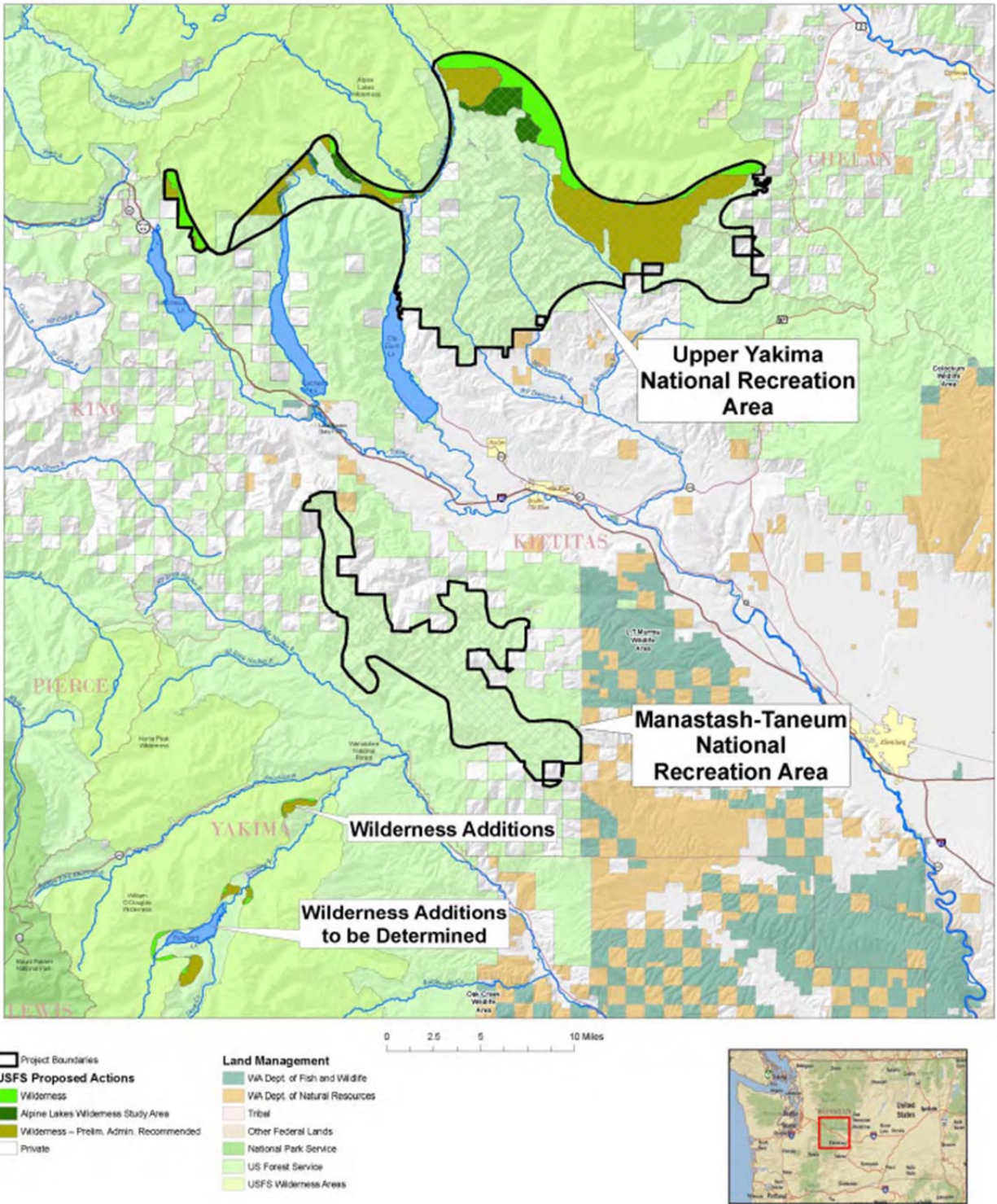
**Other Federal Lands**

- National Park Service
- US Forest Service
- USFS Wilderness Areas



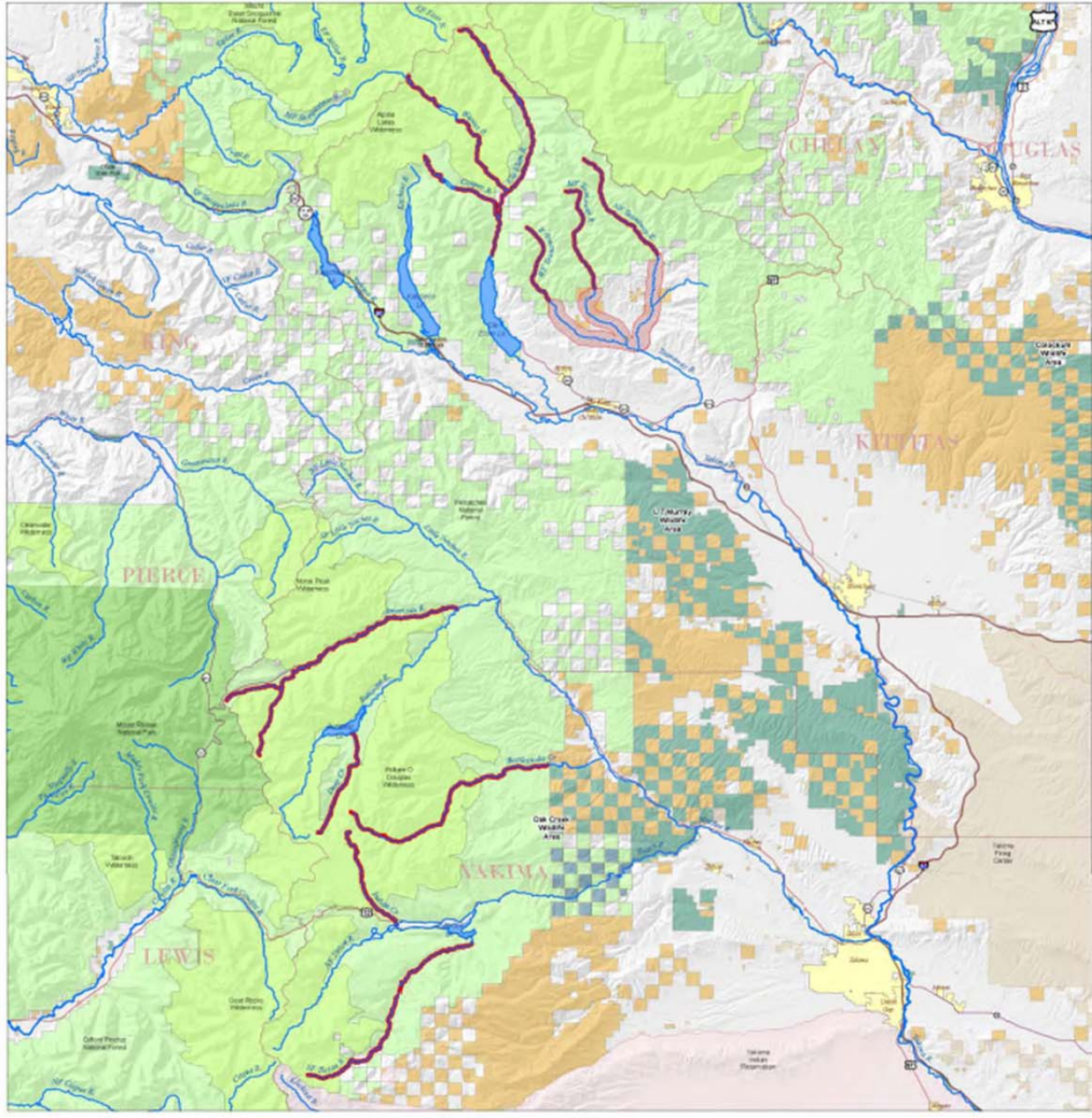
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**Figure 3: Options for National Recreation Area and Wilderness Designations**



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**Figure 4: Options for Wild and Scenic River Designations**

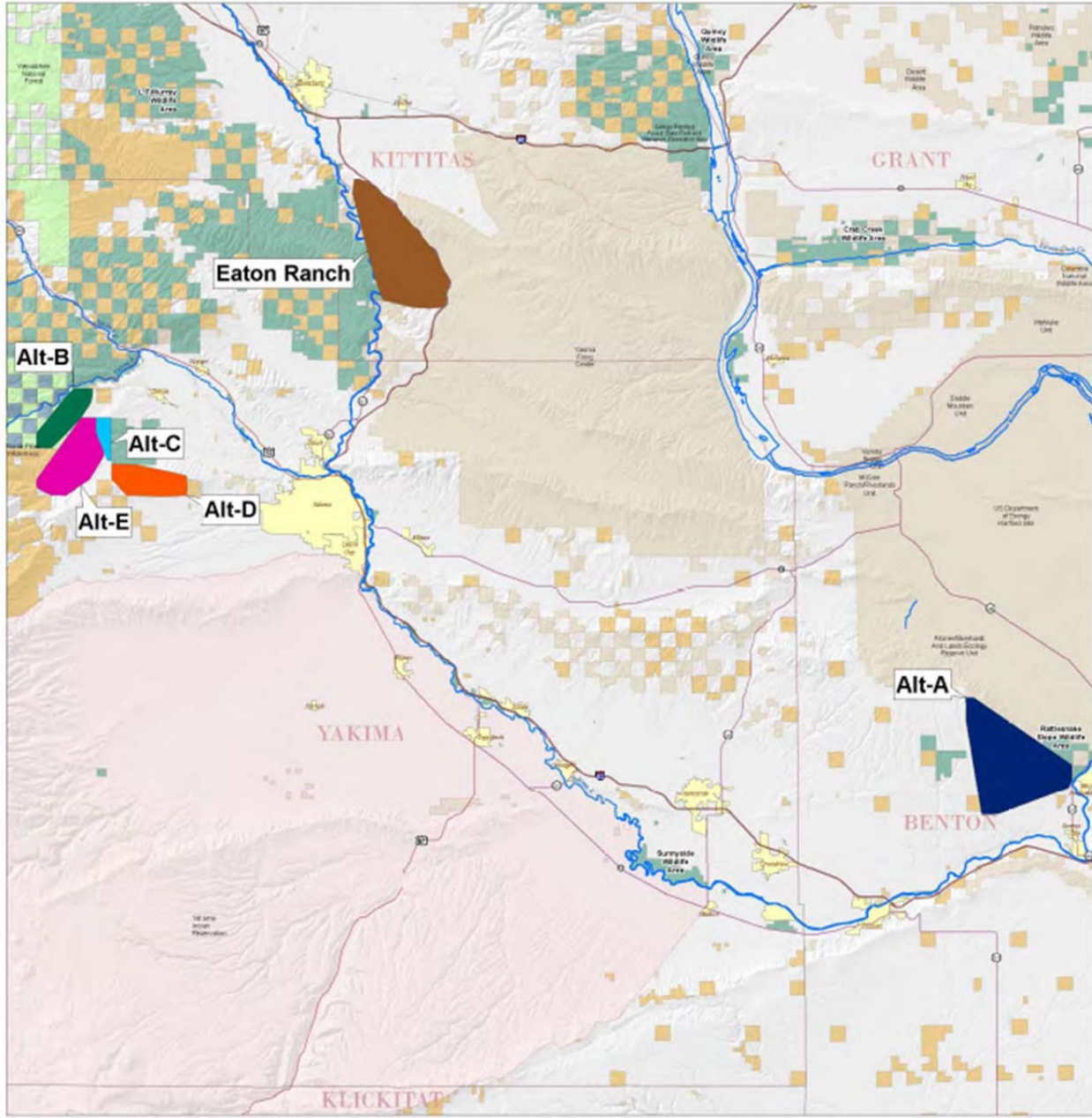


- |   |   |   |
|---|---|---|
|  Proposed Wild and Scenic Rivers     | <b>Land Management</b>  |  Other Federal Lands   |
|  Wild and Scenic Under Consideration |  VA Dept. of Fish and Wildlife |  National Park Service |
|   |  VA Dept. of Natural Resources |  US Forest Service     |
|   |  Tribal                        |  USFS Wilderness Areas |



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**Figure 5: Options for Shrub-Steppe Habitat Acquisitions**



Parcel_Code		Land Management	
	Eaton Ranch		WA Dept. of Fish and Wildlife
	Shrub Steppe Alt-A		WA Dept. of Natural Resources
	Shrub Steppe Alt-C		Tribal
	Shrub Steppe Alt-D		Other Federal Lands
	Shrub Steppe Alt-E		National Park Service
	Shrub Steppe Alt-B		US Forest Service
			USFS Wilderness Areas



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### 3.0 REVIEW OF EXISTING LAND USE

#### Upper Yakima River Basin High Elevation Watershed Preferred Option (Teaway)

The entirety of the Upper Yakima River Basin high elevation watershed area proposed for acquisition/preservation is owned by American Forest Holdings LLC and has historically been in use as a working forest (see Figures 1, 2 and 6). Designated land uses for the 47,139 acres in this option area are:

- Resource (40,179 acres/85 percent) and
- Rural (6,959 acres/15 percent).

Typical activities within the Resource and Rural land use designations from the Kittitas County Comprehensive Plan are listed in the sidebar shown on this page (Kittitas County 2011a).

Existing zoning in this area is:

- Commercial Forest (40,179 acres/85 percent),
- Forest and Range (6,113 acres/13 percent), and
- Rural-3 (846 acres/2 percent).

The classifications and uses permitted in the Commercial Forest, Forest and Range, and Rural-3 zone are detailed in the sidebar shown on this page (Kittitas County 2011b, Chapter 17.57). Within the option area there are approximately 24.7 miles of groomed snowmobile trails, one Washington Department of Natural Resources (DNR)-managed campground and two primitive campgrounds: Dickey Creek and Indian Camp (Visit Kittitas 2012). Recreational access is open to the public unless otherwise noted. Hunting is allowed, subject to state game regulations.

The County's Shoreline Master Program (SMP) regulates the shoreline 100 feet landward of the ordinary high water mark of water bodies that are considered shorelines of statewide significance. The North, Middle, and West Forks of the Teaway River run through the area and are regulated under the SMP. Only the portion of a parcel that is within 100 feet of the shoreline is regulated under the SMP. The northern-most portions of the West and Middle Forks are designated under the County's SMP as Conservancy, while the lower portions of these forks and the entirety of the North Fork are designated as Rural (Kittitas County 1975). A description of these designations is provided in the sidebar of page 5. The County is currently in the process of updating the SMP.

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#### County Land Use Designations

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**Resource:** agriculture, forestry, and mineral extraction.

**Rural:** dispersed and clustered residential developments, farms, ranches, and small-scale commercial and industrial uses to serve rural residents.

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#### County Zoning Designations

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**Commercial Forest:** applies to lands with a long-term significance for the commercial production of timber. Permitted uses include forestry, removal and harvesting of vegetation, grazing, dispersed recreation, mining, aircraft landing fields and heliports, watershed management facilities, research, and single-family residences.

**Forest and Range:** applies to lands where natural resource management is the highest priority and where subdivision and development of lands for uses incompatible with resource management are discouraged. Permitted uses include: single-family residences; lodges and community clubhouses; agriculture; forestry; mining; quarry mining; and cluster subdivisions when approved as a platted subdivision.

**Rural-3:** provides for residential development on a low-density basis in order to minimize effects on adjacent natural resource lands. Permitted uses include: single-family residences; lodges and community clubhouses; agriculture; forestry; cluster subdivisions when approved as a platted subdivision; and all mining activities.

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**County Shoreline Master Program Designations**

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*Conservancy: used for areas where maintenance of the existing character of the area is desirable. The use of natural resources on a sustained yield basis is allowed in this environment, which allows for harvesting of timber and recreation.*

*Rural: intended to protect agricultural land from urban, suburban, commercial, or industrial expansion and to restrict intensive development along undeveloped shoreline areas which might interfere with the operations or viability of agricultural activities along the shoreline.*

Steep slopes (slopes greater than 35 percent) are estimated to be present on approximately 26 percent (12,127 acres) of the land in this area (Kittitas County 2012). Landslide areas are also present on many of the parcels. Forestry and agriculture are allowed in areas of steep slopes or other geologic hazards. Residential construction is permitted in areas of steep slopes if setback requirements from the International Residential Code are met (typically 10-40 feet setback from the top of slopes) (IRC 2012).

The proposed Teanaway Solar Reserve would be located in the southeast corner of the option area (934 acres fall within the option area and 30 acres are outside of the option area). This land is currently being leased from American Forest Holdings LLC by a private entity to construct the Teanaway Solar Reserve, the largest photovoltaic solar project proposed in the Pacific Northwest. When completed, it is expected to generate up to 75 megawatts – enough to power approximately 45,000 homes. The project will be designed to preserve bands of existing ponderosa pine

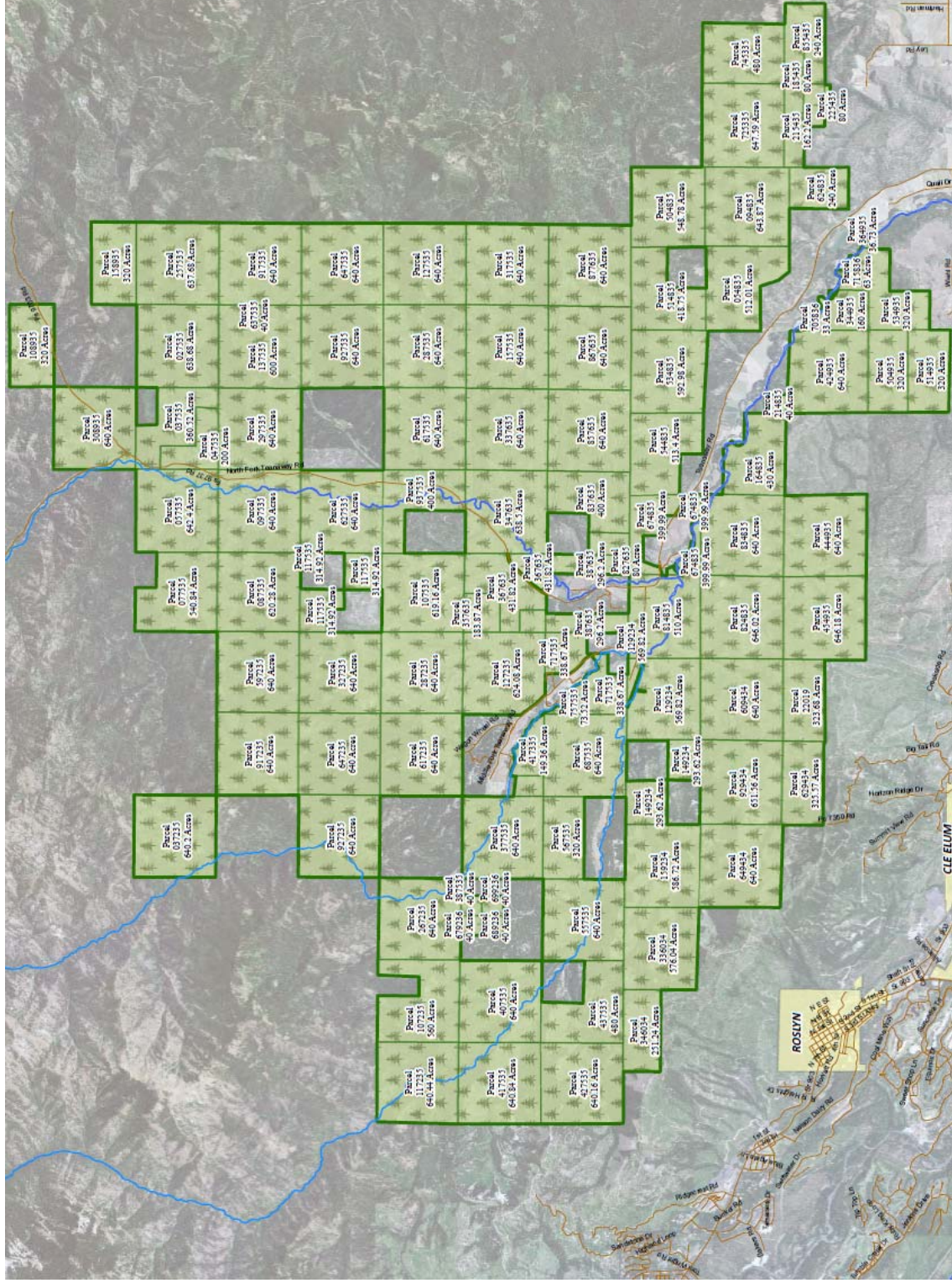
forest within the proposed development area.

**Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manastash)**

The 63,055 acres proposed to be acquired under this option include lands owned by Plum Creek Timber and Land Company (see Figures 1, 2 and 7). The area is zoned as Commercial Forest. The designated land use is Resource. The area is currently in use as forestry. Recreational access is open to the public unless otherwise noted. Hunting is allowed, subject to state game regulations.

Approximately 45 percent (28,375 acres) in the acquisition area contains steep slopes. Less than 5,675 acres (9 percent) intersect with priority habitat and species areas, including that for mountain goats, elk calves, and bighorn sheep. Priority habitat and species designations occur on all areas of mapped locations of threatened, endangered, or sensitive priority species.

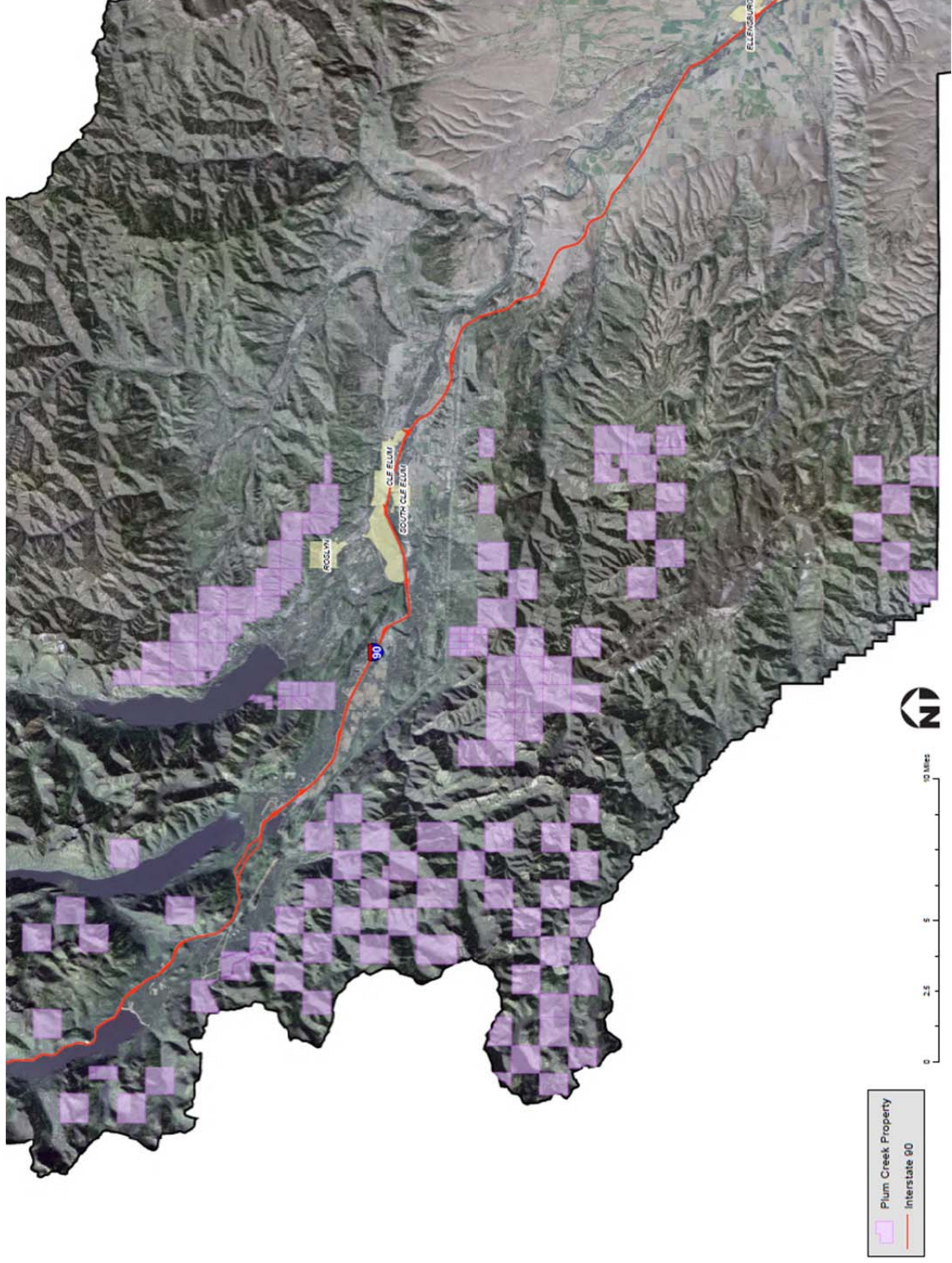
Figure 6: Upper Yakima River Basin High Elevation Watershed Preferred Option



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Figure 7: Upper Yakima River Basin Forest Habitat Preferred Option



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## **Upper Yakima National Recreation Area**

The National Recreation Area (NRA) is proposed to encompass 99,818 acres of publicly-held lands in Kittitas County (see Figures 1, 3 and 8). These acres are within the Okanogan-Wenatchee National Forest and are managed by the USFS. Current activities in the greater National Forest include recreation, motor vehicle use, grazing, logging, fire management, and utility corridors (USFS 2012a).

National Recreation Areas are to be designated on a protected area in the United States, often emphasizing water-based recreation for a large number of people. Areas designated as NRA are managed by different federal agencies based on the predominant land ownership, such as the USFS, Bureau of Land Management, or the National Park Service (Dilsaver 1994). National Recreation Areas in the Pacific Northwest include: the Mount Baker, Oregon Dunes, Hells Canyon, and Sawtooth NRAs (managed by the USFS); and the Lake Chelan, Lake Roosevelt, and Lake Ross NRAs (managed by the National Park Service) (NPS 2012, USFS 2012b).

Within the proposed NRA, approximately 6,000 acres would be designated for backcountry motorized recreational use, approximately 1,000 acres would be designated for backcountry non-motorized recreational use, and approximately 20 percent (19,964 acres) would be designated as wilderness (Watershed 2012). The exact location of the wilderness area has not yet been delineated, but for analysis purposes in this report it is assumed that the wilderness area will be entirely within Kittitas County. The Wilderness Act of 1964 was created to preserve and permanently protect the most natural and undisturbed places in the United States. An act of Congress is required to designate an area as wilderness. While recreation is allowed and encouraged in wilderness areas, certain restrictions are in place to preserve the character of the area, such as prohibiting off-road vehicles and restricting camping locations and off-leash dog activities (University of Montana et.al. 2012).

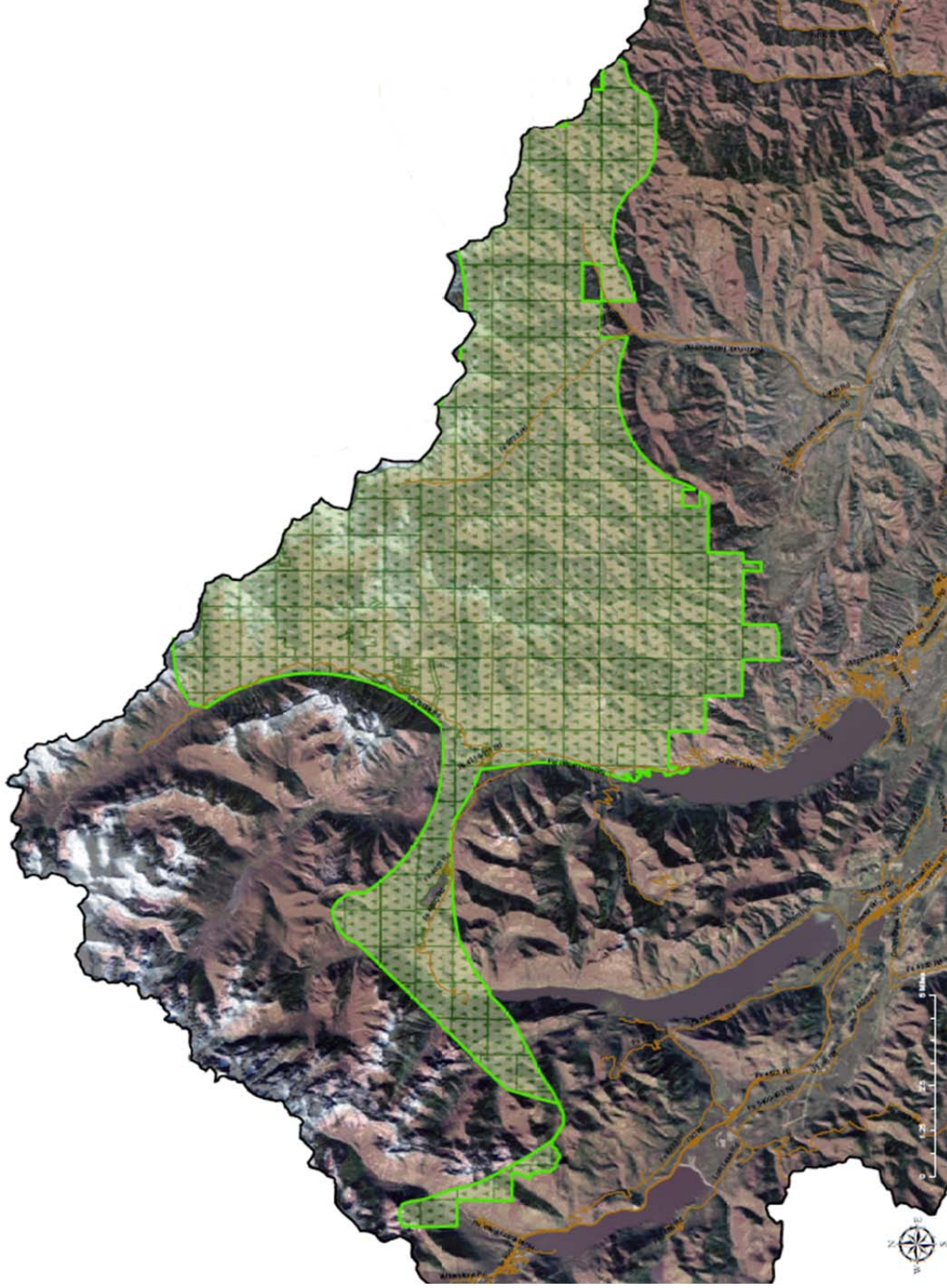
## **Manastash-Taneum National Recreation Area**

Final boundaries for the NRA have not been finalized; this report presents the estimate area of the NRA. The 38,970 acres proposed to be designated as a NRA are within the Okanogan-Wenatchee National Forest (28,624 acres) and the Mount Baker-Snoqualmie National Forest (10,346 acres) and is managed by the USFS (see Figures 1, 3 and 9). Approximately 35,000 acres would be designated for backcountry motorized recreational use; a wilderness designation is not proposed for this NRA (Watershed 2012). Current activities in the greater Mount Baker-Snoqualmie National Forest include recreation, motor vehicle use, grazing, logging, and fire management (USFS 2012c).

Approximately 52 percent of the proposed Manastash-Taneum NRA contains steep slopes of greater than 35 percent (20,157 acres) and about 17 percent contains landslide areas (6,556 acres). Manastash Lake, in the southeast portion of the proposed NRA, is designated as Rural by the County's Shoreline Master Program (Kittitas County 1975).

There are several USFS campgrounds and trailheads in the area, including the Manastash, Riders, and Taneum Junction campgrounds; and the South Fork Meadow, Shoestring, and Manastash trailheads (USFS 2012d).

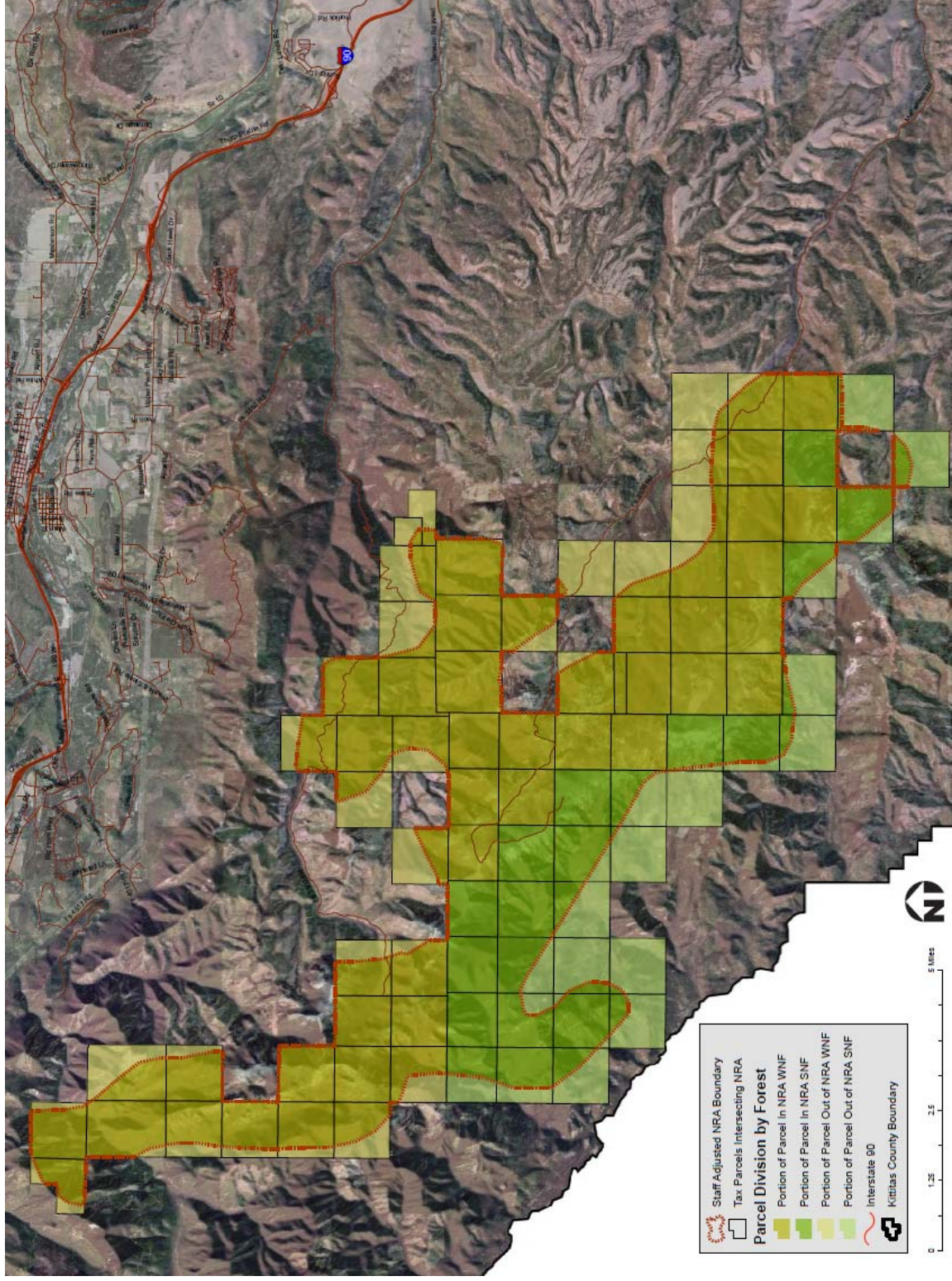
**Figure 8: Upper Yakima National Recreation Area**



Note: The boundary shown for the NRA is approximate; any private lands within this boundary would not be affected by the NRA designation.

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Figure 9: Manastash-Taneum National Recreation Area



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## **Wild and Scenic River Designations for the Upper Cle Elum, Waptus, and Cooper Rivers**

Under the Wild and Scenic Rivers Act, the designated boundaries average ¼ mile from the ordinary high water mark of the river on either side in order to protect river-related values (U.S. Code Title 16 – Conservation, Chapter 28 Wild and Scenic Rivers §1275(d)). As such, the 15,719 acres to be designated under this option includes a ¼ mile buffer around the Upper Cle Elum, Waptus, and Cooper Rivers (see Figures 1, 4 and 10). This ¼ mile buffer intersects with 215 parcels that have a total acreage of 50,417. As land use and zoning needs to be considered across an entire parcel, an analysis of the entire 50,417 acre area is presented below.

Land within this area is owned by the following:

- USFS as part of the:
  - Okanogan-Wenatchee National Forest (29,948 acres/59 percent)
  - Alpine Lakes Wilderness (19,854 acres/39 percent),
  - Mount Baker-Snoqualmie National Forest (258 acres/1 percent), and
- Various private land holders (357 acres/1 percent).

All 357 acres of the private land holdings have a land use designation of Resource and are zoned as Commercial Forest. The majority of private land parcels have been developed with residences. In addition, approximately 141 acres (39 percent) of the private land holdings are currently in use as farmland.

Federal land holdings are not zoned by the County. Land in the USFS-owned area is classified as National Forest and Wilderness. Motorized equipment is generally prohibited on all federal lands designated as wilderness. Public access to the Alpine Lakes Wilderness is provided via a use-limiting permit with quotas and reservations to ensure that there are no impacts to the wilderness resulting from access. Overnight camping is allowed in the Alpine Lakes Wilderness by permit and fee (University of Montana 2012).

There are several USFS campgrounds, recreation areas, and trailheads in the area, including the Owhi, Salmon La Sac, Red Mountain, and Fish Lake campgrounds; the Cayuse Horse Camp; the Salmon La Sac Sno-Park; and the Pete Lake and Tucquala Meadows trailheads (USFS 2012d).

## **Wild and Scenic River Designations for the North, Middle, and West Forks of the Teanaway River**

The 7,632 acres to be designated under this option includes a ¼ mile buffer around the North, Middle, and West Forks of the Teanaway River (see Figures 1, 4 and 11) from the headwaters of each fork to the confluence. This ¼ mile buffer intersects with 281 parcels that have a total acreage of 24,057, including additional lands in the Okanogan-Wenatchee National Forest north of the area shown on Figure 11. As land use and zoning needs to be considered across an entire parcel, an analysis of the 24,057 acre area is presented below.

Land within this area is owned by several different entities, including:

- American Forest Holdings (17,029 acres/71 percent),
- USFS as part of the Okanogan-Wenatchee National Forest (2,998 acres/2 percent),
- DNR (2,640 acres/11 percent), and
- Various private land holders (1,390 acres/6 percent).

Approximately 19,460 acres of land are designated as Rural, and the remaining 4,597 acres are designated as Resource.

Areas owned by the USFS and DNR are not zoned by the county and as such are not included in the following zoning calculations. Zoning of the 18,419 acres of private land in this area includes:

- Commercial Forest (15,118 acres/82 percent),
- Forest and Range (2,033 acres/11 percent), and
- Rural-3 (1,268 acres/7 percent).

Land owned by the American Forest Holdings has historically been in use as forestry, DNR land is currently in use as forestry, and USFS-owned land is in use as a National Forest. Typical activities within the National Forest include: hiking, hunting, fishing, climbing, and cross-country skiing. There are two primitive campsites, Dickey Creek and Indian Camp, located along the rivers (Visit Kittitas 2012). Land under private ownership is in use as residential and/or agriculture.

The northern-most portions of the West and Middle Forks are designated under the County's Shoreline Master Program as Conservancy, while the lower portions of these forks and the entirety of the North Fork is designated as Rural (Kittitas County 1975).

### **Shrub-Steppe Habitat Preferred Option (Eaton Ranch)**

Land within this 13,831 acre area is privately owned by the Eaton Family and is designated as Rural and is zoned as Forest and Range (11,620 acres, or 84 percent) and agricultural (AG-20) (2,211 acres, or 16 percent) (see Figures 1, 5 and 12). Current activities include farming (cow/calf operation, hay harvesting) and rural residential.

Approximately 39 percent of the land (5,427 acres) lies within the Mt. Baldy bighorn sheep winter range area as mapped by the county. There are documented greater sage grouse (*Centrocercus urophasianus*) breeding areas and golden eagle (*Aquila chrysaetos*) nest sites in the option area. Approximately 6,092 acres of the preferred option area are within the County's Wind Farm Resource Overlay Zone. The purpose of the Wind Farm Resource Overlay Zone is to recognize and designate properties suitable for the location of wind farms in order to protect the health, welfare, safety, and quality of life of the general public, and to ensure compatible land uses in the vicinity of areas affected by wind farms (Kittitas County 2011b, Chapter 17.61A).

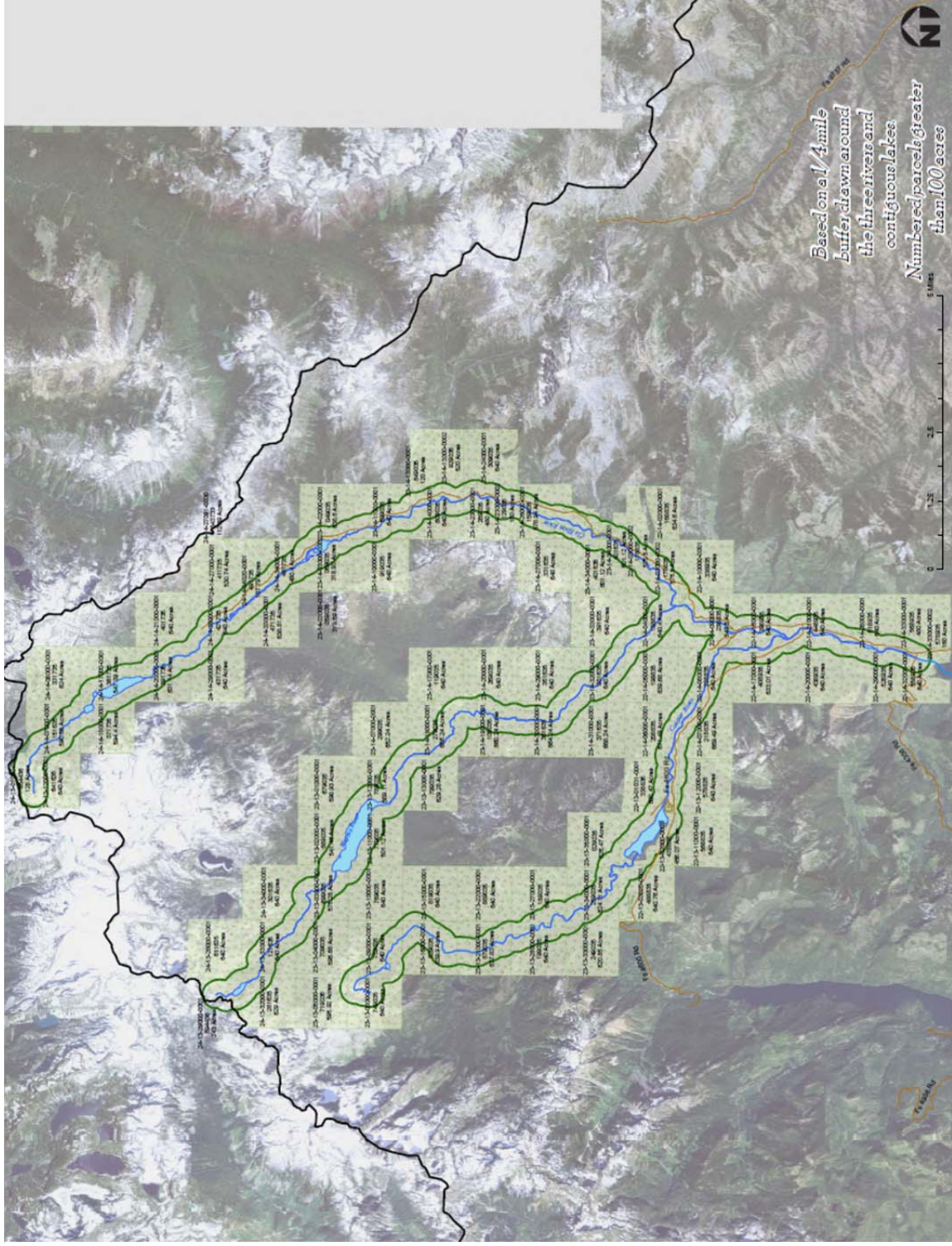
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### **County Zoning Designation**

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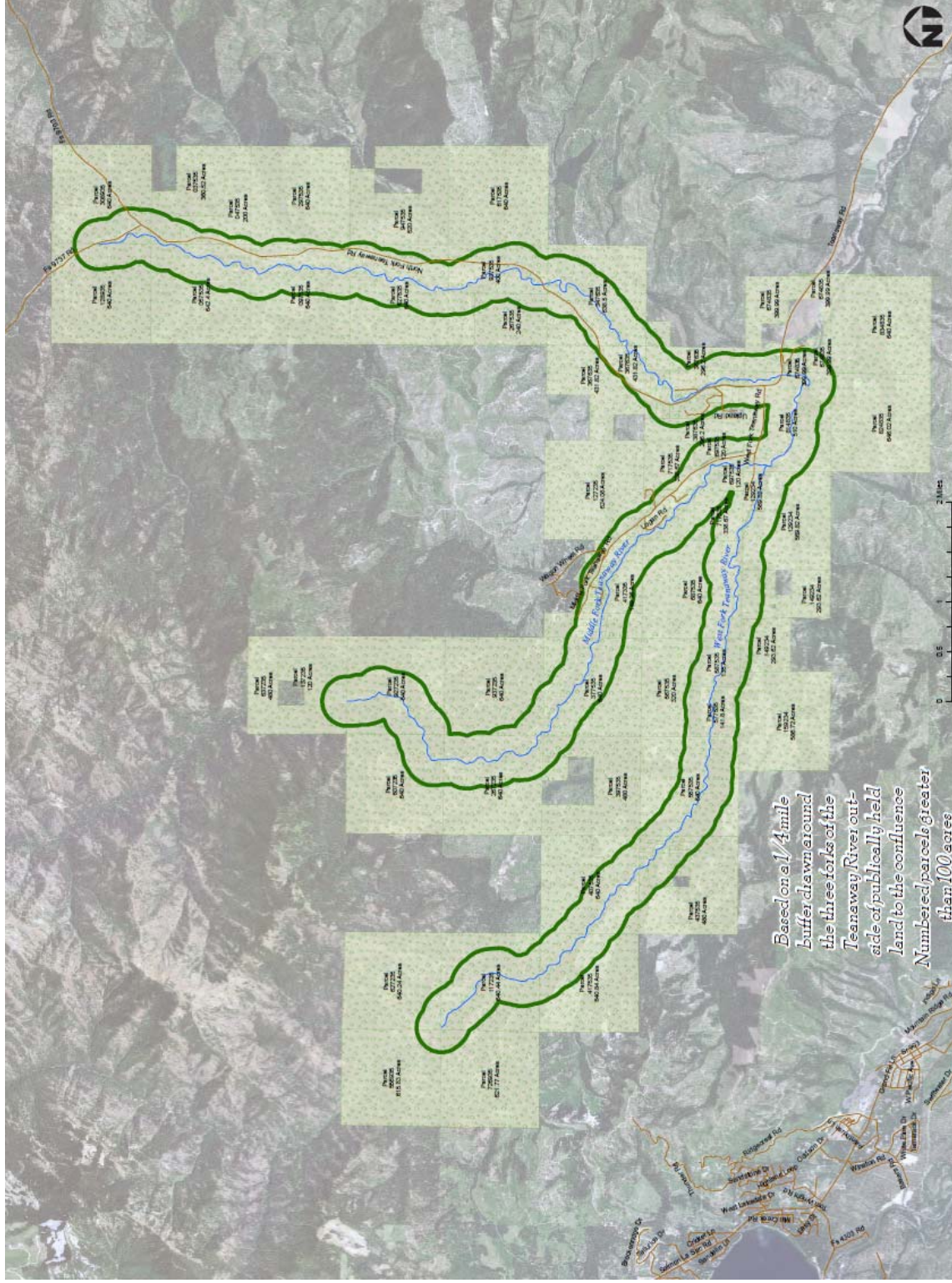
*Agricultural (AG-20): intended to preserve fertile farmland from encroachment by nonagricultural uses and to protect the rights and traditions of those engaged in agriculture. Permitted uses include: residences, parks and playgrounds, schools, public libraries, agriculture and horticulture, airports, forestry, gas and oil exploration and construction, and hay processing.*

Figure 10: Wild and Scenic River Designations for the Upper Cle Elum, Wapatus, and Cooper Rivers



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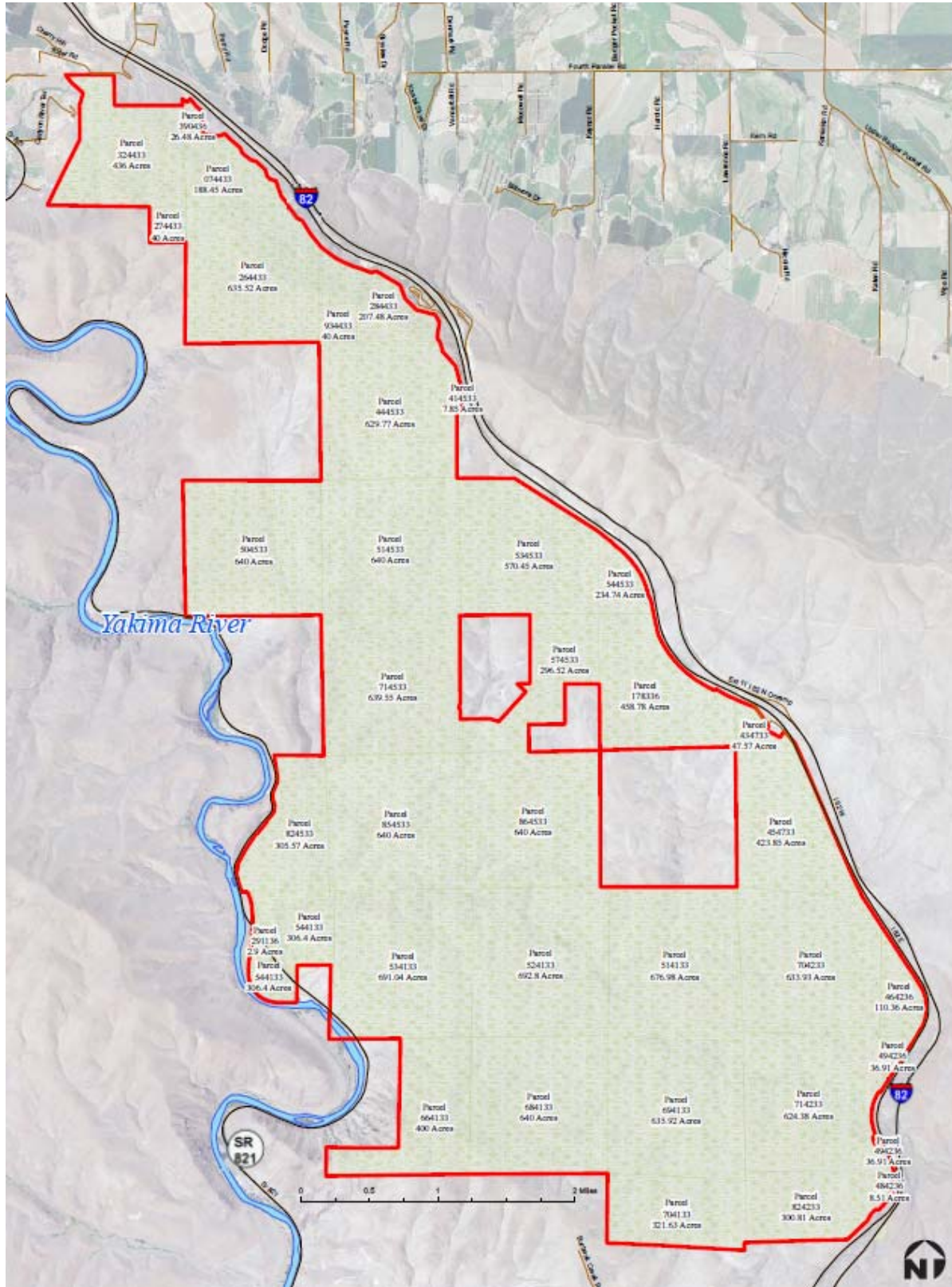
Figure 11: Wild and Scenic River Designations for the North, Middle, and West Forks of the Teanaway River



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Figure 12: Shrub-Steppe Habitat Preferred Option



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#### 4.0 ANTICIPATED CHANGES

The following table provides a summary analysis of the anticipated changes based on the actions proposed by the TWPEC. For some options, land uses that are not allowed now would continue to be not permitted and therefore are not listed as a potential use consideration in Table 1 (e.g. residential/agricultural development, grazing, logging, etc.). A detailed discussion of anticipated changes is provided for each option beginning on page 15 of this report.

**Table 1: Land Use Analysis Summary Table**

Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
<b>Upper Yakima River Basin High Elevation Watershed Preferred Option (Teanaway)</b>	Commercial Forest	Acquisition as a Consortium/Community or as State Ownership	40,179 acquired	Public Access and Use	↑
	Forest and Range			Recreation Access	↑
	Rural-3	6,113 acquired	Environmental Protection	↑	
<b>Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manastash)</b>	Commercial Forest	Acquisition for Public Land	63,005 acquired	Logging/Timber	NC
				Utility Access	NC
				Grazing Opportunities	NC
				Dams (when federally-funded)	N/A
				Residential/Agricultural Development	↓
				Solar Development	NC
				Public Access and Use	↑
Recreation Access	↑				
Environmental Protection	↑				
Logging/Timber	NC				
Utility Access	NC				
Grazing opportunities	↑				
Dams (when federally-funded)	N/A				
Residential/Agricultural Development	↓				

Notes:

↑ = improves or increases

↓ = degrades or decreases

NC = little to no change

N/A = not applicable

**Table 1: Land Use Analysis Summary Table (continued)**

Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations		Anticipated Change to Use Considerations
<b>Upper Yakima NRA</b>	Unzoned (public land)	Designation of Public Land as NRA and Wilderness	99,818 designated as NRA	Public Access and Use	↑	
				Recreation Access	↑	
				Environmental Protection	NC	
				Logging/Timber	NC	
				Utility Access	NC	
Grazing Opportunities	NC					
<b>Manastash-Taneum NRA</b>	Unzoned (public land)	Designation of Public Land as NRA	35,000 designated as NRA	Public Access and Use	↑	
				Recreation Access	↑	
				Environmental Protection	NC	
				Logging/Timber	NC	
				Grazing Opportunities	NC	
<b>Wild/Scenic River Designations for the Upper Cle Elum, Wapatus, and Cooper Rivers</b>	Unzoned (public land)	Wild and Scenic River Designation on Public Land	15,719 designated as Wild and Scenic	Public Access and Use	↑	
				Recreation Access	NC	
				Environmental Protection	↑	
				Dams (when federally-funded)	↓	
				Residential/Agricultural Development	NC	

Notes:

↑ = improves or increases

↓ = degrades or decreases

NC = little to no change

N/A = not applicable

**Table 1: Land Use Analysis Summary Table (continued)**

Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations		Anticipated Change to Use Considerations
<b>Wild/Scenic River Designations for the North, Middle, and West Forks of the Teanaway River</b>	Unzoned (public land)	Wild and Scenic River Designation on Public Land	7,632 designated	Public Access and Use	↑	
				Recreation Access	NC	
<b>Shrub-Steppe Habitat Preferred Option (Eaton Ranch)</b>	Forest and Range	Land Acquisition and/or Conservation Easement	11,620 acquired	Environmental protection	↑	
				Dams (when federally-funded)	↓	
				Residential/Agricultural Development	NC	
				Public Access and Use	↑	
	Agricultural (AG-20)			2,211 acquired	Recreation Access	↑
					Environmental protection	↑
					Utility Access	↓
					Grazing Opportunities	NC
				Residential/Agricultural Development	↓	
				Wind Farms	NC	

Notes:

↑ = improves or increases      ↓ = degrades or decreases      NC = little to no change      N/A = not applicable

## **Upper Yakima River Basin High Elevation Watershed Preferred Option (Teaway)**

### Proposal

The Teaway River, within this option area, provides fish passage and connectivity to high elevation colder water. Protecting this area would provide significant ecosystem, water quality and quantity, and species benefits that would complement adjacent protected areas. In addition, acquisition of this area on a willing seller basis at fair market value would link the land to adjacent federal lands to the north and east. The preferred ownership for this land is as part of a consortium/community ownership, such as a Community Forest Trust. If this is infeasible, State ownership is recommended (Watershed 2012).

### Analysis

Access and recreation opportunities may increase in the area if transferred into public ownership, but motorized recreational vehicle use would be restricted in areas acquired for conservation, affecting the use of existing groomed snowmobile trails in the northwest portion of the option area. As the land is being acquired for habitat enhancement, it is unlikely that any permanent recreation facilities, such as access roads or camping areas, would be constructed unless such facilities and the activities that they would promote, such as increased public access, would be consistent with the protection of key watershed functions and aquatic habitat. Dispersed camping would likely continue to be allowed. Increased access could create greater fire danger and need for USFS patrols.

There are currently minimal logging activities, and it is anticipated that a similar level of logging would be allowed in areas acquired for conservation when such a use is consistent with the protection of key watershed functions and aquatic habitat. Consistency determinations would be made by the agency or public organization managing the land (Watershed 2012).

There has not historically been any residential or agricultural development of these parcels therefore the entire option area is currently vacant and un-developed. Kittitas County allows cluster zoning within certain zoning designations, including the Forest and Range and Rural-3 zone. A "cluster" consists of three or more buildable contiguous lots within the cluster boundary. Cluster zoning affords "bonus" densities based on the amount of public benefit of the proposal, and also stipulates an open-space requirement of 40 percent, not to include critical areas (Kittitas County 2011b). The maximum bonus density for the Rural-3 zone is 100%; and the maximum bonus density for the Forest and Range zone is 200%. Table 2 shows the County zoning designation, acreage within the option area, minimum lot size, and the maximum number of lots that could be built in each zone. The number of additional lots that could be created based on the maximum bonus density per the cluster zoning regulations is also included on Table 2. In addition, communications with the County (Jewell, 2012) indicates that current County zoning allows larger Commercial Forest and Forest & Range lots to exercise an option use a one-time subdivision to form a single smaller lot (potentially down to 5 acres in size). In other words, an 80 acre Commercial Forest lot could conceivably be divided into a 75 acre lot and a 5 acre lot; and a 20 acre Forest and Range lot could be divided into a 15 acre lot and a 5 acre lot.

**Table 2: Development Effects**

County Zoning Designation	Acreage	*Minimum Lot Size	*Potential # Lots at Full Build-Out	*Maximum Bonus Density
Commercial Forest	40,179	80 acres	502	N/A
Forest and Range	6,113	20 acres	305	+610 lots
Rural-3	846	3 acres	282	+282 lots

\*Neglects potential additional one-time lot splits currently allowed by County zoning in Commercial Forest and Forest and Range zoned lands.

Therefore, acquisition would cause a loss of 47,138 acres of land that could be developed with between 1,089 and 1,981 residential or agricultural lots, without and with cluster zoning respectively. This analysis does not estimate the forecast population growth needed to build-out the lots. Steep slopes would not preclude much residential development because steep slopes account for approximately 10-15 percent of the option area and most of the affected parcels have non-steep slope developable area. However landslide areas, accessibility, and other factors would likely limit the development potential of some parcels.

The Teanaway Solar Reserve would be allowed if transferred to public ownership, as a “working lands” option would likely be implemented for this portion of the option area and the existing lease could continue (Watershed 2012). Construction of the reserve is dependent upon successful permitting with the county. Future expansions of the solar reserve would be allowed if consistent with the protection of key watershed functions and aquatic habitat.

**Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manastash)**

Proposal

The upper reaches of the Taneum and Manastash Creeks are important for water quality, protect the groundwater supply, and provide current or potential salmon and steelhead spawning grounds. As private lands in this watershed are intermingled with National Forest Land, acquisition of this area would reduce the “checkerboard” forest management ownership in this area of the County. The preferred ownership of this land is by the USFS (Watershed 2012).

Analysis

Access and recreation opportunities may increase in the area if transferred into public ownership, but motorized recreational vehicle use would be restricted in the 63,055 acres to be acquired for conservation. Permanent recreation facilities, such as access roads or camping areas, could be constructed if consistent with the protection of key watershed functions and aquatic habitat (Watershed 2012). Dispersed camping allowed in surrounding National Forest land would likely be expanded to the newly acquired acres. Increased access could create greater fire danger and need for USFS patrols.

There are currently minimal logging activities in the area, and it is anticipated that a similar level of logging and associated transport would continue to be allowed in areas acquired for conservation when such a use is consistent with the protection of key watershed functions and aquatic habitat (Watershed 2012). Consistency determinations

would be made by the agency or public organization managing the land. There has not historically been any residential or agricultural development of these parcels. Table 3 shows the County zoning designation, acreage within the option area, minimum lot size, and the maximum number of lots that could be built in the zone. Similar to the AFH Teanaway lands, the County’s current Commercial Forest zoning allows lot sizes down to 80 acres, after which a one-time split could still occur producing a 75 acre and 5 acre lot – both eligible for a residential home.

**Table 3: Development Effects**

County Zoning Designation	Acreage	*Minimum Lot Size	*Potential # of Lots at Full Build-Out
Commercial Forest	63,055	80 acres	788

\*Neglects potential additional one-time lot splits currently allowed by County zoning in Commercial Forest and Forest and Range zoned lands.

Therefore, acquisition would cause a loss of 63,055 acres of land that could be developed with up to 788 residential or agricultural lots. Steep slopes would not preclude much residential development because steep slopes account for less than half of the option area and most of the affected parcels have non-steep slope developable area. However landslide areas, accessibility, and other factors would likely limit the development potential of some parcels.

If under management of the USFS, the tract would be subject to any revisions of the Okanogan-Wenatchee National Forest Plan. Existing grazing allotments in the adjacent Okanogan-Wenatchee National Forest could be extended in the future to this area if the grazing were determined to not affect key watershed functions and aquatic habitat.

**Upper Yakima National Recreation Area**

Proposal

The NRA designation is flexible enough to provide protection for key habitat functions while preserving the overall theme of recreational use for the land. The NRA designation will also raise the profile of these recreational lands and is, in essence, a powerful marketing feature to attract more users to the area (Watershed 2012).

Analysis

Approximately 99,818 acres would be designated as a NRA. Existing recreation, logging, utility development, and grazing activities would be restricted on the 19,964 acres (20 percent) of the proposed NRA that would be designated as wilderness. In general, the following restrictions that could be implemented include requiring access passes, prohibiting all motorized vehicles and equipment, and possibly prohibiting access for bicycles and other low-impact equipment (University of Montana 2012). While designation as wilderness can be recommended by various agencies, an act of the U.S. Congress is needed to officially designate and implement the Wilderness Act.

Approximately 6,000 acres (six percent) of the NRA would be designated for backcountry motorized recreational use, and approximately 1,000 acres (one percent) would be designated for backcountry non-motorized recreational use (Watershed 2012).

Access, recreation opportunities and public use of the land would increase if NRA designation is implemented. Permanent recreation facilities, such as access roads or camping areas, could be constructed if demand warrants. Increased access could create greater fire danger and need for USFS patrols. Grazing would be allowed if this use is included in the enabling legislation to create the NRA. Allotments must be managed to protect the purposes and values of the NRA (NPS 2007).

Logging and utility corridor development would continue to be allowed. Logging may be for restoration of forest health in some areas, due to the Western spruce budworm and pine beetle, rather than commercial timber production.

While the proposed uses are consistent with the uses identified in the current Okanogan-Wenatchee National Forest Plan Revision Proposed Action; the forest plan does not currently call for the proposed NRA designation.

### **Manastash-Taneum National Recreation Area**

#### Proposal

The NRA designation is flexible enough to provide protection for key habitat functions while preserving the overall theme of recreational use for the land. The NRA designation will also raise the profile of these recreational lands and is, in essence, a powerful marketing feature to attract more users to the area (Watershed 2012).

#### Analysis

Approximately 35,000 acres (90 percent) would be designated for backcountry motorized recreational use (Watershed 2012). Off-highway vehicles and all-terrain vehicles are currently allowed in the greater National Forest, and designation would allow for more trails and roads to be built and target marketing to promoting motorized use. In addition, the National Forest and greater Kittitas County area are popular with snowmobilers (Visit Kittitas 2012). Access and recreation opportunities would increase if designated as a NRA. More permanent recreation facilities, such as access roads or camping areas, could be constructed if demand warrants. Increased access could create greater fire danger and need for USFS patrols. Grazing would be allowed if this use is included in the enabling legislation to create the NRA. Allotments must be managed to protect the purposes and values of the NRA (NPS 2007). Logging would continue to be allowed.

While the proposed uses are consistent with the uses identified in the current Okanogan-Wenatchee National Forest Plan Revision Proposed Action; the forest plan does not currently call for the proposed NRA designation.

### **Wild and Scenic River Designations for the Upper Cle Elum, Waptus, and Cooper Rivers; and the North, Middle, and West Forks of the Teanaway River**

#### Proposal

The intent of the Wild and Scenic River designations is to protect spawning and rearing habitats for salmonids. Bull trout can especially benefit from the cool, clean water that can result from protection of headwaters and high-elevation streams. All of the reaches



proposed to be designated as Wild and Scenic are designated as critical habitat for bull trout, and most are also designated as critical habitat for steelhead (Watershed 2012).

### Analysis

Wild and Scenic Rivers can have one of three designations: Wild, Scenic, or Recreational. They are defined as follows:

- Wild river areas: rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.
- Scenic river areas: rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- Recreational river areas: rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The Nationwide Rivers Inventory, created by the U.S. National Park Service, lists more than 3,400 free-flowing river segments believed to possess one or more “outstandingly remarkable” natural or cultural values that could trigger a Wild and Scenic river designation. Within Kittitas County, portions of the Cle Elum River are shown as having a potential classification of Scenic and Wild, and portions of the Waptus River are shown as having a potential classification of Wild (NPS 2011). The Cooper and Teanaway Rivers are not listed in this inventory but that does not preclude designation of portions of these rivers.

The proposed classification of each river/fork is yet unknown. Regardless of classification, designation neither prohibits development nor gives the federal government control over private property. Although private lands would be included within the boundaries of the designated river area, under the Wild and Scenic Rivers Act management restrictions apply only to public lands. Protection of the river is provided through voluntary stewardship by landowners and river users and through regulation and programs of federal, state, local, or tribal governments. While designations can be recommended by various agencies, an act of the U.S. Congress is needed to officially designate and implement the Wild and Scenic Rivers Act (U.S. Code Title 16 – Conservation, Chapter 28 Wild and Scenic Rivers §1275).

The Wild and Scenic Rivers Act requires the administering agency to develop a Comprehensive River Management Plan (CRMP) for the designated river. This CRMP: describes the existing resource conditions of the river; defines the goals and desired conditions for protecting river values; addresses development of lands and facilities; addresses user capacities; addresses water quality issues and instream flow requirements; reflects a collaborative approach with stakeholders; identifies regulatory agencies or other governmental agencies that assist in protecting river values; and includes a monitoring strategy to maintain desired conditions (Interagency 2010). The local government, Kittitas County in this case, can participate in the planning process to determine ways to protect river values and provide for recreational use of the river while minimizing the effect on landowners (Interagency 2011b).

In most cases not all land within boundaries is, or will be, publicly owned, and the Wild and Scenic Rivers Act limits the amount of land the federal government is allowed to acquire from willing sellers to an average of 100 acres per mile on both sides of the river. If over half the land within the ¼ mile boundary is in public ownership (federal, state and local), as is the case for both proposed option areas, condemnation of private land cannot be used for fee title acquisition (U.S. Code Title 16 – Conservation, Chapter 28 Wild and Scenic Rivers §1277). If property owners within ¼ mile of the designated river choose to sell to the federal administering agency it could lead to greater conversion of private land into public land than current levels.

Benefits of designation may include, but are not limited to, providing managers ways to protect free-flowing condition, i.e., protection of river values through the assessment of hydroelectric facilities or water resource development projects within the designated reach; protection and enhancement of water quality and “outstanding” values; and, if a river’s Comprehensive Management Plan objective, promotion of economic development, tourism, or recreational use. Based on current limited studies, indications are that property values remain stable or increase on designated rivers. This is often tied to the protection and enhancement of scenery, other aesthetic values and water quality (Interagency 2011b).

Impacts of designation may include, but are not limited to: initial or sustained attraction to the river because of designation, authority for federal agencies to purchase property, and changes in permissible land use through zoning adopted by local governments to protect river values. Generally, the river classification reflects the level of development at the time of designation, and future development levels must be compatible with such classification. In addition, proposed developments on federal lands must be guided by the river’s Comprehensive Management Plan (Interagency 2011b).

Unless necessary to protect public safety, water quality, or other resource values that resulted in designation, recreational use would not be restricted (Interagency 2011b). Access via publicly-owned land is likely to increase from initial or sustained attraction to the river from designation. Private owners can control access along their properties via fencing or other measures.

The Wild and Scenic Rivers Act generally prohibits federal support for actions such as dam construction or other instream activities that would harm the river’s free-flowing condition, water quality, or outstanding resource values. Under Part I of the Federal Powers Act, instream projects within a Wild and Scenic River are prohibited when licensed by the Federal Energy Regulatory Commission (Interagency 2011a). If maintenance of or construction of a federally-funded instream feature is proposed, such activities are subject to an evaluation by the river-administering agency. The agency is required to determine the project’s effects on the free-flowing condition, water quality, and the outstandingly remarkable value(s) for which the river was designated. If the agency determines that adverse effects would not occur, the project can be permitted using federal funds (Interagency 2011a). Those projects found to have an adverse effect on the values for which the river was designated are typically prohibited (Interagency 2011b). All existing water rights and maintenance of existing instream features or construction is allowed if such activities are not federally-funded (U.S. Code Title 16 – Conservation, Chapter 28 Wild and Scenic Rivers §1278). Under these options federally-funded instream activities

described above would generally be prohibited within the acreages to be designated for each option (15,719 acres for the Upper Cle Elum, Waptus, and Cooper Rivers; and 7,632 acres for the North, Middle, and West Forks of the Teanaway River).

As the County’s Shoreline Master Program designations of these forks would remain in effect after classification, changes are not anticipated.

**Shrub-Steppe Protection, Preferred Option (Eaton Ranch)**

Proposal

This land acquisition would help to offset the impacts on inundating existing shrub-steppe habitat from lowland reservoir projects such as Wymer Reservoir, and would complement ongoing efforts to protect shrub-steppe lands in Central Washington (Watershed 2012).

Analysis

This habitat enhancement project would occur on a willing-seller basis at fair market value. Acquisition of a conservation easement would be considered along with other ownership options. Conservation easements are a flexible tool to promote habitat and watershed protection and enhancement without converting private ownership to public ownership. Outright ownership of the land by a private, non-profit conservation organization or state or federal entities could also occur.

A working lands outcome where current ranching activities could continue at a decreased level may be considered if consistent with protection of shrub-steppe habitat and sensitive wildlife species (Watershed 2012).

The maximum bonus density for the Forest and Range and the Agricultural (AG-20) zone is 200%. Table 4 shows the County zoning designation, acreage within the option area, minimum lot size, and the maximum number of lots that could be built in the zone. The number of additional lots that could be created based on the maximum bonus density per the cluster zoning regulations is also included on Table 4.

**Table 4: Development Effects**

County Zoning Designation	Acreage	Minimum Lot Size	Potential # of Lots at Full Build-Out	Maximum Bonus Density
Forest and Range	11,620	20 acres	581	+581 lots
Agricultural (AG-20)	2,211	20 acres	110	+110 lots

If the Wymer Reservoir is built, this would require acquisition of about 4,000 acres by the USBR and would flood about 1,055 of the 13,831 acres (Seattle Times 2011). This inundation would preclude continuation of existing ranching activities and would cause a loss of between 52-104 future residential/agricultural lots on this part of the property. Therefore, acquisition would cause a loss of 12,776 acres of land that could be developed with between 638- 1,276 residential or agricultural lots, without and with cluster zoning respectively. Landslide areas, shrub-steppe habitat, steep basalt cliffs, accessibility, and other factors would likely limit the develop potential of some parcels.

A portion of the option area (6,092 acres) lies within the County's Wind Farm Resource Overlay Zone and represents less than 10% of said zone. A wind energy facility could be allowed in the area after acquisition. Surveys for sage-grouse leks would be required prior to construction of any projects by the Washington Department of Fish and Wildlife since the land contains appropriate shrub-steppe habitat. If leks are found, a wind energy facility is unlikely to be permitted due to potential impacts to sage grouse.

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**APPENDIX A**  
**POTENTIAL LAND USE AND ECONOMIC CONSIDERATIONS**



**Table A-1  
Potential Land Use and Economic Considerations of the TWPEC Proposal on Kittitas County**

<b>Land Acquisitions (Teanaway basin, Little Naches headwaters and Manastash and Taneum basins)</b>	
<b>Land Use Considerations</b>	<b>Economic Considerations</b>
<ul style="list-style-type: none"> <li>• Private vs. public access (improved or decreased)</li> <li>• Private vs. Public land ownership benefits and impacts</li> <li>• Benefit of the consolidation of ownership in checkerboard area for forest management</li> <li>• Management of land</li> <li>• Concern over USFS management of lands (beneficial?)</li> <li>• Loss of valuable, developable land</li> <li>• Diseased land</li> <li>• Access to existing utilities</li> <li>• Camping in the Teanaway area (eliminated, improved)</li> <li>• Grazing (access, fencing, road safety)</li> <li>• Effects to timber</li> <li>• Mineral resources</li> <li>• Protection in perpetuity of Kittitas landscape</li> <li>• Impacts to water quality/quantity</li> <li>• Salmon recovery benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Private vs. public access (improved or decreased)</li> <li>• Funding for restoration activities and management.</li> <li>• Forest management (fire, disease) – potential impact (new costs) and benefit (contiguous land vs. checkerboard pattern)</li> <li>• Loss of potential developmental opportunities</li> <li>• Potential property tax loss and redistribution of taxes</li> <li>• Impacts to residential and land values</li> <li>• Impacts to roads, whether they will be maintained or closed</li> <li>• Existing utility maintenance</li> <li>• Potential for loss or delay of future utility improvements (e.g., broadband internet) due to the removal of developable land</li> <li>• Increase in revenue from recreational area growth considering the current amount of existing area available for recreation</li> <li>• Camping in the Teanaway area (fees, management, funding)</li> <li>• Grazing</li> <li>• Emergency services</li> <li>• Available water rights, impacts, and availability</li> <li>• Attraction to businesses (quality of life)</li> <li>• Effects on logging revenues, jobs, taxes, etc.</li> <li>• Newly available timber for harvesting</li> <li>• Impacts to the biomass industry potential</li> <li>• Mineral resources</li> <li>• Air quality benefits</li> <li>• Benefits of restoration activities to the economy</li> <li>• Salmon recovery</li> <li>• Secondary impacts</li> </ul>

**Table A-1 continued**  
**Potential Land Use and Economic Considerations of the TWPEC Proposal on Kittitas County**

Public Land Designations (existing USFS land in the Teanaway basin and in Manastash-Taneum watershed)	
Land Use Considerations	Economic Considerations
<ul style="list-style-type: none"> <li>• Potential for decreased access (Wilderness areas)</li> <li>• Benefit of the consolidation of ownership in checkerboard area for forest management</li> <li>• Access to existing utilities (cellular, power, communication) – easement restrictions</li> <li>• Effects to motorized access (ORV, snowmobile)</li> <li>• Hunting/camping/recreation/tourism</li> <li>• Effects to timber</li> <li>• Effects on clean air requirements from Wilderness designations (industrial and residential)</li> <li>• Salmon recovery</li> <li>• Water quality</li> </ul>	<ul style="list-style-type: none"> <li>• Impacts to residential and land values</li> <li>• Regulatory schemes from designations</li> <li>• Road development/maintenance restrictions</li> <li>• Existing utility maintenance</li> <li>• Will NRA designation bring more tourism/recreation (snowmobile, boating, equestrian, fishing, biking, hunting, hiking, cross country, etc.)?</li> <li>• Would gain of new forms of recreation in Wilderness areas make up for the loss of another type (back country skiers and hikers for snowmobilers and ORV's)?</li> <li>• Recreational/commercial harvesting of mushrooms and berries</li> <li>• Hunting</li> <li>• Benefits of restoration activities to the economy</li> <li>• Attraction to businesses (quality of life)</li> <li>• Secondary impacts</li> </ul>

**Table A-1 continued**  
**Potential Land Use and Economic Considerations of the TWPEC Proposal on Kiihitas County**

Wild and Scenic River Designations (upper Cle Elum, Waptus, and Cooper Rivers and North, Middle, and West Forks of the Teanaway River)	
Land Use Considerations	Economic Considerations
<ul style="list-style-type: none"> <li>• Access (improved or decreased)</li> <li>• Developmental restrictions</li> <li>• Impacts to infrastructure (dams, irrigation, drainage, utilities) and maintenance</li> <li>• Current designations compared to Shoreline Management Plan (comparing regulatory schemes)</li> <li>• Fencing</li> <li>• Road maintenance and addition</li> <li>• Grazing opportunities/restrictions</li> <li>• Impacts to water quality/quantity</li> <li>• Recreational impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Development restrictions/loss potential (existing and future)</li> <li>• Impacts to residential and land values</li> <li>• Road &amp; infrastructure maintenance and addition</li> <li>• Grazing</li> <li>• Recreational benefits and impacts</li> <li>• Attraction to businesses (quality of life)</li> <li>• Air quality benefits</li> <li>• Secondary impacts</li> </ul>

**Table A-1 continued**  
**Potential Land Use and Economic Considerations of the TWPEC Proposal on Kitititas County**

Shrub-Steppe Protection (Eaton Ranch property acquisition)	
Land Use Considerations	Economic Considerations
<ul style="list-style-type: none"> <li>• Increased access</li> <li>• Private vs. Public land ownership benefits and impacts</li> <li>• Management of land (benefit)</li> <li>• Loss of valuable, developable land</li> <li>• Access to existing utilities</li> <li>• Camping/tourism</li> <li>• Hunting</li> <li>• Wind resources</li> </ul>	<ul style="list-style-type: none"> <li>• Private vs. public access (improved or decreased)</li> <li>• Funding for restoration activities and management.</li> <li>• Loss of potential developmental opportunities</li> <li>• Potential property tax loss and redistribution of taxes</li> <li>• Impacts to residential and land values</li> <li>• Increased access</li> <li>• Impacts to PSE service (utility relocation and maintenance)</li> <li>• Tourism (impacts to scenic byway designation)</li> <li>• Limitations of reservoir use for recreation</li> <li>• Hunting/boating/fishing/hiking</li> <li>• New campgrounds</li> <li>• Available water rights, impacts, and availability</li> <li>• Wind resources</li> <li>• Benefits of restoration activities to the economy</li> <li>• Secondary impacts</li> </ul>

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## **DRAFT ECONOMIC IMPACTS ANALYSIS FOR KITTITAS COUNTY**

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**PREPARED FOR:** KITTITAS COUNTY STAFF AND CITIZENS ADVISORY COMMITTEE

**AUTHORS:** MICHAEL TAYLOR, PH.D., AND JANET BAKER, M.F., CASCADE ECONOMICS LLC

**DATE:** 4/25/2012

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### 1.0 INTRODUCTION

The Yakima Basin Integrated Water Resource Management Plan (IWRMP) was developed by the Washington State Department of Ecology (Ecology) and the U.S. Bureau of Reclamation (USBR) with the involvement of numerous stakeholders (Ecology and USBR 2011). The IWRMP seeks to improve the reliability of water supplies in the Yakima River Basin in combination with improvements to fish and wildlife habitat and water conservation measures. The IWRMP includes a habitat and ecosystem restoration and enhancement component with proposals that impact Kittitas County and its citizens.

Kittitas County has hired URS Corporation and its subcontractor, Cascade Economics LLC, to identify and, to the extent possible, quantify economic impacts to Kittitas County and its residents of changes that arise from implementation of proposed actions of the IWRMP ecosystem and habitat restoration/enhancement component. This memorandum presents the economic impacts analysis.

### 2.0 RELEVANT IWRMP COMPONENT ACTIONS

The IWRMP contains several “Habitat Protection and Enhancement” actions for the Yakima River Basin, and includes a Targeted Watershed Protections and Enhancements Component (TWPEC). A report of the Watershed Land Conservation Subcommittee (2012) contains a number of conservation actions to further the goals of the IWRMP:

- Land acquisitions from willing sellers in the Upper Yakima and Naches River watersheds;
  - Upper Yakima River Basin High Elevation Watershed Preferred Option: Acquisition of an approximately 47,000-acre tract in the middle and lower Teanaway River basin.
  - Upper Yakima River Basin Forest Habitat, Preferred Option: Acquisition of lands at the headwaters of the Taneum and Manastash Creeks.
  - Alternatives:
    - Alternative 1: Acquisition of Plum Creek Holdings in the Big Creek, Taneum Creek, Cabin Creek and Cle Elum River watersheds.
    - Alternative 2: Acquisition of American Forest Resource holdings in the Swauk and First Creek areas.
    - Alternative 3: Acquisition of additional private forest land holdings in Kittitas County.
- National Recreation Area Designations for existing U.S. Forest Service (USFS) land in the Teanaway Basin and in the Manastash-Taneum watershed;

- Creation of the Upper Yakima National Recreation Area on approximately 100,000 acres of existing USFS land.
- Creation of the Manastash-Taneum National Recreation Area on approximately 41,000 acres of existing USFS land.
- Wild and Scenic River Designations for the Upper Cle Elum, Waptus, and Cooper Rivers, and the North, Middle, and West Forks of the Teanaway River; and
- Shrub-Steppe Protection, Preferred Option: Acquisition of the Eaton Ranch property for shrub-steppe protection (dependent on the viability of the Wymer Reservoir project as described in the IWRMP).

The Kittitas County Citizens Advisory Committee (CAC) was formed to review the TWPEC Proposal and to identify and discuss potential land use and economic concerns and benefits (Appendix B). These were reviewed and analyzed during the development of this memorandum.

### 3.0 REVIEW OF SOCIOECONOMIC BASE FOR KITTITAS COUNTY

In order to provide context to the economic impacts analysis, it is useful to present some information about the socioeconomic base for Kittitas County. Table 1 provides selected socioeconomic characteristics for Kittitas County, including some comparisons with the State of Washington, from the 2010 Census.

**Table 1: Selected Socioeconomic Data for Kittitas County**

Item	Amount
<b>Population, 2010</b>	<b>40,915</b>
<b>Population, percent change, 2000 to 2010</b>	<b>22.6%</b>
<b>Population, percent change, 2000 to 2010 (Washington)</b>	<b>14.1%</b>
<b>Housing units, 2010</b>	<b>21,900</b>
<b>Median value of owner-occupied housing units, 2006-2010</b>	<b>\$265,600</b>
<b>Households, 2006-2010</b>	<b>16,619</b>
<b>Persons per household, 2006-2010</b>	<b>2.27</b>
<b>Median household income 2006-2010</b>	<b>\$41,232</b>
<b>Median household income 2006-2010 (Washington)</b>	<b>\$57,244</b>
<b>Persons below poverty level, percent, 2006-2010</b>	<b>21.2%</b>
<b>Persons below poverty level, percent, 2006-2010 (Washington)</b>	<b>12.1%</b>
<b>Private nonfarm establishments, 2009</b>	<b>1,161</b>
<b>Private nonfarm employment, 2009</b>	<b>10,409</b>

Source: U.S. Census Bureau, 2010 Census

Kittitas County had a considerably higher population growth rate in the past decade than for the State of Washington as a whole. However, the median household income, at \$41,232, is less than the statewide average (\$57,244).

According to the Bureau of Economic Analysis, earnings by the county's industries totaled more than \$719.1 million in 2009, the latest year of data available (see Table 2). Governmental organizations are the largest sector, which includes Central Washington University, Kittitas Valley Community Hospital, Kittitas County, and the Ellensburg School District (Meseck, 2012). The major industry sectors are retail trade, farming, and construction, each exceeding \$53 million in annual sales.

**Table 2: Earnings by Major Industry, Kittitas County (2009)**

<b>Major Industry</b>	<b>Earnings (\$000)</b>	<b>Percent of Total</b>
<b>Farm Earnings</b>	\$53,333	<b>7.4</b>
<b>Utilities</b>	3,936	<b>0.5</b>
<b>Construction</b>	53,192	<b>7.4</b>
<b>Manufacturing</b>	28,515	<b>4.0</b>
<b>Wholesale Trade</b>	29,205	<b>4.1</b>
<b>Retail Trade</b>	56,032	<b>7.8</b>
<b>Transportation &amp; Warehousing</b>	18,393	<b>2.6</b>
<b>Information</b>	23,530	<b>3.3</b>
<b>Finance and Insurance</b>	15,523	<b>2.2</b>
<b>Real Estate &amp; Rental &amp; Leasing</b>	8,259	<b>1.1</b>
<b>Educational Services</b>	4,675	<b>0.7</b>
<b>Health Care &amp; Social Assistance</b>	38,377	<b>5.3</b>
<b>Arts, Entertainment, &amp; Recreation</b>	2,999	<b>0.4</b>
<b>Accommodation &amp; Food Services</b>	45,646	<b>6.3</b>
<b>Other Services, except Public Admin</b>	32,232	<b>4.5</b>
<b>Federal Civilian</b>	12,987	<b>1.8</b>
<b>Federal Military</b>	7,572	<b>1.1</b>
<b>State and Local Government</b>	240,695	<b>33.5</b>
<b>Unreported</b>	44,007	<b>6.1</b>
<b>TOTAL</b>	<b>\$719,108</b>	<b>100.0</b>

Source: Bureau of Economic Analysis and the Washington Regional Economic Analysis Project, 2012.

Employment by industry sector presents a different picture (Table 3). After government, the major employers are accommodation and food services and retail trade. This is followed by construction, farming, health care and social assistance, and other services.

**Table 3: Employment by Major Industry, Kittitas County, 2007-2009**

<b>Industry</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>Average Kittitas</b>	<b>2007-2009 Washington</b>
<b>Farm</b>	1,364	1,434	1,414	1,404	80,909
<b>Mining</b>	41	NA	NA	41	7,235
<b>Construction</b>	1,922	1,650	1,216	1,596	259,051
<b>Manufacturing</b>	890	897	802	863	300,948
<b>Government</b>	4,793	4,963	5,003	4,920	622,041
<b>Forestry, fishing, related activities and other</b>	314	NA	NA	314	37,844
<b>Utilities</b>	44	40	46	43	5,484
<b>Wholesale trade</b>	605	622	575	601	139,622
<b>Retail trade</b>	2,302	2,332	2,204	2,279	401,610
<b>Transportation and warehousing</b>	432	441	403	425	115,038
<b>Information</b>	310	267	230	269	115,433
<b>Finance and insurance</b>	419	445	470	445	160,432
<b>Real estate and rental and leasing</b>	769	856	782	802	188,248
<b>Professional and technical services</b>	724	NA	742	733	275,531
<b>Management of companies and enterprises</b>	NA	NA	NA	NA	35,246
<b>Administrative and waste services</b>	NA	552	NA	552	194,859
<b>Educational services</b>	256	254	265	258	66,723
<b>Health care and social assistance</b>	1,146	1,225	1,188	1,186	374,442
<b>Arts, entertainment, and recreation</b>	368	410	388	389	91,126
<b>Accommodation and food services</b>	2,235	2,363	2,259	2,286	250,108
<b>Other services, except public administration</b>	1,097	1,094	1,066	1,086	199,467
<b>TOTAL</b>	<b>20536</b>	<b>21,033</b>	<b>19,962</b>	<b>20,510</b>	<b>3,921,397</b>

NA – Not reported or not available.

Source: Bureau of Economic Analysis, Regional Economic Data, Local Area Personal Income, Table CA25, 2012.



#### 4.0 REVIEW OF EXISTING ECONOMIC USES AND OPPORTUNITIES FOR PROPOSED ACQUISITION LANDS

##### **Upper Yakima River Basin High Elevation Watershed Preferred Option (Teaway)**

The 47,139 acres included in this option is fully owned by American Forest Holdings LLC (AFH) with some interspersed DNR holdings. Higher elevation U.S. Forest Service (USFS) lands surround the AFH lands. Much of the public land is designated for conservation of northern spotted owls and hence has not been logged for many years. Owl conservation also impacts about a third of the private lands in the valley (Schwandt, 2009).

Although residential development is allowable with current zoning in these lands, the property is currently being used for commercial forest production. Selective harvesting has occurred on these lands since 1902.

American Forest Holdings LLC contracted with Lippke and Associates for an independent review of the forest products industry in Kittitas, Yakima and Klickitat counties. Their September 2009 review of the industry is briefly summarized here.

Although Kittitas County had a thriving wood products industry at one time, declines in federal harvest volumes, regulatory changes and lack of investment in modernization of mills in this area have all contributed to reduced viability of the wood products industry in Kittitas County. Today there are no longer any sawmills operating in the county. Yakima County has two remaining mills (one large log mill and one for small logs) but the Yakama Indian Nation uses logs from their own lands to supply those mills. The SDS Lumber mill in Klickitat is the only other mill in the three county area, but it is more than 150 miles from the AFH lands. In Kittitas County, even logs that are suitable for domestic lumber productions or export log markets are going to chip and pulp markets (Mason and Lippke, 2009).

Forest health has also declined on forest lands in the Teaway watershed. Evidence of Western spruce budworm, which affects Douglas fir and grand fir, was detected by AFH in 2003. It is estimated that damage from the budworm now covers 80% of the forested land in the Teaway area. This area has the highest forest mortality from the spruce budworm according to the Western Forest Products Association and these outbreaks are expected to continue (Western Wood Products Association, 2008). Damage from the budworm plus suppression of natural fire leaving surplus fuel loads raises the fire risk in this area (Mason and Lippke, 2009).

Current zoning allows for development of residential lots ranging from a minimum size of 3 acres to a minimum size of 80 acres (see URS, "Land Use Analysis," Table 2) but none of these lots have been developed. In addition, communications with the County (Jewell, 2012) indicates that current County zoning allows larger Commercial Forest and Forest & Range lots to exercise an option use a one-time subdivision to form a single smaller lot (potentially down to 5 acres in size). In other words, an 80 acre Commercial Forest lot could conceivably be divided into a 75 acre lot and a 5 acre lot; and a 20 acre Forest and Range lot could be divided into a 15 acre lot and a 5 acre lot.

AFH allows public access to its lands for recreation. It manages two campgrounds and there is one more managed by DNR in the Teaway basin. Snowmobiling and cross

country ski trails on the surrounding higher elevation federal lands are maintained by the Forest Service (Schwandt, 2009), but there is a snowmobile trail in the northeast part of the option area.

In 2010, the county assessed value for the AFH property was \$1,964,800. AFH paid \$12,016 to the county in taxes in 2010, and \$11,932 in 2011 (Kittitas County GIS, 2012).<sup>1</sup>

### **Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manastash)**

The 63,005 acres proposed for acquisition under this option are fully owned by Plum Creek Timber and Land Company. Railroad land grants in the late 1800s resulted in the private parcels being “checker-boarded” with national forest lands, creating problems for consistent land management. The lands encompass headwaters of Taneum and Manastash Creeks. The entire area is zoned for commercial forestry and is used for that purpose. Similar to the AFH Teanaway lands, the County’s current Commercial Forest zoning allows lot sizes down to 80 acres, after which a one-time split could still occur producing a 75 acre and 5 acre lot – both eligible for a residential home. The private property is mid- to upper elevation coniferous forest that has been logged and replanted with some remaining old growth areas. Since 1996, Plum Creek has been operating under a habitat conservation plan on their Cascade lands.

Plum Creek states “recreational access to Plum Creek’s Washington land is open to the public unless otherwise noted. Hunting is allowed and is subject to all state game regulations” (Plum Creek, 2012). However, no data are available on current recreation visitation use on the lands proposed for acquisition.

In 2010, the county assessed value for the Plum Creek property was \$783,710. Plum Creek’s assessed taxes were \$5,048 (Kittitas County GIS, 2012). However the county tax information only applies to 29,621 acres. Assuming these tax assessments and rates apply to the entire 63,055 acres considered for this option, it is estimated that the current assessed value for the entire piece is \$1,668,304 and the current taxes are estimated to be \$10,746.

### **Upper Yakima National Recreation Area**

The 114,901 acres proposed to be designated as a National Recreation Area (NRA) are within Chelan (13,670 acres) and Kittitas County (101,231 acres, of which 99,818 acres are publicly owned) (URS “Land Use Analysis,” 2012). The proposed lands are within the Okanogan-Wenatchee National Forest and are managed by the USFS. Current activities in the greater National Forest include recreation, motor vehicle use, grazing, logging, fire management, and utility corridors (USFS 2012a).

### **Manastash-Taneum National Recreation Area**

The 38,970 acres proposed to be designated as a NRA are within the Okanogan-Wenatchee National Forest (28,624 acres) and the Mount Baker-Snoqualmie National

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<sup>1</sup> The most recent assessment values are available for 2010.

Forest (10,346 acres) and are managed by the USFS. Current activities in the greater Mount Baker-Snoqualmie National Forest include recreation, motor vehicle use, grazing, logging, and fire management (USFS 2012b).

There are several USFS campgrounds and trailheads in the area, including the Manastash, Riders, and Taneum Junction campgrounds; and the South Fork Meadow, Shoestring, and Manastash trailheads (USFS 2012c).

### **Wild and Scenic River Designations for the Upper Cle Elum, Wapatus, and Cooper Rivers**

Within Kittitas County, a total of approximately 100 river miles would be classified as “Wild and Scenic.” Although the vast majority of adjacent lands are public, there are 357 acres of private land holdings within the area to be designated as “Wild and Scenic.” The majority of private land parcels have been developed with residences. In addition, approximately 141 acres (39 percent) of the private land holdings are currently in use as farmland (URS “Land Use Analysis,” 2012).

There are several USFS campgrounds, recreation areas, and trailheads in the area, including the Owhi, Salmon La Sac, Red Mountain, and Fish Lake campgrounds; the Cayuse Horse Camp; the Salmon La Sac Sno-Park; and the Pete Lake and Tucquala Meadows trailheads (USFS 2012d).

### **Wild and Scenic River Designations for the North, Middle, and West Forks of the Teanaway River**

Approximately 60 river miles of the Teanaway River in Kittitas County would be designated as “Wild and Scenic” under this option. The proposed area is within the Okanogan-Wenatchee National Forest, and the Mount Baker-Snoqualmie National Forest, both managed by the USFS. The area also contains some 17,029 acres of land owned by AFH, and an additional 1,390 acres by various private land owners.

Current activities in the Mount Baker-Snoqualmie National Forest include recreation, grazing, and timber harvest. Land owned by AFH is currently in forest use, and land under private ownership is in use as residential and/or agriculture (URS, “Land Use Analysis,” 2012).

### **Shrub-Steppe Protection, Preferred Option (Eaton Ranch)**

The 13,831 acres in this option are owned by various members of the Eaton family who run a cow-calf operation and raise hay. In addition to the property owned by the family, they also lease federal and state lands, making their whole ranching operation about 16,000 acres (Capital Press, 2011). There are some limited rural residential properties on this parcel.

Although the vast majority of the property is in rangeland, there is a small amount of irrigated land near the principal residence. According to water right records from the Department of Ecology’s database, Eaton Ranch has at least two irrigation water rights dating back to 1903: one on the Yakima River and one on Lmuma Creek, near its

confluence with the Yakima River (Washington Department of Ecology 2012). The database does not specify the quantity of the water right, but together they appear to irrigate less than 200 acres with 815 acre-feet of water.<sup>2</sup>

The Eaton family has already been involved in habitat conservation through the Yakima Tributary Access and Habitat Program (YTAHP). The project on their ranch (which is not included in the Eaton Ranch preferred option) enabled some conversion from rill irrigation to center pivot, abandonment of two diversions on Wilson Creek which returned water to the state water trust, and some restoration of riparian areas (Capital Press, 2005).

A portion – some 6,092 acres – of the shrub steppe protection option lands is included in the Kittitas Wind Farm Resource overlay zone. Shrub-steppe is a sage grouse priority habitat identified by Washington Department of Wildlife, so any proposed development would require a grouse survey to ensure they were not disrupted. Although there are no wind facilities on this property at the current time, there are other wind farms in Kittitas County and surrounding counties. In Klickitat County there are seven large projects with more than 600 wind turbines. Kittitas County currently has three wind farms. Although employment impacts associated with wind farms are fairly small, Kittitas County estimates each turbine is worth about \$4,500 in annual taxes (Spokane Spokesman-Review, December 11, 2011).

One of the largest projects in Kittitas County is the Wild Horse project, a 12,000 acre wind farm. Elk hunting continued even after the wind farm started operations. Also the turbines were located to avoid disruption of sage grouse habitat.

Currently the Eaton Ranch is assessed at \$880,000 and the property taxes are \$31,733 (Kittitas County GIS, 2012).

## 5.0 ANTICIPATED ECONOMIC IMPACTS

This section contains an analysis of the economic impacts associated with each of the proposed changes. For each option, the effects are organized by major category (timber/agriculture, recreation, property development, and county revenues and expenditures). In the case of recreation in particular, the anticipated impacts will vary, depending upon whether certain investments in trails or campgrounds take place. In the summary at the end of this section, the results are shown with and without public investment, including impacts on sales, income, and employment in the county.

For recreation related impacts, the complete methodology for determining estimates is included in Appendix A. In general, visitation totals by recreation activity type, local versus non-local participation, and spending patterns by recreationist, are derived and estimated based on data from U.S. Forest Service studies. Of particular importance to this study is the determination of new spending within Kittitas County. For this analysis, “local” visitors are defined as living within Kittitas County, and additional local-based visits are assumed to not contribute to additional spending; rather, they are assumed to substitute

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<sup>2</sup> The 1903 water rights are listed in the data base with unspecified quantities. However, two active water rights from 2006 covering the same area and listed as “change” applications may reflect an updated quantification of the existing certificated rights. Additional research with Department of Ecology would be necessary to verify active water rights at Eaton Ranch.

from other recreation activities or sites. In addition, “Non-local” visitors do not spend their entire trip expenditures within Kittitas County, so only the portion that mirrors “local visitor” spending is considered to be attributable to the net increase in Kittitas County spending.

Table 4 provides a summary of recreation spending by activity type (details on the derivation can be found in Table A-3), which reflects a weighted average of local and non-local visitors, and the portion of total spending by visitor that is actually spent within Kittitas County. As shown in Table 4, winter activities (skiing and snowmobiling) involve the largest expenditures, followed by camping.

**Table 4: Estimated Recreation Spending within Kittitas County, by Activity Type (2011 \$)**

Recreation Activity	\$ of spending / visitor
Nature Viewing	\$35.83
Cross-Country Skiing	\$56.29
Snowmobiling	\$57.04
Off-Highway Vehicle Use	\$33.70
Hiking and Biking	\$28.51
Developed Camping	\$50.42

Table 5 presents the spending profile of recreation visitors in aggregate form that is spent within Kittitas County. It shows the spending share by category, averaged over all activities and weighted by origin of visitors.

**Table 5: Spending Profile and Distribution of Expenditures by Recreation Visitors (Weighted for All Activities)**

Expenditure Category	% of Total
Lodging	10.2%
Restaurants	15.2%
Groceries	24.8%
Gas and Oil	25.8%
Other Transportation	0.5%
Activities/Supplies	4.5%
Equipment Rental	8.6%
Souvenirs/Other	10.3%
<b>TOTAL</b>	<b>100.0%</b>

Table 6 provides an overview of the economic analysis associated with the anticipated changes resulting from actions proposed by the TWPEC. Only the most significantly affected uses and entities are listed in the table. A detailed discussion of anticipated economic impacts is provided below for each option, including discussion of impacts not included in the overview table.

**Table 6: Economic Analysis Overview Table**

Option Name	Current Uses	Post IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations
<b>Upper Yakima River Basin High Elevation Watershed Preferred Option (Teanaway)</b>	Timber production	Public Acquisition for Conservation	Landowners Grazing Recreationists Hunters Snowmobilers Nordic Skiers Hikers Campers OHV Use Property Developers Kitititas County	Timber revenues (\$/year)	NC
	Grazing			Biomass industry development	?
<b>Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manatash)</b>	Recreation	Public Acquisition for Conservation	Landowners Recreationists Hunters Alpine Skiers Hikers Campers Property Developers Kitititas County	Visitor days	↑
	Hunting			Visitor days	↓
	Fishing			Visitor days	↑
	Snowmobiling			Visitor days	↑
	Skiing			Visitor days	NC
				Visitor days	↓
				Residential development	↓
				Solar Development	NC
				Property Tax Revenues	↑
				Forest Health Management	↑
<b>Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manatash)</b>	Timber production	Public Acquisition for Conservation	Landowners Recreationists Hunters Alpine Skiers Hikers Campers Property Developers Kitititas County	Timber revenues (\$/year)	NC
	Recreation			Biomass industry development	?
	Hunting			Visitor days	↑
	Fishing			Visitor days	↑
	Snowmobiling			Visitor days	↑
	Skiing			Visitor days	↑
				Residential development	↓
				Property Tax Revenues	↑
				Forest Health Management	↑

Notes: ↑ = increases

↓ = decreases

NC = remains about the same

? = uncertain; depends on new rules (see text)

**Table 6: Economic Analysis Overview Table (continued)**

Option Name	Current Uses	Post IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations	
<b>Upper Yakima NRA</b>	Timber production	Designation of 80% of Public Land as National Recreation Area	Landowners (adjacent private land only)	Timber revenues (\$/year)	NC	
	Grazing		Grazing	Grazing use by permittees	NC	
	Recreation		Recreationists	Visitor days	↑	
	Hunting		Hunters	Visitor days	↑	
	Fishing		Fishers	Visitor days	↑	
	Snowmobiling		Snowmobilers	Visitor days	↑	
	Skiing		Nordic Skiers	Visitor days	↑	
	Hiking		Hikers	Visitor days	↑	
	Camping		Campers	Visitor days	↑	
	OHV Use		OHV Use	Visitor days	↑	
			Kittitas County	Property Tax Revenues	NC	
			Kittitas County	Forest Health Management	↑	
			Recreationists		Visitor days	↓
			Hunters		Visitor days	↑
	Fishers		Visitor days	↓		
	Snowmobilers		Visitor days	↑		
	Nordic Skiers		Visitor days	↑		
	Hikers		Visitor days	↑		
	Campers		Visitor days	↑		
	OHV Use		Visitor days	↓		

Notes: ↑ = increases

↓ = decreases

NC = remains about the same

? = uncertain; depends on new rules (see text)

**Table 6: Economic Analysis Overview Table (continued)**

Option Name	Current Uses	Post IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations
<b>Manastash-Tanenum NRA</b>	Timber production		Loggers	Timber revenues (\$/year)	NC
	Grazing		Grazing Recreationists	Grazing use by permittees	NC
	Recreation		Hunters	Visitor days	↑
	Hunting		Fishers	Visitor days	↑
	Fishing		Snowmobilers	Visitor days	↑
	Snowmobiling	Designation of Public Land as National Recreation Area	Alpine Skiers	Visitor days	↑
	Skiing		Hikers	Visitor days	↑
	Hiking		Campers	Visitor days	↑
	Camping		OHV Use	Visitor days	↑
	OHV Use		Kitritas County	Property Tax Revenues Forest Health Management	↑ NC
<b>Wild/Scenic River Designations for the Upper Cle Elum, Wapatus, and Cooper Rivers</b>	Residential		Property Owners	Residential Development	NC
	Recreation		Recreationists		
	Hunting	Wild and Scenic River Designation on Public Land	Hunters	Visitor days	↑
	Fishing		Fishers	Visitor days	↑
	Hiking		Hikers	Visitor days	↑
	Camping		Campers	Visitor days	↑
<b>Wild/Scenic River Designations for the North, Middle, and West Forks of the Teanaway River</b>	Residential		Property Owners	Residential Development	NC
	Recreation		Recreationists		
	Hunting	Wild and Scenic River Designation on Public Land	Hunters	Visitor days	↑
	Fishing		Fishers	Visitor days	↑
	Hiking		Hikers	Visitor days	↑
	Camping		Campers	Visitor days	↑
			Kitritas County	Property Tax Revenues	NC

Notes: ↑ = increases      ↓ = decreases      NC = remains about the same      ? = uncertain; depends on new rules (see text)



**Table 6: Economic Analysis Overview Table (continued)**

Option Name	Current Uses	Post IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations
<b>Shrub-Steppe Habitat, Preferred Option (Eaton Ranch)</b>	Cattle production Irrigated hay production	Land Acquisition and/or Conservation Easement	Grazing Hay Producers Recreationists Wildlife viewers Hikers Campers Property Developers Kittitas County	Grazing use by property owners Irrigation and hay harvest  Visitor days Visitor days Visitor days Wind farm developers Property Tax Revenues	NC/↓ NC/↓  ↑ ↑ ↑ ? NC/↓

Notes: ↑ = increases

↓ = decreases

NC = remains about the same

? = uncertain; depends on new rules (see text)

## Upper Yakima River Basin High Elevation Watershed Preferred Option (Teaway)

### Proposal

Acquisition of AFH lands in the Teaway River basin would “maintain economic uses where lands have historically been used as working lands, where this is consistent with protection of key watershed functions and aquatic habitat” (Watershed 2012). This is interpreted as allowing timber harvesting to continue. However, the proposal does not make clear whether biomass harvesting would be permitted, since it is not an “historic” use of the land.

The preferred ownership for this land is as part of a consortium/community ownership, such as a Community Forest Trust. If this is infeasible, State ownership is recommended (Watershed 2012). The ownership status can affect the anticipated tax revenue (see below).

### Analysis

#### *Timber Harvesting*

If the AFH parcel is acquired for conservation, it is assumed logging will continue under the IWRMP management. However, this logging may be for restoration of forest health rather than commercial timber production.

It is assumed that employment levels associated with logging and hauling in the short run would be similar to that under AFH management. However given the very limited harvesting from this area in recent years, the overall economic benefit from timber harvesting would continue to be limited.

If public investments for forest restoration work are made, there could be thinning and fuel reduction programs developed for this area. Although there will be costs associated with thinning and other restoration work, some of these costs would be offset by reduced fire suppression costs. For example, according to the Tapash Sustainable Forest Collaborative, their ten year landscape restoration program in Central Washington which includes thinning of smaller trees, reduction of fuels and restoration of ecological conditions in federally managed forests, is expected to reduce fire suppression costs in this area by three-fourths (Public News Service, June 2011). However this program required a \$10 million federal appropriation to fund the restoration activities.

In the longer term, if biomass markets are developed for this material, *and the use is permitted under the new conservation rules*, a more substantial employment benefit is possible for this area.

*Recreation*

Access and recreation opportunities may increase in the area if transferred into public ownership (either the preferred county trust or the state), and public investments in recreation facilities are made. However motorized vehicle use would be restricted in areas acquired for conservation. As the land is being acquired for habitat enhancement, it is unlikely that any additional permanent recreation facilities, such as access roads or camping areas, would be constructed unless they were done in a manner and location that is consistent with habitat protection. Dispersed camping would likely continue to be allowed. Increased access could create greater fire danger and need for state, county, or USFS patrols.

It is assumed the existing two campgrounds owned by AFH will be maintained but no change in use levels is anticipated. However public ownership will probably increase interest in the area for hikers or backpackers; the U.S. Forest Service estimates demand for hiking to increase 78 percent by 2050 (U.S. Forest Service, June 2011). To estimate the potential increase in these activities, use levels from the Wenatchee National Forest were reviewed (see Appendix A for discussion of assumptions).

Assuming trail density similar to the Wenatchee NF (2,463 miles of trails on 1.7 million acres), approximately 68 miles of trails could be developed on the 47,138 acres in this Preferred Option. Assuming visitation patterns similar to the Wenatchee, 101 visits annual per mile of trail, the lands could potentially have 6,900 visitors a year. This could yield an annual economic benefit of \$196,719 within Kittitas County.<sup>3</sup> See Appendix A for visitor use on the Wenatchee and spending patterns by visitors. If no investment is made in new trails, it is not likely that additional visitation will occur, since the status of recreation access will remain unchanged.

Restrictions on motorized vehicle use may affect use on the existing snowmobile trails in the northwest portion of the option area. Currently there are 25 miles of snowmobile trails within the option lands. Overall, the Okanogan-Wenatchee forest has 1,666,000 acres open to snowmobilers and 1,503 miles of groomed trails for this use. The forest averages 77 visits per year for each mile of groomed trail (Rivers, 2006). Using these figures, it is estimated that restrictions on snowmobile use within the option area would result in a reduction of 1,925 visits per year. Based on the spending patterns shown in Appendix A, decreased use by snowmobilers could result in a reduction of \$109,802 of spending within Kittitas County.

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**Summary of Impacts**

**Economic Benefits**

◆ Hiking	\$196,719
◆ Snowmobiling	-\$109,802
◆ Construction	-\$500,000

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**Net Benefits**                                 **-\$418,083**

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**County Revenue and Expenses**

◆ Tax Revenue	\$24,280
◆ Expenditures	\$100,000

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<sup>3</sup> For purposes of this report, “economic benefit” is defined as the level of increased (or decreased) spending for goods and services within the county, measured on annual average basis. In other words, “an annual economic benefit of \$100” means we can expect an additional \$100 to be directly spent, and subsequently re-spent by businesses and employees, within the county every year as a result of the action.

## Property Development

Under the conservation rules, future property development would be prohibited. The Land Use Analysis contains a review of the potential types of properties and developments that could be affected. The results are reproduced in Table 7 for discussion purposes.

**Table 7: Development Effects,  
Upper Yakima River Basin High Elevation Watershed**

County Zoning Designation	Acreage	*Minimum Lot Size	*Potential # of Lots at Full Build-Out
Commercial Forest	40,179	80 acres	502
Forest and Range	6,113	20 acres	305
Rural-3	846	3 acres	282

Source: URS "Land Use Analysis," Table 2, 2012.

\*Neglects potential additional one-time lot splits currently allowed by County zoning in Commercial Forest and Forest and Range zoned lands.

The impacts associated with this lost opportunity must be viewed in the context of both current (and near-term) market circumstances, and the future. As widespread reporting indicates, and confirmed by recent reports on the housing market by the Washington Center for Real Estate Research, demand for housing and residential development in Kittitas County and indeed Washington state remains flat, as does the pace of new building permits. Property values for both urban and rural properties have steadily declined from a peak in 2007, and are not expected to recover in the foreseeable near-term future (Washington Center for Real Estate Research, 2012). This suggests, in broad terms, that development of these properties would be very slow, and the associated impact in terms of property values would be small.

A full analysis of property development impacts is very complex. However, some basic principles are applicable and worthy of note. Properties that are zoned Rural-3 are much more readily and likely to be developed than those zoned Forest and Range or Commercial Forest. Removal of these lands (846 acres) from the supply of available developable land may have some effect on the value of similarly zoned parcels in the long term, but will be imperceptible in the near future. This is because there is currently an abundant supply of developable R-3 parcels. In the future, as the general real estate market recovers and demand increases for land of all types, existing parcels of the same zoning and similar attributes are likely to see an increase in property value, as the supply was decreased by 282 parcels. This would result in a future loss to the county of associated home construction activity and property tax revenue. This would be offset by avoidance of supplying county emergency and other services generally supplied to rural residents.

There were approximately 100 new building permits in Kittitas County in each of 2010 and 2011 (Washington Center for Real Estate Research, 2012). A large proportion was within urban areas, with a small percentage fitting within R-3 zoning. Median home prices in Kittitas County from 2009 through mid-2011 averaged \$207,733. Assuming two parcels per year would have been developed, and a home construction cost of \$250,000 per parcel, this analysis suggests foregone construction impacts of \$500,000 per year.

The Teanaway Solar Reserve would be allowed under the conservation rules, as a “working lands” option would likely be implemented for this portion of the option area and the existing lease could continue (Watershed 2012). Future expansions of the solar reserve would be allowed if consistent with the protection of key watershed functions and aquatic habitat.

#### *County Tax Revenues*

Under public ownership (either non-profit county trust, or state), and a PILT rate of \$0.77 per acre the 47,138 acres would yield \$36,296 in annual PILT (Payment in Lieu of Taxes) payments versus the current level of \$12,016 under private ownership, or a net increase of \$24,280 per year.

#### *County Service Needs*

The analysis above suggests that although commercial timber harvests would be unchanged, non-motorized recreation visits (hiking and dispersed camping) would also continue and probably increase, while snowmobiling would decrease. Recreation-related emergency services and patrols are assumed to fall onto the county, with the net effect of increased need in the spring-to-fall period (hiking and camping season), and decreased need in the winter (for snowmobiling emergency services). The need for patrols in the warm season is expected to be more than the decrease during snow season; it is assumed that an additional 1.0 FTE of service personnel plus equipment, estimated to be a combined \$100,000 per year, will be required.

### **Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manastash)**

#### Proposal

The private lands within the upper reaches of the Taneum and Manastash Creeks are intermingled with National Forest Land, so acquisition of this area would reduce the “checker-board” forest management ownership in this area of the County (Watershed 2012). Existing economic uses of the land would continue.

#### Analysis

##### *Timber Harvesting*

If the Plum Creek parcel is acquired for conservation, it is assumed logging will continue under the IWRMP management. However, this logging may be for restoration of forest health rather than commercial timber production.

It is anticipated that employment levels associated with the logging and hauling would be similar to that under Plum Creek management. However, there could be thinning and fuel reduction programs developed for this area, but these programs would require substantial public investments.

In the longer term if biomass markets are developed for this material, *and the use is permitted under the new conservation rules*, a more substantial employment benefit is possible.

*Recreation*

Permanent recreation facilities such as access roads or camping areas could be constructed if consistent with the protection of key watershed functions and aquatic habitat. Dispersed camping allowed in the surrounding National Forest would likely be expanded to the newly acquired areas.

For purposes of estimating potential economic impacts, it is assumed one new campground will be constructed by the ownership entity, somewhere on the Plum Creek parcel.<sup>4</sup> Assuming the size of the campground would be similar to those found on the Wenatchee NF, the campground should attract about 1,650 visits per year (see Appendix A). This could yield an annual economic benefit of \$83,183 within the county.

In addition assuming trail density similar to the Wenatchee NF (2,463 miles of trails on 1.7 million acres) over 91 miles of hiking trails could be developed on the 63,055 acres in this Preferred Option. Assuming visitation patterns similar to the Wenatchee, 101 visits annual per mile of trail, these trails could potentially have 9,227 visitors a year (see Appendix A). This could yield an annual economic benefit of \$262,059 within Kittitas County. (Costs associated with additional county services are addressed below.)

Without investments in the additional campground and additional hiking trails, it is reasonable to expect no additional recreation related benefits would occur with the change in ownership of this parcel.

*Property Development*

Under the conservation rules, future property development would be prohibited. The Land Use Analysis contains a review of the potential types of properties and developments that could be affected. The results are reproduced in Table 8 for discussion purposes.

**Table 8: Development Effects,  
Upper Yakima River Basin Forest Habitat Preferred Option**

County Zoning Designation	Acreage	*Minimum Lot Size	*Potential # of Lots at Full Build-Out
Commercial Forest	63,055	80 acres	788

\*Neglects potential additional one-time lot splits currently allowed by County zoning in Commercial Forest zoned lands.

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**Summary of Impacts**

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**Economic Benefits**

◆ Camping	\$83,183
◆ Hiking	\$262,059

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**Net Benefits** **\$345,242**

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**County Revenue and Expenses**

◆ Tax Revenue	\$100,662
◆ Expenditures	\$150,000

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<sup>4</sup> The construction activity is assumed to generate a negligible, though positive, benefit.

As discussed above with the High Elevation Habitat option, the impacts associated with this lost opportunity must be viewed in the context of both current and future market circumstances, especially for the special class of 80-acre-minimum parcels. In particular, the likelihood of development of these properties for rural residential use is extremely low in the near-term, and very low even under favorable market conditions. It is also unsuitable for non-forest commercial uses, such as agriculture. Therefore, it is assumed that the effect on adjacent property values and county tax revenues would be negligible.

#### *County Tax Revenues*

Assuming the land is placed under U.S. Forest Service ownership, the 63,055 acres would yield \$1.76668 per acre in annual PILT payments, for a total of \$111,408, versus the current level that is estimated to be \$10,746.

#### *County Service Needs*

The analysis above notes that commercial timber harvests would continue, and that non-motorized recreation visits (hiking and dispersed camping) are likely to increase. Recreation-related emergency services and patrols are assumed to fall onto the county, with the net effect of increased need in the spring-to-fall period (hiking and camping season). An additional 1,650 camping visits plus 9,227 hiking visits would require an estimated 1.5 FTE of service personnel plus equipment. The total required burden is estimated to be a combined \$150,000 per year.

### **Upper Yakima National Recreation Area**

#### Proposal

The NRA designation, applied only to public lands, would provide protection for key habitat functions while preserving the overall theme of recreational use for the land. The NRA designation will also raise the profile of these recreational lands and is, in essence, a powerful marketing feature to attract additional recreation users to the area (Christensen 2012). However, on the 20 percent designated as wilderness, all commercial use and motorized recreation would be prohibited.

#### Analysis

##### *Timber Harvesting*

If the 99,818 acres within Kittitas County are designated as part of a National Recreation area only the 20% (19,964) also designated as Wilderness would definitely be off limits for any logging or grazing use. Although the location of the wilderness area is not yet defined, it is very unlikely that existing logging or grazing activity occurs within the proposed area. The high elevation and remoteness of the location makes it largely unsuitable for timber harvesting or grazing.

*Recreation*

The primary change in recreational use is likely to come from the designation of 6,000 acres for backcountry motorized recreational use and the designation of 1,000 acres for backcountry non-motorized recreational use. The backcountry motorized use would include off road vehicles (ATVs and motorcycles) in the summer season and snowmobiles in the winter.

As discussed in Appendix A, the Forest Service draft plan for the Okanogan-Wenatchee Forest estimates demand for snowmobiling will triple by 2050 and current snowmobile trails are overused. They also noted while other off road vehicle (ORV) only represents a small share of current visitation on the forest, some trails (specifically those in the Manastash and Little Naches area) are already overcrowded. Also, Forest Service plans to add wilderness acreage in other parts of the forest may reduce opportunities for snowmobiling and other off road use.

Overall the Okanogan-Wenatchee forest has 1,666,000 acres open to snowmobilers and 1,503 miles of groomed trails for this use. The forest averages 77 visits per year for each mile of groomed trail (Rivers, 2006). No estimates are available for the number of snowmobile visits on the areas outside of the groomed trails. For purposes of estimating recreation impacts it is assumed there will be an additional 10 miles of groomed trails on the 6,000 acres designated for backcountry motorized use in this proposed NRA. An additional 10 miles would add approximately 770 visits per year of snowmobile use. Based on the spending patterns shown in Appendix A, this increased recreation use by snowmobilers could yield an annual economic benefit of \$43,921 within Kittitas County

Backcountry non-motorized use would include mountain biking in the summer and snowshoeing and cross country skiing in winter. Lacking data on mountain biking use, economic impacts estimated here are based on snowshoe and cross country ski use. The Okanogan-Wenatchee Forest has about 277 miles of groomed winter trails open to cross country skiing and snowshoeing, but off limits to snowmobiles. The current use level is 1,095 visits per mile of groomed trail (Rivers, 2006). Assuming five miles of groomed trails would be added with this 1,000 acre proposed designated area, 5,475 visits per year from snowshoe and cross country ski use. This increased recreation activity could yield \$308,188 of annual economic benefit within Kittitas County

For purposes on estimating potential economic impacts, it is also assumed one new campground will be constructed somewhere with the non-Wilderness portion of this NRA. This would be in addition to the existing two Forest Service campgrounds. Assuming the size of the campground would be similar to those found on the Wenatchee NF, the campground should attract about 1,650 visits per year (see Appendix A). This could yield an annual economic benefit of \$83,183 within the county.

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**Summary of Impacts**

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**Economic Benefits**

◆ Snowmobiling	\$43,921
◆ Non-motorized rec.	\$308,188
◆ Camping	\$83,183

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<b>Net Benefits</b>	<b>\$435,292</b>
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**County Revenue and Expenses**

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◆ Tax Revenue	\$0
◆ Expenditures	\$300,000



Without public investments in the new campground, groomed backcountry trails and groomed cross-country ski/snowshoe trails, no additional recreation or related benefits are anticipated as a result of the change in management of this parcel.

#### *County Tax Revenues*

As no change in ownership is proposed, the county would continue to receive any federal PILT for the federal lands in the proposed National Recreation Area. In 2008, the Emergency Economic Stabilization Act authorized payments for five years providing some stability to the program. Recently a one-year renewal of these county payments was passed but payments were reduced 5 percent from 2011 levels. Various proposals have been made to change, not only the annual authorization levels, but also the formulas used to redistribute these funds back to the counties. However at this time no decisions by the federal government for the PILT program have been made so any tax impacts to Kittitas County cannot be estimated. However, unless the formula changes payments based on timber versus recreation, it is unlikely the proposed designation of this area as an NRA would change the payments the county receives under future PILT programs.

#### *County Service Needs*

This analysis indicates that both motorized and non-motorized recreation visits would increase. Recreation-related emergency services and patrols are assumed to fall onto the county, with the net effect of increased need for patrols and emergency services in the spring-to-fall period (hiking, mountain biking, off-highway vehicle, and camping season), and in the winter (for snowmobiling and backcountry skiing emergency services). The need for patrols in the warm season is expected to be less costly per visitor than during snow season, when specialized snow-ready equipment is required. It is assumed that an additional 3.0 FTE of service personnel (police, fire, ambulance, search and rescue, etc.) plus equipment, estimated to be a combined total of \$300,000 per year, will be required.

### **Manastash-Taneum National Recreation Areas**

#### Proposal

The NRA designation would identify approximately 35,000 acres (90 percent) for backcountry recreational use (Watershed 2012). Access and recreation opportunities would improve if designated as a NRA. More permanent recreation facilities, such as access roads or camping areas, could be constructed. The proposed uses are consistent with the uses identified in the current Okanogan-Wenatchee National Forest Plan Revision Proposed Action.

#### Analysis

##### *Timber Harvesting*

The 38,970 acres proposed for this NRA have some current timber production use but no identifiable changes are expected under the NRA designation.

## Recreation

The primary change in recreational use is likely to come from the designation of 35,000 acres for backcountry motorized recreational use. Consistent with the estimates provided previously for the Upper Yakima NRA, it is assumed an additional 58 miles of groomed trails will be constructed on these 35,000 acres. This additional 58 miles of groomed trails is expected to add about 4,470 visits per year and \$254,740 of economic benefit within Kittitas County.

The area has three existing Forest Service campgrounds but is assumed one additional campground could be developed to accommodate new visitors under the NRA designation. Assuming the size of the campground would be similar to those found on the Wenatchee NF, the campground should attract about 1,650 visits per year (see Appendix A). This could yield an annual economic benefit of \$83,183 within the county.

Without public investments in the new campground, and groomed backcountry trails, no additional recreation or related benefits are anticipated as a result of the change in management of this parcel.

### County Tax Revenues

As no change in ownership is proposed, the county would continue to receive any federal PILT for the federal lands in the proposed National Recreation Area. See discussion above in the Upper Yakima National Recreation Area section for background on PILT payments.

### County Service Needs

This analysis indicates that both motorized and non-motorized recreation visits would increase. Recreation-related emergency services and patrols are assumed to fall onto the county, with the net effect of increased need for patrols and emergency services in the spring-to-fall period (camping and related activities), and in the winter (for snowmobiling emergency services). The need for patrols in the warm season is expected to be less costly per visitor than during snow season, when specialized snow-ready equipment is required. It is assumed that an additional 1.5 FTE of service personnel (police, fire, ambulance, search and rescue, etc.) plus equipment, estimated to be a combined total of \$150,000 per year, will be required.

## Wild and Scenic River Designations for the Upper Cle Elum, Waptus, and Cooper Rivers; and the North, Middle, and West Forks of the Teanaway River

### Proposal

The intent of the Wild and Scenic River designations is to protect spawning and rearing habitats for salmonids. A total of 15,719 acres of land would be impacted by the Wild and Scenic River designation proposed for the Upper Cle Elum, Waptus, and Cooper Rivers; 99 percent of that is in public holdings. For the North, Middle and West Forks of

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### Summary of Impacts

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#### Economic Benefits

◆ Motorized Rec.	\$254,740
◆ Camping	\$83,183

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<b>Net Benefits</b>	<b>\$337,923</b>
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#### County Revenue and Expenses

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◆ Tax Revenue	\$0
◆ Expenditures	\$150,000

the Teanaway River, 7,632 acres would be in the buffer zone required for the Wild and Scenic Designation. Assuming the AFH lands are acquired, about 94 percent of the buffer zone will be in public ownership (URS, "Land Use Analysis," 2012).

Although private lands would be included within the boundaries of the designated river area, restrictions apply only to public lands. Protection of the river is provided through voluntary stewardship by landowners.

Analysis

Existing economic uses of both public and private land are not anticipated to be affected, and impacts related to acquired lands are discussed elsewhere. The primary set of impacts associated with a "Wild and Scenic" designation is for the potential increase in recreation visitation, related to the promotion of the specific "protected" river segment among those recreationists interested in such an experience.

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**Summary of Impacts**

**County Revenue and Expenses**

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◆ Tax Revenue	\$0
◆ Expenditures	\$100,000

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*County Service Needs*

Some increase in recreation visits is anticipated over time, which could necessitate additional patrols or emergency services by the county. Although there is no estimate made of the amount of increase, it is assumed that eventually an additional 1.0 FTE of service personnel (police, fire, ambulance, search and rescue, etc.) plus equipment, estimated to be a combined total of \$100,000 per year, will be required.

**Shrub-Steppe Habitat, Preferred Option**

Proposal

This land acquisition would be conducted for habitat protection purposes, in combination with an increase in recreation accessibility. There is further consideration for a "working lands" outcome where current ranching activities would continue if consistent with protection of habitat and sensitive wildlife species (Watershed 2012).

Analysis

*Agricultural Impacts*

Under the conservation plan, there could be an outright purchase of the Eaton Ranch or a conservation easement could be established. It has not yet been determined whether some level of ranching business can continue on the property under the conservation easement alternative. In either case it is anticipated there will be some reduction of agricultural and related support business activity, resulting in reduced employment and local expenditures.

Details of the Eaton Ranch operation, which is a private business, are not publicly available. However, based upon cost of production budgets for enterprises of similarly

sized pasture, range, and irrigated hay land, some general estimates can be made for purposes of this study (see Turner, et al., 1998a and 1998b). It is assumed that Eaton Ranch generates \$200,000 to \$250,000 in annual expenses for agricultural services (hay production, labor, equipment, repairs, veterinary services, medicines, and other expenses). Under a conservation plan, or through an outright purchase that allows continued cattle production, at least some level of grazing, and therefore head of cattle raised, would be reduced in order to protect sensitive areas. The operating cattle ranch is assumed to require \$100,000 less in annual expenses, which represents a direct loss to the county's economy.

### Recreation

If the Eaton ranch is purchased and put under public management, there would be opportunities for recreation use. This would likely be wildlife and landscape viewing and photography. Nationally, viewing and photographing scenery has the highest participation of any outdoor recreation (Hall, 2005). Visitor surveys conducted in 2005 on the Okanogan-Wenatchee National Forest indicated 'viewing wildlife' as one of the top six primary activities on the Okanogan portion and 'viewing natural features' as one of the top six activities on the Wenatchee portion.

A recent technical report from the Bureau of Reclamation looks at recreation demand in the Yakima River basin. Of all the recreation activities reviewed in this study, wildlife viewing has the greatest growth rate. The authors expect between a 35% and 50% increase in demand for this kind of activity in the next 20 years (US Bureau of Reclamation, 2007).

Based on 2005 visitor counts in the Wenatchee National forest, viewing of natural features was the primary activity for 134,240 visitors. Given the Wenatchee portion of the forest has 1.7 million acres, there were .about .08 visits per acre per year. Assuming similar recreation use levels, the Eaton Ranch property could potentially attract about 1,092 visitors a year, yielding an estimated \$39,126 of benefits to the county.

When Wymer Reservoir is built, this would flood about 4,000 of the 13,831 acres (Seattle Times, 2011). Not only would this preclude continuation of ranching activities on this part of the property, it would result in an initial loss of sage grouse habitat.

### Property Development

Under current land use zoning (Agriculture (AG-20) and Forest and Range), certain "low-impact" commercial enterprises are permitted, as long as they are complementary and secondary to the primary functional use of the land in support of agriculture. This feature is most significant in the low-lying, relatively level Eaton Ranch land along the Yakima River and the confluence with Lmuma Creek, and in portions of the canyon. Although much of it is currently irrigated hay and pasture land, there is the opportunity to develop a "ranch lifestyle" resort lodge, dude ranch, fly-fishing camp, or bed-and-breakfast that is

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### Summary of Impacts

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#### Economic Benefits

◆ Agriculture	-\$100,000
◆ Wildlife Viewing	\$39,126
◆ Resort Operation	-\$150,000

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<b>Net Benefits</b>	<b>-\$210,874</b>
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#### County Revenue and Expenses

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◆ Tax Revenue	-\$16,000
◆ Expenditures	\$50,000

oriented towards the scenic qualities of the location but is also complementary to the existing operating ranch.

Whether the ranch is purchased outright, or conservation easements acquired, the opportunity for such commercial development is eliminated, as that would not be consistent with the overall conservation objective of the plan. Although no plans for a commercial development have yet emerged, the loss of the *opportunity* to develop in the future should be considered among the potential economic impacts.

For the purposes of this analysis, a dude ranch or fishing resort serving up to ten guests is assumed with annual gross revenue of \$150,000. This revenue will be used to cover operating expenses, including labor, food for meals, facilities maintenance, utilities, and related items, plus proprietor's profit. This lost opportunity is represented as a cost (negative benefit) to the county.

If acquisition for conservation purposes precludes development of wind resources on the Eaton Ranch, this could represent a lost opportunity for the county. The county would lose the initial construction spending and construction related employment benefits as well as the ongoing employment and tax benefits of a wind facility. For this analysis, it is assumed that wind energy would still be permitted; however, the following discussion provides information on the magnitude of impact should that opportunity be lost.

Several studies have estimated the magnitude of employment and taxes associated with development of wind projects. One recent study, conducted by a wind power advocacy group, WindWorks, assessed the benefits to Kittitas County from the Columbia Plateau project, an 80 turbine project originally slated for construction in 2012 (WindWorks, 2011).

For the Columbia Plateau project they estimated a construction costs off \$447 million and an assessed value of \$190.6 million. Local (county, not state) tax benefits were estimated to be over \$900,000 a year. They also estimated 115 direct jobs would be created during the construction phase with a payroll of \$87.5 million. They expect the project to create 11 permanent direct jobs with an estimated payroll of \$710,000. Induced and indirect jobs benefits were not estimated.

The study also cited other local impacts they did not quantify. These included local sales taxes, increased spending during the construction phase of the project, and the potential for renewable energy tourism. The latter is in reference to the Renewable Energy Center associated with the Wild Horse project, also in Kittitas County.

ECONorthwest conducted another economic impact analysis for the Kittitas Valley Wind project. This project involved 65 turbines. They estimated 126 full and part time jobs during the construction phase and 10 permanent jobs when the wind farm was operational. They estimated an increase in property taxes of \$1.5 million, which was a 5% increase over existing property taxes (ECONorthwest, 2006).

### *County Tax Revenue*

If the land is acquired outright, there would be a loss of nearly \$32,000 in annual property taxes for Kittitas County. If the land is transferred to public ownership, and the county received payments in lieu of taxes from either the state or federal government at least a portion of this tax revenue may be replaced. The net effect would be an assumed loss of \$16,000 in tax revenue.

### *County Service Needs*

Some increase in recreation visits is anticipated, which could necessitate additional patrols or emergency services by the county. It is assumed that an additional 0.5 FTE of service personnel (police, fire, ambulance, etc.) plus equipment, estimated to be a combined total of \$50,000 per year, will be required.

After Wymer Reservoir is built, visitation would likely increase above that estimated for wildlife viewers. Recreation visitor types will expand to include campers, swimmers, and boaters. The need for county emergency services would expand accordingly. Without additional details, it is conservatively estimated that service personnel needs would increase by 2.0 FTE, or \$200,000 per year.

### **Summary of Impacts**

An analysis of each of the proposed actions demonstrates that there may both positive and negative consequences in terms of spending within the county, where and which economic sectors would experience changes, and how county revenues and expenditure needs are affected. Table 9 presents a summary of impacts presented above under two scenarios: one that includes public investment in recreation facilities (campgrounds, and hiking and/or groomed snowmobile trails), and one that does not include such investment. "Public investment" may be interpreted as expenditure by the County, or as a part of the implementation of the Yakima Basin IWRMP. In the table, positive numbers reflect an increase in spending, negative numbers are a decrease in spending.

As shown in Table 9, if all the options are implemented, and there is public investment in recreation facilities, then on balance there is a positive economic impact of \$494,500 per year in spending. This occurs from a net increase of \$1.2 million in recreation-related spending, and smaller decreases in agricultural and housing construction expenditures. If there is no investment in recreation facilities, the County experiences a net decrease of \$743,355 in spending, primarily due to a very small increase in recreation-related spending.

In both scenarios, County tax revenues may increase by \$108,042, primarily as payments in lieu of taxes. However, County obligations in terms of increased emergency and related services would be \$850,000, if public investment induces greater recreation visitation, or \$400,000 if there is no additional public investment.

**Table 9: Summary of Annual Economic Impacts, County Revenues, and County Expenditure Obligations**

Option Name	Category	With Public Investment	Without Public Investment
<b>Upper Yakima River Basin High Elevation Watershed Preferred Option (Teanaway)</b>	Hiking	\$196,719	\$0
	Snowmobiling	-\$109,802	-\$109,802
	Construction	-\$500,000	-\$500,000
	<b>TOTAL</b>	<b>-\$413,083</b>	<b>-\$609,802</b>
	County Revenues	\$24,280	\$24,280
	County Expenses	\$100,000	\$0
<b>Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manatash)</b>	Camping	\$83,183	\$0
	Hiking	\$262,059	\$0
	<b>TOTAL</b>	<b>\$345,242</b>	<b>\$0</b>
	County Revenues	\$100,662	\$100,662
	County Expenses	\$150,000	\$0
<b>Upper Yakima NRA</b>	Snowmobiling	\$43,921	\$4,392
	Non-motorized rec	\$308,188	\$30,819
	Camping	\$83,183	\$8,318
	<b>TOTAL</b>	<b>\$435,292</b>	<b>\$43,529</b>
	County Revenues	\$0	\$0
	County Expenses	\$300,000	\$150,000
<b>Manastash-Taneum NRA</b>	Motorized rec.	\$254,740	\$25,474
	Camping	\$83,183	\$8,318
	<b>TOTAL</b>	<b>\$337,923</b>	<b>\$33,792</b>
	County Revenues	\$0	\$0
	County Expenses	\$150,000	\$100,000
<b>Wild/Scenic River Designations</b>	<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>
	County Revenues	\$0	\$0
	County Expenses	\$100,000	\$100,000
<b>Shrub-Steppe Habitat, Preferred Option (Eaton Ranch)</b>	Agriculture	-\$100,000	-\$100,000
	Wildlife Viewing	\$39,126	\$39,126
	Resort Operation	-\$150,000	-\$150,000
	<b>TOTAL</b>	<b>-\$210,874</b>	<b>-\$210,874</b>
	County Revenues	-\$16,000	-\$16,000
	County Expenses	\$50,000	\$50,000
<b>TOTAL ECONOMIC IMPACT By Major Sector</b>	Agriculture	-\$100,000	-\$100,000
	Construction	-\$500,000	-\$500,000
	Recreation	\$1,244,500	\$6,645
	Accommodations	-\$150,000	-\$150,000
	<b>TOTAL</b>	<b>\$494,500</b>	<b>-\$743,355</b>
	County Revenues	\$108,942	\$108,942
	County Expenses	\$850,000	\$400,000

Impacts on Sales, Personal Income, and Employment

Both scenarios were also analyzed in terms of the effect of the changes in spending on total industry output (sales), personal income, and employment in Kittitas County. Changes in spending in specific sectors, such as retail stores, gasoline stations, or by ranching businesses, will cause additional spending throughout the economy by employees or the businesses themselves, sometimes called a “multiplier effect.” A regional economic impact model of the county was used. The regional economics model is based on IMPLAN software, which is widely used in public and private settings for measuring the indirect effect that changes in expenditures (or other “direct effects”) have on the regional economy. A Kittitas County data set from 2010, the most recent available, was used.

Three different economic measures are presented for the discussion of regional impacts. “Output” represents the value of production of goods and services by businesses in the regional economy. This can serve as an overall measure of the local economy. The second measure is “Personal Income,” which is the sum of employee compensation and proprietor income. Employee compensation represents total payroll costs, including wages and salaries paid to workers plus benefits such as health insurance, as well as retirement payments and non-cash compensation. Proprietor income includes payments received by self-employed individuals as income, such as income received by private business owners, doctors, or lawyers. This measure is useful to show how the employees and proprietors of businesses producing the output share in the fortunes of those businesses. The third measure is “Employment.” This represents the annual average number of employees, whether full- or part-time, of the businesses producing the output.

Table 10 provides a summary of the economic impacts of both scenarios, including both changes in spending plus additional county expenditures. “Direct Effect” is the result of initial spending, e.g., increased recreation-related expenditures or decrease in construction spending. “Total Effect” includes the direct effect plus the “multiplier effect” of re-spending that takes place in the local economy. Detailed results for both scenarios can be found in tables within Appendix B.

**Table 10: Summary of Impacts on Annual Sales, Income, and Employment**

Impact Category	With Public Investment		Without Public Investment	
	Direct	Total	Direct	Total
Employment (jobs)	13.0	14.7	-2.8	-4.7
Personal Income	\$422,025	\$471,301	-\$23,018	-\$75,623
Output (Sales)	\$556,054	\$739,688	-\$471,104	-\$644,358

As indicated in Table 10, the scenario with public investment will result in a net increase of approximately 15 jobs, resulting from an additional \$739.7 thousand in annual spending within Kittitas County. The Accommodation and Food Service and Retail Trade sectors will experience the largest share of the increase, while the Construction and Agricultural sectors will see declines. Additional employment in the government sector will also be



required, based on new county obligations. The net result is an increase in personal income (employees and proprietors) of \$471,301 per year.

A different result occurs in the scenario without public investment. There will be a net loss in employment, output, and income. A total decline of \$644.4 thousand in output will result, mostly in Construction and Agriculture. The small increase in recreation and in county expenditures for emergency and related services does not offset the losses in those two sectors.

### Impacts over Time

The analysis presented above considers impacts in two static periods: before and after the actions take place. Results are presented on an annual average basis. However, the conditions over time are far from static. Recreation visitation is likely to continue on an upward trajectory, based on Forest Service and other projections. This will require additional county expenditures for services required to support visitors. At the same time, the cost of providing services (labor and equipment) is rising at a much faster pace than the ability of the county to generate revenue to cover it.

### Distribution of Impacts in Rural versus Urban Kittitas County

The impacts of the two scenarios on Kittitas County have thus far been presented as affecting the county as a whole. However, the change in spending and sales within the county, as well as the additional emergency services responsibilities, do not fall evenly across urban and unincorporated Kittitas County. Since most businesses (farms being the major exception) are located within urban areas, the cities receive the bulk of the revenue generated from increased (or decreased) spending.

An analysis was conducted of the distribution of impacts for urban versus rural areas for the two scenarios. Two main aspects were considered: (1) change in private sector spending and public sector expenditures, and (2) changes in sales tax revenue due to changes in spending.

### *Spending in Urban and Rural Kittitas County*

Detailed information on the location of affected businesses in urban and rural Kittitas County is not readily available, so a set of simplifying assumptions were made.

1. All businesses are located within urban areas of the county, with noted exceptions.
2. All farms and ranches, timber harvesting, and mining (including sand and gravel) businesses are in unincorporated areas.
3. Half (50%) of agricultural support and timber-related support businesses, such as seed and fertilizer, veterinary services, tractor and equipment dealers, etc., are located in unincorporated areas, and the rest in urban areas.
4. All accommodation and food service businesses within urban areas, except for "other accommodations," which includes resorts and dude ranches, which are in rural areas.

The change in total industry output (or sales) in urban and unincorporated Kittitas County are presented in Table 11, using results from Table 10 and Appendix B. Under the "With

Public Investment” scenario, urban areas will see increased spending of \$739,688 per year with no increase in public sector requirements. Rural areas see a decrease in spending (primarily for agricultural products and services), but an increased commitment for \$356,493 in public sector spending. The net effect of increased public spending and decreased private spending is \$133,218.

**Table 11: Change in Spending in Urban and Rural Kittitas County, Under “With” and “Without” Public Investment Scenarios (\$ per year)**

	With Public Investment		Without Public Investment	
	Urban	Rural	Urban	Rural
Private Sector Spending	\$606,470	-\$223,276	-\$576,677	-\$223,890
Public Sector Spending	\$0	\$356,493	\$0	\$156,209
SUBTOTAL	\$606,470	\$133,218	-\$576,677	-\$67,681
TOTAL SPENDING	\$739,688		-\$644,358	

Under the “Without Public Investment” scenario, private sector spending will decline in both urban and rural areas, with most of that occurring to urban businesses. The sector withstanding the largest decline is construction.<sup>5</sup> Under this scenario, public sector spending commitments in unincorporated areas will increase, but at a smaller level than the “with public investment” scenario. The net effect in rural areas is a decline of \$67,681 in total spending.

#### *Tax Revenues*

The regional impacts model for Kittitas County provides an estimate of the change in sales tax revenues for each scenario. The sales tax rate in Kittitas County is 8.0 percent. The state receives 6.5 percent and the county receives 1.5 percent of all taxable sales. Furthermore, rural Kittitas County receives 15 percent of all Kittitas County sales tax revenues. Table 12 displays the total estimated tax revenue change resulting from the two scenarios, which combines both sales tax revenues and payment in lieu of taxes (PILT). It is assumed that PILT is attributed solely to rural areas.

**Table 12: Change in Tax Revenue in Urban and Rural Kittitas County, Under “With” and “Without” Public Investment Scenarios (\$ per year)**

	With Public Investment		Without Public Investment	
	Urban	Rural	Urban	Rural
Sales Tax Revenue	\$9,353	\$1,651	-\$1,658	-\$293
Payment in Lieu of Taxes	\$0	\$108,942	\$0	\$108,942
SUBTOTAL	\$9,353	\$110,593	-\$1,658	\$108,649
TOTAL REVENUE	\$119,946		\$106,992	

<sup>5</sup> Although the construction activity would take place in unincorporated Kittitas County, the business revenue is assumed to be in urban areas.

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APPENDIX A

**Recreation Impact Assumptions**

The Okanogan-Wenatchee National Forest (OWNF) is in the midst of a revision to existing forest plans completed in 1989 (Okanagan NF) and 1990 (Wenatchee NF). In the June 2011 document “Proposed Action for Forest Plan Revision Okanogan-Wenatchee National Forest”, the Forest Service presented current recreation use on both forests. The information is derived from the National Visitor Use Monitoring (NVUM) which tracks recreational use for each forest. Given the Watershed Land Conservation Subcommittee proposed land acquisitions are closer in geography to the Wenatchee, figures from that portion of the Okanogan-Wenatchee forest are used here.

The June 2011 FS document presented visitor information based on 2005 use data. 2,130,800 visits were estimated for the Wenatchee NF. Of this total 129,900 or 6 percent of these were estimated to be users of the wilderness areas on the forest. For the overall 2.1 million visits, 57 percent were day users; overnight visits accounted for the other 43 percent (USDA Forest Service 2011). Table A-1 presents the distribution of the primary activity for those 2.1 million visitors.

**Table A-1: Visitation by Activity Type, Wenatchee National Forest, 2005**

<b>Activity</b>	<b>Percent of Total Visitors</b>	<b>Number of Visits in 2005</b>
<b>Hunting</b>	22.7%	483,692
<b>Snowmobiling</b>	13.9%	296,181
<b>Hiking/Walking</b>	11.7%	249,304
<b>Developed Camping</b>	8.9%	189,641
<b>Backpacking</b>	6.9%	147,025
<b>Viewing natural feature</b>	6.3%	134,240
<b>Other activities</b>	29.6%	630,717

For purposes of estimating impacts on the proposed land acquisitions and management changes for the preferred alternatives in the Watershed Land Conservation Subcommittee Proposal, per unit measures were estimated using additional Forest Service data (Table A-2).

**Table A-2: Estimated Visitation Rates by Activity Type,  
Wenatchee National Forest, 2005**

Activity	Visitors	Unit measure	Per Unit
<b>Hunting</b>	483,692	Acres of Wenatchee NF	.28 visits per acre
<b>Snowmobiling</b>	296,181	Motorized miles	77 visits per motorized mile
<b>Hiking/Walking</b>	249,304	2463 miles of trails (48% in Wilderness designation)	101 visits per mile of trails
<b>Developed Camping</b>	189,641	115 campgrounds, in the 1990 plan	1,649 visits per campground
<b>Backpacking</b>	147,025	1,182 miles of trails in Wilderness. 841,034 acres are in Wilderness	124 visits per mile of wilderness trails, or 0.17 visits per acre
<b>Viewing natural features</b>	134,240	Acres of Wenatchee NF	.08 visits per acre
<b>Other activities</b>	630,717	Acres of Wenatchee NF	.37 visits per acre

*Notes*

*Trail mileage is from the 1990 Wenatchee Forest Plan. In this plan, the Forest Service noted, "Most of the high quality opportunities [for backpacking] are in the wilderness areas."*

*Snowmobile unit values are from "Winter Recreation on Western National Forest Lands" by Kathleen E. Rivers and Mark Menlove, Winter Wildlands Alliance, July 2006. Snowmobile visits per motorize mile based on the Okanogan-Wenatchee forest overall, not just the Wenatchee.*

**Spending Patterns for Recreation Users**

In addition to tracking visitor use for different kinds of recreation on the national forests, the NVUM survey process is also used to develop spending profiles for those same recreational activities. These profiles are then used by the Forest Service to estimate economic impacts associated with recreation on the national forests.

In 2006, Stynes and White published a report documenting these spending profiles. Their report was based on NVUM surveys conducted between 2000 and 2003. Spending profiles for nine recreation activity categories. Recreation oriented trips from local users were distinguished from visits from non-locals, where local was defined as being living within roughly a fifty mile distance from the recreation site.

Sample size limitations precluded the authors from yielding reliable spending profiles at an individual forest level so the profiles they compiled represent national averages rather than profiles for a specific forest. The original data was presented in 2003 dollars; figures used for the Kittitas economic impact analysis were updated to 2011 dollars used the consumer price index (CPI-U). These update values are shown in Table A-3.

**Table A-3: Visitor Spending by Recreation Type in National Forests, and Estimated Spending in Kittitas County, 2011 Dollars**

Recreation Type and Expenditures	Non local day trip	Non local overnight	Local Day trip	Local overnight trip	Est. \$/visit spent in Kittitas Co.
<b>Nature Viewing</b>					
\$ spent per party	\$63.57	\$273.17	\$32.99	\$157.98	\$35.83
Average party size	2.5	2.7	2.5	2.4	
\$ spent per visitor	\$25.43	\$101.17	\$13.20	\$65.82	
<b>Cross Country Skiing</b>					
\$ spent per party	\$65.39	\$409.91	\$41.61	\$245.94	\$56.29
Average party size	2.8	2.8	2.3	2.3	
\$ spent per visitor	\$23.35	\$146.40	\$18.09	\$106.93	
<b>Snowmobiling</b>					
\$ spent per party	\$132.16	\$394.02	\$83.68	\$236.41	\$57.04
Average party size	2.2	2.5	2.3	2.8	
\$ spent per visitor	\$60.07	\$157.61	\$36.38	\$84.43	
<b>Off-Highway Vehicle Use</b>					
\$ spent per party	\$73.26	\$197.77	\$46.62	\$118.66	\$33.70
Average party size	2.1	2.5	2.0	2.5	
\$ spent per visitor	\$34.89	\$79.11	\$23.31	\$47.47	
<b>Hiking and Biking</b>					
\$ spent per party	\$44.81	\$300.31	\$24.63	\$105.95	\$28.51
Average party size	2.1	2.3	1.8	2.2	
\$ spent per visitor	\$21.34	\$130.57	\$13.68	\$48.16	
<b>Developed Camping</b>					
\$ spent per party	N/A	\$172.72	N/A	\$156.31	\$50.42
Average party size	N/A	2.8	N/A	3.1	
\$ spent per visitor	N/A	\$61.69	N/A	\$50.42	

N/A – Not applicable

Source: Spending by trip type based on Stynes and White, 2006, updated to 2011 dollars using the Consumer Price Index (2003 data in original). Visits in Kittitas County assume 57 percent day use, 43 percent overnight; see text for explanation.

For the Wenatchee portion of the Okanagon-Wenatchee National Forest, day users represent 57% of the visitors (USDA Forest Service, June 2011). It was assumed the amount of dollars spent *within* Kittitas County was roughly equivalent to the amount a local user (i.e., a visitor from within 50 miles of the recreation site) spends. These figures were then weighted by the 57% day use, 43% overnight split found in the Wenatchee data.

### **Trends in Recreation Use for the Wenatchee NF Area**

By the time the Forest Service was planning their 2006 forest plan revisions, recreation demand already was well of ahead of anticipated levels, nearly twice the level projected in the 1990 plan. The Forest Service noted reductions in overnight hiking trips but an increase in day hikes, both in the wilderness area and areas outside the wilderness. Because of budget restrictions almost no new trails were constructed in the 15 year period. These budget restrictions were expected to continue limiting both construction of new trails and maintenance of existing trails.



The 2006 revision documents also noted increased demand for off road vehicle (OHV) routes. Roads on the forest can only be used by vehicles licensed for highway use, limiting OHV use to designated routes.

The June 2011 plan revision included comments about the overuse of the Wenatchee NF, particularly areas closest to the Puget Sound population. They noted demand for snowmobiling is expected to triple by 2050 and hiking is expected to increase by 78 percent. According to the Forest Service, OHV use is only a small share of present use, but some trails systems (they specifically mention Manastash and Little Naches) are already overcrowded. (USDA Forest Service, June 2011). Several recent articles in The Wenatchee World address conflicts between snowmobilers and other winter recreationists, e.g., cross country skiers and snowshoe users.

Although the Forest Service plan revision does not explicitly propose changes to snowmobile use, it does propose adding 125,800 acres to wilderness status. Those lands would be off limits to snowmobiles, possibly increasing demand for snowmobiling in other areas.

The June report also noted increased demand for dispersed recreation including wildlife watching, rock climbing, boating and sightseeing.

APPENDIX B

**Detailed Results on Output, Income, and Employment – With Public Investment**

**Table B-1: Output (Sales)  
(\$ per year)**

	Direct	Indirect	Induced	TOTAL
Ag, Forestry, Fish & Hunting	-99,903	-11,503	413	-110,993
Mining	0	-448	3	-445
Utilities	2,669	1,117	1,425	5,210
Construction	-473,532	3,196	1,660	-468,676
Manufacturing	957	-2,709	458	-1,294
Wholesale Trade	4,951	-434	3,971	8,487
Retail Trade	327,491	-32,011	28,385	323,865
Transportation & Warehousing	6,356	-5,170	2,449	3,634
Information	17,693	11,166	5,402	34,261
Finance & Insurance	9,118	6,941	19,893	35,952
Real Estate & Rental	121,876	11,128	49,997	183,001
Prof., Scientific & Tech Services	39,163	-2,091	5,907	42,979
Management of Companies	27	885	72	985
Administrative & Waste Services	14,315	5,189	3,111	22,614
Educational Services	2,179	147	2,026	4,352
Health & Social Services	3,034	29	24,831	27,893
Arts, Entertainment & Recreation	165	954	4,152	5,272
Accommodation & Food Services	217,768	5,256	16,900	239,925
Other Services	15,121	-311	11,360	26,170
Government & Institutions	346,607	5,001	4,885	356,493
<b>TOTAL</b>	<b>556,054</b>	<b>-3,667</b>	<b>187,301</b>	<b>739,688</b>

**Table B-2: Personal Income  
(\$ per year)**

	Direct	Indirect	Induced	TOTAL
Ag, Forestry, Fish & Hunting	-7,670	-933	112	-8,490
Mining	0	-139	1	-138
Utilities	655	239	337	1,231
Construction	-141,677	1,114	667	-139,897
Manufacturing	202	-288	52	-35
Wholesale Trade	1,736	-152	1,392	2,976
Retail Trade	142,728	-13,480	11,556	140,804
Transportation & Warehousing	3,075	-2,169	1,046	1,952
Information	2,950	2,695	946	6,591
Finance & Insurance	1,338	2,826	5,195	9,360
Real Estate & Rental	21,551	1,139	1,210	23,900
Prof., Scientific & Tech Services	16,589	-799	2,330	18,120
Management of Companies	16	-198	-15	-197
Administrative & Waste Services	3,221	1,545	840	5,605
Educational Services	1,182	80	1,080	2,342
Health & Social Services	1,858	8	12,495	14,361
Arts, Entertainment & Recreation	47	213	968	1,227
Accommodation & Food Services	65,512	1,566	5,081	72,159
Other Services	7,393	86	5,760	13,239
Government & Institutions	301,320	3,056	1,814	306,191
<b>TOTAL</b>	<b>422,025</b>	<b>-3,591</b>	<b>52,867</b>	<b>471,301</b>

**Table B-3: Employment  
(Jobs per year)**

	Direct	Indirect	Induced	TOTAL
Ag, Forestry, Fish & Hunting	-1	0	0	-1
Mining	0	0	0	0
Utilities	0	0	0	0
Construction	-3	0	0	-3
Manufacturing	0	0	0	0
Wholesale Trade	0	0	0	0
Retail Trade	5	0	0	5
Transportation & Warehousing	0	0	0	0
Information	0	0	0	0
Finance & Insurance	0	0	0	0
Real Estate & Rental	2	0	0	2
Prof., Scientific & Tech Services	1	0	0	1
Management of Companies	0	0	0	0
Administrative & Waste Services	0	0	0	0
Educational Services	0	0	0	0
Health & Social Services	0	0	0	0
Arts, Entertainment & Recreation	0	0	0	0
Accommodation & Food Services	4	0	0	4
Other Services	0	0	0	0
Government & Institutions	5	0	0	5
<b>TOTAL</b>	<b>13</b>	<b>0</b>	<b>2</b>	<b>15</b>

## Detailed Results on Output, Income, and Employment – Without Public Investment

**Table B-4: Output (Sales)**  
(\$ per year)

	Direct	Indirect	Induced	TOTAL
Ag, Forestry, Fish & Hunting	-99,954	-11,646	-62	-111,662
Mining	0	-452	0	-453
Utilities	1,256	-1,632	-207	-583
Construction	-487,544	-2,628	-271	-490,443
Manufacturing	450	-3,882	-69	-3,500
Wholesale Trade	2,330	-4,601	-579	-2,850
Retail Trade	1,757	-33,993	-4,882	-37,118
Transportation & Warehousing	2,081	-11,679	-414	-10,013
Information	8,326	-6,026	-824	1,476
Finance & Insurance	4,291	-12,979	-3,104	-11,791
Real Estate & Rental	7,528	-10,409	-8,500	-11,380
Prof., Scientific & Tech Services	18,430	-16,740	-929	761
Management of Companies	13	-126	-12	-124
Administrative & Waste Services	6,736	-9,237	-506	-3,007
Educational Services	1,025	-60	-360	606
Health & Social Services	1,428	12	-3,880	-2,440
Arts, Entertainment & Recreation	78	-302	-711	-936
Accommodation & Food Services	-107,303	-4,989	-2,685	-114,977
Other Services	7,116	-7,361	-1,887	-2,132
Government & Institutions	160,853	-3,898	-746	156,209
<b>TOTAL</b>	<b>-471,104</b>	<b>-142,627</b>	<b>-30,627</b>	<b>-644,358</b>

**Table B-5: Personal Income  
(\$ per year)**

	Direct	Indirect	Induced	TOTAL
Ag, Forestry, Fish & Hunting	-7,688	-975	-16	-8,679
Mining	0	-141	0	-141
Utilities	308	-352	-49	-93
Construction	-146,500	-903	-110	-147,513
Manufacturing	95	-500	-8	-413
Wholesale Trade	817	-1,613	-203	-999
Retail Trade	766	-14,313	-1,988	-15,535
Transportation & Warehousing	895	-4,986	-177	-4,267
Information	1,388	-1,067	-146	175
Finance & Insurance	630	-2,223	-824	-2,417
Real Estate & Rental	928	-1,107	-171	-350
Prof., Scientific & Tech Services	7,807	-6,894	-367	546
Management of Companies	7	25	2	34
Administrative & Waste Services	1,516	-2,360	-137	-980
Educational Services	556	-32	-191	333
Health & Social Services	874	3	-1,956	-1,078
Arts, Entertainment & Recreation	22	-64	-166	-208
Accommodation & Food Services	-28,353	-1,492	-808	-30,653
Other Services	3,479	-3,223	-958	-702
Government & Institutions	139,435	-1,835	-281	137,319
<b>TOTAL</b>	<b>-23,018</b>	<b>-44,051</b>	<b>-8,553</b>	<b>-75,623</b>

**Table B-6: Employment  
(Jobs per year)**

	Direct	Indirect	Induced	TOTAL
Ag, Forestry, Fish & Hunting	-1	0	0	-1
Mining	0	0	0	0
Utilities	0	0	0	0
Construction	-3	0	0	-3
Manufacturing	0	0	0	0
Wholesale Trade	0	0	0	0
Retail Trade	0	-1	0	-1
Transportation & Warehousing	0	0	0	0
Information	0	0	0	0
Finance & Insurance	0	0	0	0
Real Estate & Rental	0	0	0	0
Prof., Scientific & Tech Services	0	0	0	0
Management of Companies	0	0	0	0
Administrative & Waste Services	0	0	0	0
Educational Services	0	0	0	0
Health & Social Services	0	0	0	0
Arts, Entertainment & Recreation	0	0	0	0
Accommodation & Food Services	-1	0	0	-2
Other Services	0	0	0	0
Government & Institutions	2	0	0	2
<b>TOTAL</b>	<b>-3</b>	<b>-2</b>	<b>0</b>	<b>-5</b>