

**KITTITAS COUNTY IWRMP TARGETED
WATERSHED PROTECTIONS AND
ENHANCEMENT—LAND USE AND
ECONOMIC ANALYSIS PROJECT**

**Final Economic Impact Compensation
and Policy Recommendations**



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Final Economic Impact Compensation and Policy Recommendations

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Acronyms and Abbreviations

AFH	American Forest Holdings LLC
BOCC	Kittitas County Board of Commissioners
CAC	Citizens Advisory Committee
County	Kittitas County
CRMP	Comprehensive River Management Plan
DNR	Washington State Department of Natural Resources
Ecology	Washington State Department of Ecology
EIS	Environmental Impact Statement
FTE	Full-Time Equivalent
IWRMP	Yakima River Basin Integrated Water Resources Management Plan
NPS	National Parks Service
NRA	National Recreation Area
PILT	Payment in Lieu of Taxes
Reclamation	United States Bureau of Reclamation
SMP	Shoreline Master Program
TWPEC	Targeted Watershed Protections and Enhancements Component
USFS	United States Forest Service

Background

Developed by the Washington State Department of Ecology (Ecology) and the US Bureau of Reclamation (Reclamation) with the involvement of numerous stakeholders, the Yakima River Basin Integrated Water Resource Management Plan (IWRMP) (Appendix A) seeks to restore ecological functions in the Yakima River system and to provide more reliable and sustainable water resources for the health of the riverine environment, as well as agriculture, municipal, and domestic water users. The IWRMP includes a Targeted Watershed Protections and Enhancements component (TWPEC) (Appendix B) that identifies seven preferred habitat protection and enhancement actions for the Yakima River Basin, many of which impact Kittitas County (County) and its citizens. As a component of the IWRMP, the proposals within the TWPEC include the following actions within the County:

Land Acquisitions

- 45,000 acres as a conservation target for high elevation watershed enhancement in the middle/lower Teanaway River Basin
- 10,000 acres as a conservation target for forest habitat enhancement in the headwaters of Little Naches River, Taneum Creek, Manastash Creek
- 15,000 acres as a conservation target for shrub-steppe habitat enhancement in the Yakima River Canyon

New Designations on Existing Forest Service Lands

- 100,000 acres for creation of the Upper Yakima National Recreation Area, with 21,000 acres designated as Wilderness
- 41,000 acres for creation of the Manastash-Taneum National Recreation Area

New Designations of Select River Corridors

- Wild & Scenic River Designations for the Upper Cle Elum River, Waptus and Cooper Rivers
- Wild and Scenic River Designations for the Teanaway River

These actions are located in Kittitas County and are expected to have significant direct and indirect benefits and costs to County government, businesses, and citizens; however, no analysis of land use and economic effects was conducted within the IWRMP. It is critical to identify TWPEC benefits and costs so that they can be properly considered, and any TWPEC related direct costs to the County that are greater than new TWPEC related revenues can be compensated as the IWRMP is implemented. Therefore, in September 2011, the County hired URS Corporation to:

1. Form and operate a Citizens Advisory Committee (CAC);

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2. Work with the CAC to identify land use changes and economic issues that arise from the TWPEC;
3. Conduct a formal analysis of land use changes and economic impacts of the TWPEC;
4. Identify and quantify TWPEC related benefits and costs to Kittitas County;
5. Develop recommended methods to compensate for any TWPEC related economic costs to Kittitas County that are not offset by new revenue;
6. Develop recommended economic mitigation funding approaches and policies for the Kittitas County Board of Commissioners (BOCC) to use in discussions with Ecology and USBR about the impacts of the TWPEC; and
7. Produce a formal TWPEC land use, economic, and economic mitigation report for presentation to Ecology and Reclamation, and consideration during the overall IWRMP implementation process.

CAC Formation and Meeting Summary

The County desired to develop clear and defensible recommendations addressing the land use and economic impacts of the TWPEC on Kittitas County in a comprehensive and inclusive manner. Therefore, the County formed a CAC composed of 15 volunteering residents and individuals from interested parties. Kittitas County and a consultant team attended, facilitated, and provided expertise at the CAC meetings, but were not official CAC members.

The goal of the CAC was to develop thoughtful recommendations for the BOCC related to the land use and economic impacts of the TWPEC. These recommendations formed the basis for the development of economic mitigation policies by the BOCC, which would be transmitted to Reclamation and Ecology for consideration and inclusion as the final IWRMP is funded and implemented. To assist the CAC, a Citizens Advisory Group Work Plan was developed (Appendix C).

The number and timing of the CAC meetings was directly related to the project schedule. Meetings on a particular topic did not occur until information and materials could be generated for presentation to the CAC. A total five meetings were held within various locations throughout Kittitas County from October 2011 to September 2012.

Although the Kittitas County BOCC makes the final decisions on the preferred economic mitigation alternative to present to Ecology and Reclamation, the County was committed to the CAC process, and greatly considered the CAC recommendations while making decisions. The CAC input helped the BOCC make decisions that thoroughly considered the input of experts, citizens, businesses, and interested parties; and promoted a holistic approach to fully mitigate any negative effects of the TWPEC.

More detail about the CAC formation; purpose and goals; membership, and meetings can be found in Section 2—CAC Formation and Meeting Summary.

Land Use Analysis

A land use analysis was conducted to identify land use changes that arise from the TWPEC and to conduct a formal analysis of the identified land use changes due to implementation of the proposed actions. The analysis is based on existing zoning in place at the time of the study in Spring 2012.

Anticipated Changes

After a review of the existing land uses was conducted for each of the TWPEC action areas, an analysis was conducted to determine the anticipated changes resulting from the actions proposed by the TWPEC. Table ES.1 provides a summary analysis of the anticipated changes; a detailed discussion of anticipated changes is also provided for each option in Section 3—Land Use Analysis.

Economic Impact Analysis

An economic impacts analysis was conducted 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.

Anticipated Economic Impacts

After a review of the existing economic uses and opportunities was completed for each of the TWPEC action areas, an analysis of the economic impacts associated with each of the proposed changes was conducted. For each option, the effects were 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.

An analysis of each of the proposed actions demonstrates that there may be 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 ES.2 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 as a part of the implementation of the Yakima Basin IWRMP. In the table, positive numbers reflect an increase in spending, and negative numbers are a decrease in spending.

A detailed discussion presenting the Economic Impact Analysis in its entirety is provided in Section 4—Economic Impact Analysis.

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Table ES.1 Land Use Analysis 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 (Teanaway)	Commercial Forest	Acquisition as a Consortium/Community or as State Ownership	40,179 acquired	Public Access and Use Recreation Access Environmental Protection Logging/Timber Utility Access Grazing Opportunities Dams (when federally-funded) Residential/Agricultural Development Solar Development	↑ ↑ ↑ NC NC NC N/A ↓	
	Forest and Range		6,113 acquired			
	Rural-3		846 acquired			
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 ↓	

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

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**Table ES.1 (cont.)
Land Use Analysis Summary**

Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
Upper Yakima NRA			99,818 designated as NRA	Public Access and Use	↑
				Recreation Access	↑
		Designation of Public Land as NRA and Wilderness	19,964 designated as Wilderness	Environmental Protection	NC
				Logging/Timber	NC
	Unzoned (public land)			Utility Access	NC
				Grazing Opportunities	NC
				Public Access and Use	NC
Manastash-Taneum NRA			35,000 designated as NRA	Recreation Access	NC
				Environmental Protection	↑
				Logging/Timber	↓
				Utility Access	↓
				Grazing Opportunities	↓
Wild/Scenic River Designations for the Upper Cle Elum, Wapatus, and Cooper Rivers			15,719 designated as Wild and Scenic	Public Access and Use	↑
				Recreation Access	NC
				Environmental Protection	↑
		Unzoned (public land)		Dams (when federally-funded)	↓
		Unzoned (public land)		Residential/Agricultural Development	NC

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

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Table ES.1 (cont.) Land Use Analysis Summary					
Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
Wild/Scenic River Designations for the North, Middle, and West Forks of the Teanaway River	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
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 Grazing Opportunities Residential/Agricultural Development Wind Farms	↑ ↑ ↑ ↓ NC ↓ NC

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

Table ES.2 Summary of Annual Economic Impacts, County Revenues, and County Expenditure Obligations			
Option Name	Category	With Public Investment	Without Public Investment
Upper Yakima River Basin High Elevation Watershed Preferred Option (Teaway)	Hiking	\$196,719	\$0
	Snowmobiling	\$0	\$0
	<u>Construction</u>	<u>-\$500,000</u>	<u>-\$500,000</u>
	TOTAL	-\$303,281	-\$500,000
	County Revenues	\$24,280	\$24,280
County Expenses	\$50,000	\$0	
Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manatash)	Camping	\$83,183	\$0
	<u>Hiking</u>	<u>\$41,539</u>	<u>\$0</u>
	TOTAL	\$124,722	\$0
	County Revenues	\$6,922	\$6,922
	County Expenses	\$50,000	\$0
Upper Yakima NRA	Snowmobiling	\$43,921	\$4,392
	Non-motorized rec	\$308,188	\$30,819
	<u>Camping</u>	<u>\$83,183</u>	<u>\$8,318</u>
	TOTAL	\$435,292	\$43,529
	County Revenues	\$0	\$0
County Expenses	\$200,000	\$50,000	
Manastash-Taneum NRA	Motorized rec.	\$254,740	\$25,474
	<u>Camping</u>	<u>\$83,183</u>	<u>\$8,318</u>
	TOTAL	\$337,923	\$33,792
	County Revenues	\$0	\$0
	County Expenses	\$150,000	\$50,000
Wild/Scenic River Designations	TOTAL	\$0	\$0
	County Revenues	\$0	\$0
	County Expenses	\$100,000	\$100,000
Shrub-Steppe Habitat, Preferred Option (Eaton Ranch)	Agriculture	-\$100,000	-\$100,000
	Wildlife Viewing	\$39,126	\$39,126
	<u>Resort Operation</u>	<u>-\$150,000</u>	<u>-\$150,000</u>
	TOTAL	-\$210,874	-\$210,874
	County Revenues	-\$16,000	-\$16,000
County Expenses	\$50,000	\$50,000	
TOTAL ECONOMIC IMPACT By Major Sector	Agriculture	-\$100,000	-\$100,000
	Construction	-\$500,000	-\$500,000
	Recreation	\$1,133,782	\$116,447
	<u>Accommodations</u>	<u>-\$150,000</u>	<u>-\$150,000</u>
	TOTAL	\$383,782	-\$633,553
County Revenues	\$15,202	\$15,202	
County Expenses	\$600,000	\$250,000	
NET TOTAL		-\$201,016	-\$868,351

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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.”

Table ES.3 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.

Impact Category	With Public Investment		Without Public Investment	
	Direct	Total	Direct	Total
Employment (jobs)	9.9	10.8	-2.9	-4.9
Personal Income	\$295,393	\$332,003	-\$62,157	-\$117,996
Output (Sales)	\$336,932	\$440,860	-\$495,209	-\$680,072

Impacts over Time

The Economic Impact 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 United States Forest Service (USFS) 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.

Spending in Urban and Rural Kittitas County

The change in total industry output (or sales) in urban and unincorporated Kittitas County are presented in Table ES.4

Table ES.4 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	\$441,401	-\$223,450	-\$552,535	-\$223,944
Public Sector Spending	\$0	\$252,909	\$0	\$96,406
SUBTOTAL	\$441,401	\$29,459	-\$552,535	-\$127,538
TOTAL SPENDING	\$440,860		-\$680,072	

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 outside the urban areas. The County receives 15% of the sales tax collected by the cities. Table ES.5 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 ES.5 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	\$7,913	\$1,396	-\$1,093	-\$193
Property Tax Revenue*	\$0	\$15,202	\$0	\$15,202
SUBTOTAL	\$7,913	\$16,598	-\$1,093	\$15,009
TOTAL SPENDING	\$24,512		\$13,916	

* Reflects new PILT revenues post-project, minus pre-project property tax revenue.

Development of Economic Strategies

Given that the economic analysis predicts that Kittitas County will experience new service related costs that are in excess of new revenues to the County, it is necessary to develop mitigation funding options. An overall mitigation funding alternative would be composed of various options and used to provide revenue to the County to cover TWPEC related costs.

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The consultant team developed an initial set of economic mitigation funding options. The options were presented in an Economic Mitigation Strategies Matrix that included:

- Funding option name
- Funding option definition
- Where the funding option applies
- Justification for the option
- How the option works
- Who the funding is provided by
- Precedence for the option
- Examples of similar options in practice
- Strengths of the option
- Weaknesses of the option
- Funding option details
- Funding option implementation process

The initial matrix was presented to the BOCC during a study session. Additional mitigation options were provided by the County and CAC members. A revised Economic Mitigation Strategies Matrix was developed and is presented in Table 5.1.

Mitigation Recommendation and Conclusion

Citizen Advisory Committee Economic Mitigation Recommendation

A final CAC meeting was held to discuss and evaluate the mitigation funding options. During CAC discussions it was recognized that:

1. State and Federal PILT revenue will be part of any economic mitigation alternative as long as PILT exists;
2. Certain investments in recreational infrastructure (trails, campgrounds, etc.) will be necessary for the maximum recreation related economic benefits to occur in Kittitas County. Therefore a TWPEC infrastructure investment fund should be provided regardless of, and possibly independent of, any other economic mitigation. An investments fund should be made part of the TWPEC, regardless of other economic mitigation needs and options.
3. The parameters and amount of an Investment Fund could be expanded to include the types of elements outlined in the Community Forest Operations and Forest Health Practices. Like the Investment Fund, funding for Community Forest Operations and Forest Health Practices is important for the TWPEC goals to be achieved and therefore should be provided as a mandatory part of TWPEC implementation, rather than mitigation for County economic impacts.

To help guide the Mitigation Alternative evaluation and ranking process it was recommended that the CAC consider the following criteria:

- **Transparency:** Directness and Clarity of the Relationship between the Mitigation Option and the Impacts Being Mitigated
- **Precedence:** Track Record of Successfully Being Implemented Elsewhere in Similar Situations

- **Analysis:** Ease of Computation and Definition of Mitigation Option Details Necessary for Establishment
- **Implementation:** Simplicity and Ease of Approval and Establishment
- **Operation:** Simplicity and Ease of Operation
- **Effectiveness:** Derives Funds that are Sufficient to Cover Net Costs Incurred
- **Certainty:** Certainty that Mitigation will Continuously Occur

The CAC performed a ranking exercise that resulted in an Economic Mitigation Alternative composed of the following components:

- **Federal PILT** – The TWPEC proposes that 10,000 acres of private land within the Taneum and Manastash areas be acquired by the Federal government. Assuming a PILT rate of \$1.76668 per acre, this would net an increase of \$17,666.80 per year in County revenues.
- **State PILT** – The TWPEC proposes that 47,168 acres of private land within the Teanaway area be acquired by the State government. Assuming a PILT rate of \$0.77 per acre, this would net an increase of \$36,296 per year in County revenues.
- **Maintenance Endowment** – To offset additional County expenses incurred on an annual basis as a result of the implementation of the TWPEC a one-time Maintenance Endowment of \$15,000,000 is recommended. The endowment provides a principal that would be invested in a low-risk fund; the annual interest earnings serve as a revenue source to accommodate increased expenses. Assuming a return on investment of 4%, the interest would yield \$600,000 per year to be used by the County, while the principle would remain in perpetuity. The maintenance endowment would be allowed to build a reserve fund that can be used to cover cash flow variations and facilitate any debt financing necessary to carry out larger County maintenance projects. The full range of allowable uses of maintenance endowment revenue would be developed during future processes, but at a minimum it would cover County service costs that are justifiably related to the TWPEC.

In Addition to the Economic Mitigation Alternative, the CAC believes that implementation of the TWPEC must include two additional mandatory elements:

- **Investment Fund** – In order for the lands acquired through the implementation of the TWPEC to meet their full intended purposes of providing ecosystem services, recreational uses, and the associated regional economic benefits, additional infrastructure investment is required. An initial annuity of \$5,000,000 is recommended to provide investment funds that would account for approximately 3 campgrounds, 10 miles of snowmobile trails, and 140 miles of hiking trails. The Fund could also be used as a sinking fund, drawing interest that will support operation and maintenance. The exact investments made would be determined during future processes and with additional input from interested parties. Note that the size of the Maintenance Endowment is

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partially dependent on the Investment Fund. Lack of investments may lead to the need for a larger Maintenance Endowment due to less new revenues to the County as a result of a lower increase in recreational spending.

- **Community Forest Operations and Forest Health Practices Fund** – In order to support the implementation and operation of the Community Forest Board and forest management once the Teanaway is purchased, funding will be required. The Community Forest model is intended to be self-sustaining. However, considering the current state of the timber resources and the recent logging activity in the area to be acquired, it is likely that it will take many years before enough funding is generated from the land to become self-sustaining. This fund will assist in realizing the goals of the preferred option for the upper Yakima River basin high elevation component of the TWPEC. This mitigation would also support the investigation and eventual implementation of a biomass facility for forest products within Kittitas County. Determining a suitable amount and method of funding for the Community Forest Operations and Forest Health Practices Fund was beyond the scope of the analysis conducted for this report. Therefore, additional research and discussions with County leaders and likely stakeholders should occur to identify an appropriate funding amount and method.

Conclusion

The analysis conducted and the resulting economic impacts are based on reasonable and conservative assumptions and methods. Where possible, standard land use and economic analysis methods were used and examples from other large scale land acquisition and conservation projects were examined. Like any complex and large scale land use action, various interests groups can debate the details of the analysis and the assumptions used. However, this report is the result of an inclusive thoughtful “middle of the road” analysis and the economic impact results are reasonable and defensible. Therefore, economic mitigation is justified and appropriate.

The Yakima River Basin Integrated Water Resource Management Plan (IWRMP) (Appendix A) has been developed by the Washington State Department of Ecology (Ecology) and the US Bureau of Reclamation (Reclamation) with the involvement of numerous stakeholders. The IWRMP seeks to restore ecological functions in the Yakima River system and to provide more reliable and sustainable water resources for the health of the riverine environment, as well as agriculture, municipal, and domestic water users. The IWRMP offers a package of projects to meet these needs while anticipating changing water uses and effects of climate change on water resources in the basin.

The IWRMP includes a Targeted Watershed Protections and Enhancements component (TWPEC) (Appendix B) that identifies seven preferred habitat protection and enhancement actions for the Yakima River Basin, many of which impact Kittitas County (County) and its citizens (Figure 1.1). As a component of the IWRMP, the proposals within the TWPEC include the following actions:

Land Acquisitions

- 45,000 acres as a conservation target for high elevation watershed enhancement in the middle/lower Teanaway River Basin
- 10,000 acres as a conservation target for forest habitat enhancement in the headwaters of Little Naches River, Taneum Creek, Manastash Creek
- 15,000 acres as a conservation target for shrub-steppe habitat enhancement in the Yakima River Canyon

New Designations on Existing Forest Service Lands

- 100,000 acres for creation of the Upper Yakima National Recreation Area, with 21,000 acres designated as Wilderness
- 41,000 acres for creation of the Manastash-Taneum National Recreation Area

New Designations of Select River Corridors

- Wild and Scenic River designations for the Upper Cle Elum River, Waptus and Cooper Rivers
- Wild and Scenic River designations for the Teanaway River

These actions are located in Kittitas County and are expected to have significant direct and indirect benefits and costs to County government, businesses, and citizens; however, no analysis of land use and economic effects was conducted within the IWRMP. It is critical to identify TWPEC benefits and costs so that they can be properly considered, and any TWPEC related direct costs to the County that are greater than new TWPEC related revenues can be compensated as the IWRMP is implemented. Therefore, in September 2011, the County hired URS Corporation to:

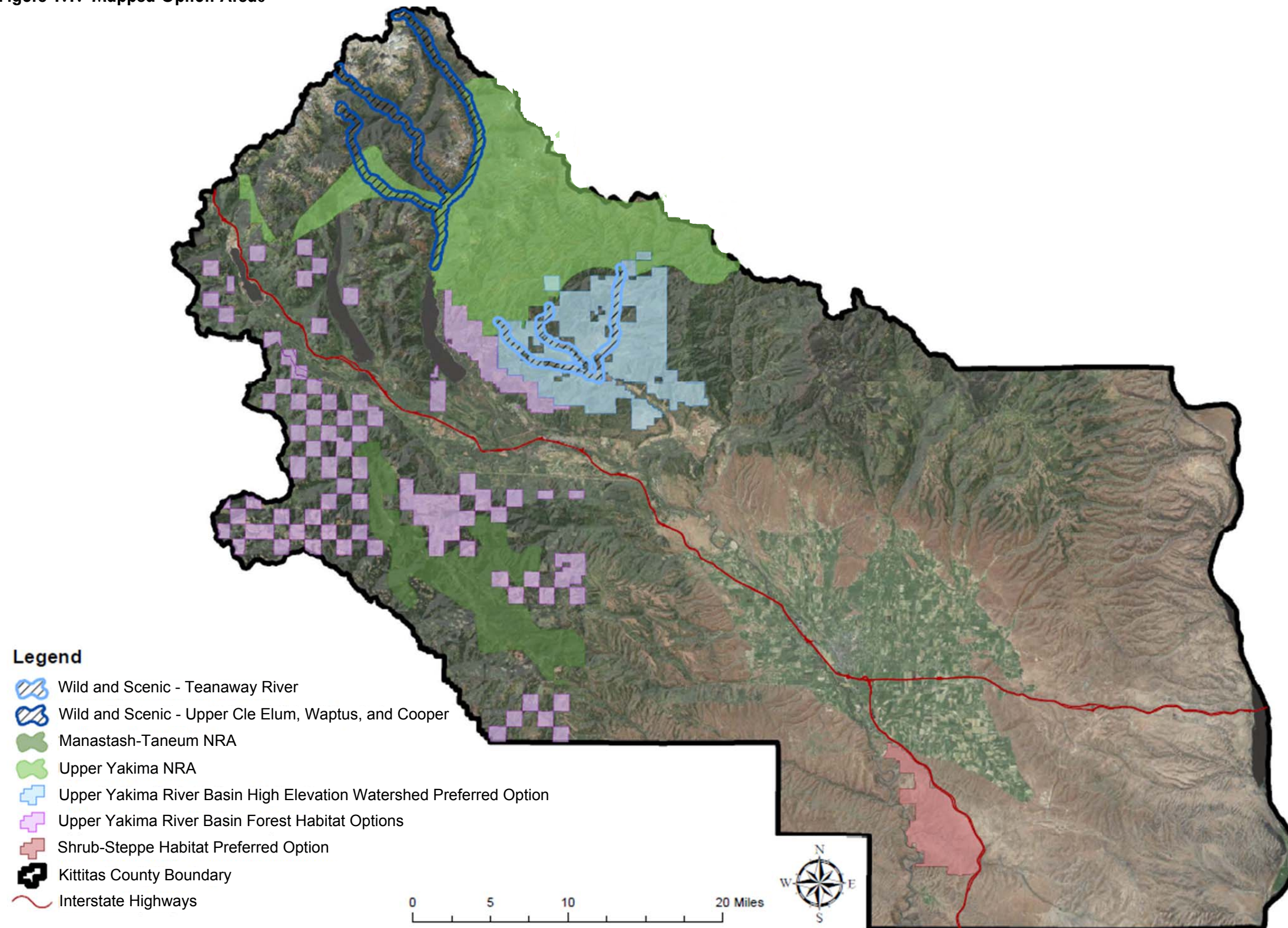
1. Form and operate a Citizens Advisory Committee (CAC);

Section I—Background

Continued

2. Work with the CAC to identify land use changes and economic issues that arise from the TWPEC;
3. Conduct a formal analysis of land use changes and economic impacts of the TWPEC;
4. Identify and quantify TWPEC related benefits and costs to Kittitas County;
5. Develop recommended methods to compensate for any TWPEC related economic costs to Kittitas County that are not offset by new revenue;
6. Develop recommended economic mitigation funding approaches and policies for the Kittitas County Board of Commissioners (BOCC) to use in discussions with Ecology and USBR about the impacts of the TWPEC; and
7. Produce a formal TWPEC land use, economic, and economic mitigation report for presentation to Ecology and Reclamation, and consideration during the overall IWRMP implementation process.

Figure 1.1: Mapped Option Areas



Section 2—CAC Formation and Meeting Summary

2.1 CAC Purpose, Mission, & Goals

The County desired to develop clear and defensible recommendations addressing the land use and economic impacts of the TWPEC on Kittitas County in a comprehensive and inclusive manner. Therefore, the County solicited membership for a CAC composed of volunteering residents and individuals from interested parties.

The goal of the CAC was to develop thoughtful recommendations for the BOCC related to the land use and economic impacts of the TWPEC. These recommendations form the basis for the development of formal economic mitigation policies by the BOCC, which will be transmitted to Reclamation and Ecology for consideration and inclusion in the IWRMP implementation process.

The objectives of the CAC were to work with County staff and the URS consultant team to:

1. Identify land use changes and economic issues that arise from the TWPEC.
2. Conduct an analysis of land use changes and economic impacts of the TWPEC.
3. Quantify TWPEC related impacts, benefits, and costs to Kittitas County.
4. Identify methods, if necessary, for Kittitas County to be compensated for TWPEC related economic impacts.
5. Develop CAC recommendations for the BOCC to use during discussions with Ecology and Reclamation about the impacts of the TWPEC on the County economy and budget and ways to mitigate for those impacts.
6. Complete CAC work in an efficient manner so the results are available prior to funding and implementing the IWRMP.

2.2 CAC Work Plan

To assist the CAC, a Citizens Advisory Group Work Plan (Work Plan) was developed (Appendix C). The Work Plan provides information on the following topics:

- CAC Mission
- CAC Goals and Objectives
- CAC Membership
- Roles and Responsibilities of the CAC
- General CAC Meeting Ground Rules
- General CAC Meeting Procedures
- Planned Number, Schedule, and Topics of CAC Meetings

Section 2—CAC Formation and Meeting Summary

Continued

- CAC Recommendation Development Process

2.3 CAC Membership

The CAC was composed of volunteering residents and individuals from interested parties. Kittitas County and a consultant team attended, facilitated, and provided expertise at the CAC meetings, but were not official CAC members. The CAC was comprised of members that were willing to commit to regular meeting attendance and had an interest in providing guidance and developing recommended methods to compensate for economic impacts associated with the TWPEC. The composition of the CAC is shown in Table 2.1.

Table 2.1 Citizens Advisory Committee Membership and Other Participants		
CITIZENS ADVISORY COMMITTEE MEMBERS		
Anthony Aronica	Brian Lenz	Jill Scheffer
William Boyum	Richard Low	Jan Sharar
David Gerth	Pamela McMullin-Messier	Art Solbakken
Jim Halstrom	Jason Ridlon	David Whitwill
Anna Lael	Tracy Rooney	Cynthia Wilkerson
KITTITAS COUNTY PARTICIPANTS		
Paul Jewell, Commissioner	Kirk Holmes, Public Works Dir.	Doc Hansen, Planning Official
CONSULTANT PARTICIPANTS		
John Knutson, URS Corporation	Julie Blakeslee, URS Corporation	Amy Danberg, PRR
Will Guyton, URS Corporation	Michael Taylor, Cascade Economics	Amanda Sullivan, PRR

2.4 Number, Schedule, and Topics of CAC Meetings

The number and timing of the CAC meetings was directly related to the project schedule. Meetings on a particular topic did not occur until information and materials could be generated for presentation to the CAC. Table 2.2 shows a summary of when each CAC meeting was held and the general topics and agenda for each meeting. Appendix D provides meeting materials from all of the CAC meetings, including: agendas, presentations, handouts, and meeting notes.

Section 2—CAC Formation and Meeting Summary

Continued

Table 2.2 Number, Schedule, and Topics for CAC Meetings	
Meeting & Topics	Meeting Date
<p>CAC Meeting 1</p> <ul style="list-style-type: none"> • Met CAC members • Covered IWRMP background information and status • Provided an overview of the TWPEC Proposal • Reviewed mission of the CAC • Reviewed CAC Work Plan • Reviewed CAC Member Interests 	<p>October 6, 2011 Swauk Teanaway Grange Cle Elum, WA</p>
<p>CAC Meeting 2</p> <ul style="list-style-type: none"> • Provided an overview of the TWPEC Proposal • Identified and discussed potential land use and economic considerations resulting from the TWPEC 	<p>November 4, 2011 Commissioner’s Auditorium Ellensburg, WA</p>
<p>CAC Meeting 3</p> <ul style="list-style-type: none"> • Discussed land use and economic analyses example approaches • Discussion on the Wild and Scenic River designations • Discussion on the benefits and impacts to recreation • Identified and discussed additional potential land use and economic considerations resulting from the TWPEC 	<p>November 14, 2011 Swauk Teanaway Grange Cle Elum, WA</p>
<p>CAC Meeting 4</p> <ul style="list-style-type: none"> • Presented a summary of results from the Land Use and Economic Impact Analyses • Received land owner input on the analyses • Received CAC feedback on the analyses 	<p>May 10, 2012 Kittitas Valley Event Center Ellensburg, WA</p>
<p>CAC Meeting 5</p> <ul style="list-style-type: none"> • Reviewed consultant responses to CAC comments on the Land Use and Economic Impact Analyses • Presented, reviewed, and discussed preliminary Economic Mitigation Strategies Matrix • Ranked strategies for presentation to the BOCC 	<p>September 21, 2012 Kittitas Valley Event Center Ellensburg, WA</p>

2.5 CAC Operational and Recommendation Development Process

Although the Kittitas County BOCC makes the final decisions on the preferred compensation approaches and policies to present to Ecology and Reclamation, the County was committed to the CAC process, and greatly considered the CAC recommendations while making decisions. The CAC input helped the BOCC make decisions that thoroughly considered the input of experts, citizens, businesses, and interested parties; and promoted a holistic approach to fully mitigate any negative effects of the TWPEC.

The general process used for developing the CAC’s consensus-based policy recommendations is illustrated in Figure 2.1.

Section 2—CAC Formation and Meeting Summary

Continued

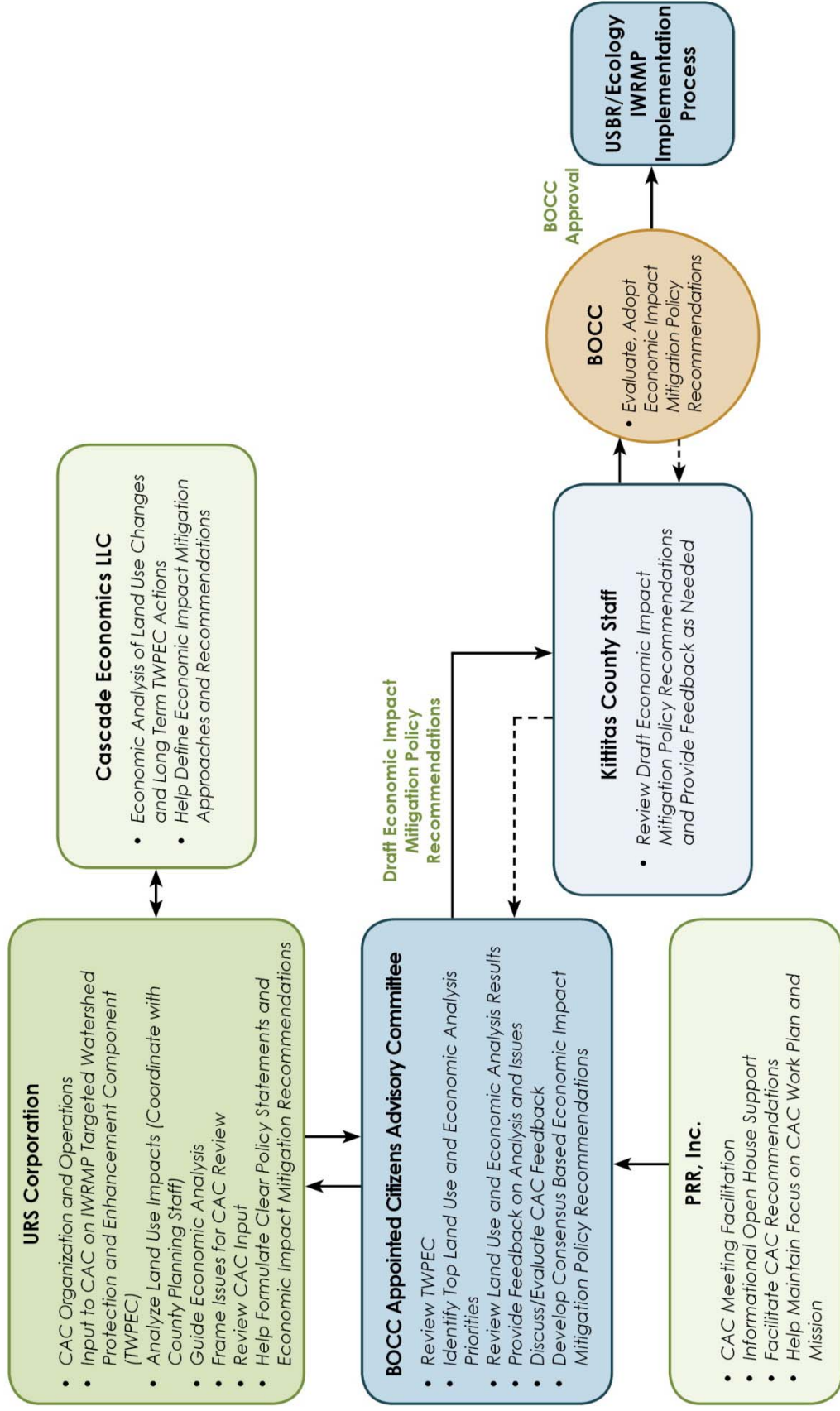


Figure 2.1—Policy Recommendation Process

3.1 Introduction

A land use analysis was conducted to identify land use changes that arise from the TWPEC and to conduct a formal analysis of the identified land use changes due to implementation of the proposed actions. The analysis is based on existing zoning in place at the time of the study in Spring 2012. The County is currently in the process of updating their Critical Areas Ordinance and Shoreline Master Program (SMP).

3.2 Relevant IWRMP Component Actions

The IWRMP contains several “Habitat Protection and Enhancement” actions for the Yakima River Basin, and includes a 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 (Figure 3.1);
 - 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 (NRA) Designations for existing U.S. Forest Service (USFS) land in the Teanaway Basin and in the Manastash-Taneum watershed (Figure 3.2);
 - Creation of the Upper Yakima NRA on approximately 100,000 acres of existing USFS land.
 - Creation of the Manastash-Taneum NRA 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 (Figure 3.3); 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) (Figure 3.4).

Section 3—Land Use Analysis

Continued

The Kittitas County CAC was formed to review the TWPEC Proposal and to identify and discuss potential land use and economic concerns and benefits (Appendix E). These were reviewed and analyzed during the development of the Land Use Analysis.

3.3 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 (AFH) and has historically been in use as a working forest (Figure 3.5). 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, one primitive campground (Indian Camp), and two private campgrounds: 29 Pines and Teaway (Visit Kittitas 2012; AFH 2012). Recreational access is open to the public unless otherwise noted, however motorized vehicle use is prohibited. Hunting and fishing are allowed, subject to state game regulations.

County Land Use Designations

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.

County Zoning Designations

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.

County Shoreline Master Program Designations

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.*

The County's 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 Teanaway 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 this page. The County is currently in the process of updating the SMP.

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 AFH 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)

Approximately 10,000 acres within the greater 63,055-acre area owned by Plum Creek Timber and Land Company is proposed to be acquired under this option (Figure 3.6). 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 and fishing are allowed, subject to state game regulations.

Approximately 45 percent (28,375 acres) in the greater area owned by Plum Creek Timber and Land Company 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 (Kittitas County 2012). Priority habitat and species designations occur on all areas of mapped locations of threatened, endangered, or sensitive priority species.

Section 3—Land Use Analysis

Continued

Upper Yakima National Recreation Area

The National Recreation Area (NRA) is proposed to encompass 99,818 acres of publicly-held lands in Kittitas County (Figure 3.7). 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).

NRAs 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). NRAs 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). NRAs are required to have a Management Plan to be prepared by the federal agency or agencies managing the NRA.

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; restricting camping locations and off-leash dog activities are optional and could be implemented for further protection (University of Montana et.al. 2012).

Manastash-Taneum National Recreation Area

Final boundaries for the NRA have not been finalized; this report presents the estimated 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 (Figure 3.8). 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, fire management, and utility corridors (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) (Kittitas County 2012). Manastash Lake, in the southeast portion of the proposed NRA, is designated as Rural by the County's SMP (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).

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 $\frac{1}{4}$ 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 $\frac{1}{4}$ mile buffer around the Upper Cle Elum, Waptus, and Cooper Rivers (Figure 3.9). This $\frac{1}{4}$ 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 Enchantments area of the Alpine Lakes Wilderness is provided via a use-limiting permit with fee of \$5/per person/per day with quotas and reservations to ensure that there are no impacts to the wilderness resulting from access. Overnight camping and general entrance to the Alpine Lakes Wilderness is free and allowed by permit (University of Montana 2012).

Current activities in the greater National Forest include recreation, motor vehicle use, grazing, logging, fire management, and utility corridors (USFS 2012a and 2012c). 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).

Section 3—Land Use Analysis

Continued

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 (Figure 3.10) 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:

- AFH (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 AFH 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 SMP 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) (Figure 3.11). Current activities include farming (cow/calf operation, hay harvesting) and rural residential.

County Zoning Designation

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.

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).

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 (Kittitas County 2012). 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

3.4 Anticipated Changes

Table 3.1 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 3.1 (e.g., residential/agricultural development, grazing, logging). A detailed discussion of anticipated changes is also provided for each option following Table 3.1.

Section 3—Land Use Analysis

Continued

Table 3.1 Land Use Analysis 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 (Teanaway)	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	↑
Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manastash)	Commercial Forest	Acquisition for Public Land	846 acquired	Logging/Timber	NC
				Utility Access	NC
				Grazing Opportunities	NC
				Dams (when federally-funded)	N/A
				Residential/Agricultural Development	↓
				Solar Development	↓
				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

Section 3—Land Use Analysis

Continued

Table 3.1 (cont.) Land Use Analysis Summary					
Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
Upper Yakima NRA	Unzoned (public land)	Designation of Public Land as NRA and Wilderness	99,818 designated as NRA	Public Access and Use	↑
				Recreation Access	↑
Manastash-Taneum NRA	Unzoned (public land)	Designation of Public Land as NRA	19,964 designated as Wilderness	Environmental Protection	NC
				Logging/Timber	NC
				Utility Access	NC
				Grazing Opportunities	NC
				Public Access and Use	NC
				Recreation Access	NC
				Environmental Protection	↑
Wild/Scenic River Designations for the Upper Cle Elum, Wapatus, and Cooper Rivers	Unzoned (public land)	Wild and Scenic River Designation on Public Land	15,719 designated as Wild and Scenic	Logging/Timber	↓
				Utility Access	↓
				Grazing Opportunities	↓
				Public Access and Use	↓
				Recreation Access	↑
				Environmental Protection	NC
				Dams (when federally-funded)	↓
Residential/Agricultural Development	NC				

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

Section 3—Land Use Analysis

Continued

Table 3.1 (cont.) Land Use Analysis Summary					
Option Name	Current Zoning	Post-IWRMP Action	Estimated Acreage	Potential Use Considerations	Anticipated Change to Use Considerations
Wild/Scenic River Designations for the North, Middle, and West Forks of the Teanaway River	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
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 Grazing Opportunities Residential/Agricultural Development Wind Farms	↑ ↑ ↑ ↓ NC ↓ 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 (Teanaway)

Proposal

The Teanaway 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. It is assumed that snowmobiles would be exempted and the use of existing groomed snowmobile trails in the northwest portion of the option area would not be affected (note that the IWRMP EIS states there would be no motorized vehicles of any kind). 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 increase in public access would be consistent with the protection of key watershed functions and aquatic habitat. Dispersed camping that is allowed in the surrounding USFS land could be expanded across this option area. 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 3.2 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 3.2. In addition, communications with the County

Section 3—Land Use Analysis

Continued

(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.

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 Teaway 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). Note that a final boundary for this option has not yet been finalized.

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 10,000 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 3.3 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.

County Zoning Designation	Acreage	*Minimum Lot Size	*Potential # of Lots at Full Build-Out
Commercial Forest	10,000	80 acres	125

* 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 10,000 acres of land that could be developed with up to 125 residential or agricultural lots. Steep slopes would not preclude much residential development because steep slopes account for less than half of the greater area owned by Plum Creek Timber and Land Company 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. We assume that the USFS will manage the option area to meet road density standards in the 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.

Section 3—Land Use Analysis

Continued

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 and when consistent with the protection of key watershed functions and aquatic habitat. 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.

It is assumed for this analysis that the USFS will manage the option area to meet road density standards in the Forest Plan. While the forest plan does not currently call for the proposed NRA designation, portions of the option area lie within a USFS-designated Special Interest Area, Wilderness – Preliminary Administratively Recommended, and Wilderness Study Area.

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). Note that final boundaries for the NRA have not been finalized. Off-highway vehicles and all-terrain vehicles are currently allowed in the greater National Forest, and designation could allow for more trails and roads to be built. 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 and when consistent with the protection of key watershed functions and aquatic habitat. 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.

It is assumed for this analysis that the USFS will manage the option area to meet road density standards in the Forest Plan. 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.

Section 3—Land Use Analysis

Continued

- **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 NPS, 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 SMP designations of these forks would remain in effect after classification, changes are not anticipated.

Section 3—Land Use Analysis

Continued

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. Shrub-steppe habitat provides habitat for the following species: sage grouse, ferruginous hawks, black-tailed and white-tailed jackrabbits, burrowing owls, golden eagles, sage sparrow, sage thrasher, and sagebrush lizard (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).

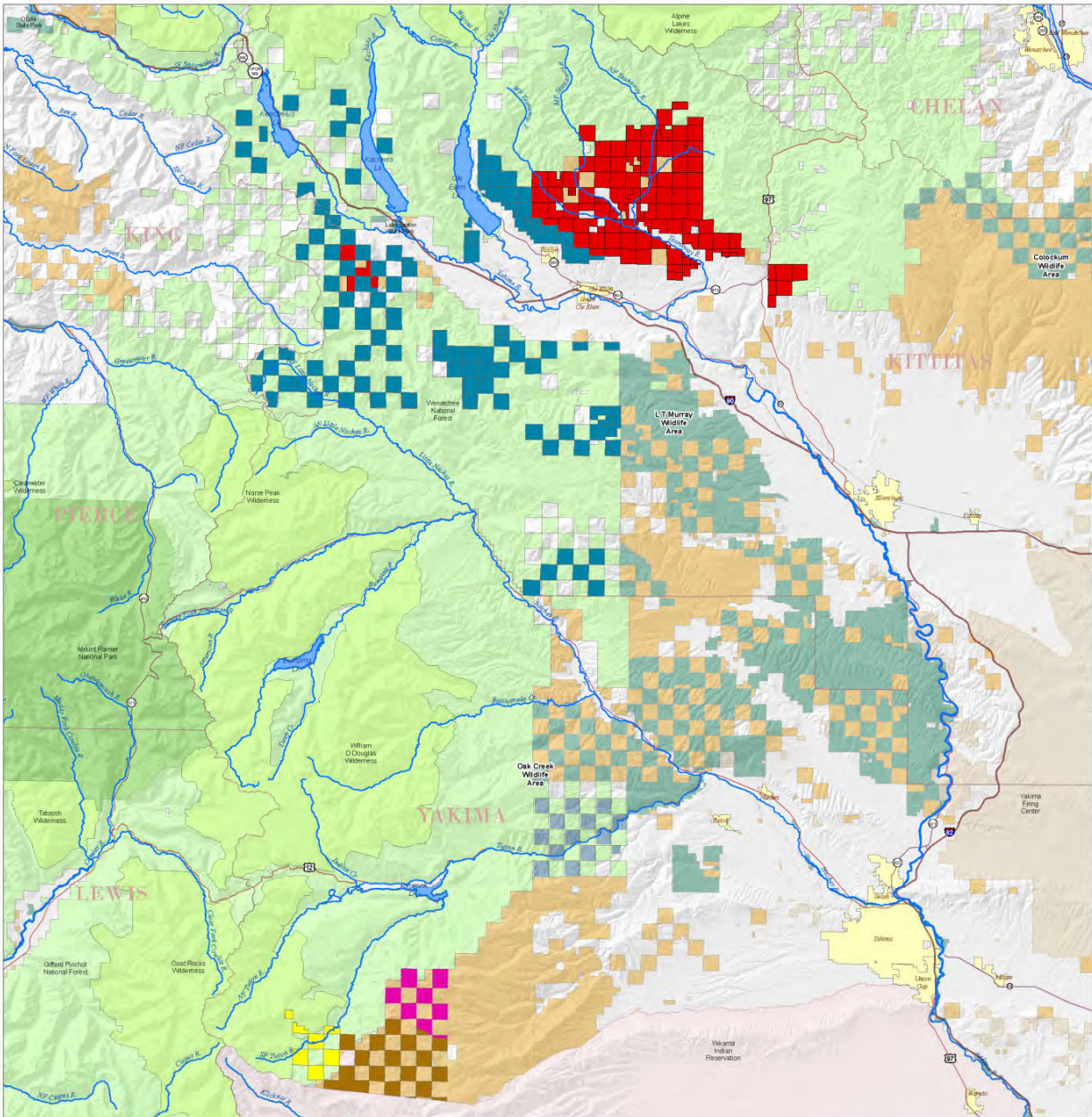
The maximum bonus density for the Forest and Range and the Agricultural (AG-20) zone is 200%. Table 3.4 shows the County zoning designation, acreage within the option area, minimum lot size, and the maximum number of lots that could be built in the zone. The number of additional lots that could be created based on the maximum bonus density per the cluster zoning regulations is also included on Table 3.4.

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 Reclamation and would flood about 1,055 of the 13,831 acres (Ecology and Reclamation 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.

Figure 3.1: 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

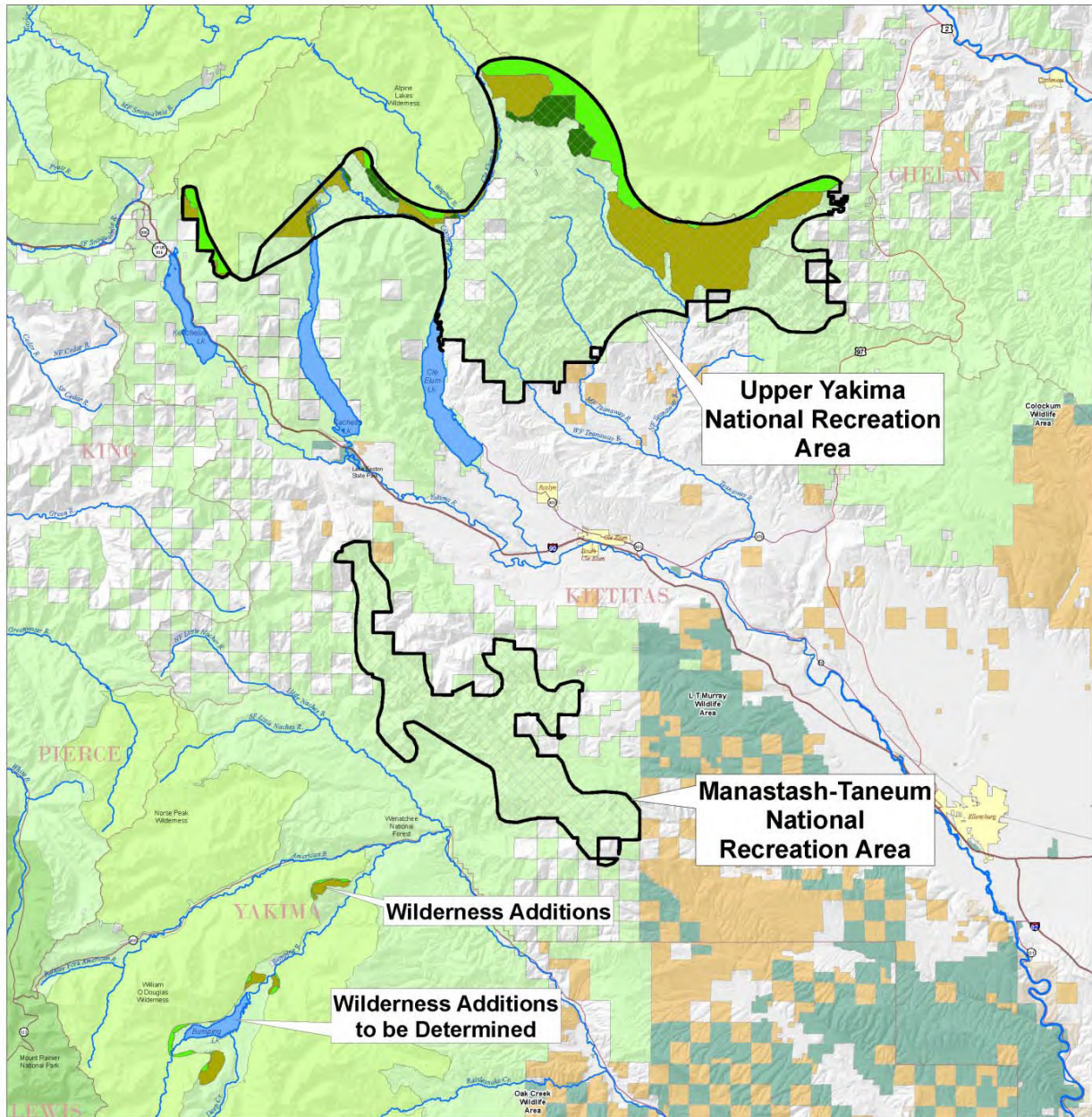
Land Management

- WA Dept. of Fish and Wildlife
- WA Dept. of Natural Resources
- Tribal
- National Park Service
- US Forest Service
- USFS Wilderness Areas

Other Federal Lands



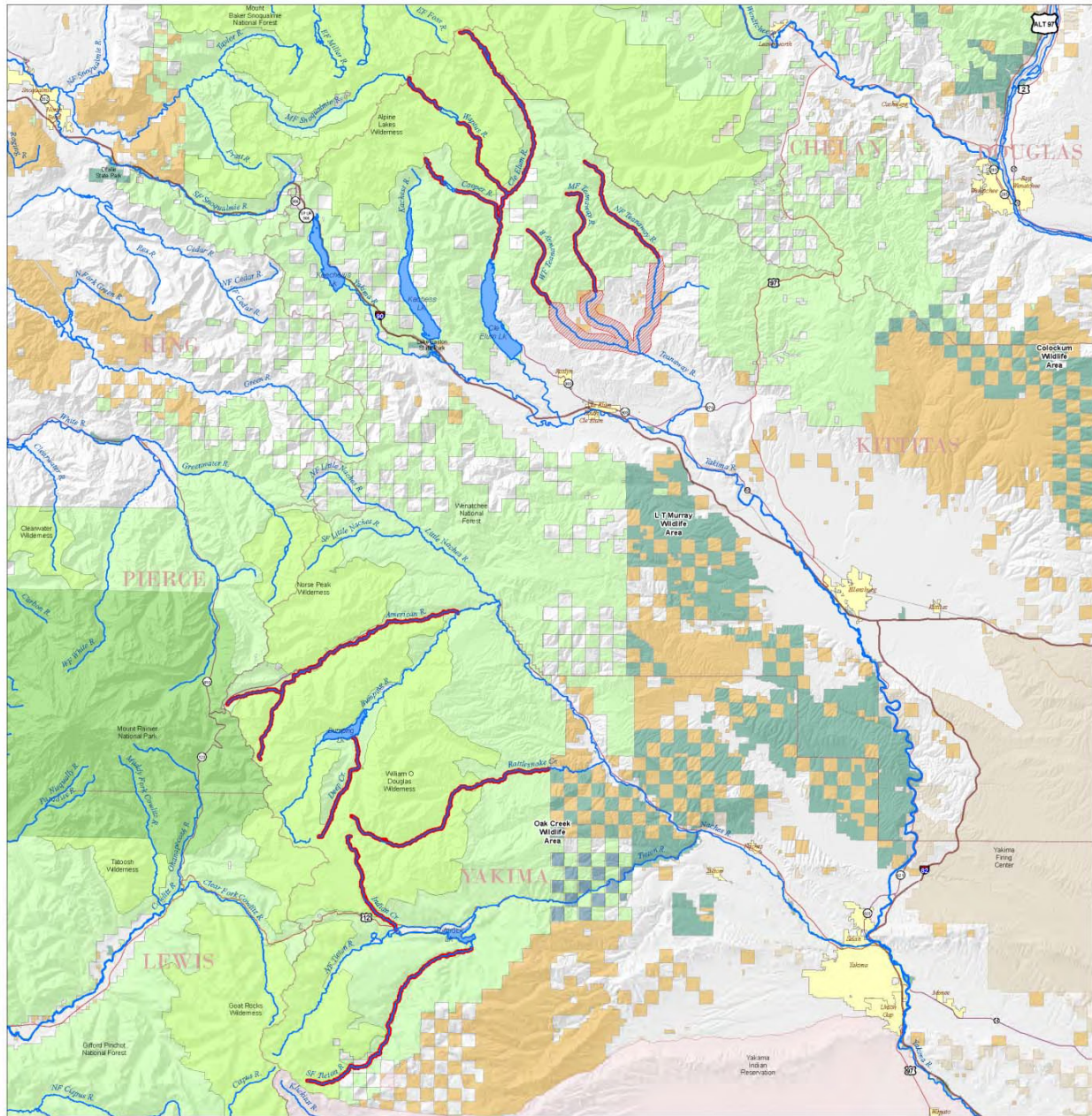
Figure 3.2: Options for National Recreation Area and Wilderness Designations



- | | |
|---|-------------------------------|
| Project Boundaries | Land Management |
| USFS Proposed Actions | WA Dept. of Fish and Wildlife |
| Wilderness | WA Dept. of Natural Resources |
| Alpine Lakes Wilderness Study Area | Tribal |
| Wilderness - Prelim. Admin. Recommended | Other Federal Lands |
| Private | National Park Service |
| | US Forest Service |
| | USFS Wilderness Areas |



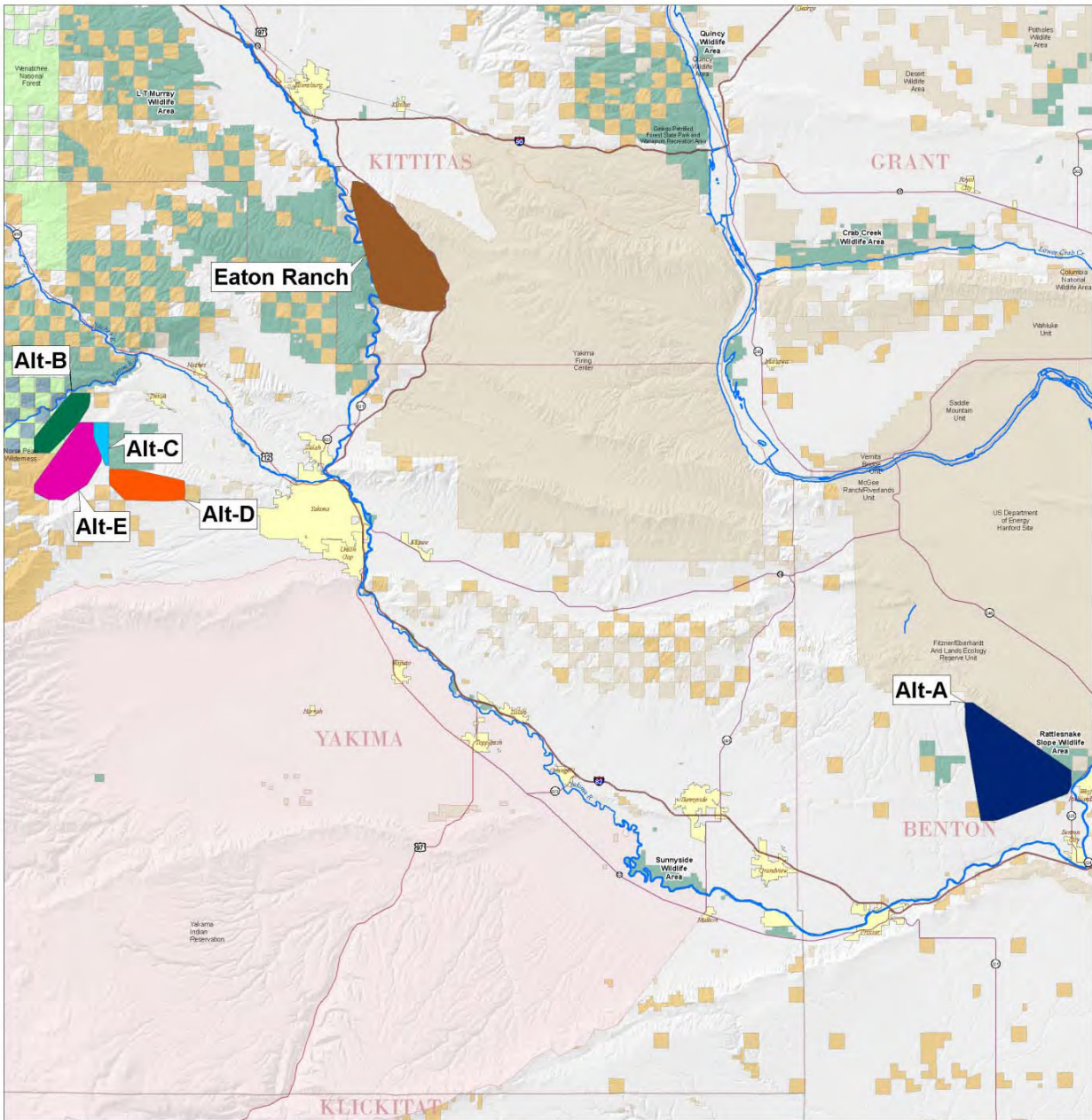
Figure 3.3: Options for Wild and Scenic River Designations



- | | | | |
|--|-------------------------------------|--|-------------------------------|
| | Proposed Wild and Scenic Rivers | | Other Federal Lands |
| | Wild and Scenic Under Consideration | | National Park Service |
| | | | WA Dept. of Natural Resources |
| | | | US Forest Service |
| | | | USFS Wilderness Areas |
| | | | Tribal |



Figure 3.4: Options for Shrub-Steppe Habitat Acquisitions



0 2.5 5 10 Miles

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



Figure 3-5: Upper Yakima River Basin High Elevation Watershed Preferred Option

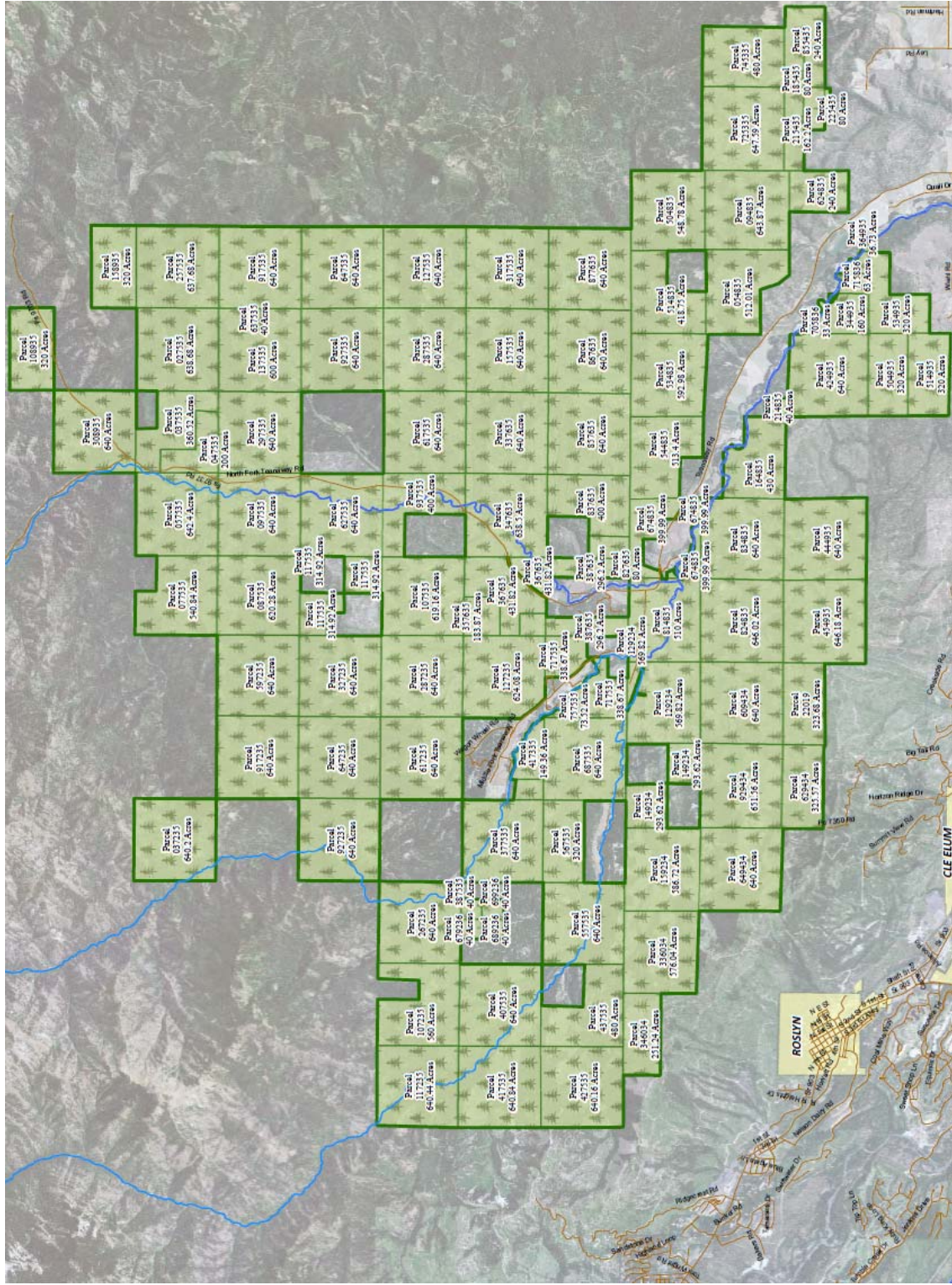


Figure 3.6: Upper Yakima River Basin Forest Habitat Options

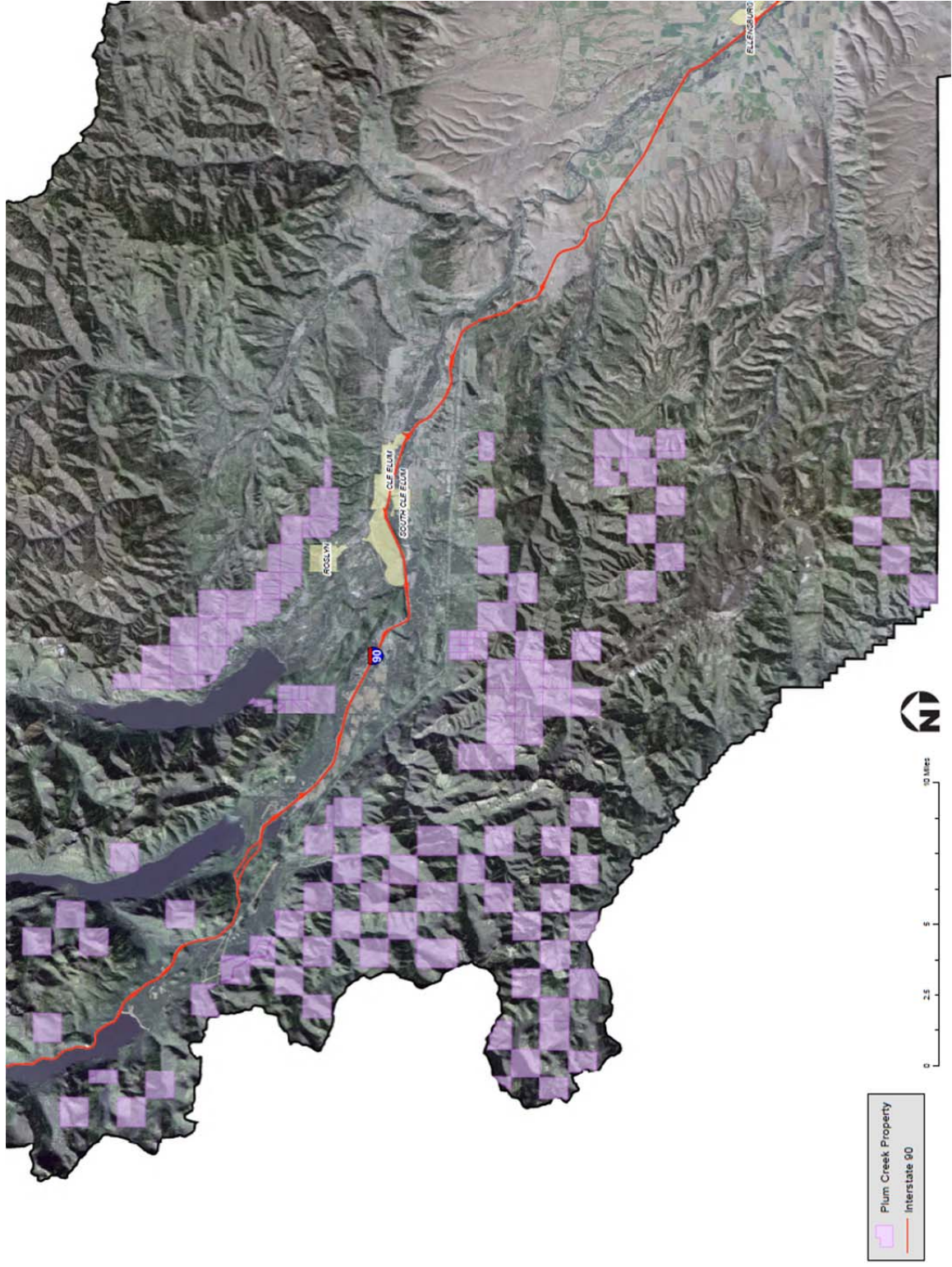
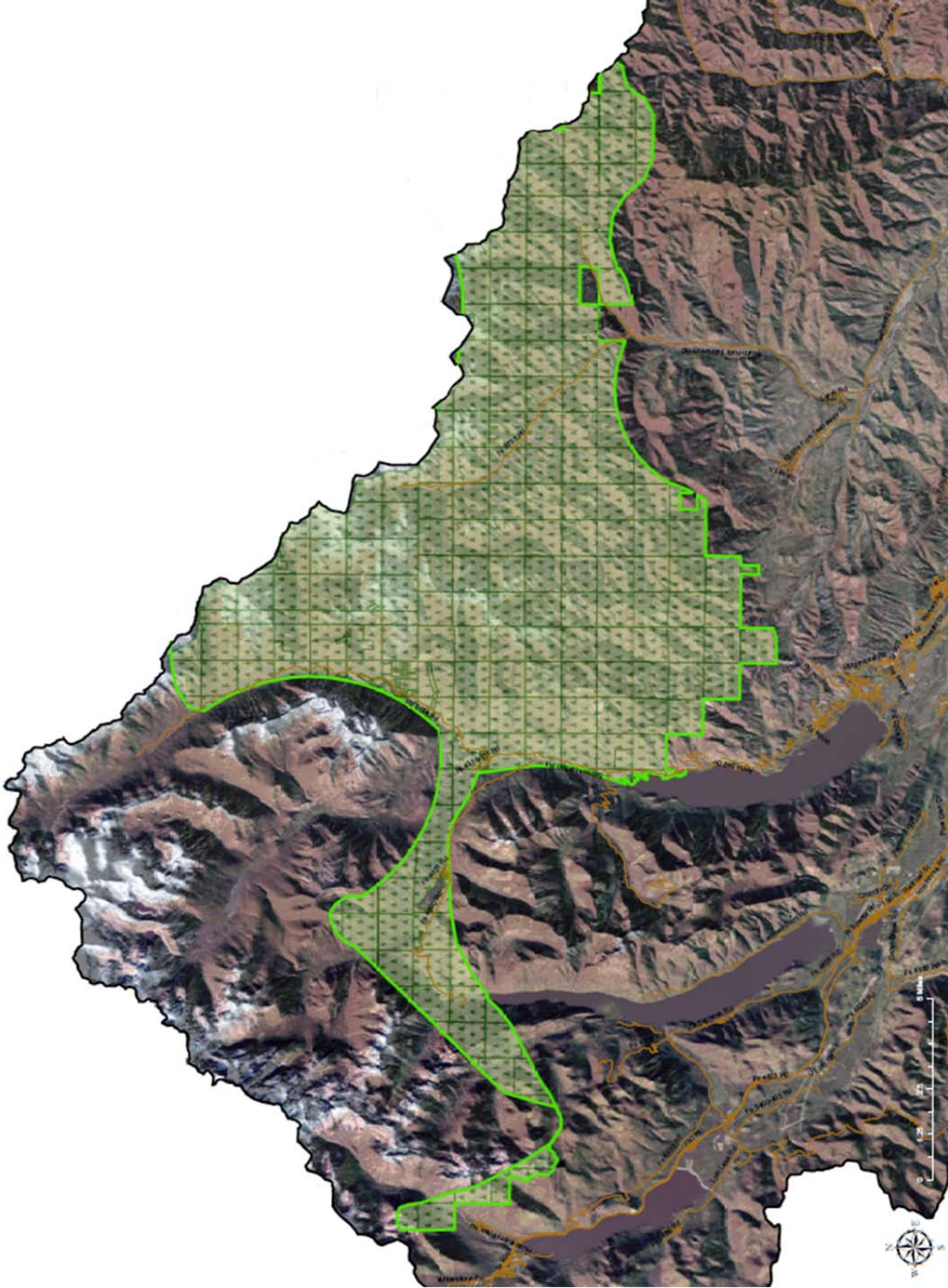


Figure 3.7: Upper Yakima National Recreation Area



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

Figure 3-8: Manastash-Taneum National Recreation Area

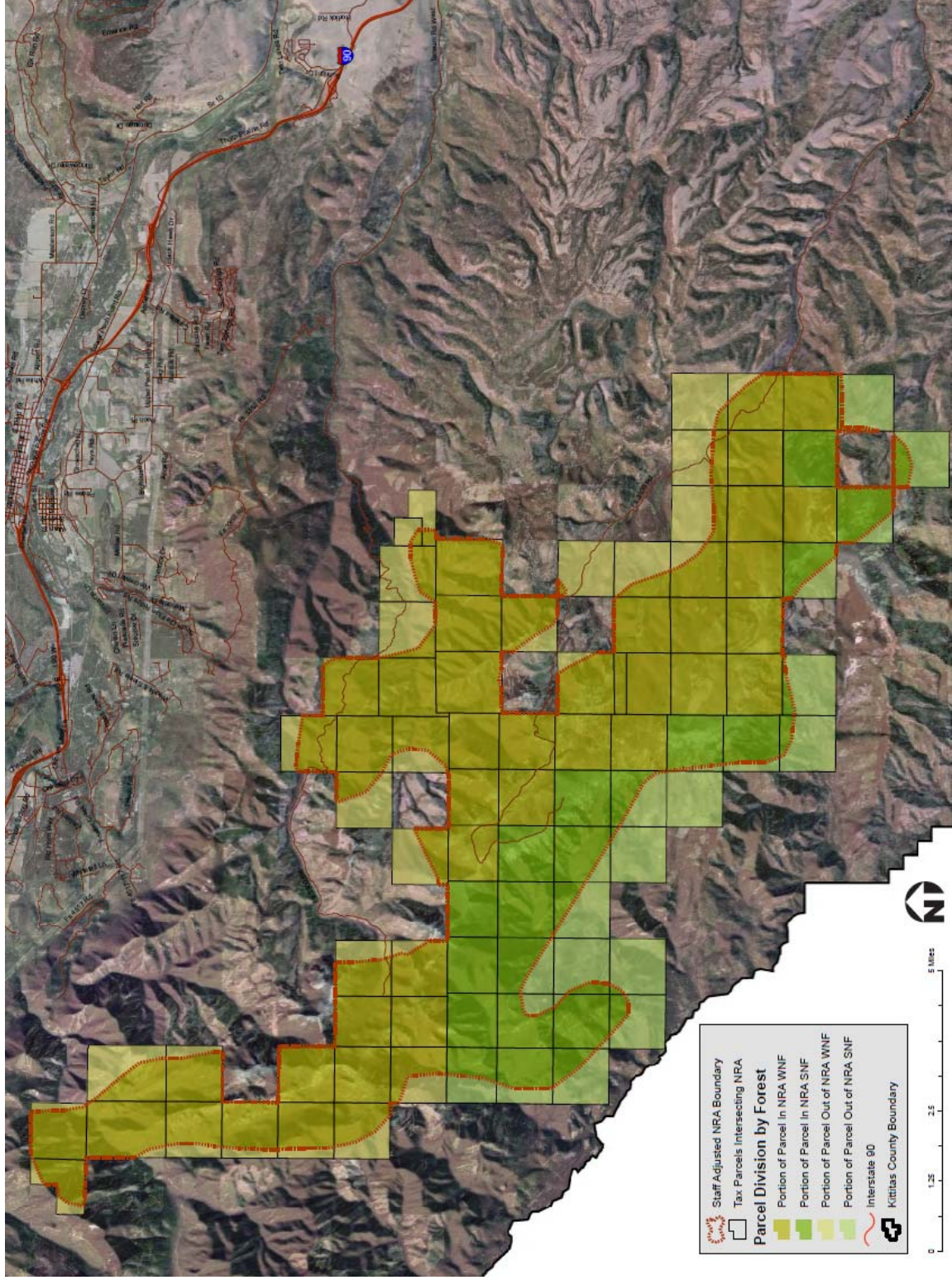


Figure 3.9: Wild and Scenic River Designations for the Upper Cle Elum, Wapatus, and Cooper Rivers

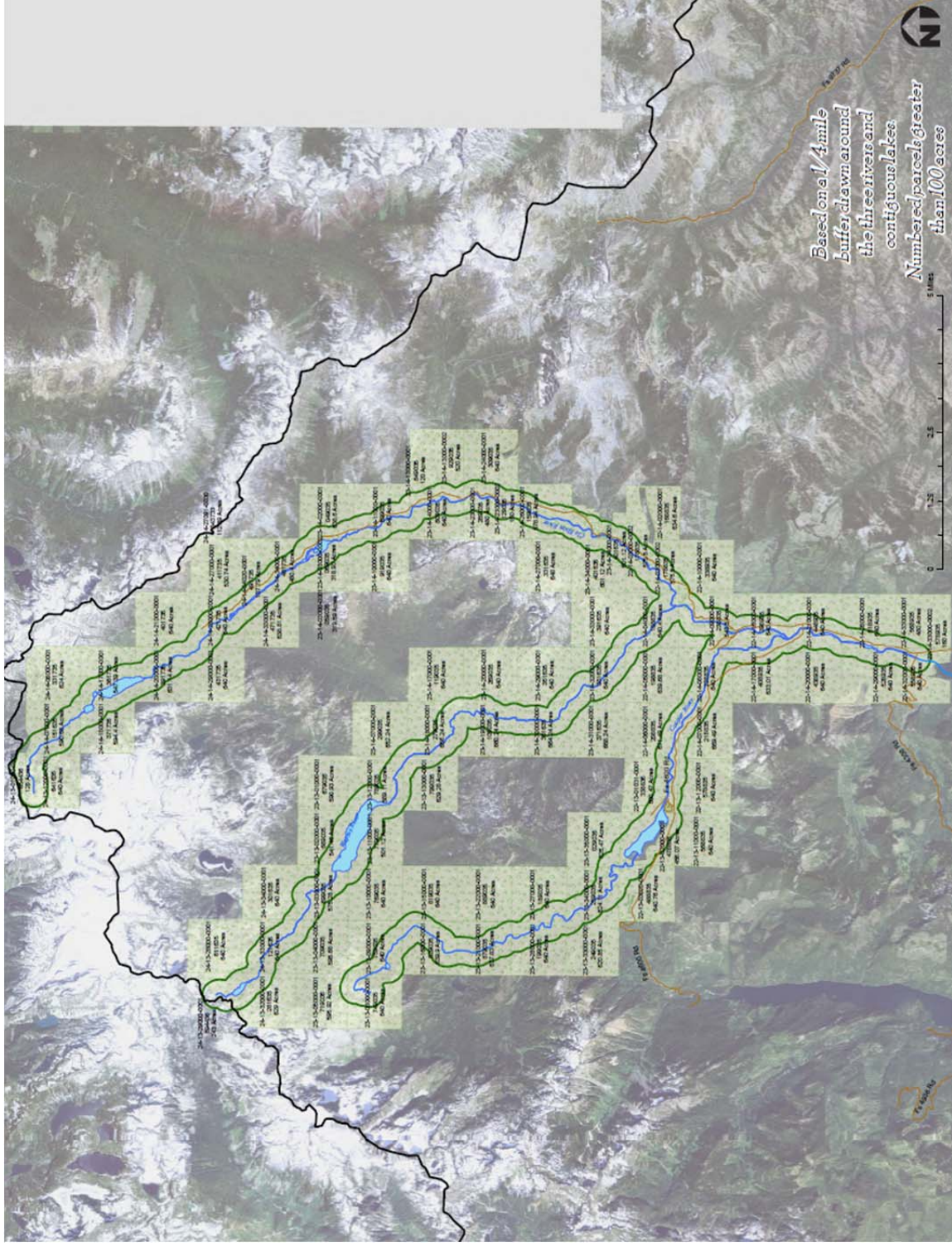


Figure 3.10: Wild and Scenic River Designations for the North, Middle, and West Forks of the Teanaway River

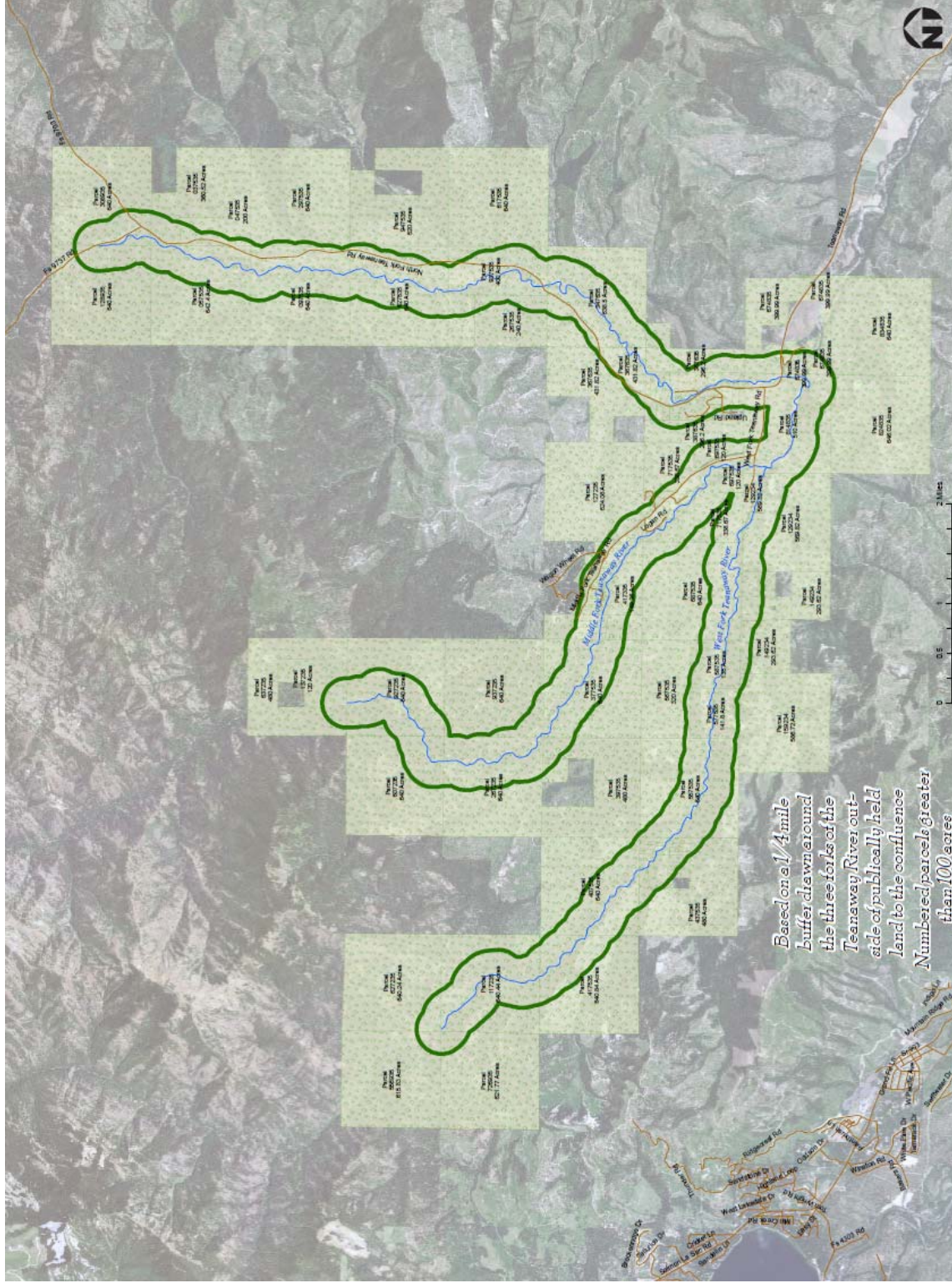
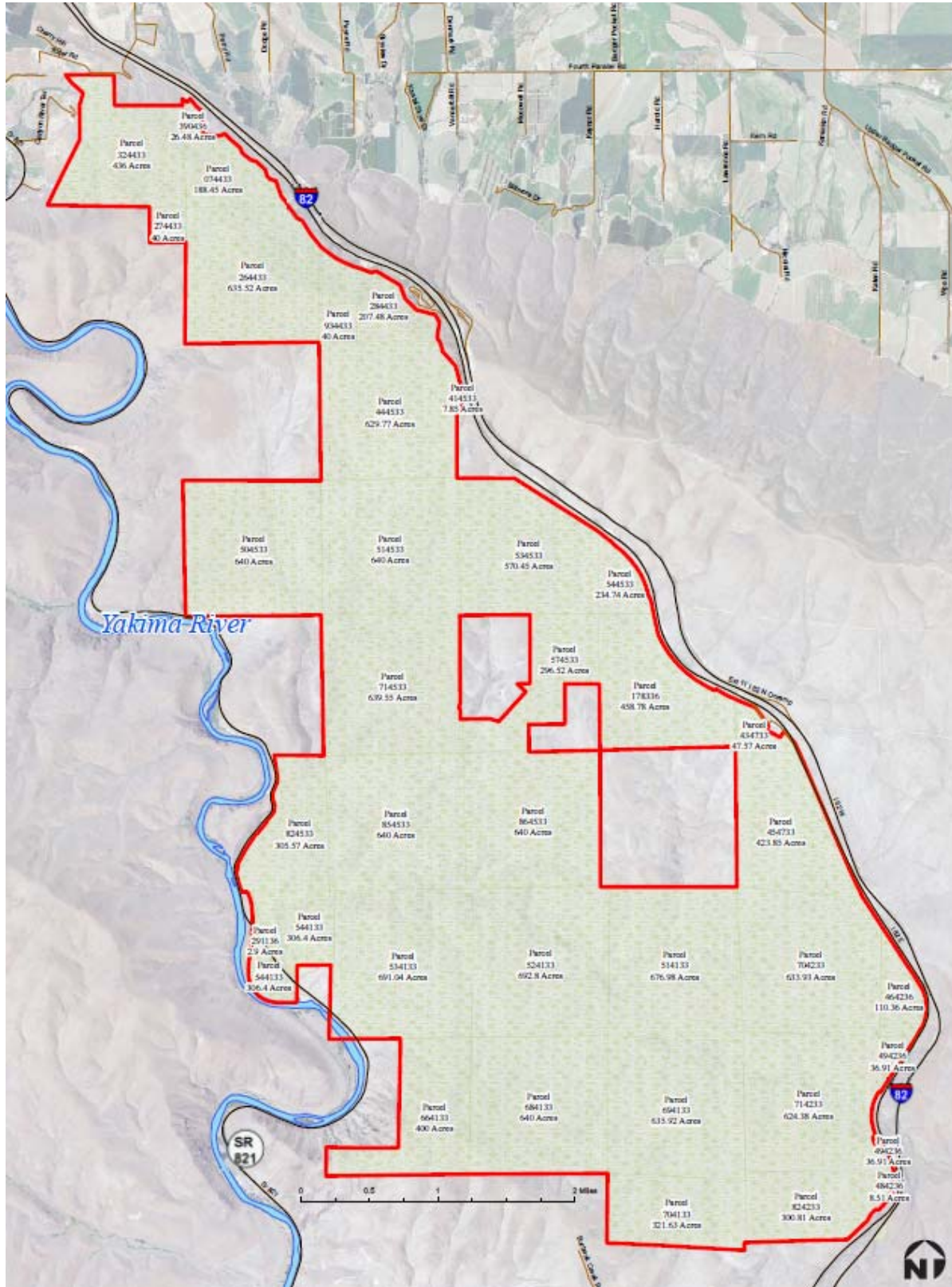


Figure 3.11: Shrub-Steppe Habitat Preferred Option



4.1 Introduction

An economic impacts analysis was conducted 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 TWPEC.

4.2 Relevant IWRMP Component Actions

As discussed in Section 3.2, the IWRMP contains several “Habitat Protection and Enhancement” actions for the Yakima River Basin, and includes a TWPEC. A report of the Watershed Land Conservation Subcommittee (2012) contains a number of conservation actions to further the goals of the IWRMP.

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

4.3 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 4.1 provides selected socioeconomic characteristics for Kittitas County, including some comparisons with the State of Washington, from the 2010 Census.

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

Source: U.S. Census Bureau, 2010 Census

Section 4—Economic Impact Analysis

Continued

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 employees in the county's businesses and industries totaled more than \$719.1 million in 2009, the latest year of data available (see Table 4.2). 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 4.2
Earnings by Major Industry Sector, Kittitas County (2009)

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

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

Section 4—Economic Impact Analysis

Continued

Employment by industry sector presents a different picture (Table 4.3). 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.

Industry	2007	2008	2009	Average Kittitas	2007-2009 Washington
Farm	1,364	1,434	1,414	1,404	80,909
Mining	41	NA	NA	41	7,235
Construction	1,922	1,650	1,216	1,596	259,051
Manufacturing	890	897	802	863	300,948
Government	4,793	4,963	5,003	4,920	622,041
Forestry, fishing, related activities and other	314	NA	NA	314	37,844
Utilities	44	40	46	43	5,484
Wholesale trade	605	622	575	601	139,622
Retail trade	2,302	2,332	2,204	2,279	401,610
Transportation and warehousing	432	441	403	425	115,038
Information	310	267	230	269	115,433
Finance and insurance	419	445	470	445	160,432
Real estate and rental and leasing	769	856	782	802	188,248
Professional and technical services	724	NA	742	733	275,531
Management of companies and enterprises	NA	NA	NA	NA	35,246
Administrative and waste services	NA	552	NA	552	194,859
Educational services	256	254	265	258	66,723
Health care and social assistance	1,146	1,225	1,188	1,186	374,442
Arts, entertainment, and recreation	368	410	388	389	91,126
Accommodation and food services	2,235	2,363	2,259	2,286	250,108
Other services, except public administration	1,097	1,094	1,066	1,086	199,467
TOTAL	20,536	21,033	19,962	20,510	3,921,397

NA – Not reported or not available.

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

Section 4—Economic Impact Analysis

Continued

Absent from the more common categorization of business and industry sectors shown in Table 4.3 is a profile of the recreation and tourism industry within the county. Businesses that specialize in hospitality and lodging, restaurants, tours, private museums, arts, guide services, equipment rental, and outdoor recreation suppliers are all present and represented among the county’s businesses. In addition, the county passed an ordinance increasing the lodging tax to generate funds promoting tourism and related facilities (Kittitas County, 2012). The city of Ellensburg recently funded a promotional campaign (Daily Record, Jan 14, 2011), and the county and city are undertaking a partnership for developing a marketing plan.

A review of “Personal Income by Source” (Table 4.4) presents an interesting dynamic that is present in Kittitas County. First, the “adjustment for residence” on those earning employment income is positive (\$108 million in 2010), reflecting the additional income arriving in Kittitas County by commuters who work outside of the county. This may be the result of greater amenities to living in Kittitas County (for those commuting to Seattle and the Puget Sound). However, there may be other factors in play, including available employment opportunities being greater elsewhere, including Yakima County, and increase in telecommuting (for example, to King County).

Major Industry	Income (\$000)	Percent of Total
Personal income	\$1,316,677	100.0%
Population (persons)	41,039	
Per capita personal income (dollars)	\$32,084	
Earnings by place of work	\$740,633	56.3%
<i>Less:</i> Contributions for government social insurance	93,014	7.1%
<i>plus:</i> Adjustment for residence ¹	107,129	8.1%
<i>equals:</i> Net earnings by place of residence	754,748	57.3%
Dividends, interest, and rent	278,212	21.1%
Personal current transfer receipts ²	283,717	21.5%

1 - Accounts for net income of earnings of inter-county commuters

2 - Includes retirement and disability, medical benefits, income maintenance, unemployment, and veterans benefits

Source: Bureau of Economic Analysis, Table CA05N, 2012.

Second, the relatively high levels (compared to other counties) in dividends, interest, and rent; and in transfer receipts, reflects a high proportion of retirees and possibly others who desire to live or remain in Kittitas County.

4.4 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 AFH with some interspersed DNR holdings. Higher elevation 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.

AFH 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).

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Continued

Current zoning allows for development of residential lots ranging from a minimum size of 3 acres to a minimum size of 80 acres (see Table 3.2) but none of these lots have been developed.

AFH allows public access to its lands for recreation. It manages two campgrounds and there is one more managed by DNR in the Teanaway basin, plus an unmanaged primitive one. Snowmobiling and cross country ski trails on the surrounding higher elevation federal lands are maintained by the USFS (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).¹

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

The approximately 10,000 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. 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 and fishing 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 approximately \$317,400, based on an average assessment of \$34.17 per acre of similarly zoned Plum Creek holdings. Plum Creek’s assessed taxes were approximately \$2,024 (Kittitas County GIS, 2012).

Upper Yakima National Recreation Area

The 114,901 acres proposed to be designated as a 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).

¹ The most recent assessment values are available for 2010.

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 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, fire management, and utility corridors (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, Waptus, 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

Section 4—Economic Impact Analysis

Continued

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 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.²

The Eaton family has already been involved in habitat conservation through the Yakima Tributary Access and Habitat Program. 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).

4.5 Environmental and Ecosystem Benefits of the TWPEC

Kittitas County residents will share in the series of environmentally-based benefits that would be generated by implementation of the full IWRMP. The primary purpose of the IWRMP – restoring ecological functions of the Yakima River system through reliable and sustainable water supplies for the health of the riverine environment – will address the seriously depleted anadromous and resident fish populations (US Bureau of Reclamation and

² 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.

WA Department of Ecology, 2011). This is accomplished by a series of actions that will result in a significantly improved and restored environment for not just fish, but the entire riverine ecosystem that supports fish and other flora and fauna. In turn, a restored ecosystem provides incidental beneficial “services” and attributes that improve or enhance the human condition in a variety of ways.

The combined actions of the IWRMP are necessary for full restoration. Arguably, one of the most significant pieces among them is the TWPEC. While it may be the case that the rejection of any part of the TWPEC could reduce the potential for overall success of the restoration goal, it is also true that not all benefits associated with ecosystem restoration can be attributed entirely to the TWPEC. Nevertheless, it is important to recognize the collection of ecosystem-based and environmental benefits, direct and ancillary, associated with the IWRMP, and the significant role of the TWPEC in attaining them.

Ecosystem Services Benefits

The Watershed Land Conservation Subcommittee Report (2012) identifies several of the environmental outcomes anticipated from the implementation of its recommendations . Acquired land will be managed for habitat enhancement and protection, which will reduce sedimentation and improve water quality in tributaries and streams. In addition to improving habitat conditions for fish and other aquatic species, reductions in sediment will lead to water treatment cost savings for residential and municipal users that rely on water withdrawals downstream. It will also reduce filtration costs for downstream irrigators using sprinklers, and improved yields where sediment is no longer deposited on plants. Cost savings (benefits) have not been estimated here because water quality changes have not been quantified.

Improved ecosystem health, from both improved water quality and cooler water temperatures during summer, would enhance population levels for both ESA-listed and other fish species, and help to increase aquatic habitat complexity and diversity. These ecosystem features are beneficial in their own right, but they also enhance the economic well-being of Kittitas County residents. Landowners adjacent to or near enhanced streams may experience greater enjoyment from more ecologically diverse habitat, including increased wildlife sightings and interaction, and improved aesthetics, which can also result in increased property values. Recreation visitors, especially those drawn to the rivers and streams, will likely have a higher quality experience. Residents both in and outside of Kittitas County who value having restored riverine habitat, either for their own future enjoyment (option value) or just for knowing it exists (bequest value), may benefit from the results of the restoration effort. To the extent that the habitat enhancement leads to an improved “quality of life” for Kittitas County residents, over time such a reputation for the county can become a draw for both additional tourist visitors and new residents.

If the TWPEC is fully implemented, then certain lands would be acquired or conservation agreements formulated, and NRAs would be established. This would provide the

Section 4—Economic Impact Analysis

Continued

opportunity for engaging and investing in restoration activities, such as replanting, stream bank repair, and river channel maintenance. Of course, these activities would provide positive economic benefits to the region in terms of local contract hiring to carry out the necessary work, as well as improvements to receiving waters and habitat benefiting adjacent landowners and other residents. However, restoration investment is not explicitly part of the TWPEC, even though the TWPEC is a necessary precursor, so the resulting benefits would not be directly attributable solely to the TWPEC.

Fisheries Benefits

A significant goal of the IWRMP is the restoration of Yakima River system ecology and increasing the population of ESA-listed anadromous species. The Kittitas County portion of the Yakima River system contains most of the rearing habitat crucial for the species' return; the TWPEC would play a significant role in the effort to recover the species. The overall restoration would therefore generate fish-related benefits to the entire region, the state, and indeed the nation as a whole. Kittitas County residents would share in those benefits, although most of the fish benefits would accrue outside of the county. In addition, only a portion of fishery benefits can be attributed to the TWPEC.

Total economic value of fisheries can be divided into two categories of value, use and nonuse, and subcategories of consumptive and non-consumptive. Use values are derived from direct interaction with the resource, including consumptive (fishing and harvesting) and non-consumptive uses (wildlife viewing, catch and release, and cultural). Nonuse values associated with fisheries are derived from the knowledge that the resource exists even though there is no direct contact with the resource. The two general categories of nonuse values are existence value and bequest value. Existence value, which is also commonly referred to as “preservation value,” is the value that an individual places on the resource simply to know that it exists, independent of any planned current or future use. Individuals may also place a high value on maintaining a resource for future generations. In economics literature, this is referred to as bequest value.

The distinctions in type of value are important. ESA-listed species are generally restricted from harvest, so use values (from sport or commercial fishing) may be minimal for spring Chinook, fall Chinook, steelhead, and Coho, at least until these species recover in the future. Non-use values are notoriously difficult to estimate, derived mainly from well-designed surveys, and they reflect individuals' “willingness to pay” for knowing the species will continue to exist. Reclamation developed a recent analysis of anadromous fish benefits in the Yakima River basin, associated with the Yakima River Basin Water Storage Feasibility Study (US Bureau of Reclamation, 2008). They estimated the use value of spring Chinook, fall Chinook, and Coho by harvest category (commercial, sport, or subsistence) and location (ocean, lower and mid-Columbia River, and Yakima River). Table 4.5 displays the per-fish use values in the Yakima River (updated to current dollars).

Salmon Species	Sport		Ceremonial / Subsistence	
	2007 \$*	2011 \$	2007 \$*	2011 \$
Coho	\$368.00	\$399.30	\$3.89	\$4.22
Spring Chinook	\$461.52	\$500.77	\$28.20	\$30.60
Fall Chinook	\$368.00	\$399.30	\$10.97	\$11.90

* As reported in U.S. Bureau of Reclamation, 2008, p. 116.

The Reclamation study (2008) also presented a review of non-use values, as well as a critique of the methods used to derive them. Eight studies were presented as an “average annual willingness-to-pay per household to increase the fish population.” The average of all studies combined resulted in a total of \$143.04 per household, per year.³ This is equivalent to \$164.74 in 2011 dollars. For perspective, aggregated across all Kittitas County households (16,619 in 2010), this amounts to \$2,737,837 per year. It should be emphasized that this benefit estimate cannot be attributed directly to the TWPEC, but could provide an estimate of the willingness-to-pay for salmon restoration.

4.6 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 F. 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 USFS 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 from other recreation activities or sites. In addition, “Non-local” visitors spend at higher rates, but do not spend their entire trip expenditures within Kittitas County, so some means of estimating that share must be established. It is therefore assumed that only the proportion of their total spending that mirrors, or is equivalent to, “local visitor” spending is considered to be attributable to Kittitas County spending.

³ It should be noted that Reclamation did not include these non-use values for fish in its benefit-cost analysis, citing concerns with the inconsistency in measurement methods used, and inadequacy of applying these values to the Yakima River Basin study.

Section 4—Economic Impact Analysis

Continued

Table 4.6 provides a summary of recreation spending by activity type (details on the derivation can be found in Appendix F, Table F-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 4.6, winter activities (skiing and snowmobiling) involve the largest expenditures, followed by camping.

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 4.7 presents the spending profile of recreation visitors that is spent within Kittitas County as an aggregate total. It shows the spending share by category, averaged over all activities and weighted by origin of visitors. Of course, individual activities have different spending patterns; for example, snowmobilers spend more on gas and oil than hikers. Details by recreation type may be found in Appendix F.

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%
TOTAL	100.0%

Table 4.8 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.

Section 4—Economic Impact Analysis

Continued

Table 4.8
Economic Analysis Overview

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

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

Section 4—Economic Impact Analysis

Continued

**Table 4.8 (cont.)
Economic Analysis Overview**

Option Name	Current Uses	Post-IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations
Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manastash)	Timber production		Landowners	Timber revenues (\$/year)	NC
	Recreation		Recreationists	Biomass industry development	?
	Hunting		Hunters	Visitor days	↑
	Fishing		Alpine Skiers	Visitor days	↑
	Snowmobiling		Hikers	Visitor days	↑
	Skiing		Campers	Visitor days	↑
			Property Developers	Residential development	↓
			Kittitas County	Property Tax Revenues	↑
				Forest Health Management	↑
				Emergency services	↑
			Fire management	NC/↑	
			Road maintenance	↑	

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

Section 4—Economic Impact Analysis

Continued

Table 4.8 (cont.) Economic Analysis Overview					
Option Name	Current Uses	Post-IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations
Upper Yakima NRA	Timber production	Designation of 80% of Public Land as National Recreation Area	Landowners (<i>adjacent private land only</i>)	Timber revenues (\$/year)	NC
	Grazing		Grazing Recreationists Hunters Fishers Snowmobilers Nordic Skiers Hikers Campers OHV Use	Grazing use by permittees Visitor days Visitor days Visitor days Visitor days Visitor days Visitor days Visitor days Property Tax Revenues Forest Health Management Emergency services Fire management Road maintenance	NC ↑ ↑ ↑ ↑ ↑ ↑ ↑ NC ↑ ↑ NC/↑ ↑
	Recreation Hunting Fishing Snowmobiling Skiing Hiking Camping OHV Use	Designation of 20% of Public Land as Wilderness	Recreationists Hunters Fishers Snowmobilers Nordic Skiers Hikers Campers OHV Use	Visitor days Visitor days Visitor days Visitor days Visitor days Visitor days Visitor days	↓ ↑ ↓ ↑ ↑ ↑ ↓

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

Section 4—Economic Impact Analysis

Continued

Table 4.8 (cont.) Economic Analysis Overview					
Option Name	Current Uses	Post-IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations
Manastash-Taneum NRA	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		Alpine Skiers	Visitor days	↑
	Skating		Hikers	Visitor days	↑
	Hiking		Campers	Visitor days	↑
	Camping		OHV Use	Visitor days	↑
	OHV Use		Kittitas County	Property Tax Revenues	NC
Wild/Scenic River Designations for the Upper Cle Elum, Wapatus, and Cooper Rivers	Residential		Property Owners	Residential Development	NC
	Recreation		Recreationists		
	Hunting		Hunters	Visitor days	↑
	Fishing		Fishers	Visitor days	↑
	Hiking		Hikers	Visitor days	↑
	Camping		Campers	Visitor days	↑
			Kittitas County	Property Tax Revenues	NC
				Emergency services	↑
				Fire management	NC/↑
				Road maintenance	↑

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

Section 4—Economic Impact Analysis

Continued

**Table 4.8 (cont.)
Economic Analysis Overview**

Option Name	Current Uses	Post-IWRMP Action	Affected Entities	Units of Measure for Impact	Anticipated Change to Use Considerations
Wild/Scenic River Designations for the North, Middle, and West Forks of the Teanaway River	Residential Recreation Hunting Fishing Hiking Camping	Wild and Scenic River Designation on Public Land	Property Owners Recreationists Hunters Fishers Hikers Campers Kittitas County	Residential Development Visitor days Visitor days Visitor days Visitor days Property Tax Revenues Emergency services Fire management Road maintenance	NC ↑ ↑ ↑ ↑ NC ↑ NC/↑ ↑
Shrub-Steppe Habitat Preferred Option (Eaton Ranch)	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 Emergency services Fire management Road maintenance	NC/↓ NC/↓ ↑ ↑ ↑ ? NC/↓ NC NC NC

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

Section 4—Economic Impact Analysis

Continued

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. Commercial production is permitted in unrestricted fashion. However, given timber markets and distance to mills, 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. It is assumed that snowmobiling would be exempted from this restriction, although the IWRMP EIS does not state so explicitly. 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 USFS estimates demand for hiking to increase 78 percent by 2050 (USFS, June 2011). To estimate the potential increase in these activities, use levels from the Wenatchee National Forest were reviewed (see Appendix F 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.⁴ See Appendix F 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 would not affect use on the existing snowmobile trails in the northwest portion of the option area, but no expansion of trails is assumed. 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). It is assumed that this visitation rate will continue into the future.

⁴ 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.

Summary of Impacts

Economic Benefits

• Hiking	\$196,719
• Snowmobiling	\$0
• Construction	-\$500,000

Net Benefits **-\$303,281**

County Revenue and Expenses

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

Section 4—Economic Impact Analysis

Continued

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 4.9 for discussion purposes.

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

* This estimate 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.

The basis for assuming the property tax offset from development derives from the theoretical basis for property tax formation and rate setting, its relationship to public service cost, and the expected cost of a marginal expansion to existing service areas. In Washington,

all real property is taxed, and levy rates are designed to support the cost (budget) of the taxing district's services (Washington Department of Revenue, 2011). Districts with generally stable budgets for services lead to levy rates that also remain fairly constant. However, if property values experience fluctuation (such as during the housing boom, followed by the more recent recession), total tax revenues can likewise fluctuate unless rates are changed to compensate. Some recent analyses of property taxation have addressed the effectiveness and efficiency of property and land taxes (see Cameron, 1999; Slack, 2011; and Dye and England, 2010), including a view of property taxes as a user fee for public services.

In many property tax analyses, land base is considered fixed, so any increased demand for services requires additional revenue from the same group of taxed property owners. In this study, properties that would otherwise be developed would generate additional tax revenue by virtue of their increased assessed values. The increased assessment – and associated tax bill – should theoretically account for the marginal increase in the services it requires: county road maintenance, sheriff services, fire protection, schools, etc. Whether or not those incremental costs of service are sufficiently covered is addressed when considering the total budget of the public service compared to all properties served. In practice, two realities are evident: (1) the marginal cost of serving one additional property is nearly always less than the average cost, spread over all properties; and (2) decision-makers are generally very averse to increasing levy rates.

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 Payment in Lieu of Taxes (PILT) payments versus the current level of \$12,016 under private ownership, or a net increase of \$24,280 per year.

Rural property owners in the vicinity of acquired, and eventually restored, lands may experience an increase in property values, which could lead to higher tax revenues if tax rates hold constant. Some research (for example, Phillips, 2004) has found that properties near land with natural-based amenities can receive a market price premium compared to lands

Section 4—Economic Impact Analysis

Continued

with similar characteristics. However, it may be many years before any change in value could be realized, if at all; no additional change in property tax revenues were factored into this study.

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 stay constant. Recreation-related emergency services (dispatch, search and rescue, ambulance, fire, and police) and sheriff's 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).

It is assumed that an additional 0.5 full-time equivalent (FTE) of combined service personnel plus equipment will be required. Costs are estimated based on the budget for the sheriff's department (Kittitas County, 2011). Salary and benefits for the staff of 67 amounts to \$66,205 per FTE, and with all operating expenses combined, including equipment, to \$99,705 per FTE. For this study, it is assumed that combined service costs amount to \$100,000 per FTE; in the Teanaway, a total of \$50,000 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.⁵ 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 F). 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 14 miles of hiking trails could be developed on the 10,000 acres in this Preferred Option. Assuming visitation patterns similar to the Wenatchee, 101 visits annual per mile of trail, these trails could potentially have 1,457 visitors a year (see Appendix F). This could yield an annual economic benefit of \$41,539 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 4.10 for discussion purposes.

County Zoning Designation	Acreage	Minimum Lot Size	Potential # of Lots at Full Build-Out*
Commercial Forest	10,000	80 acres	125

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

⁵ The construction activity is assumed to generate a negligible, though positive, benefit.

Summary of Impacts

Economic Benefits

- Camping \$83,183
- Hiking \$41,539

Net Benefits \$124,722

County Revenue and Expenses

- Tax Revenue \$6,922
- Expenditures \$50,000

Section 4—Economic Impact Analysis

Continued

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 USFS ownership, the 10,000 acres would yield \$1.76668 per acre in annual PILT payments, for a total of \$17,667, 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 1,457 hiking visits would require an estimated 0.5 FTE of service personnel plus equipment. The total required burden is estimated to be a combined \$50,000 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 NRA 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 F, the USFS 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 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, USFS 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 F, this increased recreation use by snowmobilers could yield an annual economic benefit of \$43,921 within Kittitas County

Summary of Impacts

Economic Benefits

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

Net Benefits \$435,292

County Revenue and Expenses

- Tax Revenue \$0
- Expenditures \$200,000

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 USFS campgrounds. Assuming the size of the campground would be similar to those found on the Wenatchee National Forest, the campground should attract about 1,650 visits per year (see Appendix F). This could yield an annual economic benefit of \$83,183 within the county.

Section 4—Economic Impact Analysis

Continued

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 NRA. 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 2.0 FTE of service personnel (police, fire, ambulance, search and rescue, etc.) plus equipment, estimated to be a combined total of \$200,000 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). (The boundaries of the proposed NRA have not yet been finalized.) 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 where consistent with the protection of key watershed functions and aquatic habitat. The proposed uses are consistent with the uses identified in the current Okanogan-Wenatchee National Forest Plan Revision Proposed Action.

Summary of Impacts

Economic Benefits

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

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

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

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 USFS 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 National Forest, the campground should attract about 1,650 visits per year (see Appendix F). 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 NRA. See discussion above in the Upper Yakima NRA section for background on PILT payments.

County Service Needs

This analysis indicates that both motorized and non-motorized recreation visits would increase. It is assumed that the USFS will manage the option area to meet road density standards in the Forest Plan, so road maintenance would not fall to the county. 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.

Section 4—Economic Impact Analysis

Continued

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 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.

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.

Summary of Impacts

County Revenue and Expenses

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

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 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.

Summary of Impacts

Economic Benefits

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

Net Benefits	-\$210,874
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County Revenue and Expenses

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

Section 4—Economic Impact Analysis

Continued

When Wymer Reservoir is built, this would flood about 4,000 of the 13,831 acres (Ecology and Reclamation, 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 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 PILT 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.

The County has a lodging assessment tax (called a Stadium Fund) of 4 percent. Although a resort or fishing lodge would have generated additional revenue through this assessment, the “special revenue” fund may be used only for targeted purposes related to tourist events, through a grant application process (Kittitas County, 2011). It may not be used for regular General Fund purposes, so was not considered in this analysis.

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, as the reservoir begins to attract waterfowl. Recreation visitor types may expand to include campers, swimmers, and boaters, if any or all of these activities are allowed. If so, 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 be 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 4.11 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 as a part of the implementation of the Yakima Basin IWRMP. In the table, positive numbers reflect an increase in spending, and negative numbers are a decrease in spending.

Section 4—Economic Impact Analysis

Continued

Table 4.11 Summary of Annual Economic Impacts, County Revenues, and County Expenditure Obligations			
Option Name	Category	With Public Investment	Without Public Investment
Upper Yakima River Basin High Elevation Watershed Preferred Option (Teaway)	Hiking	\$196,719	\$0
	Snowmobiling	\$0	\$0
	<u>Construction</u>	<u>-\$500,000</u>	<u>-\$500,000</u>
	TOTAL	-\$303,281	-\$500,000
	County Revenues	\$24,280	\$24,280
	County Expenses	\$50,000	\$0
Upper Yakima River Basin Forest Habitat Preferred Option (Taneum and Manatash)	Camping	\$83,183	\$0
	<u>Hiking</u>	<u>\$41,539</u>	<u>\$0</u>
	TOTAL	\$124,722	\$0
	County Revenues	\$6,922	\$6,922
	County Expenses	\$50,000	\$0
Upper Yakima NRA	Snowmobiling	\$43,921	\$4,392
	Non-motorized rec	\$308,188	\$30,819
	<u>Camping</u>	<u>\$83,183</u>	<u>\$8,318</u>
	TOTAL	\$435,292	\$43,529
	County Revenues	\$0	\$0
	County Expenses	\$200,000	\$50,000
Manastash-Taneum NRA	Motorized rec.	\$254,740	\$25,474
	<u>Camping</u>	<u>\$83,183</u>	<u>\$8,318</u>
	TOTAL	\$337,923	\$33,792
	County Revenues	\$0	\$0
	County Expenses	\$150,000	\$50,000
Wild/Scenic River Designations	TOTAL	\$0	\$0
	County Revenues	\$0	\$0
	County Expenses	\$100,000	\$100,000
Shrub-Steppe Habitat, Preferred Option (Eaton Ranch)	Agriculture	-\$100,000	-\$100,000
	Wildlife Viewing	\$39,126	\$39,126
	<u>Resort Operation</u>	<u>-\$150,000</u>	<u>-\$150,000</u>
	TOTAL	-\$210,874	-\$210,874
	County Revenues	-\$16,000	-\$16,000
	County Expenses	\$50,000	\$50,000
TOTAL ECONOMIC IMPACT By Major Sector	Agriculture	-\$100,000	-\$100,000
	Construction	-\$500,000	-\$500,000
	Recreation	\$1,133,782	\$116,447
	<u>Accommodations</u>	<u>-\$150,000</u>	<u>-\$150,000</u>
	TOTAL	\$383,782	-\$633,553
	County Revenues	\$15,202	\$15,202
	County Expenses	\$600,000	\$250,000
NET TOTAL		-\$201,016	-\$868,351

As shown in Table 4.11, if all the options are implemented, and there is public investment in recreation facilities, then on balance there is a positive economic impact of \$383,782 per year in spending. This occurs from a net increase of \$1.1 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 \$633,553 in spending, primarily due to a very small increase in recreation-related spending.

In both scenarios, County tax revenues may increase by \$15,202, primarily as increased PILT, offset by a loss of tax revenues from Eaton Ranch. However, County obligations in terms of increased emergency and related services would be \$600,000, if public investment induces greater recreation visitation, or \$250,000 if there is no additional public investment.

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 (Minneota IMPLAN Group, Inc.), 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.

The approach of using IMPLAN to measure regional economic impacts is widely accepted in a variety of settings, but it does have some limitations for this study. IMPLAN is designed to address relatively short-term time periods (several years), and cannot effectively account for large structural changes in the economy, or long-term changes in consumer spending patterns or preferences. Such changes are very difficult to predict without considerable speculation, so caution should be used when applying results to very long planning periods.

Section 4—Economic Impact Analysis

Continued

Table 4.12 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 G.

Impact Category	With Public Investment		Without Public Investment	
	Direct	Total	Direct	Total
Employment (jobs)	9.9	10.8	-2.9	-4.9
Personal Income	\$295,393	\$332,003	-\$62,157	-\$117,996
Output (Sales)	\$336,932	\$440,860	-\$495,209	-\$680,072

As indicated in Table 4.12, the scenario with public investment will result in a net increase of approximately 11 jobs, resulting from an additional \$440.9 thousand in annual spending within Kittitas County. The Accommodation and Food Service and Retail Trade sectors, most closely associated with recreation and tourism, 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 \$332,003 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 \$680.1 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 USFS 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 4.13, using results from Table 4.11 and Appendix G. Under the “With Public Investment” scenario, urban areas will see increased spending of \$441,401 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 \$252,909 in public sector spending. The net effect of increased public spending and decreased private spending is \$29,459.

Table 4.13				
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	\$441,401	-\$223,450	-\$552,535	-\$223,944
Public Sector Spending	\$0	\$252,909	\$0	\$96,406
SUBTOTAL	\$441,401	\$29,459	-\$552,535	-\$127,538
TOTAL SPENDING	\$440,860		-\$680,072	

Section 4—Economic Impact Analysis

Continued

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.⁶ 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 \$127,538 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 outside the urban areas. The County receives 15% of the sales tax collected by the cities. Table 4.14 displays the total estimated tax revenue change resulting from the two scenarios, which combines both sales tax revenues and PILT. It is assumed that PILT is attributed solely to rural areas.

	With Public Investment		Without Public Investment	
	Urban	Rural	Urban	Rural
Sales Tax Revenue	\$7,913	\$1,396	-\$1,093	-\$193
Property Tax Revenue*	\$0	\$15,202	\$0	\$15,202
SUBTOTAL	\$7,913	\$16,598	-\$1,093	\$15,009
TOTAL SPENDING	\$24,512		\$13,916	

* Reflects new PILT revenues post-project, minus pre-project property tax revenue.

⁶ Although the construction activity would take place in unincorporated Kittitas County, the business revenue is assumed to be in urban areas.

5.1 Introduction

Upon quantifying the economic impacts to the County due to the proposed actions within the TWPEC, an array of potential methods to compensate for these economic impacts was developed for presentation to Reclamation and Ecology. The need for economic mitigation was only considered when it was predicted that Kittitas County will incur financial expenses that exceed additional revenue to the County from implementation of the TWPEC. In other words, it was predicted that new or increased services will be required of Kittitas County to properly accommodate new TWPEC related recreational activities; and the cost of providing these services is in excess of new TWPEC related revenues to the County.

A preliminary matrix of economic mitigation strategies was developed by Cascade Economics, primarily based on compensation methods that have been used in other similar situations, particularly by state and federal agencies. The preliminary matrix was first presented to the BOCC and County Staff in a study session on July 23, 2012 for review and discussion. Several more mitigation strategies were added at the County's request, after which the revised Economic Mitigation Strategies Matrix (Table 5.1) was delivered to the CAC on July 31, 2012. The CAC was asked to review and comment on the proposed mitigation approaches and was given an opportunity to provide the consultant team with any additional mitigation strategies that they had. The revised Mitigation Strategies Matrix was presented at the September 21, 2012 CAC Meeting for development of a recommended overall preferred economic mitigation alternative.

Table 5.1
Economic Mitigation Strategies Matrix

Funding Option Name	Definition	Applies to	Justification	How it Works	Funding Provided by	Precedence	Examples in Practice	Strengths	Weaknesses	Funding Details	Implementation Process
1. Federal PILT	Payment in Lieu of Taxes (PILT) applied to lands transferred to federal ownership	Federal lands	Lands that are transferred to federal ownership are removed from county property tax rolls	Congress annually appropriates funds to the counties to support local services intended to compensate for loss of tax revenue from Federal lands.	Federal government	Yes – the Federal government provides a PILT to Kittitas County for existing USFS and BLM lands	Existing program	Established program that does not require new or untested administrative process.	Although PILT is well-established, there is considerable risk that it will be curtailed, or even eliminated, through Congressional budgeting process. As such, the funding may not be secure in the future.	10,000 acres in Taneum and Manastash @ \$1.76668 per acre = \$17,666.80 per year (Current rate)	Combine PILT funding with Congressional legislation that transfers ownership of private lands to the Federal government.
2.State PILT	Payment in Lieu of Taxes (PILT) applied to lands transferred to state ownership or management	State lands	Lands that are transferred to state ownership or management are removed from county property tax rolls	State develops a fund that is distributed to counties on a formulaic basis. It is designed to compensate counties for the loss of tax revenue by state owned or managed lands.	State government	Yes – the State provides a PILT to Kittitas County for lands managed by Washington DNR and DFW	Existing program	Established program that does not require new or untested administrative process. Relatively non-controversial politically.	In recent years, the State has experienced a considerable decline in revenues, and the PILT program may continue to see pressure to reduce funding. As such, funds may not keep pace with county expenditures, placing burden on other county revenue sources.	47,168 acres in Teanaway @ \$0.77 per acre = \$36,296 per year (Current rate)	Combine PILT funding legislation that transfers ownership or land management responsibility to the State.
3.Maintenance Endowment	Fund established to cover additional county expenses incurred on an annual basis as a result of the implementation of the TWPEC.	Consortium-managed lands	Implementation of TWPEC will lead to additional demand on county services, including emergency services and road maintenance. This fund will help to level the benefits of the IWRMP in the region – and the nation – with the costs incurred by Kittitas County.	A one-time endowment fund is established, probably through implementation of the IWRMP. The endowment provides a principal that is invested in low-risk fund; the annual interest earnings serve as a revenue source to accommodate increased expenses.	Federal government (possible state contribution)	Yes – lump sum payments are commonly used methods for addressing inequitable distribution of benefits and costs. This provides a targeted fund for defined impacts.	Wisconsin Conservation Endowment ⁷ Michigan Natural Resources Trust Fund ⁸ Idaho State Fund for Outdoor Recreation Enhancement ⁹	Requires one-time contribution or implementation that could be tied to the Federal implementing legislation for the IWRMP.	The fund will require a new administrative and management process. Congress may place stipulations or limitations on the use of funds that may not coincide with the County's needs.	Initial endowment of \$15,000,000, invested with assumed ROI of 4%, will yield \$600,000 per year interest that is available for use by the County. The principle remains in perpetuity.	Introduce the establishment of an endowment fund in the IWRMP process, and include the funding in the authorizing legislation and appropriation for the overall IWRMP.

⁷ Wisconsin Conservation Endowment: http://wisconservation.krukgraphics.com/index.php?page=Conservation_Endowment

⁸ Michigan Natural Resources Trust Fund: http://www.michigan.gov/dnr/0,1607.7-153-39002_16791-39513--,00.html

⁹ Idaho State Trust for Outdoor Recreation Enhancement (STORE) (ID Code § 67-4247): <http://law.justia.com/codes/idaho/2011/title67/chapter42/67-4247/>

Section 5—Development of Economic Strategies

Continued

Table 5.1
Economic Mitigation Strategies Matrix

Funding Option Name	Definition	Applies to	Justification	How it Works	Funding Provided by	Precedence	Examples in Practice	Strengths	Weaknesses	Funding Details	Implementation Process
4. Investment Fund	Fund established to provide investment funds (and possibly an O&M pool) for trails, campgrounds, and related infrastructure. To be used on lands acquired through implementation of the TWPEC.	Consortium-managed lands	In order for the acquired lands to meet their full intended purposes of providing ecosystem services and recreational use, additional infrastructure investment is required. This provides the funds to accommodate the anticipated recreation demand.	A one-time grant is provided, probably through implementation of the IWRMP, invested in a low-risk fund. The grant (principal and interest) should be used for future recreation infrastructure investment to accommodate demand. Subsequent, or staged, supplements to the grant may be provided for future O&M needs.	Federal government (possible state contribution)	Yes – economic development funds or accounts have been used as “incubators” for local economies. This endowment provides a funding source for targeted investments addressing specific, anticipated needs.		Requires one-time contribution or implementation that could be tied to the Federal implementing legislation for the IWRMP. The State may also provide one-time or periodic contributions to the fund.	The fund will require a new administrative and management process. There may be reluctance by Congress to establish an investment fund for a future (not current) demand. Staged contributions, by Congress or the State, creates funding uncertainty.	Initial annuity of \$5,000,000, which accounts for 3 campgrounds, 10 miles of snowmobile trails, and 140 miles of hiking trails. Can be used as a sinking fund, drawing interest that will support O&M.	Introduce the establishment of an endowment fund in the IWRMP process, and include the funding in the authorizing legislation and appropriation for the overall IWRMP.
5. User Fees	Fee-for-use program established on: 1) snowmobile trails, 2) campgrounds; 3) hiking trails; and/or 4) OHV trails	All public and consortium lands	Newly acquired lands will attract additional recreationists, over time, to these sites. The new visitors, split between local and non-local, will cause increased demand for county services. A user fee is an efficient means of paying for new demand for services.	Several mechanisms are possible: (1) voluntary pay boxes at campgrounds, snowmobile trails, and/or hiking trails; (2) Kittitas-based vehicle tab; (3) fee supplement to WA snowmobile permit; (4) fee supplement to WA Discover Pass.	Targeted recreational users (to new sites or all county sites, depending upon program basis)	Yes – Washington (and other states) have permit or pass programs; USFS has a long established user-fee program for campgrounds, Sno-Parks, and hiking trails.	USFS Sno-Park program; Wilderness permit program (one-time or annual pass); campground fee box program	An economically efficient means of paying for services by charging those who actually use them, including non-residents, and not on others who don't.	User fee systems are initially unpopular. Voluntary systems can be difficult to enforce or require new monitoring responsibilities. A Kittitas-based permit will require a new administrative program. The state-based permits may be difficult or unavailable to the County.	Examples: Campsite fee of \$10-15 per night; can be charged on new or all campgrounds; Kittitas snowmobile tab @ \$10-\$25 per season. State-based program could be supplement for Kittitas County residents, or other approaches	If the program is based in the County, a new mechanism and procedures must be established, but models elsewhere exist to emulate. State-based program would require coordination with WA DNR, DFW, and State Parks and Recreation Commission.
6. Rural Domestic Water Rights	Provide senior water rights which are suitable as mitigation for current and future groundwater withdrawals on currently-occupied parcels for rural domestic use.	Private rural land owners county-wide	The majority of the IWRMP benefits will be realized outside the boundaries of Kittitas County while the disparate ongoing costs associated with this component will be borne exclusively by our citizens. A solution to the current and potential conflicts within Kittitas County between rural domestic water users and more senior water rights holders will help offset those costs by protecting property values and the overall tax base, retaining flexibility in land uses, and supporting local jobs and the economy.	An agreement is made to provide mitigating senior water rights for current groundwater users and future users on currently developed and occupied parcels. This will assure users are not curtailed during low-flow periods and that a reasonable supply of water for future development will be available.	State government	Yes – During the 2011 Legislative Session funding was provided to the Carpenter-Fisher basin in Skagit County to solve similar concerns over access to ground water for rural land owners		Requires a one-time contribution which can be reasonably quantified.	May require ongoing funding to administer over time.		Introduce and pass legislation in the state.

Table 5.1
Economic Mitigation Strategies Matrix

Funding Option Name	Definition	Applies to	Justification	How it Works	Funding Provided by	Precedence	Examples in Practice	Strengths	Weaknesses	Funding Details	Implementation Process
7. Rural Commercial Recreational Development Options	Pursue legislative changes which will enable commercial development near recreational areas outside of existing urban areas and LAMIRDS to serve recreational land users.	Private lands near recreational access points to public lands and facilities	This component of the IWRMP proposes significant acquisitions of private land which will likely be open to the public. In addition, NRA designations and recreational infrastructure development are likely to increase the demand for recreation on these properties. Recreational visitors will likely take advantage of services offered near recreational areas if available. At present, the County is limited severely by state growth management statutes which present significant barriers to commercial development in rural areas. However, the County could benefit significantly from job growth and development related such industries as well as an improved tax base.	The County and Washington State Agencies including Ecology and WDFW jointly support enabling legislation.	State government	Unknown		Greater flexibility in rural land uses appropriate for development near recreational areas. Sales tax benefits, property tax benefits, economic growth potential.	Legislation is difficult to pass. Efforts may take years to complete if at all. Requires private investment before any monetary benefits would be realized.		Introduce and pass legislation in the state
8. Local Hydroelectric Energy Generation Research and Development	Assure that Kittitas County and/or entities within Kittitas County have the legal right and access as well as funding for research and development related to hydroelectric energy generation locally within the infrastructure improvements being implemented as components of the IWRMP.	Water Delivery Infrastructure	Opportunities for research and development can create professional-level employment opportunities for residents in Kittitas County. Such opportunities help to support families, diversify the local economy, and foster a healthy economic climate. Opportunities for research and development like this would also be a significant benefit for local entities such as Central Washington University and may help contribute to the overall viability and sustainability of the institution. Any significant advances made from such efforts may present opportunities for development within the local area, further contributing to the long-term economic health and viability of the region.	Access to infrastructure and funding for research and development is granted to Kittitas County and/or other relevant entities within the County (such as CWU).	State or Federal government	Unknown		Could provide long-term benefits for a variety of interests in the County and region. These interests include local economic benefits and sustainable environmental benefits.	Success depends on several factors including availability of funding, local expertise in applied technology development, market demand for energy created, potential marketability of any products created, and willingness for local participation.		

Section 5—Development of Economic Strategies

Continued

Table 5.1
Economic Mitigation Strategies Matrix

Funding Option Name	Definition	Applies to	Justification	How it Works	Funding Provided by	Precedence	Examples in Practice	Strengths	Weaknesses	Funding Details	Implementation Process
9. Teanaway Road Improvement Project	Re-authorize funding for the Teanaway Road improvement project which will provide more efficient and safer access to the lands being acquired in the Teanaway Valley.	AFLC lands and other public lands in the Teanaway	Teanaway Road is in need of improvements to provide better and safer travel routes to the already heavily used lands in this area. These studies show demand will likely increase significantly if this acquisition is made, compounding this issue. The improvements will also assist in making maintenance and emergency response more efficient. This project has been in process for several years with partial funding for various planning and environmental assessments, but lacks full funding for construction. It currently is part of the County's 6-year transportation improvement program. The county has already invested \$25,000 in local funds, and \$52,500 Federal Highway Administration fund into this project.	A one-time appropriation is made to complete the project.	Federal Highway Administration Forest Highway Projects Fund	Yes – Road improvements are often required under SEPA and NEPA for impacts related to project proposals.		Would provide significant benefits to local residents as well as visitors to the area. Would improve long-term maintenance efficiency and create a safer travel corridor reducing long-term costs to the County.	Does not account for long-term maintenance cost associated with ongoing use of visitors to the area. Requires cooperation from appropriating agency for authorization of the project and funding.		Introduce concept in the IWRMP process, and include funding in the authorizing legislation for the overall IWRMP.
10. Yakima River Canyon Scenic Byway	Support implementation of the Corridor Management Plan elements relating to the tourism/promotion, transportation safety, education, interpretive facilities, habitat restoration and recreational uses of the Canyon.	Public lands within the Byway in Kittitas and Yakima Counties	The Integrated Plan proposes a new dam in the middle of the Yakima River Canyon Scenic Byway at Wymer. Impacts of the dam and associated infrastructure are unknown, but the scenic values of the byway may be compromised. This mitigation would allow for improvements to the byway to offset the dam, infrastructure and increase in use of the byway for industrial equipment. This mitigation will also allow for an educational/ interpretive center to be established at the mouth of the Canyon that can also serve to educate about the dam project.	The Corridor Management Plan lays out strategic and prioritized vision, goals and objectives for the byway and is a product of the Department of Transportation and the 30-member byway partnership (private and public partners). Implementation of specific elements of the plan should be supported by the Integrated Plan as time and funding allows.	State and Federal government	Unknown		The Byway is an important economic driver for Kittitas and Yakima Counties – with the only blue ribbon trout stream in Washington State, being the first designated byway in the state and hosting tens of thousands of visitors every year who take advantage of the scenic drive, recreational opportunities and wildlife viewing.	Will require ongoing funding to administer over time.		Requires both state and federal legislation that could be tied to IWRMP authorization.

Table 5.1
Economic Mitigation Strategies Matrix

Funding Option Name	Definition	Applies to	Justification	How it Works	Funding Provided by	Precedence	Examples in Practice	Strengths	Weaknesses	Funding Details	Implementation Process
11. Community Forest Operations and Forest Health Practices	Support implementation and operation of the Community Forest board and forest management once Teanaway and other conservation properties are purchased under the Integrated Plan. This mitigation would also support the investigation and eventual implementation of a biomass facility for forest products within Kittitas County.	Public and private forested lands in Kittitas County conserved by the Integrated Plan	The Teanaway and other forested lands in Kittitas County are in need of extensive forestry activities and management plans to improve forest health. This mitigation would allow for the Community Forest board to function, hire staff, create management plans for the conserved forested lands under the integrated plan, and provide for a biomass facility to convert forest products into energy.	Once established, the local Community Forest Board would write a management plan, investigate biomass production and undertake forest health management activities.	State and Federal government	Unknown		The timber industry used to be a strong part of the Kittitas economy. Due to many factors that is no longer the case. The forests are now suffering from overgrowth, disease and are potential major forest fire hazards. This mitigation proposal would work to reducing those threats to forest health, and provide an economic driver for Kittitas County.	Will require ongoing funding to administer over time.		Introduce concept in the IWRMP process, and include funding in the authorizing legislation for the overall IWRMP.

6.1 Determining the Recommended Mitigation Alternative

The September 21, 2012 CAC Meeting was used to define each Funding Option presented in the Economic Mitigation Strategies Matrix (Table 5.1) and to allow the CAC to determine which options would be recommended to the County BOCC for presentation to Reclamation and Ecology.

During the meeting, each Mitigation Funding Option was discussed at length to determine their validity and viability. Through these discussions the CAC made the following conclusions:

1. State and Federal PILT (Mitigation Funding Option Nos. 1 and 2) would automatically be included as part of the overall mitigation recommendation because PILT funding is currently being received by the County, and it is assumed that the funding will increase based upon the increase of Federal and State lands acquired as part of the TWPEC.

However, due to the historical limits in annual funding and the concerns over the reliability and long-term availability of PILT, it was important to ensure that any other recommended Mitigation Funding Options were reasonably secure and could provide a consistent stream of mitigation revenue for the County.

2. In order for the County to achieve the maximum economic benefits associated with the TWPEC, it is important for the TWPEC to include funding for an array of investments that are necessary to facilitate and accommodate the desired increase in recreational activity (e.g., access improvements, trails, campgrounds, advertising, etc.). Therefore, the Investment Fund (Funding Option No. 4) is imperative to the County's economic sustainability and would be included as part of the CAC's overall mitigation recommendation. In fact the CAC believes that an Investment Fund should be a mandatory part of TWPEC implementation.
3. The parameters and amount of the Investment Fund (Funding Option No. 4) could be expanded to include the types of elements outlined in the Community Forest Operations and Forest Health Practices (Funding Option No. 11). Therefore, the Community Forest Operations and Forest Health Practices option was removed from consideration as an economic mitigation approach, and instead is intended to be part of the Investment Fund. Alternatively, funding to establish and manage Community Forest Operations and Forest Health Practices can be provided as a separate fund. The primary point made by the CAC is that, like the Investment Fund, funding for Community Forest Operations and Forest Health Practices is important for the TWPEC goals to be achieved and therefore should be provided as a mandatory part of TWPEC implementation, rather than mitigation for County economic impacts.

To help the CAC develop a final economic mitigation funding alternative recommendation, the following list of considerations was provided to help guide the CAC evaluation and ranking process.

Section 6—Mitigation Recommendation

Continued

- **Transparency:** Directness and Clarity of the Relationship between the Mitigation Option and the Impacts Being Mitigated
- **Precedence:** Track Record of Successfully Being Implemented Elsewhere in Similar Situations
- **Analysis:** Ease of Computation and Definition of Mitigation Option Details Necessary for Establishment
- **Implementation:** Simplicity and Ease of Approval and Establishment
- **Operation:** Simplicity and Ease of Operation
- **Effectiveness:** Derives Funds that are Sufficient to Cover Net Costs Incurred
- **Certainty:** Certainty that Mitigation will Continuously Occur

The CAC was then given the opportunity to rank each Funding Option in order of preference utilizing a preferential ranking exercise. Each CAC member was given the opportunity to rank their top three choices among the Funding Options. Using a weighted scoring system (First Preference = 5 points; Second Preference = 3 points; and Third Preference = 1 point), a numerical value was tallied for each Funding Option and is presented in Table 6.1.

Funding Option Name	Number of Votes			Total Ranking Score
	First Preference	Second Preference	Third Preference	
3. Maintenance Endowment	7	1	0	38
5. User Fees	0	0	0	0
6. Rural Domestic Water Rights	0	1	0	3
7. Rural Commercial Recreational Development Options	0	1	2	5
8. Local Hydroelectric Energy Generation Research and Development	0	1	1	4
9. Teanaway Road Improvement Project	0	4	1	13
10. Yakima River Canyon Scenic Byway	1	0	4	9

6.2 Recommendation and Conclusion

Citizen Advisory Committee Economic Mitigation Recommendation

Based upon the results of the Land Use and Economic Impact Analyses, financial impacts to the County are expected to arise from the TWPEC. To compensate the County for these impacts, it is recommended by the CAC that the County pursue an Economic Mitigation Alternative composed of the following elements:

- **Federal PILT** – The TWPEC proposes that 10,000 acres of private land within the Taneum and Manastash areas be acquired by the Federal government. Assuming a PILT rate of \$1.76668 per acre, this would net an increase of \$17,666.80 per year in County revenues.
- **State PILT** – The TWPEC proposes that 47,168 acres of private land within the Teanaway area be acquired by the State government. Assuming a PILT rate of \$0.77 per acre, this would net an increase of \$36,296 per year in County revenues.
- **Maintenance Endowment** – To offset additional County expenses incurred on an annual basis as a result of the implementation of the TWPEC a one-time Maintenance Endowment of \$15,000,000 is recommended. The endowment provides a principal that would be invested in a low-risk fund; the annual interest earnings serve as a revenue source to accommodate increased expenses. Assuming a return on investment of 4%, the interest would yield \$600,000 per year to be used by the County, while the principle would remain in perpetuity. The maintenance endowment would be allowed to build a reserve fund that can be used to cover cash flow variations and facilitate any debt financing necessary to carry out larger County maintenance projects. The full range of allowable uses of maintenance endowment revenue would be developed during future processes, but at a minimum it would cover County service costs that are justifiably related to the TWPEC.

In Addition to the Economic Mitigation Alternative, the CAC believes that implementation of the TWPEC must include two additional mandatory elements:

- **Investment Fund** – In order for the lands acquired through the implementation of the TWPEC to meet their full intended purposes of providing ecosystem services, recreational uses, and the associated regional economic benefits, additional infrastructure investment is required. An initial annuity of \$5,000,000 is recommended to provide investment funds that would account for approximately 3 campgrounds, 10 miles of snowmobile trails, and 140 miles of hiking trails. The Fund could also be used as a sinking fund, drawing interest that will support operation and maintenance. The exact investments made would be determined during future processes and with additional input from interested parties. Note that the size of the Maintenance Endowment is partially dependent on the Investment Fund. Lack of investments may lead to the need

Section 6—Mitigation Recommendation

Continued

for a larger Maintenance Endowment due to less new revenues to the County as a result of a lower increase in recreational spending.

- **Community Forest Operations and Forest Health Practices Fund** – In order to support the implementation and operation of the Community Forest Board and forest management once the Teanaway is purchased, funding will be required. The Community Forest model is intended to be self-sustaining. However, considering the current state of the timber resources and the recent logging activity in the area to be acquired, it is likely that it will take many years before enough funding is generated from the land to become self-sustaining. This fund will assist in realizing the goals of the preferred option for the upper Yakima River basin high elevation component of the TWPEC. This mitigation would also support the investigation and eventual implementation of a biomass facility for forest products within Kittitas County. Determining a suitable amount and method of funding for the Community Forest Operations and Forest Health Practices Fund was beyond the scope of the analysis conducted for this report. Therefore, additional research and discussions with County leaders and likely stakeholders should occur to identify an appropriate funding amount and method.

Conclusion

The analysis conducted and the resulting economic impacts are based on reasonable and conservative assumptions and methods. Where possible, standard land use and economic analysis methods were used and examples from other large scale land acquisition and conservation projects were examined. Like any complex and large scale land use action, various interests groups can debate the details of the analysis and the assumptions used. However, this report is the result of an inclusive thoughtful “middle of the road” analysis and the economic impact results are reasonable and defensible. Therefore, economic mitigation is justified and appropriate.

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