Risks and Opportunities

Social

The importance of good tribal relations cannot be over emphasized. There are good opportunities to continue consultation with tribal governments. The risk in tribal relations is low if consultations are continued and high risk if consultation declines.

The risks are high in terms of social issues. The low-taxed base Granite County has the greatest burden of governing most all of Rock Creek. The rate of suburbanization of the lower creek and the threat of subdivision of more and more ranches are issues that will shape the future for a long time. There are opportunities for working on these issues with inter-agency and inter-governmental representatives.

There is low risk of missing recreational objectives, but also high opportunity to meet those goals. Since 80% of the sub-basin is National Forest and 2% Bureau of Land Management, there is greater control over the recreational products primarily by a single agency. However, some issues are a high risk, such as the need for vegetative management in the main stem to protect old growth Ponderosa pine from stand replacing fires. There is high opportunity to decrease the risk.

If travel plan issues are not resolved there is a high risk of confrontation between different users and the need for future contentious management decisions regarding proposed Wilderness and roadless areas. There is a moderate opportunity to take action on these issues.

Table A displays priority of social issues based on risk and opportunity.

TABLE A

Resource: Social **(Ratings based on 3/12/98 meeting)**

Subunit	5th/ 6th HUC #	Issues													
		Tribal	Hunt	Fish	Water Quality	Com-modi-ties	Amen-ities	ORV roads trails Access	Rock Creek Road	Fire-wood	Visuals	Disp. Rec.	Dev. Rec.	Veg. Treat-ment	Trails
Mainstem	N/A	H	L	H	H	L	H		H	H	H	H	H	H	H
North Rock		NI	H sheep	H		H	H	L	H	L	H	L	M	-	L
Welcome Ranch		NI	H elk	H		L	H	L	H	H	H	H	H	-	H
Ambrose		NI	H elk, deer	H		H	H	H	H	H	H	H	H	-	H
Hogback		NI	M	H		L	H	M	H	H	H	H	H	-	H
Stoney		H	H	L		L	H	M	M	M	M	H	H	-	H
West Fork		NI	H	L		H	L	H	M	H	M	H	L	-	M
	100010	NI													
	100020	NI													
	100030	NI													
	100040	NI													
Ross Fork		NI	M	M		M	H	H	L	L	M	L	L	-	H
Middle Fork		NI	H	H		H	L	H	L	H	M	H	H	-	L
	080040	NI													
	080050	NI													
East Fork		NI	H	H		H	L	H	L	H	L	H	H	-	L
	070010	NI													
Upper Willow		NI	H	M		H	L	H	L	M	L	M	L	-	L

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Where issue doesn't apply to the 6th code, please put a dash (-) in the column. If you can't make a priority determination because there isn't enough information, please put NI (no info) in the column. Use the tab key to maneuver between columns for editing.

Vegetation

Risk assessment for vegetation change: The lower elevation types are in greatest jeopardy from past management practices and the effects of succession. The mid-elevation vegetation is in moderate jeopardy. The high elevation vegetation is in least jeopardy because most changes were within natural parameters. **Map 24** displays risk and priority by subwatershed.

Risk assessment for noxious weeds. The lower elevation areas are highest risk for noxious weeds; mid- elevations are moderate risk; upper elevations are low risk. Major roaded areas are high risk. The main Rock Creek Road #102 and State Highway #38 (Skalkaho Road) are high. Grasslands and open warm dry forests are high risk; mid-elevations vegetation is moderate risk; and lodgepole forests and colder are low risk. **Map 25** displays risk and priority by subwatershed.

Risk assessment for riparian vegetation: The areas with roads would rate moderate risk to riparian vegetation. Areas with a grazing allotment would rate moderate risk to riparian vegetation. Areas with both roads and a grazing allotment would rank high risk to riparian vegetation. Areas with neither roads nor a grazing allotment would rank low risk to riparian vegetation. The effects of change of vegetative composition over time was not assessed because no meaningful parameters to measure that change were known. Other factors that should be used to determine risk, but where quantitative information was not available, include potential subdivisions and existing and potential recreation use. **Map 26** displays risk and priority by subwatershed.

Risk assessment for insects and disease: Risk for each forest type was rated based upon tree species in the forest types and the various insects and diseases common to those tree species. This effort did not equate well to 6th order HUCs. The opportunity to treat insects and diseases is dependent upon ease of access to sites of infection or infestation. Areas with high road density would have a high opportunity for treatment and control. Areas with moderate roading would afford a moderate opportunity for treatment and control. Unroaded areas have low opportunity for treatment and control. **Map 27** displays risk and priority by subwatershed.

Desired:

Reduce the understory component in conifer stands that historically were old growth ponderosa pine and open, park-like structure, predominately fire groups 4 and 6. Retain pockets of multi-storied Douglas-fir on no more than 10% of the landscape.

Restore riparian communities of cottonwood and willow.

Restore native plant communities by reducing risk and infestation of noxious weeds.

Opportunities

Commercially thin, understory removal, Rx burn all old growth ponderosa pine from Stoney Creek north to the mouth of Rock Creek.

Retain pockets of multi-storied Douglas-fir on no more than 10% of the landscape. Make understory Douglas-fir available as firewood. Specific areas are outlined in the subunit reports, Appendix A.

Reduce the understory component in the conifer stands by logging, fuelwood cutting, and/or burning, thus creating open stands of large ponderosa pine and Douglas-fir. Specific areas are outlined in the subunit reports, Appendix A.

Remove competing vegetation from riparian areas to stimulate cottonwood and willow regeneration. Specific areas are outlined in the subunit reports, Appendix A.

Implement grazing measures to reduce the impact of cattle on riparian areas. Specific areas are outlined in the subunit reports, Appendix A.

Encourage establishment of cottonwood and willows along the main channel on private land. Specific areas are outlined in the subunit reports, Appendix A.

Aggressively attack noxious weed and contain and control weed populations using a holistic approach. Specific areas are outlined in the subunit reports, Appendix A.

Monitor the Mainstem corridor for potential insect and disease outbreaks and attempt control as quickly as possible. Managing Douglas-fir stands to create a single canopy will help reduce the risk of insect outbreak.

Table B displays in tabular format the priority by issue.

Table B

Resource: Vegetation **(Ratings based on 3/12/98 meeting)**

Subunit	5th/ 6th huc #	Issues			
		comp./s/f	Weeds	Riparian	I & D
Mainstem	N/A	**H**	**H**	**H**	**H**
North Rock		**H**	**H**	**M**	**H**
	130060	H	H	M	M
	130080	H	H	L	H
	130090	H	H	M	H
	130100	H	H	M	H
Welcome Ranch		**H**	**M**	**L**	**L**
	130030	H	H	L	L
	130040	M	M	L	L
	130050	L	M	M	L
	130070	H	M	L	L
Ambrose		**M**	**H**	**M**	**H**
	120090	L	L	L	L

Subunit	5th/ 6th huc #	Issues			
	120100	M	H	M	H
	120110	M	H	L	M
	130120	M	H	M	H
	130010	M	L	L	L
	130020	H	H	M	H
Hogback		**M**	**H**	**L**	**L**
	120060	L	L	L	L
	120070	L	L	L	L
	120080	M	H	L	L
Stoney		**M**	**H**	**H**	**M**
	120030	M	H	H	M
	120040	L	M	H	M
	120050	M	H	L	L
West Fork		**L**	**H**	**H**	**H**
	100010	L	L	H	L
	100020	L	M	H	M
	100030	L	H	H	H
	100040	H	H	H	H
Ross Fork		**L**	**M**	**M**	**L**
	090010	L	L	M	L
	090020	L	L	M	L
	090030	M	H	H	H
Middle Fork		**L**	**M**	**H**	**M**
	080010	L	L	L	L
	080020	L	L	M	L
	080030	L	M	H	M
	080040	L	L	L	L
	080050	M	H	M	H
East Fork		**M**	**H**	**H**	**M**
	070010	L	L	L	L
	070020	L	M	H	M
	070030	L	M	H	M
	070040	M	H	H	L
	120010	H	H	H	M
	120020	H	H	H	M
Upper Willow		**H**	**H**	**H**	**H**
	110010	L	L	H	L
	110020	M	M	H	M
	110030	H	H	H	H
	110040	H	H	H	H

Wildlife

Winter Range

Because of the significant amount of understory tree encroachment that has occurred, prescribed burning as a tool for restoring winter range forage productivity is only feasible on 10-15% of the winter range. Consequently, reintroducing fire alone will not be sufficient for restoring forage productivity. Tree removal from either logging or slashing will be essential on a large scale in order to allow us to get low intensity fire back into these ecosystems. In general, the bighorn sheep, elk, and mule deer wintering in North Rock, Welcome Ranch, Stony, and West Fork reporting units are at severe risk due to fire exclusion. Noxious weeds also a problem and will require aggressive treatment. In the upper valley, subdivision poses a moderate risk. Estimates of acres needing treatment are:

- Lower Rock- 5000 acres thinning/Rx burn, 1000 acres herbicides
- Welcome Ranch- 500 acres Rx burn
- Stony- 1000 acres thinning/Rx burn, 1000 acres herbicides
- West Fork- 1000 acres thinning/Rx burn

Treatments planned for winter range restoration in North Rock and West Fork reporting units, should be adequate to protect bighorn sheep.

Old Growth

In general, the acres needing treatment for old growth protection/recruitment are already included under the winter range acres. In the North Rock, Stony, and Mainstem Reporting Units, residual old growth stands are at severe risk due to fire exclusion. Aggressive logging treatments are needed to recruit (by thinning) young stands and protect (by removing understory trees from) residual old stands. No restorative treatments are needed at the mid and upper elevations. At mid and upper elevations in the subbasin, fire exclusion and a lack of fire-killed dead stands has placed black-backed woodpeckers and other fire-dependent species at severe risk. The amount of winter range treatment acres in which old growth protection/recruitment will be a part of the prescription are included below:

- North Rock- 1000 acres thinning/Rx burn, 1000 acres understory removal/Rx burn
- Mainstem- 500 acres understory removal/ Rx burn
- Stony- 200 acres thinning/Rx burn,
- West Fork- 200 acres thinning/Rx burn, 200 acres understory removal/Rx burn

Treatments planned for old growth ponderosa pine protection and recruitment in North Rock, Mainstem, Stony, and West Fork reporting units, should be adequate to protect flammulated owl habitat.

Fragmentation

North Rock, Upper Willow, and Ambrose, are relatively dysfunctional in terms of local fragmentation. Another, the Middle Fork, has some moderate fragmentation. For three of the four

reporting units, concentrated timber harvest combined with road obliteration and recruitment of fire-killed dead stands, would significantly improve local conditions from a wildlife standpoint. It's recommended that treatment of the fragmented portion of the North Rock area be limited to understory removal due to a severe problem with limited elk security. Areas needing treatment include:

- Upper Willow- 200 acres regeneration w/ reserves/Rx burn
- Ambrose- 500 acres regeneration w/ reserves/Rx burn
- Middle Fork- 150 acres regeneration w/ reserves/Rx burn
- North Rock- 150 acres understory removal /Rx burn where feasible

Treatments done to reverse fragmentation and restore fire-killed dead stands in Ambrose, Upper Willow, and Middle Fork, will prove beneficial in 20-30 years for restoring foraging habitat for lynx.

Security

The large amount of roadless/wilderness in the subbasin, and the lack of well-established ORV activity suggests that wolverine are not at risk in the subbasin. No treatment is needed.

For other species, North Rock and Ambrose Reporting Units would benefit from changes in road management and longterm vegetative management strategies to recruit security cover.

Treatments needed to increase security include:

Ambrose- Closure or eradication of roads
North Rock- Closure or eradication of roads (project underway)

Reduce total and open road density.

Table C displays wildlife priorities by issue.

TABLE C

Resource: Wildlife **(Ratings based on 3/12/98 meeting)**

Subunit	5th/ 6th Huc #	Issues				
		W.Range	O.G.	Frag.	Security	Social
Mainstem	N/A					
North Rock		H	H	M	H	H
	130060					
	130080					
	130090					
	130100					
Welcome Ranch		L	L	L	L	L
	130030					
	130040					
	130050					
	130070					
Ambrose		--	L	H	H	H
	120090					
	120100					
	130110					
	120120					
	130010					
	130020					
Hogback		M	L	L	L	L
	120060					
	120070					
	120080					
Stoney		H	M	L	L	L
	120030					
	120040					
	120050					
West Fork		H	L	L	L	L
	100010					
	100020					
	100030					
	100040					
Ross Fork		L	L	L	L	L
	090010					
	090020					
	090030					
Middle Fork		L	L	M	L	M
	080010					
	080020					
	080030					
	080040					
	080050					
East Fork		L	L	L	L	L
	070010					
	070020					
	070030					
	070040					
	120010					
	120020					
Upper Willow		L	L	H	L	M
	110010					
	110020					
	110030					
	110040					

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Watershed

The major risks to **hydrologic processes and function** include:

The Rock Creek Road, Rd. #102 impacts over twenty miles of Rock Creek. The subunit with the most miles of Rd. 102 is Ambrose at 12 miles.

Roads in riparian areas other than the Mainstem. Major impacts documented on Brewster Creek, Ranch Creek, Williams Creek and Stony Creek.

High road density. Wahlquist Creek in the Ambrose subunit has the highest road density in the subbasin at 3.9 miles/mile^2.

High number of stream crossings.

Location of recreation sites located on streambank which causes erosion, bank trampling and vegetation loss. Ambrose subunit has highest number of sites.

Loss of trees. Tree roots are principle stabilizing mechanism and provide future large woody debris to streams.

Desired:

Hydrologic conditions within all the subunits would approach historic potentials. Suspended sediment and bedload quantities would be reduced, chemical constituents would be at natural concentrations and channel conditions would reflect more undisturbed conditions. Road densities and stream crossings would be reduced significantly. Recreation development and use would have no negative effect on the aquatic environment. Riparian vegetation would be restored and enhanced in the main stem to promote stream shading thus hopefully lowering summer water temperatures which are now higher than desired. Private land management would have no significant negative effect on streams in the reporting unit.

Tables D and E display overall status, priority by issue, and overall priority.

TABLE D

Resource: Hydrology (Ratings based on 3/12/98 meeting)

Subunit	5th/ 6th huc #	Issues							
		Water Quality	Flow	Riparian	Streams roads	grazing	mining	agric	subdiv
Mainstem	N/A	M	L	H	H	H	L	L	M
North Rock (M)									
	130060	M	L	H	H	(-)	H	L	M
	130080	L	M	M	M	(-)	(-)	L	M
	130090	M	M	M	M	(-)	(-)	M	L
	130100	M	M	M	H	(-)	(-)	(-)	(-)
Welcome Ranch (L)									
	130030	L	(-)	M	M	(-)	(-)	(-)	(-)
	130040	L	(-)	M	M	(-)	(-)	(-)	(-)
	130050	L	M	M	M	(-)	(-)	(-)	(-)
	130070								
Ambrose (H)									
	120090	L	(-)	L	(-)	(-)	(-)	(-)	(-)
	120100	M	L	H	H	(-)	(-)	(-)	L
	130110	M	L	H	M	(-)	(-)	(-)	L
	120120	L	L	H	H	(-)	(-)	(-)	L
	130010	L	(-)	L	L	(-)	(-)	(-)	(-)
	130020	L	(-)	M	H	(-)	L	(-)	(-)
Hogback (L)									
	120060	L	(-)	L	L	(-)	L	(-)	(-)
	120070	L	(-)	L	L	(-)	L	(-)	(-)
	120080	L	(-)	L	L	(-)	M	(-)	(-)
Stoney H)									
	120030	H	L	H	H	L	H!	L	(-)
	120040	M	L	M	L	M	M	(-)	(-)
	120050	M	L	H	H	(-)	M	(-)	L
West Fork (H)									
	100010	L	(-)	M	M	M	(-)	(-)	(-)
	100020	M	(-)	M	H	H	(-)	(-)	(-)
	100030	L	(-)	L	M	L	(-)	(-)	(-)
	100040	H	(-)	H	H	M	H	M	(-)
Ross Fork (L)									
	090010	M	M	M	L	L	(-)	(-)	(-)
	090020	M	L	L	L	L	H	(-)	(-)
	090030	H	M	H	H	H	(-)	L	(-)
Middle Fork (H)									
	080010	M	L	M	L	M	L	(-)	(-)
	080020	M	(-)	L	L	L	H	(-)	(-)
	080030	H	L	M	M	H	H	(-)	(-)
	080040	L	L	M	L	L	L	(-)	(-)
	080050	H	L	H	H	H	L	(-)	(-)

Subunit	5th/ 6th huc #	Issues							
		Water Quality	Flow	Riparian	Streams roads	grazing	mining	agric	subdiv
East Fork (M)									
	070010	L	(-)	(-)	(-)	(-)	(-)	(-)	(-)
	070020	H	L	H	H	M	(-)	(-)	(-)
	070030	H	H	H	H	M	(-)	(-)	(-)
	070040	H	H	H	H	H	(-)	H	(-)
	120010	H	H	H	H	H	H	H	(-)
	120020	H	H	H	H	H	H	H	(-)
Upper Willow (M)									
	110010	M	(-)	M	L	L	H	(-)	(-)
	110020	M	L	M	M	M	(-)	L	(-)
	110030	H	M	H	H	M	M	M	(-)
	110040	H	NI	M	H	NI	NI	NI	(-)

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TABLE E

Resource: Hydrology **(Ratings based on 3/12/98 meeting)**

Subunit	5th/ 6th Huc #	Status	Risk	OpportunitY	Overall Priority
North Rock					**M**
	130060	M	H	M	
	130080	M	L	L	
	130090	M	L	M	
	130100	M	L	M	
Welcome Ranch					**L**
	130030	H	L	L	
	130040	H	M	H	
	130050	H	L	M	
	130070	H	L	L	
Ambrose					**H**
	120090	H	L	L	
	120100	H	M	H	
	130110	M	M	L	
	120120	M	M	H	
	130010	H	L	L	
	130020	H	M	H	
Hogback					**L**
	120060	H	L	L	
	120070	H	L	L	
	120080	H	L	L	
Stoney					**M**
	120030	L	H	L	

Subunit	5th/ 6th Huc #	Status	Risk	OpportunitY	Overall Priority
	120040	M	M	H	
	120050	M	M	M	
West Fork					**H**
	100010	H	L	H	
	100020	M	M	M	
	100030	H	M	M	
	100040				
Ross Fork					**L**
	090010	M	H	M	
	090020	H	L	L	
	090030	L	H	L	
Middle Fork					**H**
	080010	M	L	L	
	080020	M	M	M	
	080030	L	H	H	
	080040	H	L	L	
	080050	L	H	M	
East Fork					**M**
	070010	H	L	L	
	070020	M	H	H	
	070030	L	H	H	
	070040	L	H	L	
	120010	L	H	L	
	120020	L	H	L	
Upper Willow					**M**
	110010	M	M	M	
	110020	M	M	H	
	110030	L	H	H	
	110040	L	H	L	

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