Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
Badger Creek	Incubation, Hatching, and Emergence *(September 1 – May 1)*	Has the temperature regime been modified?	0	
		Have oxygen levels decreased?	0	
		Have flow regimes been modified?	0	
		Has egg and/or alevin mortality resulting from physical disturbance increased?	?	Timing of grazing on private land is unknown.
		Have sediment levels increased?	2	High levels of sediment resulting from habitat alteration in upper reaches of stream.
	Juvenile/Adult Summer Rearing *(May 1 – September 30)*	Has the temperature regime increased?	1	A minor increase in temperature has likely occurred as a result of habitat disturbance.
		Has food production decreased?	0	
		Has habitat quantity decreased?	1	Lower section of stream is intermittently dewatered during the summer and fall.
		Has habitat quality decreased?	1	Some habitat disturbance resulting from roads and grazing.
		Has water quality decreased?	0	
		Has mortality increased?	1	Losses relating to stream dewatering and diversion are likely.
	Juvenile/Adult Winter Rearing *(October 1 – April 30)*	Has the temperature regime been modified?		
		Has food production	0	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		decreased?		
		Has habitat quantity decreased?	0	
		Has habitat quality decreased?	1	Some habitat disturbance resulting from roads and grazing.
		Has water quality decreased?	0	
		Has mortality increased?	0	
	Migration/Genetic Consideration *(Year Round)*	Has the ability for movement within the population been modified?	0	
		Has the potential for emigration or immigration been decreased?	3	Immigration is likely totally restricted by irrigation diversion and emigration is affected by dewatering of stream channel.
	Spawning *(September 1 – November 30)*	Have temperature regime been modified?	0	
		Has mortality increased?	0	
		Has quantity of spawning habitat decreased?	0	
	Exotic Species Considerations	Is there competition with exotic species?	0	
		Is there predation from exotic species?	0	
		Is there hybridization with exotic species?	0	
	Fluvial Juvenile Migration *(May 1 – November 30)*	Has access between juvenile rearing and fluvial adult rearing areas been physically blocked or restricted?	2	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		Have temperature regimes between juvenile rearing and fluvial adult rearing areas been modified?	0	
		Has mortality increased?	1	
	Fluvial Adult Migration *(May 1 – November 30)*	Has access between fluvial adult rearing and spawning areas been physically blocked or restricted?	2	
		Have temperature regime between fluvial adult rearing and spawning areas been modified?	1	
		Has mortality increased?	0	
Williams Creek	Incubation, Hatching, and Emergence *(September 1 – May 1)*	Has the temperature regime been modified?	0	
		Have oxygen levels decreased?	0	
		Have flow regimes been modified?	0	
		Has egg and/or alevin mortality resulting from physical disturbance increased?	0	
		Have sediment levels increased?	1	
	Juvenile/Adult Summer Rearing *(May 1 – September 30)*	Has the temperature regime increased?	1	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		Has food production decreased?	0	
		Has habitat quantity decreased?	2	Habitat loss resulting from lower section of stream being permanently dewatered.
		Has habitat quality decreased?	2	Habitat in lower section in poor condition
		Has water quality decreased?	0	
		Has mortality increased?	1	
	Juvenile/Adult Winter Rearing *(October 1 – April 30)*	Has the temperature regime been modified?	0	
		Has food production decreased?	0	
		Has habitat quantity decreased?	2	Habitat loss resulting from lower section of stream being permanently dewatered.
		Has habitat quality decreased?	2	Habitat in lower section in poor condition
		Has water quality decreased?	0	
		Has mortality increased?	1	
	Migration/Genetic Consideration *(Year Round)*	Has the ability for movement within the population been modified?	0	
		Has the potential for emigration or immigration been decreased?	3	
	Spawning *(September 1 – November 30)*	Have temperature regime been modified?	0	
		Has mortality increased?	0	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		Has quantity of spawning habitat decreased?	0	
	Exotic Species Considerations	Is there competition with exotic species?	0	
		Is there predation from exotic species?	0	
		Is there hybridization with exotic species?	0	
	Fluvial Juvenile Migration *(May 1 – November 30)*	Has access between juvenile rearing and fluvial adult rearing areas been physically blocked or restricted?	3	
		Have temperature regimes between juvenile rearing and fluvial adult rearing areas been modified?	1	
		Has mortality increased?	1	
	Fluvial Adult Migration *(May 1 – November 30)*	Has access between fluvial adult rearing and spawning areas been physically blocked or restricted?	3	
		Have temperature regime between fluvial adult rearing and spawning areas been modified?	1	
		Has mortality increased?	0	
Wet Creek	Incubation, Hatching, and Emergence *(September 1 – May 1)*	Has the temperature regime been modified?	0	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		Have oxygen levels decreased?	0	
		Have flow regimes been modified?	0	
		Has egg and/or alevin mortality resulting from physical disturbance increased?	0	
		Have sediment levels increased?	2	
	Juvenile/Adult Summer Rearing *(May 1 – September 30)*	Has the temperature regime increased?	2	
		Has food production decreased?	0	
		Has habitat quantity decreased?	0	
		Has habitat quality decreased?	2	
		Has water quality decreased?	0	
		Has mortality increased?	1	
	Juvenile/Adult Winter Rearing *(October 1 – April 30)*	Has the temperature regime been modified?	0	
		Has food production decreased?	0	
		Has habitat quantity decreased?	0	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		Has habitat quality decreased?	2	
		Has water quality decreased?	0	
		Has mortality increased?	0	
	Migration/Genetic Consideration *(Year Round)*	Has the ability for movement within the population been modified?	0	
		Has the potential for emigration or immigration been decreased?	0	
	Spawning *(September 1 – November 30)*	Have temperature regime been modified?	1	
		Has mortality increased?	1	
		Has quantity of spawning habitat decreased?	0	
	Exotic Species Considerations	Is there competition with exotic species?	2	
		Is there predation from exotic species?	1	
		Is there hybridization with exotic species?	2	
	Fluvial Juvenile Migration *(May 1 – November 30)*	Has access between juvenile rearing and fluvial adult rearing areas been physically blocked or restricted?	0	
		Have temperature regimes between juvenile rearing and fluvial adult rearing areas	1	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		been modified?		
		Has mortality increased?	0	
	Fluvial Adult Migration *(May 1 – November 30)*	Has access between fluvial adult rearing and spawning areas been physically blocked or restricted?	0	
		Have temperature regime between fluvial adult rearing and spawning areas been modified?	2	
		Has mortality increased?	1	
Squaw Creek	Incubation, Hatching, and Emergence *(September 1 – May 1)*	Has the temperature regime been modified?	0	
		Have oxygen levels decreased?	0	
		Have flow regimes been modified?	0	
		Has egg and/or alevin mortality resulting from physical disturbance increased?	0	
		Have sediment levels increased?	1	
	Juvenile/Adult Summer Rearing *(May 1 – September 30)*	Has the temperature regime increased?	1	
		Has food production decreased?	0	
		Has habitat quantity	0	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		decreased?		
		Has habitat quality decreased?	1	
		Has water quality decreased?	0	
		Has mortality increased?	1	
	Juvenile/Adult Winter Rearing *(October 1 – April 30)*	Has the temperature regime been modified?	0	
		Has food production decreased?	0	
		Has habitat quantity decreased?	0	
		Has habitat quality decreased?	1	
		Has water quality decreased?	0	
		Has mortality increased?	0	
	Migration/Genetic Consideration *(Year Round)*	Has the ability for movement within the population been modified?	0	
		Has the potential for emigration or immigration been decreased?	0	
	Spawning *(September 1 – November 30)*	Have temperature regime been modified?	0	
		Has mortality increased?	1	
		Has quantity of spawning habitat decreased?	0	
	Exotic Species Considerations	Is there competition with exotic species?	3	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		Is there predation from exotic species?	3	
		Is there hybridization with exotic species?	3	
	Fluvial Juvenile Migration *(May 1 – November 30)*	Has access between juvenile rearing and fluvial adult rearing areas been physically blocked or restricted?	0	
		Have temperature regimes between juvenile rearing and fluvial adult rearing areas been modified?	1	
		Has mortality increased?	0	
	Fluvial Adult Migration *(May 1 – November 30)*	Has access between fluvial adult rearing and spawning areas been physically blocked or restricted?	0	
		Have temperature regime between fluvial adult rearing and spawning areas been modified?	1	
		Has mortality increased?	1	
Mill Creek	Incubation, Hatching, and Emergence *(September 1 – May 1)*	Has the temperature regime been modified?	0	
		Have oxygen levels decreased?	0	
		Have flow regimes been modified?	0	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		Has egg and/or alevin mortality resulting from physical disturbance increased?	0	
		Have sediment levels increased?	1	
	Juvenile/Adult Summer Rearing *(May 1 – September 30)*	Has the temperature regime increased?	1	
		Has food production decreased?	0	
		Has habitat quantity decreased?	0	
		Has habitat quality decreased?	1	
		Has water quality decreased?	0	
		Has mortality increased?	1	
	Juvenile/Adult Winter Rearing *(October 1 – April 30)*	Has the temperature regime been modified?	0	
		Has food production decreased?	0	
		Has habitat quantity decreased?	0	
		Has habitat quality decreased?	1	
		Has water quality decreased?	0	
		Has mortality increased?	0	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
	Migration/Genetic Consideration *(Year Round)*	Has the ability for movement within the population been modified?	0	
		Has the potential for emigration or immigration been decreased?	0	
	Spawning *(September 1 – November 30)*	Have temperature regime been modified?	0	
		Has mortality increased?	1	
		Has quantity of spawning habitat decreased?	0	
	Exotic Species Considerations	Is there competition with exotic species?	3	
		Is there predation from exotic species?	3	
		Is there hybridization with exotic species?	3	
	Fluvial Juvenile Migration *(May 1 – November 30)*	Has access between juvenile rearing and fluvial adult rearing areas been physically blocked or restricted?	0	
		Have temperature regimes between juvenile rearing and fluvial adult rearing areas been modified?	1	
		Has mortality increased?	0	
	Fluvial Adult Migration *(May 1 – November 30)*	Has access between fluvial adult rearing and spawning areas been physically	0	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		blocked or restricted?		
		Have temperature regime between fluvial adult rearing and spawning areas been modified?	1	
		Has mortality increased?	N/A	
Middle Little Lost River	Incubation, Hatching, and Emergence *(September 1 – May 1)*	Has the temperature regime been modified?	N/A	
		Have oxygen levels decreased?	N/A	
		Have flow regimes been modified?	N/A	
		Has egg and/or alevin mortality resulting from physical disturbance increased?	N/A	
		Have sediment levels increased?	N/A	
	Juvenile/Adult Summer Rearing *(May 1 – September 30)*	Has the temperature regime increased?	2	
		Has food production decreased?	1	
		Has habitat quantity decreased?	2	
		Has habitat quality decreased?	2	
		Has water quality decreased?	0	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		Has mortality increased?	1	
	Juvenile/Adult Winter Rearing *(October 1 – April 30)*	Has the temperature regime been modified?	1	
		Has food production decreased?	1	
		Has habitat quantity decreased?	2	
		Has habitat quality decreased?	2	
		Has water quality decreased?	0	
		Has mortality increased?	0	
	Migration/Genetic Consideration *(Year Round)*	Has the ability for movement within the population been modified?	1	Temperature regimes and habitat alterations may limit movement
		Has the potential for emigration or immigration been decreased?	0	
	Spawning *(September 1 – November 30)*	Have temperature regime been modified?	N/A	
		Has mortality increased?	N/A	
		Has quantity of spawning habitat decreased?	N/A	
	Exotic Species Considerations	Is there competition with exotic species?	1	
		Is there predation from exotic species?	1	
		Is there hybridization with	N/A	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		exotic species?		
	Fluvial Juvenile Migration *(May 1 – November 30)*	Has access between juvenile rearing and fluvial adult rearing areas been physically blocked or restricted?	0	
		Have temperature regimes between juvenile rearing and fluvial adult rearing areas been modified?	2	Temperature regimes and habitat alterations may limit movement
		Has mortality increased?	1	
	Fluvial Adult Migration *(May 1 – November 30)*	Has access between fluvial adult rearing and spawning areas been physically blocked or restricted?	0	
		Have temperature regime between fluvial adult rearing and spawning areas been modified?	2	Temperature regimes and habitat alterations may limit movement
		Has mortality increased?	1	
Lower Little Lost River	Incubation, Hatching, and Emergence *(September 1 – May 1)*	Has the temperature regime been modified?	N/A	
		Have oxygen levels decreased?	N/A	
		Have flow regimes been modified?	N/A	
		Has egg and/or alevin mortality resulting from physical disturbance	N/A	

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		increased?		
		Have sediment levels increased?	N/A	
	Juvenile/Adult Summer Rearing *(May 1 – September 30)*	Has the temperature regime increased?	2	
		Has food production decreased?	2	
		Has habitat quantity decreased?	2	
		Has habitat quality decreased?	2	
		Has water quality decreased?	0	
		Has mortality increased?	2	
	Juvenile/Adult Winter Rearing *(October 1 – April 30)*	Has the temperature regime been modified?	1	
		Has food production decreased?	2	
		Has habitat quantity decreased?	2	
		Has habitat quality decreased?	2	
		Has water quality decreased?	0	
		Has mortality increased?	2	
	Migration/Genetic Consideration *(Year Round)*	Has the ability for movement within the population been modified?	Unknown	Some diversions may be preventing movement
		Has the potential for	Unknown	Some diversions may be preventing movement

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		emigration or immigration been decreased?		
	Spawning *(September 1 – November 30)*	Have temperature regime been modified?	N/A	
		Has mortality increased?	N/A	
		Has quantity of spawning habitat decreased?	N/A	
	Exotic Species Considerations	Is there competition with exotic species?	1	
		Is there predation from exotic species?	1	
		Is there hybridization with exotic species?	N/A	
	Fluvial Juvenile Migration *(May 1 – November 30)*	Has access between juvenile rearing and fluvial adult rearing areas been physically blocked or restricted?	Unknown	Some diversions may be preventing movement
		Have temperature regimes between juvenile rearing and fluvial adult rearing areas been modified?	2	Temperature regimes and habitat alterations may limit movement
		Has mortality increased?	Unknown	Juveniles migrating downstream may become entrained in diversions
	Fluvial Adult Migration *(May 1 – November 30)*	Has access between fluvial adult rearing and spawning areas been physically blocked or restricted?	Unknown	Some diversions may be preventing movement
		Have temperature regime between fluvial adult rearing and spawning areas been	2	Temperature regimes and habitat alterations may limit movement

Table 4. Evaluation of populations that are not meeting recovery goals and objectives.

Population	Life History Stage	Factor	Evaluation	Discussion
		modified?		
		Has mortality increased?	1	

Table 5. Assessment of factors adversely affecting the population and potential recovery actions.

Population	Critical Factors Adversely Affecting the Population	Cause of Factor Adversely Affecting the Population	Potential Actions to Remove or Reduce the Adverse Affect
Badger Creek	Increased sediment in spawning areas	Habitat alteration resulting from grazing and roads	Develop management strategy to reduce sediment levels on National Forest and private lands
	Potential for emigration and immigration has decreased	Dewatering stream and irrigation diversion limits upstream and downstream movement of fish	1. Provide for upstream fish passage at diversion 2. Assess feasibility of providing minimum flow between diversion and Little Lost River
	Access between juvenile rearing and fluvial adult rearing areas has been physically restricted	See above	See above
	Access between fluvial adult rearing and spawning areas has been physically restricted	See above	See above
Williams Creek	Juvenile/adult summer and winter habitat quantity has decreased	Dewatering lower section of stream has resulted in a loss of approximately 3 km of habitat	1. Evaluate feasibility of reconnecting Williams Creek to Little Lost River 2. Evaluate feasibility of providing minimum flow between diversions and Little Lost River
	Potential for emigration and immigration has decreased	See above	See above
	Access between juvenile rearing and fluvial adult rearing areas has been physically restricted	See above	See above
	Access between fluvial adult rearing and spawning areas has been physically	See above	See above

Table 5. Assessment of factors adversely affecting the population and potential recovery actions.

Population	Critical Factors Adversely Affecting the Population	Cause of Factor Adversely Affecting the Population	Potential Actions to Remove or Reduce the Adverse Affect
	restricted		
	Juvenile/adult summer and winter habitat quality has decreased	Habitat not fully recovered from past grazing practices	Continue to implement grazing plan developed as part of consultation making revisions as necessary.
Wet Creek	Increased sediment in spawning areas	Habitat alteration resulting from grazing, roads, and trails	Develop and implement management strategy to reduce sediment levels in spawning areas
	Temperature regime in juvenile/adult summer rearing areas has increased	Habitat alteration resulting from grazing	Continue to implement grazing plan developed as part of consultation making revisions as necessary. On Forest lands, place additional emphasis on enforcing grazing plan.
	Juvenile/adult summer and winter habitat quality has decreased	See above	See above
	Temperature regimes between fluvial adult rearing and spawning areas have been modified	See above	See above
	Competition and hybridization with exotic species	Introduced brook trout	Assess feasibility of eradicating brook trout from the drainage
Squaw Creek	Competition, predation, and hybridization with exotic species	Introduced brook trout	Assess feasibility of eradicating brook trout from the drainage
Mill Creek	Competition, predation, and hybridization with exotic species	Introduced brook trout	Assess feasibility of eradicating brook trout from the drainage
Middle Little Lost River	Temperature regime in juvenile/adult summer rearing areas has increased	Habitat alteration resulting from grazing and channelization	1. Continue to implement grazing plan developed as part of consultation making revisions as necessary. 2. Evaluate effects of channelization and develop strategy to restore natural stream channel
	Juvenile/adult summer and winter habitat	See above	See above

Table 5. Assessment of factors adversely affecting the population and potential recovery actions.

Population	Critical Factors Adversely Affecting the Population	Cause of Factor Adversely Affecting the Population	Potential Actions to Remove or Reduce the Adverse Affect
	quality has decreased		
	Temperature regimes between juvenile rearing and fluvial adult rearing areas have been modified	See above	See above
	Temperature regimes between fluvial adult rearing and spawning areas have been modified	See above	See above
Lower Little Lost River	Temperature regime in juvenile/adult summer rearing areas has increased	Habitat alteration resulting from grazing, channelization, and dewatering.	Evaluate this stream reach and develop strategy to restore habitat conditions
	Food production in juvenile/adult summer and winter habitat has decreased	See above	See above
	Juvenile/adult summer and winter habitat quality has decreased	See above	See above
	Juvenile/adult summer and winter habitat quantity has decreased	See above	See above
	Temperature regimes between juvenile rearing and fluvial adult rearing areas have been modified	See above	See above
	Temperature regimes between fluvial adult rearing and spawning areas have been modified	See above	See above
	Mortality in juvenile/adult summer and winter habitat has increased	Entrainment through flood control project and other diversions	1. Inventory diversions 2. Evaluate rates of entrainment through diversions 3. Assess feasibility of reducing entrainment rates (e.g. – screening, etc.)