Issue Identification - Bully Creek

The prototype team used a process of identifying broad-scale findings that were relevant to the review area, identifying issues that were important at the mid-scale and then consolidating them into a manageable issue categories to *focus* the review. The results of their *work follows:*

Relevant Broad-scale Findings

These findings were identified from the list in Appendix A, Using Key Broad-scale Findings in Issue Identification.

Rangelands:

* Noxious weeds are spreading rapidly, and in some cases exponentially, on rangelands in every range cluster.

* Woody species encroachment by and/or increasing density of woody species (sagebrush, juniper, ponderosa pine, lodgepole pine, and Douglas-fir), especially on dry grasslands and cool shrublands, has reduced herbaceous understory and biodiversity.

* Cheatgrass has taken over many dry shrublands, increasing soil erosion and fire frequency and reducing biodiversity and wildlife habitat. Cheatgrass and other exotic plant infestations have simplified species composition, reduced biodiversity, changed species interactions and forage availability, and reduced the systems' ability to buffer against changes.

* Increased fragmentation and loss of connectivity within and between blocks of habitat, especially in shrub steppe and riparian areas, have isolated some habitats and populations and reduced the ability of populations to move across the landscape, resulting in long-term loss of genetic interchange.

* Slow-to-recover rangelands (in general, rangelands that receive less than 12 inches of precipitation per year) are not recovering naturally at a pace that is acceptable to the general public, and are either highly susceptible to degradation or already dominated by cheatgrass and noxious weeds.

* Fire frequency has decreased in many locations resulting in an increase in conifer encroachment; an increase in tree density in formerly savanna-like stands of juniper and ponderosa pine; and increased density and/or coverage of big sagebrush and other shrubs, with an accompanying loss of herbaceous vegetation.

* Fire frequency has increased in some areas, particularly in dryer locations where exotic annual grasses have become established. Increased fire frequency has caused a loss of shrub cover and

reduction in bunchgrasses.

Hydrology and Watershed Processes:

* Management activities throughout watersheds in the project area have affected the quantity and quality of water, processes of sedimentation and erosion, and the production and distribution of organic material, thus affecting hydrologic conditions.

Streams, Rivers, and Lakes:

* Banks and beds of streams, rivers, and lakes have been altered. In general, the changes have been greatest for the larger streams, rivers, and lakes.

* Water quantity and flow rates have been locally affected.

* Many Forest Service and BLM administered streams are "water quality limited" as defined by the Clean Water Act. On Forest Service-administered lands, the primary water quality problems are sedimentation, turbidity, flow alteration, and high temperatures. On BLM-administered lands, high sediment, turbidity levels, and temperatures are the primary reasons for listing as water quality limited.

* Streams and rivers are highly variable across the project area, reflecting diverse physical settings and disturbance histories. Nevertheless, important aspects of fish habitat, such as pool frequency and large woody debris abundance, have decreased throughout much of the project area.

Riparian Areas and Wetlands:

* The overall extent and continuity of riparian areas and wetlands has decreased.

* Riparian ecosystem function, determined by the amount and type of vegetation cover, has decreased in most sub-basins within the project area.

* A majority of riparian areas on Forest Service and BLM-administered lands are either "not meeting objectives," "non-functioning," or "functioning at risk." However, the rate has slowed and a few areas show increases in riparian cover and large trees.

* Within riparian shrublands, there has been extensive spread of western juniper and introduction of exotic grasses and forbs.

* The frequency and extent of seasonal floodplain and wetland inundation has been altered by changes in flow regime, and by changes in channel morphology.

* There is an overall decrease in large trees and lake seral vegetation in riparian areas.

* Riparian areas are important for about three quarters of the terrestrial wildlife species. Wildlife numbers have declined in proportion to the decline in riparian habitat conditions.

Fish:

* The composition, distribution, and status of fishes within the planning area are substantially different than they were historically. Some native fishes have been eliminated from large portions of their historical ranges.

* Many native nongame fish are vulnerable because of their restricted distribution or fragile or unique habitats.

* Although several of the key salmonids are still broadly distributed (notably the cutthroat trout and redband trout), declines in abundance, loss of life history patterns, local extinctions, and fragmentation and isolation in smaller blocks of high quality habitat are apparent.

Air Quality:

* The current condition of air quality in the project area is considered good, relative to other areas of the country.

* Wildfires significantly affect the air resources. Current wildfires produce higher levels of smoke emissions than historically.

* Within the project area, the current trend in prescribed fire use is expected to result in an increase of smoke emissions.

Human Uses and Values:

* Recreation is an important use of agency lands in the planning area in terms of economic value and amount of use. Most recreation use is tied to roads and accessible water bodies, though primitive and semi-primitive recreation is also important and becoming scarce relative to growing demand.

* Development for a growing human population is encroaching on previously undeveloped areas adjacent to lands administered by the Forest Service and BLM. New development can put stress on the political and physical infrastructure of rural communities, diminish habitat for some wildlife, and increase agency costs to manage fire to protect people and structures.

American Indian Rights and Interests:

* American Indian values on Federal lands may be affected by proposed actions on foresdands and rangelands because of changes in vegetation structure, composition, and density; existing roads; and watershed conditions.

* Indian tribes do not feel that they are involved in the decision-making process commensur ate with their legal status. They do not feel that goverament-to-government consultation is taking place.

* Culturally significant species such as anadromous fish and the habitat necessary to support

healthy, sustainable, and harvestable populations constitute a major, but not the only, concern. American Indian people have concern for all factors that keep the ecosystem healthy.

Mid-scale Brainstorm Issues

These issues were the result of a meeting with collaborators early in the review process where they reviewed the broad-scale findings and then developed their list of mid-scale issues.

* Weeds
* Water quality - temperature, fecal coliform, 303d list, silt during runoff
* Water quantity - low summer flow
* Soil loss from rangeland and farmland
* Soil deposition in canals and reservoirs
* Economic viability - rangeland and farmland losing production
* Change of upland plant communities from former to present (weeds, fire, juniper, wildlife, roads, forage production, erosion, water and economics)
* Recreation income from pheasant hunting down because of low pheasant numbers
* Poor water quality affects fisheries
* Juniper is encroaching on rangelands
* Fire - cost to suppress, cost to rehabilitation, cheatgrass increase, loss of grazing for two years, threat to property and life
* Wildlife habitat in riparian areas
* Forage production - fluctuating conditions affect economics and community stability
* Burns Paiute concern about their traditional use area at Castle Rock
* Prescribed fires - required rest, cost, possible cheatgrass invasion and soil erosion
* Riparian restoration
* Sage brush spraying to improve livestock forage
* Juniper control to restore stream flow
* Spring development for livestock and wildlife water
* Bully Creek - siltation of Bully Creek Reservoir, summer low flows, lack of summer irrigation water, low water quality for recreation fishing
* Depletion of native grasses in uplands and riparian areas
* Wildlife depredation - particularly elk but some deer
* Sensitive species - there are several animal and plant species in the area that need conservation management

Consolidated Issues

The team took the two lists and looked for natural groupings of issues. They decided during the process that some issue groups were more important than others and therefore needed to be separated. The following list shows how individual issues and broad-scale findings were consolidated into issue groups.

Primary Issues

1. Water Quality/Quantity

Broad-scale Findings:

* Management activities throughout watersheds in the project area have affected the quantity and quality of water, processes of sedimentation and erosion, and the production and distribution of organic material, thus affecting hydrologic conditions.

Mid-scale Brainstorm Issues

* Water quality - temperature, fecal coliform, 303d list, silt during runoff
* Water quantity - low summer flow
* Soil loss from rangeland and farmland
* Soil deposition in canals and reservoirs
* Poor water quality affects fisheries
* Juniper control to restore stream flow
* Spring development for livestock and wildlife water
* Bully Creek - siltation of Bully Creek Reservoir, summer low flows, lack of summer irrigation

2. Range Production/Health

Broad-scale Findings

- Increased fragmentation and loss of connectivity within and between blocks of habitat, especially in shrub steppe and riparian areas, have isolated some habitats and populations and reduced the ability of populations to move across the landscape, resulting in long-term loss of genetic interchange.
- Slow-to-recover rangelands (in general, rangelands that receive less than 12 inches of precipitation per year) are not recovering naturally at a pace that is acceptable to the general public, and are either highly susceptible to degradation or already dominated by cheatgrass and noxious weeds.

Mid-scale Brainstorm Issues

* Forage production - fluctuating conditions affect economics and community
- Change of upland plant communities from former to present (weeds, fire, juniper, wildlife, roads, forage production, erosion, water and economics
- Prescribed fires - required rest, cost, possible cheatgrass invasion and soil erosion
- Sage brush spraying to improve livestock forage
- Spring development for livestock and wildlife water
- Depletion of native grasses in uplands and riparian areas

3. Aquatic/Riparian Habitat

Broad-scale Findings

- Banks and beds of streams, rivers, and lakes have been altered. In general, the changes have been greatest for the larger streams, rivers, and lakes.
- The overall extent and continuity of riparian areas and wetlands has decreased.
- Riparian ecosystem function, determined by the amount and type of vegetation cover, has decreased in most sub-basins within the project area.
- A majority of riparian areas on Forest Service and BLM-administered lands are either not meeting objectives," "non-functioning," or "functioning at risk." However, the rate has slowed and a few areas show increases in riparian. cover and large trees.
- Within riparian shrublands, there has been extensive spread of western juniper and introduction of exotic grasses and forbs.
- The frequency and extent of seasonal floodplain and wetland inundation has been altered by changes in flow regime, and by changes in channel morphology.
- There is an overall decrease in large trees and lake seral vegetation in riparian areas.
- Riparian areas are important for about three quarters of the terrestrial wildlife species. Wildlife numbers have declined in proportion to the decline in riparian habitat conditions.
- The composition, distribution, and status of fishes within the planning area are substantially different than they were historically. Some native fishes have been eliminated from large portions of their historical ranges.
- Many native nongame fish are vulnerable because of their restricted distribution or fragile or unique habitats.
- Although several of the key salmonids are still broadly distributed (notably the cutthroat trout and redband trout), declines in abundance, loss of life history patterns, local extinctions, and fragmentation and isolation in smaller blocks of high quality habitat are apparent.

Mid-scale Brainstorm Issues

- Wildlife depredation - particularly elk but some deer
- Poor water quality affects fisheries
- Wildlife habitat in riparian areas
- Juniper control to restore stream flow
- Spring development for livestock and wildlife water
- Bully Creek - siltation of Bully Creek Reservoir, summer low flows, lack of summer irrigation water, low water quality for recreation fishing
- Depletion of native grasses in uplands and riparian areas

4. Weeds

Broad-scale Findings

- Noxious weeds are spreading rapidly, and in some cases exponentially, on rangelands in every range cluster.
- Cheatgrass has taken over many dry shrublands, increasing soil erosion and fire frequency and reducing biodiversity and wildlife habitat. Cheatgrass and other exotic plant infestations have simplified species composition, reduced biodiversity, changed species interactions and forage availability, and reduced the systems' ability to buffer against changes.

* Slow-to-recover rangelands (in general, rangelands that receive less than 12 inches of precipitation per year) are not recovering naturally at a pace that is acceptable to the general public, and are either highly susceptible to degradation or already dominated by cheatgrass and noxious weeds.

Mid-scale Brainstorm Issues

Secondary Issues

5. Elk Depredation

Broad-scale Finding
* Development for a growing human population is encroaching on previously undeveloped areas adjacent to lands administered by the Forest Service and BLM. New development can put stress on the political and physical infrastructure of rural communities, diminish habitat for some wildlife, and increase agency costs to manage fire to protect people and structures**.**

Mid-scale Brainstorm Issues
* Wildlife depredation - particularly elk but some deer
* Wildlife habitat in riparian areas
* Depletion of native grasses in uplands and riparian areas
* Spring development for livestock and wildlife water

6. Juniper Invasion

Broad-scale Findings
- Woody species encroachment by and/or increasing density of woody species (sagebrush, juniper, ponderosa pine, lodgepole pine, and Douglas-fir), especially on dry grasslands and cool shrublands, has reduced herbaceous understory and biodiversity.
- Within riparian shrublands, there has been extensive spread of western juniper and introduction of exotic grasses and forbs.
- Fire frequency has decreased in many locations resulting in an increase in conifer encroachment; an increase in tree density in formerly savanna-like stands of juniper and ponderosa pine; and increased density and/or coverage of big sagebrush and other shrubs, with an accompanying loss of herbaceous vegetation.

Mid-scale Brainstorm Issues
- Juniper is encroaching on rangelands
- Juniper control to restore stream flow

7. Fire

Broad-scale Findings
* Cheatgrass has taken over many dry shrublands, increasing soil erosion and fire

frequency and reducing biodiversity and wildlife habitat. Cheatgrass and other exotic plant infestations have simplified species composition, reduced biodiversity, changed species interactions and forage availability, and reduced the systems' ability to buffer against changes.

- Fire frequency has decreased in many locations resulting in an increase in conifer encroachment; an increase in tree density in formerly savanna-like stands of juniper and ponderosa pine; and increased density and/or coverage of big sagebrush and other shrubs, with an accompanying loss of herbaceous vegetation.
- Fire frequency has increased in some areas, particularly in dryer locations where exotic annual grasses have become established. Increased fire frequency has caused a loss of shrub cover and reduction in bunchgrasses.
- Wildfires significantly affect the air resources. Current wildfires produce higher levels of smoke emissions than historically.
- Within the project area, the current trend in prescribed fire use is expected to result in an increase of smoke emissions.
- Development for a growing human population is encroaching on previously undeveloped areas adjacent to lands administered by the Forest Service and BLM. New development can put stress on the political and physical infrastructure of rural communities, diminish habitat for some wildlife, and increase agency costs to manage fire to protect people and structures.

Mid-scale Brainstorm Issues

- Fire - cost to suppress, cost to rehabilitation, cheatgrass increase, loss of grazing for two years, threat to property and life
- Juniper control to restore stream flow
- Prescribed fires - required rest, cost, possible cheatgrass invasion and soil erosion
- Riparian restoration
- Change of upland plant communities from former to present (weeds, fire, juniper, wildlife, roads, forage production, erosion, water and economics)

8. Roads/Access

Broad-scale Findings

* Recreation is an important use of agency lands in the planning area in terms of economic value and amount of use. Most recreation use is tied to roads and accessible water bodies, though primitive and semi-primitive recreation is also important and becoming scarce relative to growing demand.

Mid-scale Brainstorm Issues

* Change of upland plant communities from former to present (weeds, fire, juniper, wildlife, roads, forage production, erosion, water and economics)
* Burns Paiute concern about their traditional use area at Castle Rock
* Wildlife depredation - particularly elk but some deer

9. Wildlife/Fish Habitat

Broad-scale Findings

- Increased fragmentation and loss of connectivity within and between blocks of habitat, especially in shrub steppe and riparian areas, have isolated some habitats and populations and reduced the ability of populations to move across the landscape, resulting in long-term loss of genetic interchange.
- Riparian areas are important for about three quarters of the terrestrial wildlife species. Wildlife numbers have declined in proportion to the decline in riparian habitat conditions.
- Streams and rivers are highly variable across the project area, reflecting diverse physical settings and disturbance histories. Nevertheless, important aspects of fish habitat, such as pool frequency and large woody debris abundance, have decreased throughout much of the project area.
- The composition, distribution, and status of fishes within the planning area are substantially different than they were historically. Some native fishes have been eliminated from large portions of their historical ranges.
- Many native nongame fish are vulnerable because of their restricted distribution or fragile or unique habitats.
- Although several of the key salmonids are still broadly distributed (notably the cutthroat trout and redband trout), declines in abundance, loss of life history patterns, local extinctions, and fragmentation and isolation in smaller blocks of high quality habitat are apparent.

Mid-scale Brainstorm Issues

- Change of upland plant communities from former to present (weeds, fire, juniper, wildlife, roads, forage production, erosion, water and economics)
- Wildlife depredation - particularly elk but some deer
- Wildlife habitat in riparian areas
- Poor water quality affects fisheries
- Juniper is encroaching on rangelands

Wildlife habitat in riparian areas
Wildlife depredation - particularly elk but some deer

10. Sensitive Species

Broad-scale Findings

- Increased fragmentation and loss of connectivity within and between blocks of habitat, especially in shrub steppe and riparian areas, have isolated some habitats and populations and reduced the ability of populations to move across the landscape, resulting in long-term loss of genetic interchange.
- Although several of the key salmonids are still broadly distributed (notably the cutthroat trout and redband trout), declines in abundance, loss of life history patterns, local extinctions, and fragmentation and isolation in smaller blocks of high quality habitat are apparent.

Mid-scale Brainstorm Issues

* Sensitive species - there are several animal and plant species in the area that need conservation management