

plans and management practices are not likely to substantially affect specific water quality parameters in a predictable, consistent manner. Consequently, water quality impact predictions in Chapter 4 resulting from the various BLM land use plan alternatives and management practices are addressed in terms of qualitative changes in overall water quality rather than in terms of site specific quantitative changes in specific water quality parameters. Regardless of which land use plan is implemented, the BLM is committed to monitoring water quality parameters and adjusting management practices to work towards improving water quality.

### Vegetation

A range survey (modified SCS condition class survey with estimated production levels by soil mapping unit) was conducted in 1985. LANDSAT Multi-spectral scanner Digital Image Analysis combined with field verification and SCS soil information was used to establish vegetational mapping units and condition class.

Because time and funding restraints precluded the tabulation and assessment of slope and topography effects on total available forage an assumption will be made that the 5-year average demand is the same as the estimated current forage production. Monitoring studies will be used to verify the current carrying capacity and/or to establish the need for a change in active demand.

The various cover types inventoried were combined into the following types:

1. mixed grass
2. sagebrush/mixed grass
3. mountain brush/perennial grass
4. perennial grass/deciduous brush/or riparian
5. conifer/forest brush/perennial grass
6. conifer closed canopy
7. mixed annual grass
8. dense medusahead grass
9. riparian grassland
10. sparse sagebrush/medusahead grass
11. sagebrush/perennial grass

These 11 types were used to produce a present vegetation map for the entire resource area. See Maps 3-1 and 3-2 and Appendices C, D and E for further information.

Of particular interest in this inventory is the ability to locate and distinguish non-native homogeneous stands of medusahead grass (Taeniatherum caputmedusae) and cheatgrass brome (Bromus tectorum) from native plant communities. This inventory has established baseline information for monitoring the changes in distribution of these two species.

The vegetation zones along with the approximate area represented in the resource area include the following:

## Affected Environment

Sage/Grass Zone	75%
Wheatgrass/Bluegrass Zone	5%
Ponderosa Pine Zone	5%
Douglas-Fir Zone	10%
Spruce/Fir Zone	5%

Current condition acres by allotment were derived by a range survey and Landsat. Trend information, however, is generally lacking on most of the resource area. Several isolated 3x3 foot trend plots have been established in various parts of the resource area, however, not enough are present in key use areas to make immediate use level adjustment decisions. The range survey will serve as baseline data for future allotment condition monitoring.

Ecological condition classes for the Cascade Resource Area rangelands have been estimated from the survey data as follows:

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	<u>Burned</u>	<u>Seeded</u>	<u>Total</u>
Total Acres	1,922	33,301	210,315	196,329	2,234	9,730	453,731
%	1/2	7	47	43	1/2	2	100

Wildfires during the summer of 1986 were responsible for changes in the vegetative community on about 95,516 acres in the RMP area. The major change that resulted was the loss of the sagebrush/bitterbrush component. Revegetation efforts are underway to reestablish these species. In addition, it is assumed that annual grass and/or forb species will invade or increase their extent. This would result in a decrease in ecological condition in some areas. The extent that this would occur is unknown at this time. The information contained on Maps 3-1 and 3-2 and in Appendix E reflect conditions prior to the 1986 fire season.

### Candidate and Sensitive Plant Species

Sensitive plant species are designated by a committee of technical botanists from throughout the state. Sensitive species are those whose restricted range, habitat requirements, or low population numbers make them vulnerable to elimination. The U.S. Fish and Wildlife Service maintains the federal lists of threatened and endangered plants as well as the candidates to those lists. There are no federally listed threatened or endangered plants in the Cascade Resource Area. There are two category 2 candidate species which are plant species with insufficient biological information on hand to support listing at this time. These category 2 candidate species are Astragalus mulfordiae and Haplopappus radiatus. There is one category 1 candidate species which is a plant species with sufficient biological information on hand to list as either threatened or endangered. This category 1 species is Allium aaseae.

Allium aaseae is threatened by surface mining and heavy ORV use. Allium aaseae is also present on private lands which have heavy ORV use and have been and are currently being destroyed by urbanization. Astragalus mulfordiae is likewise threatened by ORV use and by urbanization.

Sensitive plant species in the Cascade Resource Area on BLM lands include: Allium tolmiei (variety platyphyllum), Astragalus vallis, Camassia cusickii, Ceanothus prostratus, Peraphyllum ramosissimum and Primula cusickiana. Camassia cusickii and Primula cusickiana are also category 3c species which are taxa that have proven to be more widespread or abundant than previously believed or not subject to any identifiable threat. In addition, several sensitive plants are known from nearby or adjacent private lands. These adjacent sensitive plants include: Bacopa rotundifolia, Epipactis gigantea, Lindernia dubia, and Mimulus ringens. Carex aboriginum is a category 2 species historically located on private lands.

Uncommon plants found in the Cascade Resource Area include Ranunculus oresterus and Eriogonum thymoides.

#### Candidate and Sensitive Plant Species in the Cascade Resource Area

<u>Latin Name</u>	<u>Common Name</u>	<u>Category</u>
Allium aaseae	Aase's onion	C1
Allium tolmiei	Tolmiei's onion	Sensitive
Astragalus mulfordiae	Mulford's milkvetch	C2
Haplopappus radiatus	Snake River goldenweed	C2
Astragalus vallis	Snake River milkvetch	Sensitive
Camassia cusickii	Cusick's camas	Sensitive & 3c
Ceanothus prostratus	Prostrate ceanothus	Sensitive
Peraphyllum ramosissimum	Squaw apple	Sensitive
Primula cusickiana	Cusick's primrose	Sensitive & 3c

Following is a description of the areas containing known populations of these candidate and sensitive plant species.

#### Hulls Gulch Nature Trail

Allium aaseae occurs as several small populations along the trail on the Boise Front.

#### Rebecca Sand Hill

This is a hill with very deep sandy soil containing tree-like bitterbrush on the hill top and a vigorous needle and thread grassland on the south aspect. This hill supports the largest known population of Mulford's milkvetch, Astragalus mulfordiae. Apparently, this steep sandy hill has escaped heavy grazing. It is also crucial deer winter range in excellent range condition.

#### Lost Basin Grassland

An area in excellent range condition that is part National Forest and part BLM lands. It is the southern extent of the Pacific Northwest bunchgrass vegetation type, which lacks sagebrush. It is protected from grazing by cliffs and very steep side slopes. Allium tolmiei (variety platyphyllum), a sensitive species, is found here.

## Affected Environment

### Goodrich Creek Mosaic

An area of mixed bunch grassland Eriogonum, Lomatium, a shrub community type in good range condition. In addition, there is a good riparian zone along Goodrich Creek. This area was burned by wildfire during the 1986 fire season. It will be allowed to recover naturally from the fire. No land treatments or seedings will be allowed in this area.

### Beacon Hill

A small population of Allium aaseae on a south slope. This area also has suitable sandy soils which lack Allium aaseae. These suitable sites have had A. aaseae bulbs transplanted in an effort to study and establish new populations.

### Pearl Site

An area with sandy soils with scattered populations of Allium aaseae. This represents over half the known populations of this onion. This area is also within the Little Gem Cycle Park. Mining and ORV use along with overgrazing and the subsequent spread of annuals, such as medusahead and cheatgrass threaten the future existence of Allium aaseae. Several areas appear to have been prime Allium aaseae sites which are presently eroded and support thistles, Kochia, and other weeds. The area has also been burned several times, and the vegetation has not recovered.

### Buckwheat Flat

An Eriogonum thymoides community exists in relatively good range condition. It is a community type that is easily disturbed, due to its shallow soils and lack of steep slopes. Eriogonum thymoides, at one time, was considered to be a threatened plant species but has been dropped to uncommon status. It is a long-lived woody low growth shrub and appears to have very slow regeneration after being disturbed. Allium tolmiei is also found here.

### Sand Capped Isolated Tract

A 40-acre isolated tract with a population of Allium aaseae. It is surrounded by private land, the creek bottom below is a sprinkler-irrigated pasture, and the slope is unfenced.

### 4th of July Meadow

This area contains the Snake River goldenweed, Haplopappus radiatus, which is a sensitive plant species. The general area is highly impacted by numerous disturbances such as road building, grazing, and weed invasion. The goldenweed persists despite these disturbances. The goldenweed occurs in the areas where there is good range condition.

### Sagebrush Hill

This area contains a small population of Astragalus mulfordiae. It is on a steep hill and appears to be protected by its topographic position.

## Sand Hollow

This area contains the highly erosive sandy habitat of Aase's Onion. The habitat in this area is currently being damaged by heavy dirt-bike use, and is entirely within the Little Gem Cycle Park. Such disturbance of the very loose, coarse sandy soil of Aase's Onion habitat results in the exposure of the onion's roots. This causes the desiccation of the plant and its death - often prior to the plants completion of flowering and seed maturation. Motorcycle use will continually erode and destroy Allium aseae and its habitat.

The Sand Hollow mosaic consists of two areas. These two areas are both 1-1/2 mile bands on BLM land on the north side of Sand Hollow. These areas contain ridgeline and upper slopes of coarse loamy sand which is the only type of soil in which Aase's Onion has been found. An estimated 9,350 Aase's Onion plants are living in these two bands. This Sand Hollow population consists of nearly 40% of the entire Aase's Onion species.

## Summer Creek Mosaic

This 200 acre conglomerate of seven sites contains Snake River milkvetch (Astragalus vallis) and Cusick's Camas (Camassia cusickii). The milkvetch grows on ridgelines, and the camas is found in rugged, exposed stream bottoms. The distribution of both of these plants is restricted to rugged areas by heavy grazing. Both plants complete their life cycle by mid-June. This area also contains some large old growth mountain mahogany and bitterbrush.

## Peraphyllum Rock

This rocky hill contains 21 Squaw Apple (Peraphyllum ramosissium) plants. There are no seedlings present. The area is heavily browsed.

## Prostrate Ceanothus

This site is an isolated tract of land containing Ceanothus prostratus. This is the only known site within the State of Idaho containing this shrub which is disjunct from the Siskiyou Mountains of southwest Oregon.

Riparian Habitat

Riparian surveys were conducted in the Cascade Resource Area on approximately 124 drainage miles. This included 57 miles of perennial streams and 67 miles of intermittent streams.

Using the woody riparian survey method, vegetation condition ratings are as follows:

Poor	- 2.3 miles
Fair	- 35.1 miles
Good	- 78.3 miles
Excellent	- 4.7 miles
Unsuitable	- 1.6 miles

## Affected Environment

Since the survey method is designed to assess impacts to woody riparian vegetation from ungulate use, those areas identified as low fair to poor condition pertain only to ungulate use and not to site potential. Site potential is assessed at the time of survey. The field form contains existing canopy and potential canopy sections, where an estimate of potential canopy cover can be made.

The small amount of miles rated as poor condition was due generally to the resource area's topography, land ownership, and livestock use patterns. BLM ownership is well scattered in upland high moisture areas where vegetative growth excels. Public land occurs only on short reaches of drainages. The majority of these reaches rated good to excellent.

In lowland areas, with lowered soil moisture occurrence, BLM ownership is more blocked, but many drainages contain only herbaceous vegetation. Where woody riparian vegetation was present, condition classes ranged from fair to good with one drainage (Spring Creek) rating unsuitable due to more than 30% dead or decadent. The majority of lowland areas are in private ownership. It is in these areas where livestock concentrate and trail, and where much of the observed poor riparian condition exists.

Many ephemeral drainages have scatterings of woody riparian vegetation. The success of these plants is dependent on site potential. Site potential includes the presence, absence, and timeliness of soil moisture. Reaches of drainages lacking in woody riparian vegetation were not surveyed.

Upland perennial drainages typically start on Forest Service lands and cross BLM. These areas contain conifers, deciduous species, shrubs, and forbs. Lowland perennial/ephemeral drainages are found at lower elevations. Woody vegetation may be present along with shrubs and forbs.

Short steep ephemeral drainages are found on the west slopes of hills and mountains boarding the western edge of the Snake River. These drainages normally drain spring snow melt and have little to no value as fish habitat. Occurrence of woody riparian vegetation is scattered.

Natural factors such as fire and climatic events can reduce or eliminate woody riparian vegetation. Livestock grazing can suppress the regeneration of woody riparian species following these situations.

### Aquatic/Fisheries Habitat

Approximately 81 miles of perennial streams were surveyed in the Cascade Resource Area. Perennial streams and rivers with 0.5 miles or more of continuous BLM ownership were evaluated and rated for the quality of six habitat features that are important components of a salmonid fishery. The Snake River and reservoir fisheries were compiled from literature reviews. There are no known federal threatened or endangered aquatic species in the resource area.

There are 33 species of fish found within the Cascade Resource Area. Sixteen of these species have been introduced into Idaho with 13 of these being warmwater fish to add to the recreational fishery of lowland reservoirs and rivers.