CHAPTER 4

NATURAL AND SCENIC RESOURCES

A. ISSUES

The federal government has, to a great extent, protected the vast majority of land (97%) within Teton County as National Park, National Forest, National Elk Refuge, and wilderness areas and other public lands. Some people have argued that 97 percent protection is enough and remaining lands should be available for development.

The unique and dynamic natural systems so prominent in and important to Teton County, however, do not conform to jurisdictional lines separating public property from private. Some private lands provide crucial habitat for endangered or threatened species and are an integral part of a healthy, biologically diverse ecosystem. These lands provide migration corridors critical to the survival of large mammals. Other isolated private lands provide critical reproductive habitat for threatened and endangered species, and species of special concern. The occurrence of wetlands, winter ranges and migration routes are independent of land ownership or jurisdictional boundaries, and cannot simply be moved to more convenient locations. Encouragement for the protection of large blocks of these critical areas through flexibility within the development regulations and nonregulatory means will be beneficial.

Many natural and scenic resource issues overlap with the general issues of community character. First and foremost, natural and scenic resources are a defining component of community character, and like community character, these resources have also been negatively affected by development which is not sensitive to their importance. The land development regulations in effect in Jackson and Teton County prior to adoption of this Plan have not directly addressed resource protection.

Development does not always equate to immediate scenic and natural resources degradation. Although localized areas of impact are always associated with development, large-scale scenic and natural resource degradation and destruction usually occurs over an extended period of time, and the impacts are cumulative. Depending upon size and scale, it is rare that one particular development would destroy an entire area of crucial winter range or an entire scenic vista. However, the net effect of several developments in close proximity to important scenic or natural resources may be the total loss of that resource. For this reason, it will be particularly important to regularly update the resource inventory, and, where possible, encourage the permanent protection of these areas, to insure that incremental development activities do not cumulatively cause unanticipated impacts on wildlife habitat and habitat based resources, scenic resources, and air and water quality.

Natural and scenic resource issues have a direct and profound effect on the economic well being of the community. Studies of Teton County's economy, including the 1985 study "The Economy of Teton County demonstrate that "The economy of Teton County is tourist driven" (page 1). Both employment and taxable sales receipts in the County are dominated by the retail and service sectors, fueled primarily by tourist activities. Bi-annual visitor surveys conducted by the Jackson Hole Chamber of Commerce consistently document that 80-90% of tourists list natural resource based activities (principally sightseeing and summer and winter sports and recreation) as their primary reasons for visiting Jackson Hole. Ecologically sound land use policies will protect the area's visual beauty, abundant wildlife and air and water quality, all of which are drawing cards for Teton County's tourism-based economy, and will maintain the area's critical role in the Greater Yellowstone Ecosystem.

Wildlife Resources

Wildlife resources in Teton County have been extensively studied by State and Federal agencies, as well as by local community groups and independent research biologists. In summary, this research supports the finding that local wildlife resources are not only the basis for local economic viability but of national importance. Current development trends pose a real threat to wildlife habitat now and in the future. Evidence suggests that some damage to important habitat has already occurred, for example in the loss of wetlands and riparian lands along the Snake River due to residential development and construction of the flood control levee system. The land development regulations in effect prior to the adoption of this Plan were generally unresponsive to wildlife and their various habitat needs.

The body of research amply supports the finding that Teton County's wildlife resources occurring on private lands require additional protection. Of particular importance are the following wildlife activity areas:

Nest sites for bald eagles and peregrine falcons, which are intolerant of human disturbance, particularly during the breeding season. Bald eagles are protected by several federal legislative acts, including the Bald Eagle Protection Act, and the Endangered Species Act of 1973. The bald eagle and peregrine falcon are both listed as endangered species.

Crucial winter range, defined by the Wyoming Department of Game and Fish as that portion of the year long range which is crucial to survival because it is where big game find food and/or cover during the most inclement and difficult winter weather.

Migration corridors are locations of routes used by ungulates for annual migration usually to and from winter range. Many of these routes have already been shifted, constrained, or totally cut-off by development, a trend which cannot continue if such mammals are to continue to exist in Teton County.

The premise that the County's private lands are important to the preservation of wildlife is supported in the 1991 study, Teton County Wildlife - Habitat Assessment, Final Report. This study was prepared by Biota Research and Consulting, Inc. (it is often referred to as the "Biota report") for the Board of Commissioners of Teton County. The Biota report is the first comprehensive study of wildlife habitat in Teton County which directly addresses the critical issue of the impacts of human activity on wildlife and their habitat. The report's bibliography is extensive, citing data and conclusions from hundreds of other competent sources, both published and unpublished.

The impacts of development on wildlife resources fall into three classes. Some site-specific impacts, such as topographic alterations, clearing and removing vegetation, and draining of wetlands, are immediate and have **direct** negative impacts on wildlife and wildlife habitat. These same site-specific impacts, however, often have **indirect** impacts on adjacent and neighboring lands through a process of habitat fragmentation, disruption of habitat continuity, and loss of habitat to animals which rely on both the developed parcel and surrounding lands for habitat. Direct and indirect impacts, when combined with incremental, individually minor but collectively significant actions taking place over a period of time. become **cumulative** impacts.

Habitat Based Resources

Wetlands are part of the water resource system essential to biological life. Most wetlands are important as species habitat and are often important for upland wildlife that come to feed, drink or hunt. Some wetlands are nurseries for commercially or recreationally valuable fish and wildlife. Wetlands form a part of nature's flood control system, allowing for water detention or retention. They also act as a filter, protecting downstream water quality by trapping and assimilating contaminants and nutrients.

Wetlands have been severely impacted by development. The riverine wetlands system has been severely impacted by levees built to protect land from flooding, while marshes, bogs, and ponds have been filled for development.

Specialized foundation and drain systems can mitigate some of the impacts of development on wetlands by permitting water to filter back to the natural system.

Waterbodies, including perennial, intermittent and low intermittent streams, provide critical habitat and spawning areas for fish and other aquatic species, when their water quality is capable of supporting such activities. Perennial streams provide prime cutthroat trout spawning areas, while intermittent streams play a critical role in maintaining water quality in perennial streams. Waterbodies also provide habitat and water supply for other wildlife, including moose, elk and deer. Riparian communities, present at the transition between water- and land-based habitat, support a wide diversity of wildlife species which are influenced by, and respond to, the vegetation and plant diversity found at the water's edge. Minor and isolated disturbances, can be offset by permanent protection of adjacent large parcels. For example, where the wildlife, agricultural and scenic analyses performed as part of the design of the easement is acceptable, the stream setbacks may vary.

Inadequate setbacks of human activity from waterbodies or disturbance of stream bank vegetation allows runoff from roofs and paved surfaces to enter streams more rapidly, causing streambank erosion and inhibiting the pollution-filtering function of ground cover. Loss of streambank vegetation also reduces the value of these areas as habitat for land-based wildlife species.

Riverbottom (highly mesic) forests are part of the Snake River riparian zone which provide crucial winter habitat for moose, trumpeter swan and elk. The bald eagle uses the riparian corridor year round, for nesting and to forage, while great blue herons, raptor species and mule deer also use this resource area. The forest also contributes to water quality in the Snake River by stabilizing shorelines and filtering water flows. Bottomland forests are prized for residential development, commanding some of the highest prices per acre in the County.

Upland forests provide food and shelter for large mammals, including elk, deer, moose and bighorn sheep. While most of this type of forest occurs on public land, it can also be found in isolated pockets within upland shrub and grassland environments. Such lands are often steeply sloping and difficult to develop. Maintaining the forest cover here is critical to prevent erosion and to stabilize areas subject to minor avalanches.

Upland shrub-scrub grasslands are the dominant habitat on private lands. Mule deer, elk, pronghorn antelope, bison and bighorn sheep get much of their food from this environment during at least a portion of the year, with sheep, bison and antelope depending almost solely on this habitat. Coyotes, badgers and most raptors, including the bald eagle, find much of their prey in this environment. Disturbed grasslands are difficult to revegetate and, therefore, subject to erosion. Such lands have been declining in southern portions of Jackson Hole due to development and agriculture.

Scenic Resources

The scenic quality of an environment is established by various types of natural landscape spaces. In Teton County, scenic vistas tend to be both broad and deep, with features of beauty and interest in all parts of the vista. This means that the aesthetic quality of natural landscapes can be "borrowed" by viewers from many miles away, permitting the entire community to share a common visual experience. The ability to use this high-quality "borrowed space" is a key component of overall community character.

Throughout most of the County, there is a visual backdrop of uninterrupted butte tops, ridge lines, mountain sides and pastoral foregrounds, which are major contributors to the open feeling and rural character of the area. Were the skyline penetrated by large residential structures or the foreground cluttered with development, the scenic quality of the area would be diminished and would instead become a visual distraction.

While Teton County has literally thousands of locations where scenic views of one sort or another exist, certain specific vistas and scenic corridors are experienced millions of times per year by residents and visitors

alike, mostly from the county's major roadways. Because of this combination of high visual quality and the frequency with which they are experienced, these are the vistas and corridors which set the most powerful images of the community. Therefore, it is these types of vistas which are the most deserving of regulatory protection.

Many of the county's finest and most frequently experienced vistas involve ranchlands. Usually, pastures and hay meadows form the foreground to spectacular mountain panoramas. Ranchers have maintained and supported this aspect of rural Teton County for decades. This Plan and its implementing regulations provide the means to allow reasonable development of ranchlands for those ranch families who choose to maintain a working ranch, while, at the same time protecting scenic vistas and corridors and preserving rural character and wildlife habitat.

The County's scenic resources have long been recognized as having national value, as demonstrated by the creation and expansion of Grand Teton National Park and Bridger-Teton National Forest. However, the Park does not encompass all of the extraordinary scenic resources of the County, nor does it adequately protect the County-wide scenic values of mountain vistas and open space which are an essential component of community character.

Scenic resources protection was addressed in the 1978 Teton County Comprehensive Plan and Implementation Program, although never fully implemented due to limited funding. A 1988 study conducted by a citizens advisory group identified priority sites for scenic protection, generally along the County's major roadways. The formulation of the scenic resource elements of this Comprehensive Plan represent a continuation of these prior efforts.

Air Quality

Because Jackson Hole is a high-altitude valley almost entirely surrounded by mountains, it is particularly susceptible to air quality problems associated with winter temperature inversions. Under the influence of high atmospheric pressure, cold dense air is trapped near the valley floor by layers of warmer air. Also trapped are pollutants which would normally be dispersed by air movement. These pollutants include carbon monoxide, mostly from automobile emissions, dust particles, and woodsmoke.

From sampling performed in 1982 and 1983 by the Wyoming Department of Environmental Quality (DEQ) and testing done by the Environmental Protection Agency in 1991, it was found that over 85% of the carbon recovered from sampling filters was attributable to woodsmoke. On days when the area is under temperature inversion, smoke can be seen hanging like a brownish cloud over the valley floor. The height at which the cloud is suspended depends on atmospheric conditions. On a very cold day, smoke sometimes will hug the ground like a fog, rising as the air warms. Continued growth without mitigation measures will make violations more likely. In addition, the visual effects of woodsmoke haze detracts from the scenic quality of the County.

Water Quality

In Teton County, the quality of both groundwater and surface water are growth and development issues that must be addressed in this Plan. The major threat to groundwater supplies is pollution from individual septic systems. Teton County has undertaken an extensive groundwater quality study and monitoring program on the west bank of the Snake River. Provision of centralized wastewater treatment facilities will be a critical issue in the future development of that area.

Surface water quality is generally affected by point source discharges and urban street runoff, which has both point and non-point sources. There is very little urban development which could impact the County's rivers. The Town of Jackson wastewater treatment plant discharges to Flat Creek approximately one mile from its confluence with the Snake River. Most of the plant effluent, however, is discharged to infiltration/percolation beds following treatment, and never reaches the creek or the river directly.

Lower Cache Creek and Upper Flat Creek are a different matter. Both are heavily impacted by urban runoff, which has undetermined effects on water quality. The Town's land development regulations in effect prior to the adoption of this Plan required setbacks of 20 feet to 50 feet from mean high water. This measure has not prevented stormwater from flowing directly into these creeks from Town streets.

In the county, storm runoff from roads and buildings in Teton Village have no drainage system in which to be absorbed. Continued impacts and cumulative future drainage with increased development must be mitigated. The high water table on the west bank of the Snake River, impacts on west bank septic systems and increased development in that area necessitates studies and solutions for maintaining water quality.

Natural Hazards

Development in or near areas of natural hazards can be a threat to life and property. Such areas include floodplains, steep slopes, avalanche chutes, fault zones, and areas of unstable soils. While most of the county's natural hazard areas are mapped, the mapping is generalized and at a scale that make site-by-site applications of the data impossible. Property owners and developers are often not prepared to commit the financial resources necessary to perform site-specific investigations, and the planning staffs do not always have the regulatory backing to require them. As a result, projects can be approved and built with an incomplete understanding of the natural hazards which may be present on a site.

Access

Another important issue is maintaining open public access to the natural resource areas. Access to the national forest, the Snake River, and Flat Creek is often across private land. Public points of access for vehicles, biking, hiking, horseback riding, and skiing are lacking in the community.

B. SUMMARY STATEMENT OF GOALS AND OBJECTIVES

Early in the comprehensive planning process, both Teton County and the Town of Jackson determined that they would proactively preserve natural resources through programs, incentives, and legally sound regulatory action. Pursuant to that commitment, and in recognition that natural resources are a key component of community character, the following goals and objectives are adopted:

Goals:

1. To preserve and protect wildlife habitat, including continuous migration corridors.
2. To protect environmentally sensitive and physically unsafe areas from development.
3. To preserve the scenic quality of the environment.
4. To protect significant natural features and land forms.
5. To encourage restoration of environmentally degraded areas.
6. To preserve open space.
7. To foster, promote and encourage ranching.

Objectives:

1. Protect natural areas, including critical wildlife habitat and migration corridors, through incentives and flexible options for land development.
2. Identify and preserve key image-setting scenic vistas and corridors.
3. Improve the visual quality of existing development.
4. Preserve important natural resources through clustering incentives and "level of protection" requirements.

5. Adopt regulations that discourage development in natural and hazard areas, and which require responsible, effective mitigation when such areas are developed.
6. Continue air quality monitoring, and continue proactively to implement programs to improve and protect the ambient air quality of Teton County.
7. Protect surface water quality county wide through adequate setbacks and the required use of "best management practices" for point and non-point pollution sources.
8. Provide and manage public access to natural resource areas in a manner consistent with natural resource protection goals.
9. Facilitate the protection of important natural, scenic and agricultural areas through conservation easements to the extent that minimum development may be allowed on sensitive parcels to facilitate protection of large parcels.
10. Work with the Forest Service to ensure retention of grazing leases and access rights for ranchers in Teton County.
11. Support the work of other agencies to find equitable means for protecting and maintaining open space.
12. Educate Teton County residents and visitors about ranching operations and ways to minimize potential conflicts.
13. The Town and County shall promote and encourage the use of conservation easements in lieu of deed restrictions, platted open space, and other less effective and comprehensive methods of land protection.

C. IMPLEMENTATION STRATEGIES

Wildlife Resources

As stated in the Issues section of this chapter, Teton County's wildlife, their habitat, and migration patterns has been studied extensively. The primary source for wildlife habitat resource identification is the publication Teton County Wildlife - Habitat Assessment Final Report, prepared by Biota Research and Consulting, Inc., July 1991. Since its publication, the report has undergone an extensive peer review by highly qualified public and private sector biologists.

The task of developing procedures for assessing the ecological value of Teton County lands and impacts to those lands was performed by Biota, in part, to generate guidelines for human development and capacity. Ecological value, as interpreted by Biota, was the suitability or capacity of the habitats to support wildlife and the structure and functioning of those habitats. Lands of greater ecological value must translate to lesser development potential if ecological values are to be protected.

The primary purpose of the Biota report was to develop a system for assessing the impacts of human activity (including development) on wildlife and wildlife habitat. Central to this effort was the choice and valuation of species of special concern (SSC's) and their habitat. SSC's were defined as wildlife species which have been afforded special management status on a federal and/or state level (Federally listed threatened and endangered species, and State Priority Nongame species). Biota also included as SSC's: those species considered of special concern due to their abundance, habitat requirements, and vulnerability or intolerance to human disturbance; big game mammals because of their biological, aesthetic, and economic values to Jackson Hole, their reliance on private lands for habitat (especially during the winter), and the sizable state and federal effort committed to managing these species; and species that relied on or occupied habitat which occurs on or near private land that might be developed.

The SSC's identified in the Biota report or subsequently during peer review are listed below:

Snake River Cutthroat Trout	Mule deer
Bald eagle	Elk

Peregrine Falcon	Moose
Raptors	Bighorn sheep
Trumpeter swan	Pronghorn Antelope
Great Blue heron	Bison
River otter	

The Biota report has a very specific definition for SSC's. However, in more general terms, these same SSC's play a significant role in defining the character of Teton County. Anglers come from all parts of the country (and the world) to fish for native cutthroat trout. Bald eagles can frequently be observed in nesting and roosting trees along the Snake River, or be seen soaring high above the surrounding buttes. Thousands of elk and mule deer winter on the National Elk Refuge and nearby buttes, and are an attraction to residents and visitors alike. Teton County is nationally famous for its big game hunting opportunities. The abundance and variety of wildlife are a large part of what makes Teton County a very special place to live and to visit.

Preserving wildlife means preserving wildlife habitat. The Biota report recognizes four basic components to define habitat variables (types) to evaluate species suitability:

- Seasonal habitat used for a particular period of a species' annual life cycle (e.g., winter range, breeding habitat).
- Life requisites include food, cover, water, reproductive, or special resources supplied by a species' habitat. Life requisite components can be further separated into categories such as seasonal foods, nesting habitat, or brood rearing habitat.
- Life stages are typically parturition, juvenile, and adult stages of a species.
- Cover types are areas of land or water with similar physical or biological characteristics that meet with a specified standard of homogeneity. Cover types serve the purposes of segregating variables into groups and defining spatial relationships (interspersion) among habitat components. Cover types also allow integration of refuge or escape from weather, predators, competitors, or some other disturbance.

Because there are 13 SSC's in all, and because of their large number of species-specific and seasonal habitat variables, habitat types must be aggregated so that a manageable set of habitat types can be identified. The basic premise behind this variable aggregation is that some species' habitat requirements may overlap with others. The example cited in the report is osprey and bald eagles, which both require open water for foraging. Unlike the osprey, however, eagles have very critical requirements for nesting, such as mature timber and the absence of human disturbance. Therefore, only the habitat classification of "open water" might be aggregated as important for foraging for both of these SSC's, while their nesting habitats are not.

In order to effectively protect wildlife habitat through land development regulations, truly **critical** habitat must be identified. The following is a direct excerpt from the Biota report:

> *Certain specific habitats or locations in Teton County were designated as essential to wildlife because they are unique, contain an essential population number (due to historical or incidental factors), and/or are crucial in fulfilling the life requisites or a life stage of a very important wildlife species or group of species. Ideally, detailed information concerning the abundance and distribution of these important habitats in Teton County might permit differentiation between levels of criticalness. For example, if such habitats are very limited in the county, they would be designated* ***absolutely critical****. However, if such habitats are not limited in the county, they will be designated* ***relatively critical****. Thus, the idea of criticalness depends on the relative occurrence and abundance within the county and, in some cases, the surrounding area*

under separate jurisdictions. This allows for mitigation and compensatory actions that permit diminution of a species or habitat if the county-wide effect is negligible or if offset by enhancement of other species or habitats. Unfortunately, due to a current lack of precision in overall habitat mapping in Teton County and because of budgetary constraints, we were forced to simply identify ***critical*** *wildlife habitats based on existing information and use only one level of criticalness.*

If regulations are to be effective in protecting critical wildlife habitat, they must be sensitive to the importance of that habitat to the life cycle of each SSC. For example, if bald eagle nesting areas are to be protected, then human activity must be kept a safe distance away. The same holds true for trumpeter swans which are also typically intolerant of human presence. With ungulates, however, the situation is different. Calving and fawning areas and most summertime habitat occurs on public land. It is crucial winter range which largely occurs on private land. To preserve winter range, regulations must either severely restrict development, or mandate that it be clustered on relatively non-critical parts of the property.

In order to recognize all of the habitat variables required by the SSC's, this Plan recommends a mapped "Natural Resources Overlay" (NRO) which includes, but may not be limited to, the following types of areas:

1. Crucial winter range for elk, moose, and mule deer.
2. Migration routes and corridors for ungulates.
3. Nesting areas for bald eagles and endangered raptors such as the peregrine falcon.
4. Nesting and wintering areas for trumpeter swans.
5. Spawning areas for Snake River cutthroat trout.
6. Major riparian corridors such as the Snake, Gros Ventre, Buffalo Fork, and Hoback Rivers, which contain a multitude of habitat variables for SSC's as well as other wildlife species.

An effective, yet manageable regulatory system can be achieved by combining all variables of critical habitat which occur on private property in Teton County into one overlay. The geographic extent of the overlay is depicted on the Town and County character district maps. The overlay will alert the developer, property owner, and public officials to the presence of critical habitat, regardless of the underlying character district. It is important to recognize, however, that the NRO depicts a dynamic, not a static, environment. Wildlife distribution and use patterns can be expected to vary over time and the overlay must be regularly updated in order for the overlay and important decisions based on the overlay to remain current.

Because the overlay incorporates all SSC's and their critical habitat requirements, the regulatory approach is structured to provide flexibility for the developer to show how the habitat values of each SSC actually using the site will be preserved by the proposed development. Applicants should be given the opportunity to demonstrate how the property's underlying density can be achieved using creative land planning techniques to entirely avoid or to at least minimize impacts on wildlife habitat.

Protection of Environmental Features and Resources

Because the Biota report related landforms and vegetative types into terms of relative wildlife habitat values, it provides a scientific basis and planning rationale for setting minimum protection levels for each type of resource encountered on private lands in Teton County. Requiring development to permanently protect a minimum level of habitat resources is an effective strategy for preserving wildlife habitat.

Resource levels are, in part, determined by their location and by the intensity of actual use by wildlife. For example, an acre of upland forest near Teton Village adjacent to the national forest has, in relative terms, more potential value to wildlife than an acre of similar forest located within the Town of Jackson. Therefore, habitat values are expressed in terms of required protection levels by character district. A habitat type in the

Rural district is more valuable than the same amount of identical habitat in Auto Urban Residential (AR), and therefore, a greater percentage of the resource must be protected in the R district. This can be achieved by encouraging the permanent protection of large tracts of open space in the Rural district through flexibility in County development regulations. Regulations should involve flexibility in development of sensitive areas where only minimum density is proposed as part of a significant protection package. Nonregulatory incentives may involve partnerships with land conservation and other private organizations. In addition, the County should explore other ways of encouraging significant protection.

Another effective regulatory strategy for preserving specific, finite environmental features and important wildlife components to certain wildlife species is to require that structures, terrain and vegetative disturbance, and certain other types of human activities be kept a specific distance away. For example, because bald eagles are easily disturbed by humans during certain times of the breeding season, the Biota report recommends a primary nest zone of 660 feet in radius around all active and inactive nests, within which all human activity should be discouraged or prohibited entirely. The report also recommends a secondary zone beyond the primary zone, "where sufficient data exist to define bald eagle breeding territories and important habitat components within these territories." To ensure the effectiveness of the regulatory approach, this Plan recommends eagle nest buffers of 1,320 feet, to account for both the primary and secondary zone recommendations in the report.

Other resource features, such as peregrine falcon nests, butte tops and ridge lines, water bodies, and wetlands, can also be best protected by specified setback requirements. Anyone proposing to encroach upon these established setbacks would be placed in the situation of having to legally justify relief from the standard. Should Town and County officials grant relief, it should be based on mitigation of any potentially adverse environmental consequences as conditions of their decision.

Scenic Resources

Similar to wildlife resources, scenic vistas and scenic corridors have been mapped as a "Scenic Resources Overlay" (SRO) on the Town and County character district maps.

Scenic Vistas

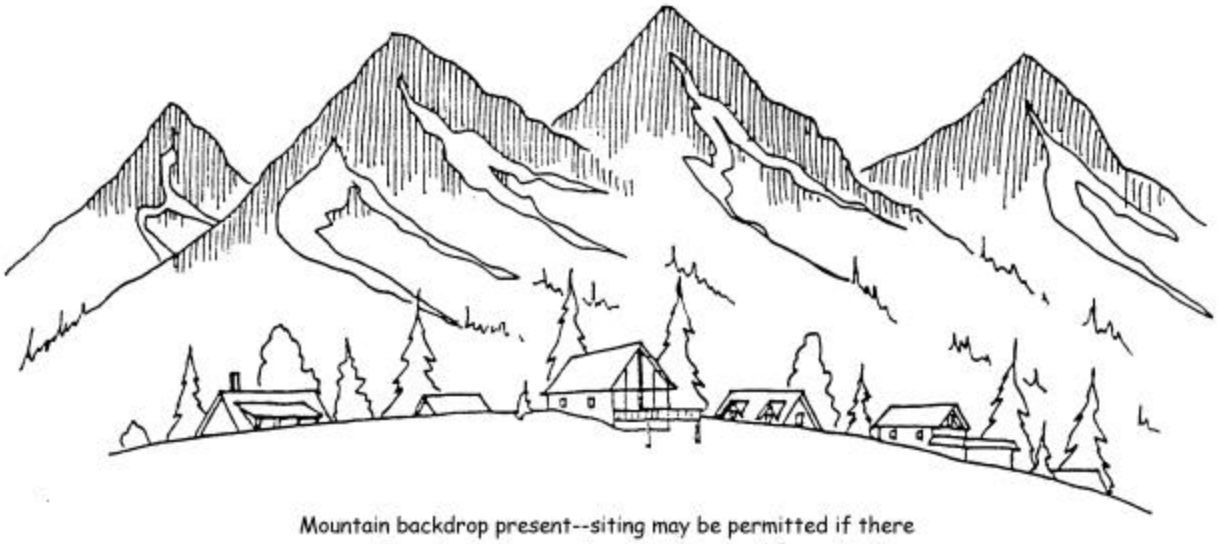
Scenic vistas shown on the maps include those high quality mountain settings viewed most frequently by residents and visitors from roads within the County. The critical components of the vista are the foreground area, which is most often an irrigated pasture, but may also be natural, open lands, and the background, most notably the ridgeline or a butte top and the mountains. The intermediate portion of the vista, which is typically a hillside or butte in front of a mountain backdrop, is considered a secondary visual priority, provided structures are kept off of the butte top or ridge, or properly screened where there is no siting alternative to the ridge top (See Figure 4.1).

The designated vistas are often quite broad and deep, since the valley floor can stretch for several thousand feet back from a road, while the mountains can sit as far back as six to eight miles. The mapped overlay recognizes this depth, by excluding areas in both the fore- and background whose development will not affect the visual quality of the vista.

The recommended approach to protecting scenic vistas is to permit development, but to keep it from detracting from the visual quality of the foreground and to ensure that structures do not interrupt the skyline. It is unlikely that any approach can specify the single most effective way to preserve the visual qualities of every vista in Teton County. For example, in some cases, it may prove best to cluster development out of the foreground or in the least visually obtrusive portion(s) of the site. In some areas of the County, however, existing ranch buildings are found in very prominent locations, near roadways. Repetition of this clustered development pattern, together with architectural and landscaping standards which require new development to contain features similar to those of traditional ranch development, can also be an effective approach, particularly when the need to preserve critical wildlife habitat forces development into the foreground.

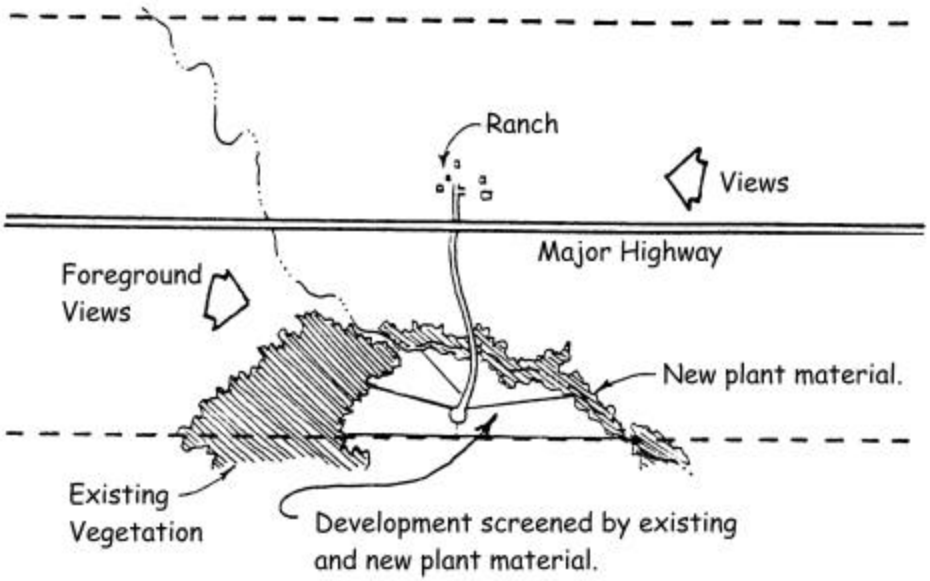
Figure 4.1
Visual Impact of Development
Butte Tops and Ridge Lines

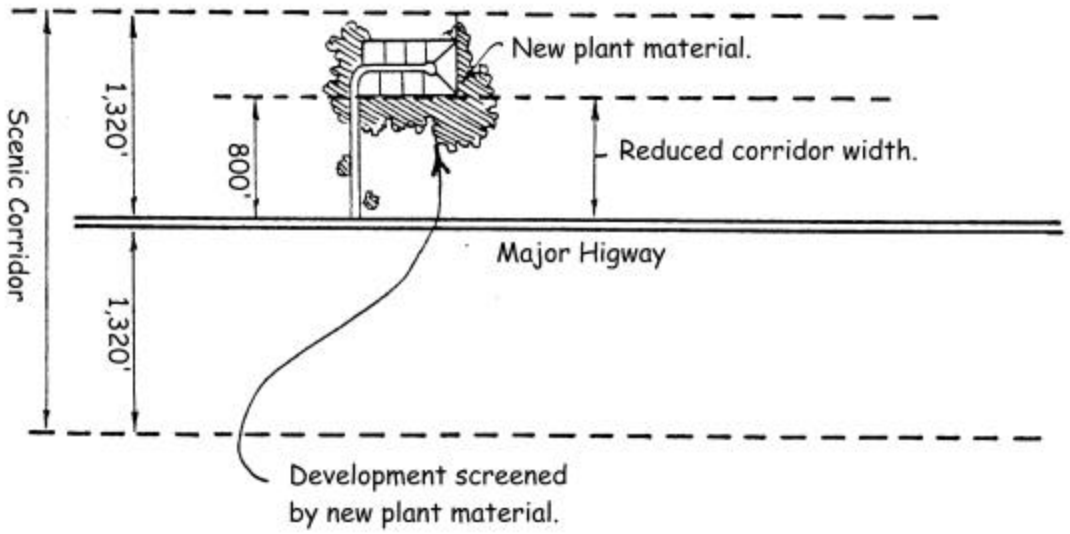
No visual backdrop--siting should be avoided.



Mountain backdrop present--siting may be permitted if there are no other alternatives, and screening is used for mitigation.

Figure 4.2
Screening Techniques for Visual Impact Mitigation
in Scenic Corridors and Foreground Vistas





This Plan recommends that development within scenic vistas be subject to review, to insure preservation of the foreground and the ridgeline/butte top features, while providing the applicant with flexibility to respond to the site specific characteristics of the development parcel. The following guidelines for avoiding and/or mitigating impacts should be considered for inclusion in a scenic resources overlay (SRO) regulation:

- Keep development out of the foreground by clustering development in the least visually obtrusive portions of the site; if development is to be visible or located within the foreground, it should be designed consistent with traditional ranch architectural styles and colors, site locations and landscaping.
- Limit exterior colors, including roofs, to earthtones and/or require the use of natural materials, such as stone and wood; control reflective surfaces and exterior lighting.
- Carefully locate and properly screen access road(s).
- Use existing and supplementary native vegetation, planted in traditional patterns and of a scale capable of screening and softening structural mass; discourage significant earth moving or building of berms to screen development or require such features to compliment natural land forms.
- Development should be prohibited from penetrating the skyline, unless the parcel has no other siting alternative; when development must penetrate the skyline, limit its height, and address its mass, bulk, form and materials.

Scenic Corridors

In some instances, a road segment has excellent scenic qualities, but those qualities are not associated with a directional vista. Instead, the scenic value is defined by exceptionally wide panoramas in all directions, or a series of views and vistas. Such areas have been mapped and designated as scenic corridors. Two prime examples are the Wilson approach (Highway 22 from Moose-Wilson Road to Wilson) and the west leg of South Park Loop Road.

The Wilson approach has 360 degree scenic values of very high quality, regardless of the direction of travel. Approaching Wilson from the east, broad irrigated meadows border the highway on both sides, with a panoramic view of the Teton Range to the north. Straight ahead is a forested mountain backdrop. This corridor lends a unique "sense of arrival" to Wilson, and helps to define its village character.

The west segment of South Park Loop Road is a somewhat different type of scenic corridor. It too has 360 degree vistas, but all peripheral views from the roadway are filtered by rows of large cottonwood trees. Views straight ahead, in either travel direction, are framed by these large trees.

Both the Wilson approach and the South Park Loop Road are important scenic corridors which make powerful statements about the community's character and image. Corridors such as these can be protected by keeping their foregrounds free of development. This Plan recommends a "scenic setback" adjacent to these corridors of 1,320 feet (1/4 mile). Visually intrusive development near the setback (and development which encroaches into the setback, if no siting alternative exists) should be screened and softened by applying the guidelines listed for scenic vistas, and those illustrated in Figures 4.2 and 4.3.

Visual Enhancement Areas

Some areas along and adjacent to major roadways could have been designated as scenic vistas or scenic corridors, had they not already been developed with visually intrusive or distracting structures. These areas have instead been designated as visual enhancement areas. The most obvious such area is along Highway 89 in South Park. In this area, haphazard development of heavy industrial and commercial structures has blocked vistas to the west, and has diminished the scenic qualities of one of the gateways into Jackson Hole. When these areas are further developed or redeveloped, no structure should be permitted to be built forward

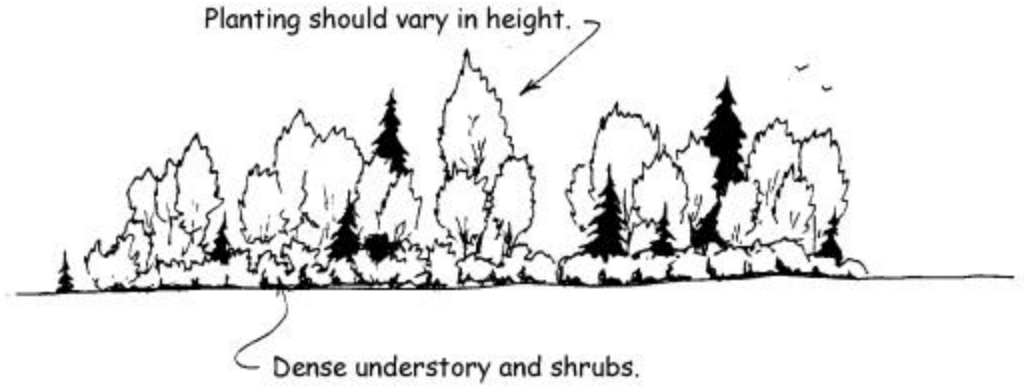
of the front setback line of existing structures. Extensive landscaping should also be required, to screen parking areas and to soften structural mass.

Conservation and Scenic Easements

As stated earlier, community character and natural resource preservation are overlapping issues. In Teton County, natural resources are a **major** component of community character. The acquisition of conservation and scenic easements is an effective programmatic strategy for accomplishing natural resource protection and preservation of community character. The Jackson Hole Land Trust, Teton County Scenic Preserve Trust, and the Nature Conservancy, held conservation easements or fee simple title to approximately 7,500 acres of land as of August, 1992.

The conservation and scenic easement is a legal agreement between the landowner and grantee (the land trusts) to restrict and to specify the type and amount of development that takes place on the property. The easement may be purchased with funds raised by the various trusts, or easements may be donated. The benefits of donating easements will vary, depending upon the personal financial needs of the landowner. Generally, benefits can be structured for estate planning and inheritance tax purposes, income tax or just to carry out the desires of the owner as to the disposition of the property. The easement too can be structured in a variety of ways. Some easements allow no improvements at all while others may specify the continuation of an agricultural use, a recreational use, or even limited residential development.

Figure 4.3
Screened and Filtered View of Foreground Development



Uses of Open Space

Natural resources can be preserved effectively and in perpetuity in dedicated open space which results from clustering. Clustering is described as a development option in Chapter 3, Community Character. To many people, clustering may have connotations of attached housing. Indeed, some types of semi-attached patio homes are often referred to as "cluster homes." Actually, clustering is a viable development option for almost any residential product type from apartments to single-family homes on lots of three to five acres or more and need not require the units to be attached, just that they be located relatively close together.

When land is designated as open space in conjunction with a clustered or planned development, the purpose for designating that land as open space should be clearly defined, so that uses do not occur which are incompatible with the resource protection purpose. This Plan recommends that open space lands be classified

as serving one of the following three purposes, considering whether the land has been designated NRO or SRO:

1. Wildlife habitat, for which only limited uses shall be permitted, as determined by a wildlife assessment compiled for the property. The limited uses may need to be restricted during critical annual migration or production periods.
2. Scenic and agricultural, for which only agricultural activities and passive open space shall be permitted. Access to these areas would be limited, to protect agricultural operations, but could be permitted for passive recreation and pathways, if compatible with the scenic value and agricultural activities.
3. Public access, for which active recreational activities and uses and access shall be permitted.

Air Quality

Automobiles, industry, and power generation are major sources of air pollution. Fuel burning is a major source of pollution that severely impacts air quality on local, national and global levels. In Teton County, temperature inversions trap pollutants in the valley, resulting in localized air quality problems. The two principal local air pollutants are automobile exhaust and wood smoke.

Two strategies are considered for dealing with automobile pollution. The first is to maintain a high level of service on the roadway system. The second is to encourage alternative modes of transportation, such as bicycling, walking, and mass transit, reducing total traffic and increasing service levels.

The majority of single-family homes in Teton County use wood in some form as a primary or secondary heat source. Many wood burning systems are inefficient, generate large amounts of pollution and waste energy. The Jackson/Teton County Woodsmoke Committee was reorganized in 1991 and charged with addressing air quality and energy efficiency. The committee recommended ordinance revisions, which were adopted by both the town and county requiring that any newly installed wood stoves must meet EPA Phase II requirements for emissions. In addition, the town and county have enacted a "rebate" program whereby residents are paid $300 for taking a pre-Phase II stove out of service. Teton County has gone one step farther, and now regulates the number of solid fuel burning devices (SFBDs) allowed in a given type of structure.

Water Quality

Two strategies are available for protecting groundwater. The first is to avoid introducing pollutants into areas where the land and the groundwater reservoir are directly connected. Aquifer recharge areas are places where surface water quickly reaches groundwater. Similarly, locations where groundwater is close to the surface are unsuited for waste disposal, solid or liquid. Discharging waste directly into groundwater is risky and should be avoided. Groundwater is not capable of cleansing itself of chemical contaminants, organic or inorganic. Thus, any pollutant introduced, remains.

With surface water, the ideal approach is to eliminate or trap most pollutants before they enter the water system. This means pollution should be dealt with at the source through direct treatment or through what is often termed "best management practices." BMPs usually entail relatively simple, common sense measures such as retaining the critical "first flush" of runoff from paved surfaces, and active revegetation to prevent erosion. All drainage plans and basin studies should have water quality as a prime objective.

Natural Hazards

The most effective strategy for keeping development out of natural hazard areas is to provide information in the form of area-wide mapping which "red-flags" potential problem areas to property owners, government officials and neighbors before development is planned. Maps of floodplains, land stability, soil suitability, and faults are available from a variety of public sources. Jackson and Teton County should keep an inventory of these maps and make them available for use by the general public.

In most cases, these maps do not contain adequate detail to guide lot-by-lot development. They are useful, however, to indicate when, and under what circumstances, a more detailed hazards investigation may be necessary. A detailed investigation is required of any development proposed in a known natural hazard area. This investigation should describe mitigation measures for each type of hazard identified. The main focus of regulations, however, should be to direct development away from hazardous areas to the maximum extent possible.

Restoration

Closely related to the preservation of natural resources is enhancement of natural resources through the restoration of areas impacted by intense development. Gravel pits and cuts and fills for structures and roadways are examples of areas in need of restoration. Generally, reclamation of such areas should be the responsibility of the owner and should be a condition of approval of the permit for such intense uses. Where this is not possible, because the pit is no longer operating and the operator was not required to reclaim the site as a condition of approval, then the public sector may need to step in and fill this role.

The single most prominent natural feature in need of immediate attention, however, is Flat Creek as it flows through the Town of Jackson. From the point where the Creek flows out of the National Elk Refuge until it begins its meander through the Jackson Hole Hereford Ranch, development in Town has turned its back on the waterway. The quality of water has been degraded by silt and by run-off from paved surfaces. The creek bed and banks are often strewn with trash and debris. Its floodplain has been altered and/or encroached upon, and illegal fill in some places runs to the water's edge. Access is often cut off by development. Development regulations in the Town have, for the most part, proven inadequate to prevent the worsening of these problems, let alone to reverse them.

A restored and accessible Flat Creek would be a visual and recreational amenity to the entire community. This Plan recommends that the Flat Creek corridor be designated as a special enhancement area, and that a restoration plan be developed for the corridor. At a minimum, this plan shall address water quality; fishery enhancement; accessibility; acquisition of easements or land where needed; removal of encroaching structures, parking and storage areas; biological potential for waterfowl and mammals; suitability for non-motorized trail; and linear park opportunities.

Restoration is also recommended at the impacted industrial areas along South Highway 89. Restoration of these areas would include creation of more appropriate highway setbacks as these properties re-develop, with vastly increased landscaping to screen the use from view.

As a general restoration policy, it is recommended that remedial landscaping within the County use native species, planted to extend or enhance natural vegetation patterns, while landscaping planted to screen development in Town should be appropriate to its function.

Access

Regulations offer perhaps the most direct of strategies to improve public access to public lands and natural resources. Easements providing public access to public lands could be required as park and recreation exactions and/or as conditions of approval of a planned or clustered development. Vehicular access (where appropriate) as well as trail and pathway improvements could be acquired by the same means.

There must also be coordination among the Teton County Transportation Master Plan, the Town of Jackson Master Plan for Street Improvements, the Teton County Pathways Plan, and the actual trails and roadway systems on public land. Where public access is deemed critical, an easement could be purchased or accepted as a donation. Many property owners are concerned about legal liability when granting access across their property. However, information distributed through the American Hiking Society and the Trails Coalition indicates that the perception of liability is much greater than the reality. The Wyoming Recreational Use statutes provide significant protection for landowners who grant the right of access.

D. RECOMMENDATIONS

Pursuant to the goals and objectives of this chapter, the following actions are recommended:

Regulatory Actions

1. Adopt, as an overlay to the character district map, a composite depiction of critical wildlife habitat and migration corridors. Adopt regulations which seek to limit development in these areas to the maximum extent possible.
2. Adopt, as an overlay to the character district map, a composite map of scenic vistas and scenic corridors. Adopt flexible regulations to preserve the visual qualities of these areas, while still allowing reasonable levels of development.
3. Structure regulations which set required protection levels, setbacks, and/or other protection mechanisms for significant natural resources and features.
4. To further objectives of natural resource protection and community character, create a system of incentives and requirements for clustered development in appropriate areas.
5. Require that all drainage plans and basin studies address surface water quality as a high-priority objective.
6. To the maximum extent possible, require that development not occur in natural hazard areas. When development does occur in such areas, require the appropriate detailed investigations and effective mitigation measures for all hazards identified.
7. Require public access to public lands and other natural resources (Snake River, Flat Creek, etc.) in conjunction with exactions, or as conditions of record, whenever possible.

Nonregulatory Actions

1. Continue to support the efforts of the Jackson Hole Land Trust, Nature Conservancy, and the Teton County Scenic Preserve Trust to acquire land and easements for resource protection and community character considerations. Continue to explore funding sources for these organizations.
2. Continue to monitor air and water quality for the purpose of:
   a. assessing the effectiveness of current regulations and programs,
   b. determining the need for future action.
3. Regularly update all natural and scenic resource inventories, to assess the incremental impacts of development on the resource and as a basis for regulatory amendments, as necessary. Create a computerized geographic data base (Geographic Information System, or GIS) to facilitate the regular update of these inventories and to simplify use of this data in the process of reviewing land development applications.
4. Inventory maps and other information on natural hazards, making this information available to the public.
5. Identify key access points to public land and natural resources on Town and County transportation plans, and on County pathways plan.
6. Seek cooperation of landowners to improve accessibility to public lands.
7. Designate portions of Flat Creek within or adjacent to the Town of Jackson as a special enhancement area, and initiate a plan for its restoration.