

La Plata County Planning Commission edits for Comprehensive Plan Chapter 8 DRAFT

The Planning Commission is reviewing the Comprehensive Plan in sections and anticipates adoption of DRAFT edits at their final meeting on September 8, 2011. The schedule is subject to change and the most current schedule may be found at www.laplatacountyplan.com

8

NATURAL ENVIRONMENT ELEMENT

La Plata County's diverse wildlife and abundant natural and scenic resources are assets prized throughout the nation. These unique resources largely define the character of the community. Access to wildlife, scenic beauty and recreation are major reasons most residents live in the community. Tourists drawn to these irreplaceable natural environments are a major economic driver for the County. Responsible stewardship and conservation of these resources is critical to the health of the ecosystem, and in turn to the health and wellbeing of the people. Development, mining, livestock grazing, logging, recreations, roads, non-native species, habitat fragmentation, drought and hydrological modifications pose challenges for the future preservation, conservation and management of the county's natural environment.

Significant portions of the county are lands protected from development by federal agencies. The ecosystems and the plant and animal species which depend on these lands do not recognize jurisdictional boundaries, relying on all lands for habitat. These interconnected systems are susceptible to the impacts of growth and development. The loss of biological diversity is a world-wide phenomenon which is impacting the county also. Threats to a stable and balanced ecosystem require effective stewardship of the land and efficient processes which maintain and regenerate the natural cycles of the region.

REGENERATIVE ECOSYSTEMS

Vegetation and plant communities are influenced primarily by elevation, but also by slope, aspect, soils and moisture. La Plata County, situated in the La Plata and San Juan Mountain ranges, straddles two ecological regions. The southern half of the county is located on the Colorado Plateau, a warmer, drier region at lower elevations characterized by sage plains, arid plateaus and mesas. The Colorado Rocky Mountains, encompassing the northern portion of the county, containing high peaks and meadows, is characterized by cooler temperatures, higher elevations, steeper slopes and greater moisture.

Four climatic zones are located in the county according to the May, 2004 document, *Assessment of Critical Biological Resources, La Plata, County, Colorado*. Produced for La Plata County by the Colorado Natural Heritage Program, this and a companion document, *Survey of Critical Wetlands and Riparian Areas in La Plata County*, surveyed the county for critical biological resources with the goal of identifying rare or endangered species and habitats which those species are reliant upon. These four climatic zones

NATURAL ENVIRONMENT

include alpine, found above 11,500 feet, sub-alpine, located generally between 9,000 and 11,500 feet elevation, upper montane, roughly between 7,500 and 9,000 feet and lower montane, below 7,500 feet. Ecological systems vary over these zones.

Different ecological systems are found in each climatic zone. The alpine and sub-alpine climatic zones, the county's highest elevation zones, above 9,000 feet, range from alpine meadows to spruce-fir forests. Mixed conifer forests, Douglas fir forests, and Aspen forests are found at elevations of the upper montane climatic zone. The lower montane zone hosts ponderosa pine forests, Gambel oak shrubland, pinyon-juniper woodlands, and shrub-grass-forb rangeland.

The protection of biological diversity is necessary for the [welfare of humans and](#) survival and regeneration of plant and animal communities. ~~— and for the welfare of humans.~~ According to *Assessment of Critical Biological Resources, La Plata, County, Colorado*, May, 2004, biological diversity is described at four levels; genetic diversity, species diversity, community diversity and landscape diversity. It includes “variations in the biologic communities in which species live, the ecosystems in which communities exist and the interactions among these levels.” The linking of these different levels of diversity to each other and to the human environment is critical for a healthy future.

The aim of a regenerative ecosystem is to achieve a balance between the economic, social and ecological environments. The built environment must interact with natural ecosystems and their cycles in a stable and balanced manner for the long-term welfare of the region. Protecting the water, soil, habitat and communities is [the surestone](#) way to assure the quality of life for future generations. A healthy relationship between [human culture and](#) the natural ecosystem ~~and human culture can be is~~ achieved by protecting crucial resources and by assisting in the recovery of degraded or damaged ecosystems.

The degradation of natural and scenic resources as the result of human activity is not always clearly evident. Some direct impacts are easily identifiable and mitigation methods may be readily identified and implemented. It is not so simple to identify and mitigate for all of the accumulated direct and indirect impacts of human action. The attraction of the county's scenery and wildlife, which draws new residents and visitors each year, ~~can poses~~ a [challenge](#) ~~threat~~ to the health of the region's ecosystems. The needs of society must be integrated with the integrity of the natural environment.

NATIVE SPECIES.

The diverse ecosystems in the county provide home to many native species. Common large mammals include American elk, bighorn sheep, black bear, [mountain lion](#), and mule deer. Smaller furbearers common to the county include beaver, muskrat, coyote, raccoon, fox, pika and skunk. Federal and state listed endangered species include black-footed ferret, lynx, Mexican spotted owl, southwestern willow flycatcher, boreal toad and wolverine. Species listed as threatened by the state include bald eagle, northern river otter, and western burrowing owl.

Other species are on the state list of special concern. These include Botta's pocket gopher, ferruginous hawk, greater sandhill crane, Gunnison sage grouse, long-billed curlew, midget faded rattlesnake, northern leopard frog, northern pocket gopher, peregrine falcon, sage grouse, Townsend's big-eared bat, and western snowy plover. Twenty-seven rare or imperiled species of plants have been identified in La Plata County. Many of these are associated with riparian areas or wetlands and have been impacted by invasive species and by hydrological modifications such as dams and irrigation canals.

INVASIVE SPECIES.

Invasive species ~~are may threaten a threat to~~ biodiversity in La Plata County, and across Colorado. Introduced both accidentally and intentionally, these alien species cost the community in environmental integrity and in agricultural economy. Invasive plants have disrupted ecosystems and degraded the habitats of native wildlife by out-competing and replacing native plants. Much of the indigenous cottonwood and willow riparian vegetation, breeding ground for many species of bird, has been replaced by invasive tamarisk along waterways throughout the county. Invasions of bark beetles have had a great impact on forest health, wildlife habitat, and scenic resources. Local and statewide initiatives are actively working to educate the public and to remove or control select invasive species such as tamarisk and Russian olive and regenerate the native vegetation communities they replaced.

WETLANDS AND RIPARIAN AREAS.

Wetlands are lands where the water table is usually at or near the surface or the land is covered by shallow water. Riparian areas are linear areas along lakes and waterways which support interaction between aquatic and terrestrial ecosystems. Both wetlands and riparian areas are of high biological significance and support a diverse variety of plants and animals. The *Survey of Critical Wetlands and Riparian Areas in La Plata County* identified at least 32 major wetland/riparian plant communities in the county. Wetlands and riparian areas help protect water quality, store floodwaters and enhance biodiversity. These unique ecosystems are especially susceptible to off-site activities which impact water quality and hydrologic systems.

Riparian areas and wetlands represent an important element of the landscape, although they are only a small percentage of the area. These complex ecosystems are used by more than 70% of wildlife species. Lower elevation riparian vegetation includes cottonwood, alder, river birch, river hawthorn and willow species. Most of the riparian areas in the county are threatened by invasive species. Russian olive and tamarisk are found along the Animas and other waterways in the region. Cottonwood regeneration has been ~~negatively~~ impacted by river damming, ~~and~~ alteration, ~~and~~ drought. Bald eagles, great blue heron and other birds rely on mature cottonwoods for nesting and roosting. Perennial streams and rivers provide habitat for fish and aquatic organisms.

WATER QUANTITY AND QUALITY*

**Prepared by Peter Butler, Chair of the La Plata County Water Advisory Committee, Nov, 2009*

GENERAL WATER USE

La Plata County has four rivers running through it; Pine, Florida, Animas and La Plata. This water is used for agriculture, domestic use, municipal use, industrial use, recreation and environmental purposes. Generally, water is diverted from rivers and streams for the first four uses. A portion of that water is consumed through evaporation, transpiration, or deep percolation to groundwater that is not readily available for use. Groundwater may not readily available for use if it is too expensive to extract or is of poor quality. Water that is diverted or withdrawn from streams and is not consumed is considered return flow because it is available to use again.

DOMESTIC, MUNICIPAL, AND INDUSTRIAL USE

The largest, non-agricultural water division in the county is for the City of Durango. In the middle of summer, Durango might divert up to about 14 cubic feet per second (cfs) – almost 9 cfs from the Florida and the rest from the Animas. Durango diverts approximately one acre-foot (a-ft) of water per year for every 5 people it serves. That is a higher per capita use than one would expect around much of the county because it includes commercial use, tourists, and park watering where potable water is used.

In La Plata County, with a population of approximately 50,000 residents, it is reasonable to assume domestic and municipal water use (diversions) is around 10,000 a-ft per year. This corresponds well with the Statewide Water Supply Initiative (SWSI) report from 2004 which projected annual domestic, municipal, and industrial use in the county at 11,300 a-ft in 2009. For comparison purposes, the average annual volume of the Animas River is about 550,000 a-ft and the minimum flow in the Animas River in Durango during drought is about 100 cfs.

There are approximately 70 water systems (public, private, and community) permitted under the Safe Drinking Water Act in La Plata County, many of which are quite small including summer camps, campgrounds and small developments. The six systems that each serve at least a 1,000 people (Durango, Bayfield, Ignacio, Animas Water Company, Lake Durango, and Forest Lakes) serve about 30,000 people. Roughly, 65-70% of the county population is connected to permitted water supply systems, 7-12% haul water, and 20-30% are on individual or shared wells.

AGRICULTURAL USE

Approximately 95% of the surface water diversions in county are for agriculture. In some cases water may be diverted more than once such as when the return flow from one diversion reaches a stream

before the next diversion. Except for Lake Nighthorse, the vast majority of water stored in the county is for agricultural purposes. The biggest reservoirs have the following capacities: Vallecito – 130,000 a-ft; Lake Nighthorse – 120,000 a-ft; and Lemon – 40,000 a-ft.

Much of La Plata County has more agricultural land than available irrigation water, at least at a reasonable cost. Except along the Animas River, many irrigators run short of water at least during some years. In some locations, there is a perpetual shortage of irrigation water, especially where there is no water storage such as in the La Plata River Basin.

RECREATION AND ENVIRONMENTAL USE

These uses generally do not include water diversions and there are no estimates as to how much water is used for these purposes.

WATER FOR FUTURE DEVELOPMENT

GROUNDWATER

There are no known large, deep aquifers in the county with good quality water. The most viable supplies of groundwater exist in riparian and irrigated areas which recharge aquifers. Thus, development based upon groundwater will migrate to these areas. In many parts of the county, irrigators have been increasing their efficiency of water use by reducing ditch seepage and water percolation below the root zone. In addition, some irrigated areas have been taken out of production. It is possible that some locations, wells dependent on groundwater recharge from irrigation will eventually go dry.

River valley aquifers are found in shallow loose sediments like gravel and sand next to rivers and streams. They are usually found within the immediate proximity of a river or stream valley. These aquifers are recharged by the river flow and usually have good water quality and sustained yield because of the regular recharge from the river. However, the groundwater is often close to the ground surface and is therefore very susceptible to pollution from adverse surface conditions.

The Florida mesa aquifer is found in southeast La Plata County. This aquifer consists of a thick gravel deposit situated over a large area. Much of La Plata County's densely populated suburban area is situated over the Florida Mesa Aquifer. Recharge to this aquifer is primarily from irrigation water used on farms and ranches in the area. This aquifer typically has good water quality and yield. However, as more water wells are drilled and fewer farms are irrigated, the aquifer is at risk of becoming depleted in certain areas.

Bedrock shale and sandstone aquifers are often tapped in southwest Colorado. The most commonly drilled bedrock aquifers in La Plata County are the Animas and Nacimiento Formations in the southeast part of the county. However, many other bedrock formations are also drilled in other parts of the region. Most of these aquifers are mixed beds of sandstone and shale. The yield and quality of water

NATURAL ENVIRONMENT

removed from bedrock aquifers can vary widely. And because recharge into bedrock aquifers is usually very slow, bedrock aquifers can easily suffer from the effects of overuse or groundwater mining.

Crystalline fractured aquifers are most commonly found in northern La Plata County in granite and volcanic rocks. While these types of rocks have little or no pore spaces, groundwater is accumulated and transported in interconnected fractures within the rock. Wells that are drilled into a network of fractures can yield water. However, a nearby well that does not intercept fractures may yield no water at all.

In 2007, the County Commissioners adopted strict rules for basing subdivision development of greater than five lots on groundwater. Significant studies must be conducted to show that water withdrawals do not exceed groundwater recharge excluding recharge from irrigation. Those rules also allow for development based upon water hauling under extremely limited circumstances. The county does not allow for development based upon produced water from gas development because that water is only temporarily available.

SURFACE WATER

There are substantial sources of surface water available for development, but they are located in only certain areas and that water is very expensive to distribute around the county. Those sources could be diminished depending on the external factors discussed below. The biggest source of water for development is Lake Nighthorse. The Animas-La Plata Project is designed to supply southwest Colorado with almost 82,000 a-ft (diversions) of municipal and industrial water each year. Out of that amount, the Southern Ute Indian Tribe and the Ute Mountain Ute Tribe have been each allocated 33,000 a-ft (enough for 165,000 people). So there is plenty of water available for development on tribal land.

Originally, the Animas-La Plata Conservancy District was allocated 5,200 a-ft from the Project. Of this amount, Durango has an option to buy 3,800 a-ft for future development (enough for 19,000 more people), and the La Plata West Water Authority is interested in 1,400 a-ft (7,000 more people) for domestic water supplies in the La Plata River basin. Durango also still has unused water rights on the Animas River as well. The State of Colorado has been allocated 10,460 a-ft (enough to double the current population of the county) which has not been contracted to any entity. In a few years, the state will need to reimburse the federal government for this water (current estimates are about \$27 million) or the water will revert to the Tribes. The La Plata-Archuleta Water District has expressed an interest in some of this water.

There are other sources of water for development as well. The County has water rights for 9 cfs, and the County and the Southwestern Water Conservation District jointly have water rights for 20 cfs from the Animas River and tributaries for future development upstream of Durango's water park. These water rights were a result of a stipulation underlying the city's recreational in-channel diversion water right. The Pine River Irrigation District has discussed providing 3,000 a-ft from Vallecito to the La Plata-

Archuleta Water District. In addition, water rights may be converted from agricultural use to municipal and domestic use, especially where agricultural land is converted to development.

There are two proposed rural water districts which would distribute water around large parts of the county. The La Plata-Archuleta Water District would like to supply water to the southeastern part of the county from the Animas River to the eastern edge of the County and from just north of Highway 160 to the New Mexico border, excluding areas around Bayfield, Durango, and Ignacio. The La Plata West Water Authority would like to supply water to the La Plata River drainage from Hesperus south to the border. The estimated cost of full build out of each system is around \$85-\$100 million.

EXTERNAL FACTORS

Some external factors that could limit water use in La Plata County are the Colorado River Compact, climate change and endangered species. Under the Compact, Colorado is obligated to let a certain amount of water flow downstream to other states in the Colorado River system. Increased water use in other parts of Colorado, such as greater transbasin diversions from the Upper Colorado watershed to the Front Range or massive oil shale development in the northwestern part of the state would mean that more of Colorado's obligation could fall on the San Juan basin which in turn could limit local water development.

Climate change could cause a similar impact as the transbasin diversions. Colorado's obligation to downstream states doesn't change even if there is less precipitation. In addition, as has been seen over the past few years, drought reduces the availability of local water supplies. The needs of endangered species can also affect water development. For example, endangered fish limited the size of the Animas-La Plata project. It is unknown if current endangered species will require more water to survive or if other species will make their way onto the endangered species list.

WATER QUALITY

GROUNDWATER

The quality of groundwater in the county varies greatly by location. In some areas it is very good; in others the water has high levels of total dissolved solids (salts) and frequently high levels of iron and manganese. It all depends on what type of geologic formation a well is drilled into. There are pockets of poor water quality from other constituents as well. A selenium belt exists from around Oxford over to Sunnyside. There are elevated levels of fluoride east of Bayfield. Some water wells have methane particularly near the outcrop of Fruitland formation.

SURFACE WATER

Generally, La Plata County has very good water quality in its rivers and streams with some modest exceptions. At times there have been elevated metals in the Animas River that have affected aquatic life. These metals come from San Juan County. [Studies conducted by the Animas River Nutrient](#)

NATURAL ENVIRONMENT

[Workgroup \(2003-2010\) indicate elevated ~~ome people feel that~~](#) nutrient levels in the Animas River from just north of Durango to the New Mexico border could become a problem. Areas of the La Plata drainage have some elevated iron levels that could affect aquatic life. The main issue in local reservoirs is mercury which is generally thought to be coming from atmospheric deposition from coal-fired power plants. Vallecito has a fish consumption advisory because of mercury, as do a number of other reservoirs in southwest Colorado.

GEOLOGIC AND FLOOD HAZARDS

La Plata County's terrain, hydrology, climate, and vegetation produce natural processes that pose a risk of damage or destruction of property and harm to people. Opposite many other natural environment planning topics, natural hazard planning is concerned with the natural environment's impact on human settlement. Comparison of the map entitled Percent Slope with the map entitled Geologic Hazards confirms that the steep terrain and geologic hazards are integrated characteristics. For the most part, geologic hazards are only a threat to development in or near steeper mountains, foothills, and drainages. Very few private land areas in La Plata County are in avalanche prone terrain but there are some exceptions, up in La Plata Canyon, and near Lemon Reservoir, for example.

LA PLATA COUNTY PLANNING SYSTEM FOR GEOLOGIC HAZARDS

La Plata County's district plans and land use code steer new development away from geologic hazards by requiring site-specific geologic studies and slope surveys and promulgating standards to avoid these areas. Shrink/swell potential is a geologic hazard that is dangerous to structures because the ground shifts, cracking structures and foundations. The Map entitled Soils-Shrink Swell Potential shows that shrink-swell potential is mostly a mesa-top concern in La Plata County, the one location that is generally free of other geologic hazards. Shrink-swell can be mitigated to some degree by careful geo-technical engineering.

LA PLATA COUNTY PLANNING SYSTEM FOR DEVELOPMENT IN THE FLOODPLAIN

Many of the district plans discourage development in the Federal Emergency Management Agency 100 year floodplain, while the land use code requires specific construction techniques for construction in the floodplain. Floodplain protection aligns with many other county policies stated in the district plans and the land use code. Minimizing development impacts on the floodplain also preserves riparian habitat and scenery, reduces water pollution from septic systems and contamination, and keeps aquatic habitat intact by minimizing damage to vegetation cover. The map entitled 100 Year Floodplain shows that the major watersheds in La Plata County result in a large amount ([~6,500 ac.](#)) of private property in the floodplain. The county also requires a 50 foot setback from stream banks for all development, which additionally mitigates floodplain hazards.

NATURAL ENVIRONMENT

Formatted: Body
Text

RESTORATION OF OIL AND GAS LAND

La Plata County oil and gas lands have been the site of drilling, exploration, and production for over ~~two half a century~~ [decades; resulting in significant positive economic impact to the community](#). However, all gas and oil wells have a limited life, rarely producing economically viable amounts for more than ~~50~~ 30 years. In a comprehensive planning process, it is wise to look around the corner for future transformations of the landscape. The decline in production, plugging of wells, and disinvestment in the San Juan Basin gas fields will result in extensive changes in the landscape and it is worth preparing for this transformation before it occurs. County and State permitting systems are in place for placing oil and gas facilities and mitigating impacts of drilling and production. Some state measures are in place for reclamation, but these are site-specific requirements that may lack a comprehensive approach.

REGULATORY STRUCTURE

Currently restoration of oil and gas surface lands is accomplished in two phases:

- Interim reclamation- Required after construction, before production
- Final reclamation- Occurs after the well is plugged and out of production and before surface management is returned to the land owner.

Construction of well pads, pipelines, and facilities results in disturbance of areas that are not used during gas or oil production. Both the Colorado Oil and Gas Conservation Commission (COGCC) and La Plata County require storm water drainage improvements, re-contouring, soil restoration, revegetation, pollutant clean-up and other measures to clean up and restore the areas disturbed during construction and drilling operations and stabilize the site for production.

ROLE FOR THE COUNTY IN FINAL RECLAMATION

The map entitled Oil and Gas Wells shows that gas wells extend throughout the southern end of the county. Because reclamation is important for the wildlife, scenery, water and air quality, and the protection of county property owners, it may be worth evaluating the final reclamation regulations and enforcement provided by COCGG and if the state system is deemed inadequate to achieve community goals, it may be appropriate to develop county regulations and enforcement for final reclamation.

WILDLAND URBAN INTERFACE

Newcomers, attracted to the county's natural and scenic resources, are choosing to build homes in the forests which drew them to this area. This new development is frequently happening in habitat at risk for catastrophic wildfire. Development where houses meet or intermingle with contiguous wildland vegetation is the wildland urban interface (WUI), defined as:

...areas extending 1½ miles from the boundary of an at-risk community defined by the USFS and BLM's inventory and which lack emergency access routes; are in poor proximity to water sources; have areas with steep slopes; have high risk vegetation types; and/or that are in close proximity to fuels on public lands. (Source: La Plata County – Community Wildfire Protection Plan)

Ecosystems have evolved in the presence of fire over time. Native plants and animals in La Plata County have adapted to natural fire frequency and severity. Wildfires are getting larger and more intense according to historic fire data. Grazing, wildfire suppression and human development have resulted in greater accumulation of fuel and higher intensity fires have resulted in large losses of property and of species habitat. Wildfire risk to humans and structures is greatly increased by the intermixing of homes and natural habitat. The continuing drought, extensive forested lands and the decline of trees from beetles and disease keep the risk of catastrophic wildfire high. The 2002 Missionary Ridge Fire is such an example, having burned more than 70,000 acres and destroyed 57 homes north of Durango. The development of housing in or near forested areas also leads to widespread habitat fragmentation, the introduction of invasive species and a loss of biodiversity.

In 2002, five southwest Colorado counties, including La Plata County, joined together with multiple local and national agencies to create Community Fire Plans to coordinate wildfire education, mitigation and emergency response. The regional collaboration maintains the Southwest Colorado Fire Information Clearinghouse, www.southwestcoloradofires.org. They provide information about efforts to protect public and private lands from catastrophic wildfire events and education to property owners on ways to reduce the risk to their properties through fuel reduction, insect management and defensible space creation.

La Plata County - Community Wildfire Protection Plan (CWPP), created in 2006, updated the 2002 Community Fire Plan for La Plata County. Federal, state, and local governmental agencies and firefighting entities collaborated on identifying community resources and detailing goals, strategies, and recommendations for reduction of wildfire damage

The La Plata County – Fire Risk Zones map, which accompanies the CWPP, was developed with local fire chiefs and the La Plata County Planning Department to map the relative wildfire risk in populated areas of La Plata County. The GIS mapping is based on vegetation, slope, aspect, emergency access, proximity to water and proximity to potential fuel. The map is used by the county to assess risk, identify future fuel reduction projects on Federal Lands and for land use decision making.

NATURAL ENVIRONMENT VISION STATEMENT

La Plata County supports the protection and enhancement of a healthy natural environment on a local, regional and global scale. We are a leader in environmental stewardship and a model community for our proactive and balanced approach to conserving natural resources. We enjoy a healthy environment with clean air and water, and dark night skies. Wildlife corridors connect natural areas throughout the county creating ecosystem linkages and improving wildlife vitality. Our community members continue our legacy of land stewardship engaging in activities on their land that enhances land health. Damage from invasive weeds has been reduced and our native species are thriving. As extractive industries develop and decline, disturbed lands are successfully reclaimed.

GOALS AND STRATEGIES

1. Protect and enhance healthy ecosystems.

- a) ~~Develop~~ Consider developing a resource management plan for keystone species and programs to monitor health of various ecosystems throughout the county.
- b) Support educational and interpretive programs to connect residents from urban and suburban communities to the natural environment.

2. Encourage preservation and restoration of wildlife corridors, wetlands, and riparian habitats while respecting private property rights.

- a) Map wildlife corridors, wetlands, and riparian habitats in collaboration with federal, state, and tribal agencies.
- b) ~~Provide incentives to~~ Encourage land owners ~~to who~~ implement restoration and preservation guidelines on ~~the~~ portions of their property that are identified as wildlife corridors, wetlands, and riparian habitats.
- c) Develop conservation, zoning, and subdivision tools that provide incentives for protecting critical resource lands including habitat, wetlands, and riparian areas while allowing for other forms of development.

Comment [A1]: Noted potential concern by PC

Comment [A2]: Noted potential concern by PC

NATURAL ENVIRONMENT

3. Reduce wildfire hazards.

- a) Educate the public about insurance incentives available for reducing wildfire hazards around structures and ways to reduce fire hazard through defensible space and thinning operations.
- b) Develop advisory guidelines for property owners on fire-wise house design, location and fuel management of the site, in conjunction with mapped wildfire overlay zones for high risk areas.
- ~~b) Develop wildfire management overlay zones for high risk areas that control new development regarding density, building location and design and fuel management.~~

4. Address risks to our natural environment and long-term water resources by appropriate mitigation and adaptation measures.

- a) Advocate to the Colorado Oil and Gas Conservation Commission (COGCC) to adopt legislation-regulations requiring the oil and gas industry to inform county of any chemicals used in the extraction or production processes, and test for chemicals in ground and surface waters.
- b) Incorporate-Identify best management practices for protecting natural drainage systems and aquifers.
- c) Identify contingency measures for prolonged drought.

~~5. Minimize noise and light pollution, light trespass, and glare from future development and encourage retrofit of existing sources.~~

- ~~a) Identify best management practices for light and noise control.~~
- ~~b) Adopt noise and light regulations that consider specific land uses such as agriculture.~~

~~6.5. Develop energy infrastructure to generate sufficient energy locally to meet future needs.~~

- ~~a) Adopt renewable energy dividends (LPEA).~~
- ~~b) Implement renewable energy tax districts.~~

Formatted: Indent: Left: 0.75", No bullets or numbering

NATURAL ENVIRONMENT

~~c) Incentivize the use of renewable energy for buildings and energy efficient building designs through the building code.~~

b) Encourage hydropower generation from water projects.

~~d)~~

~~7-6.~~ Encourage the restoration or reuse of lands impacted by resource development.

a) Require reclamation plans for natural resource development.

b) Provide incentives and/or remove obstacles for establishing renewable energy infrastructure on impacted lands.

Comment [A3]: Move to Chapter 6 (sustainable Development)

Formatted: Indent: Left: 0.75", No bullets or numbering

Comment [A4]: Question of redundancy

~~8-7.~~ Restrict development in the floodplain and significant geologic hazard areas.

a) Complete and update county mapping of geologic hazards and the 100 year floodplain.

b) Develop a ranking system that identifies geologic hazards that pose a tangible risk to public health and safety and focus county regulation on those significant hazards.

~~b)~~

~~c) Require development to be located outside of the floodplain and significant geologic hazards except on properties where there are no feasible development sites outside of the floodplain or outside of significant geologic hazards; where floodplain or significant geologic hazards cannot be avoided, mitigation standards will be implemented to minimize risk to public health and safety.~~

Formatted: Indent: Left: 0.75", No bullets or numbering

~~9-8.~~ Protect and improve air and water quality and manage noxious weeds through collaboration with federal, state, Sovereign Nations, and local agencies.

a) Require notifications be sent to landowners when public right of way or well pad is sprayed with herbicide.

b) Require a 50 ft or greater setback from watercourses for on-site wastewater systems.

c) Revise the land use code so that erosion and sedimentation control standards are effective in minimizing runoff and disturbance of adjacent properties.

NATURAL ENVIRONMENT

- d) Work in partnership with the Colorado Oil and Gas Conservation Commission to continue monitoring water quality as part of the oil and gas permitting process.
- e) Enforce the County Weed Code and implement the County Weed Management Plan.
- f) Work in partnership with state and federal land management agencies and Sovereign Nations to prevent further proliferation of invasive plant species in La Plata County.
- g) Work in concert with other agencies to enforce-improve air quality standards in and near La Plata County.

h)

10.9. Reduce, reuse, and recycle material resources.

- a) Develop a County wide comprehensive recycling program that results in an increase in the types of materials (including appliances) that can be recycled and identifies convenient locations for drop-off and collection.

a)

- ~~b) Create a composting program that would allow for the city/county to compost waste and promote composting by individuals.~~
- ~~c) Provide tax incentives to businesses and individuals who recycle and re-use material resources.~~
- ~~d) Collaborate locally and regionally on a "zero waste" effort.~~

11.10. Support the enhancement of renewable natural resource systems (forest and range products, fisheries, wildlife).

- a) Promote forestry operations that are economically and environmentally sustainable sound.

Formatted: Indent: Left: 0.5", No bullets or numbering

Comment [A5]: Move to Chapter 6 (Sustainable Development)

Formatted: Indent: Left: 0.75", No bullets or numbering

NATURAL
ENVIRONMENT



