5.0 Energy & Natural Resources

The demand for energy and natural resources will increase in Clark County as growth occurs. Because scenic resources are often associated with natural resource areas, scenic resources are also considered in this chapter. Given the geographic size and economy of the region, the pattern with which that growth is accommodated has less to do with consumption of resources than overall growth. Since most providers of energy and natural resource industries are private, and the export and import of these resources has a large influence on the disposition of these resources, this chapter will focus discussion around consumption and conservation, including conservation of scenic resources, rather than production (Clark County, 2006).

Different land use patterns and transportation options in the various alternatives will affect the total miles traveled and consequently, the amount of fuel used for commuting and other travel and will also affect the resources consumed for development. The densities implied by the four alternatives would result in different consumption patterns.

5.1 Setting


Photo courtesy of T. Noland

Clark County is located along the western flank of the Cascade mountain range primarily within what is known as the lowlands of the Willamette-Puget Trough which sits between the Cascade Range to the east and the Coastal Range to the west. The general topography is characterized by upland foothill areas to the east that slope down toward the south and west in several plateaus toward the Columbia River. While these natural features provide resources for industry, with the exception of surface mining areas, they are an integral part of what is often considered a scenic resource. The terrain is usually gently rolling hills with a variety of farmland, rural and estate farms, forested areas, mountain peaks, gravel mine operations and river bottomlands. Policies and regulations have been developed to ensure the conservation of agricultural, forest, and mineral resource lands, and to protect these lands from interference by adjacent uses which can affect the continued use of these lands for production of food, agricultural products, timber, or the extraction of minerals.

Surface waters, vegetation, and topographic variations are natural features that are often elements of scenic resources. The county is also located on the western edge of the Columbia River Gorge National Scenic Area, designated by the US Congress in 1986 in recognition of the unique natural beauty of the area. The Evergreen Highway (between Vancouver and Camas) and Lucia Falls Road (near the Town of Yacolt) are designated scenic routes by County code. The Columbia River Lowlands encompass a large area, extending from the Vancouver Lake area north to the Ridgefield National Wildlife Refuge. The Steigerwald National Refuge protects a large area of lowlands in the southeastern part of the county. Scenic resources can also include elements of the built environment, such as views and panoramas of city landscapes, bridges, and dams. See Figure 5-1 for a compilation of the more significant resource areas.

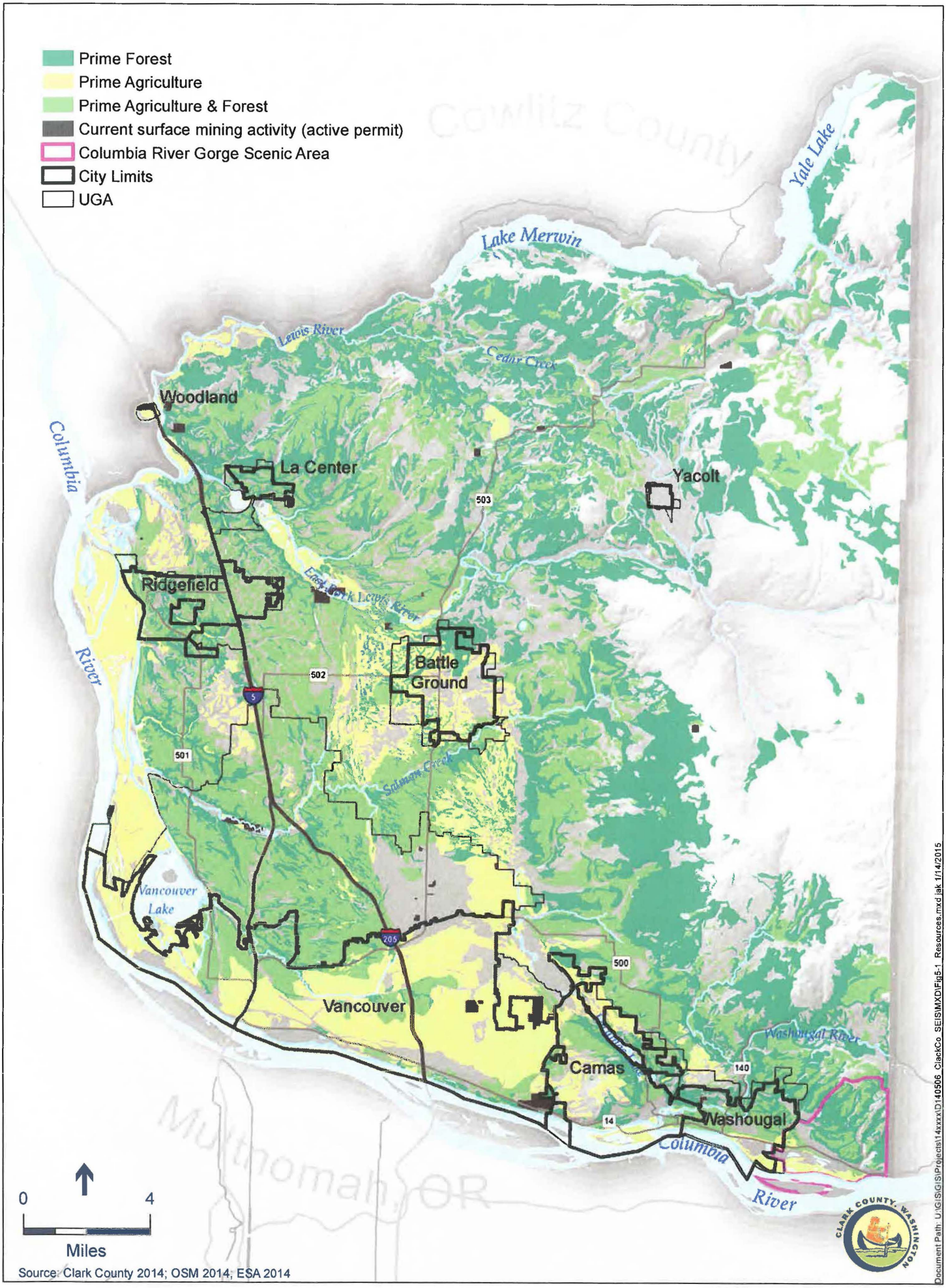

Figure 5-1: Natural Resources

5.1.1 What has changed since 2007?

Over the last hundred plus years the lowlands have been changed by human activities and intervention. The construction of dams and dikes and the introduction of plant, animal, and fish species have dramatically altered the natural environment. Over the past seven years, population and economic growth was hindered by events of the 2008 Great Recession so little has changed with regard to energy, natural and scenic resources as described in the 2007 Comprehensive Plan EIS. The County embarked on a rural land study which has led to a proposal to reduce lot sizes in the Rural, Agriculture, and Forest zones in this 2016 Comprehensive Plan Update. In 2014, the County adopted revisions to surface mining mapping and regulations to comply with new state guidelines.

5.2 Environmental Impacts

5.2.1 What methodology was used to analyze impacts to natural resources from each of the alternatives?

Assessing impacts on specific resources from programmatic actions is a challenge due to the fact that project specific development patterns are unknown. Most land subject to development review is not governed by design standards that can protect natural and scenic resources, nor are regulations in place to reduce energy consumption. Impacts to these resources are usually considered negative as it usually involves conversion of these open and pervious landscapes to ones that cover the landscape (e.g., conversion of an orchard to a residential subdivision). This section considers how the growth patterns of the alternatives may impact energy usage and natural and scenic resource areas.

5.2.2 What are the impacts to energy, natural and scenic resources from each alternative?

As described in the 2007 Comprehensive Plan EIS, most of the impacts on energy and natural resources would result from the population and employment growth, and not necessarily the way in which that growth is accommodated. That said, it is generally recognized that the more compact the urban form, the greater the efficiencies that can be gained in serving that form with urban services such as energy distribution, and reducing fragmentation, deterioration, and loss of natural features. For example, more dense development requires fewer street lights than suburban densities. Low density land use patterns generally have higher impacts associated with transportation fuel costs compared to more dense development which better support alternative transportation modes. Efficient land uses and cost-effective provision of services can often have energy conservation as a benefit.

Photo courtesy of T. Noland

The demand for electricity, natural gas, and other natural resources will increase in Clark County and other parts of the region as the economy revives and growth in population and jobs occurs. The cost of supplying these services can vary depending on the land use pattern of that growth but most of the increase in consumption would occur with growth in general.

Since population and employment growth is the same for all alternatives there would be little difference in energy usage for non-transportation-related activities. Alternatives 2 and 4 would likely have greater effects on transportation fuel consumption because of the potential for an increased number of new

parcels in the resource zones. However with those new parcels there is optimism that resource production will be actualized. Fossil fuel consumption has an impact on air quality, the impacts on the environment from transportation energy use are contained in the Climate section of the 2007 Comprehensive Plan EIS.

No changes to UGAs under either Alternative 2 or Alternative 3 would directly impact the Columbia River Gorge National Scenic Area, the Columbia River shoreline, the Vancouver Lake Lowlands, the Steigerwald Refuge, or the Ridgefield Wildlife Refuge, all areas with recognized scenic values.

Alternative 1 – No Action Alternative

No new impacts not otherwise discussed in the 2007 FEIS are anticipated. Alternative 1 would not involve the expansion of any UGAs. Urban growth and development over the next 20 years would occur primarily within existing UGAs on land already targeted for urban development. However, the current zoning does allow for some growth in the rural county areas. Approximately 7,000 new lots could be created under full build-out conditions of Alternative 1. Projects would be subject to review for compliance with policies and regulations that protect critical areas such as habitats, and parks and open space. Projects would also continue to be assessed for their impact on natural and scenic resources under the SEPA process. To the extent that Alternative 1 encourages redevelopment and revitalization of existing urban areas, it could have a positive impact on urban visual resources. However, more intense development within the rural areas allowed under the current zoning could cumulatively contribute to overall degradation of energy, natural and scenic resources throughout the county by increasing the demand for power and replacing natural landscapes with development.

Alternative 2 – Countywide Modifications

Of the four alternatives, Alternative 2 has the second most potential to affect energy, natural and scenic resources. The majority of changes proposed under this alternative are technical fixes to correct map inconsistencies, and a reduction in the number of comprehensive land use designations. There are minor adjustments within the UGAs of all the cities (except Camas and Yacolt). The largest of these is a156-acre expansion of Ridgefield's UGA. The Urban Holding Overlay indicates a potential that this open space could be converted to industrial and office uses.

The other aspect of this alternative is the proposed reduction in minimum lot area for resource lands, which has the potential to create approximately 8,200 new parcels. This could affect the scenic rural views in these areas by replacing natural landscapes with development. This amount of new development would create a need for expanded infrastructure in all areas of the county. As shown in Figure 1-2b, the parcels that could potentially be affected by this change are spread all over the county. A portion of the potential development would occur where at least some infrastructure currently exists; however, a majority of the potential new development would require new roads, longer commutes, and ultimately the use of more transportation fuels and other natural resources. Full development under this alternative, along with construction of infrastructure and production of natural resources, would not happen quickly, but incrementally over the planning period. In addition, individual projects would be required to undergo additional environmental analysis under SEPA. Alternative 2 would not likely have significant impacts on energy use and natural resource production.

Alternative 3 – City Expansion

This proposal has the potential to extend urban characteristics of La Center at I-5 to the north with expansion of the UGA for additional commercial development. Views of this area from the Interstate would be altered with the conversion of 61 acres (56 parcel acres and 5 ROW acres) of farmland/open

space to commercial, as well as 17 acres along the north La Center boundary for a new elementary school. Alternative 3 would expand Battle Ground's western UGA with the potential of converting existing rural densities to mixed use development on 82 acres. Another UGA expansion under Alternative 3 includes adding 111 acres on the north side of the City of Ridgefield, near I-5. This additional area would be converted from agriculture to residential uses. And finally, this alternative would add approximately 41 acres to the City of Washougal UGA for residential development.

All of the proposed UGA expansions under Alternative 3 would include more intensive development at full build-out than currently exists, resulting in increased demand for natural resources such as timber, natural gas, and electricity. However, concentrating new development within the UGAs helps to minimize the increased demand for transportation fuels. The conversion of rural areas to more intensive development could change the scenic character of these areas. The UGA's are areas planned for future development, so these conversions would not be considered significant.

Alternative 4 – Rural, Agriculture, and Forest Changes

This alternative would have the greatest potential to affect energy, natural, and scenic resources due to the amount of development that could occur with the proposed reduction in minimum lot sizes. Although the changes proposed would correct map inconsistencies and reduce the number comprehensive land use designations, it would also create the potential for development of approximately 12,400 new lots. This amount of development could change the character of the landscape by bringing development to the natural landscapes that are considered a scenic resource in Clark County. If fully developed under Alternative 4, this amount of wide-spread development would constitute a significant impact to the landscape character of the County.

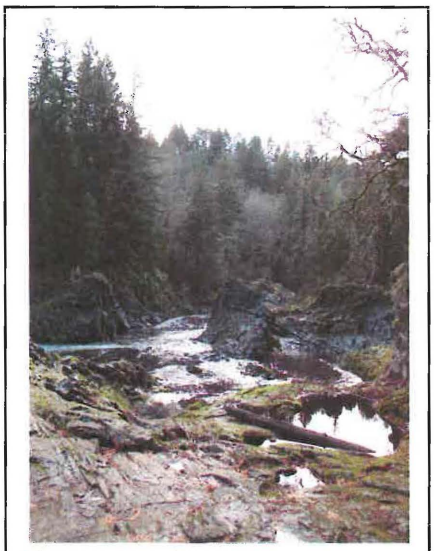

Photo courtesy of S. Graham

As with Alternative 2, this amount of new development would create the need for expanded infrastructure in all areas of the county, as shown in Figure 1-4b. A portion of the potential development would occur where at least some infrastructure currently exists; however, a majority of the potential new development would require new roads, longer commutes, and ultimately the use of more transportation fuels and other natural resources. Full development under this alternative, along with construction of infrastructure and production of natural resources, would not happen quickly, but incrementally over the planning period. In addition, individual projects would be required to undergo additional environmental analysis under SEPA. Alternative 4 would not likely have significant impacts on energy use and natural resource production.

5.2.3 How do the potential impacts between the alternatives compare?

With the potential to increase residential development in the rural area by approximately 5,300 new units, Alternative 4 is the most likely to affect rural views and increase consumption of energy and natural resources than the other alternatives, which encourage more development within and near existing urban areas. As described in the 2007 Comprehensive Plan EIS, the more compact the urban form, the greater the efficiencies that can be gained in serving that form with energy resources. Alternative 3 would enable the most energy conservation than the other alternatives because new urban development would be concentrated within the UGAs.

Table 5-1 summarizes the energy and natural resources impacts of the alternatives.

Table 5-1. Summary of Energy and Natural Resources Impacts by Alternative

Alternative 1 - No Action	Alternative 2 - Countywide Modifications	Alternative 3 - City UGA Expansion	Alternative 4 - Rural, Agriculture, and Forest Changes
Moderate potential for impacts. More intensive development under the current zoning could affect scenic and natural resources, but regulations and mitigation requirements would minimize most impacts.	Second highest potential for impacts of all alternatives due to potential for more intense development across the County. Would require the use of more fossil fuels and other natural resources. Development would occur incrementally over the planning period and mitigation would minimize impacts.	Low potential for impacts. Potential localized impacts with UGA changes; could be mitigated during project-specific review.	Highest potential for impacts of all alternatives due to potential for the most intense development throughout the County. Would require the use of more fossil fuels and other natural resources. Development would occur incrementally over the planning period and mitigation would minimize impacts.

5.2.4 Are there adverse impacts that cannot be avoided?

Growth and development by their nature consume energy and natural resources. It is unavoidable. The comprehensive planning process is intended to reduce and minimize those adverse impacts of growth to ensure certain resources, such as scenic views, are not irretrievably lost. Planning at the countywide scale allows consideration of the wide range of needs required to build communities and is an effective way to manage development in ways that restore damage from past activities and to continue efforts to replenish resources for the next generation. The moderate growth projections and alternatives for managing that growth analyzed in this SEIS would not likely result in significant unavoidable adverse impacts to energy and most natural resources. Alternative 4 could have significant unavoidable impacts to the landscape and scenic views within Clark County due to the wide-spread development that would be allowed with the reduction in minimum parcel sizes.

5.3 Mitigation

In addition to the measures discussed below, impacts and mitigation would be identified and applied on a project-by-project basis under subsequent environmental review.

5.3.1 Are there mitigation measures beyond regulations that reduce the potential for impacts?

The primary energy and natural resource conserving measures available to local jurisdictions is to adopt a compact urban form that supports alternative energy, efficient transportation (walking, bicycling, and transit) and reduces impact on pervious landscapes.

Beyond participating with providers to promote energy conservation, local jurisdictions could add similar policies to their comprehensive plans that deal in general with "sustainable" practices that support citizen and business efforts to reduce energy consumption and promote recycling. Policies could recognize the link between reducing energy consumption and protecting the environment on a regional, state, and national level. Implementation of tree preservation ordinances and revising building

codes to allow more innovative "green" building design ideas would also be helpful. For example Battle Ground, Camas, and Vancouver comprehensive plans contain policies promoting energy conservation and sustainability.

Scenic resources, such as views of the snow-capped mountains, have generally not been recognized as a critical or sensitive resource in need of protection to the same extent as other natural resources. Emblematic of the northwest, scenic resources add value to the County's economy, as well. The first step in mitigation of the potential impacts of development on these resources would be to inventory the views from major public routes, public facilities, and viewpoints particularly those used by tourists to the area. Policies and programs could then be developed to protect these scenic resources from alterations. For example, the City of Camas identifies public places consisting of viewpoints, parks, scenic routes, and view corridors to preserve the visual integrity of the wooded hillsides that provide the backdrop for the city. The City may condition or deny a proposal to eliminate or reduce its adverse impacts on designated public views or open space networks. Shoreline Master Programs also include policies to minimize effects on visual access to shorelines.

The City of Battle Ground's Comprehensive Plan Livability Goal 5 encourages new development design that protects and promotes significant views. Objectives under this goal call for preserving public views, promoting the creation of new views through innovative development design, exploring location of new public spaces and parks to preserve significant views, and seeking to protect the views of the night sky.

Provisions for clustering under Alternatives 2 and 4 would minimize the need for additional infrastructure, leave the largest amount of open space and scenic views intact, and would be more efficient for providing energy and other natural resources. Zoning code changes to allow lower minimum lot sizes under either Alternatives 2 or 4 could include requirements for cluster development when considering applications for subdivision. This mitigation measure would reduce the effects on the rural landscape and scenic views.

The Regional Transportation Council's (RTC) Regional Transportation Plan (RTP) update is not required to include any specific greenhouse gas (GHG) emissions or vehicle miles traveled (VMT) reductions. However, consistent with local, regional, state and national transportation policies, the plan does include strategies and project recommendations that support GHG and VMT reductions. Examples of these strategies and projects in RTC's RTP update include the following:

- Transit expansion, both fixed bus and high capacity transit;
- Transportation demand management strategies;
- Commute trip reduction programs;
- Congestion management processes; and
- Transportation system management/operations and intelligent transportation system strategies.