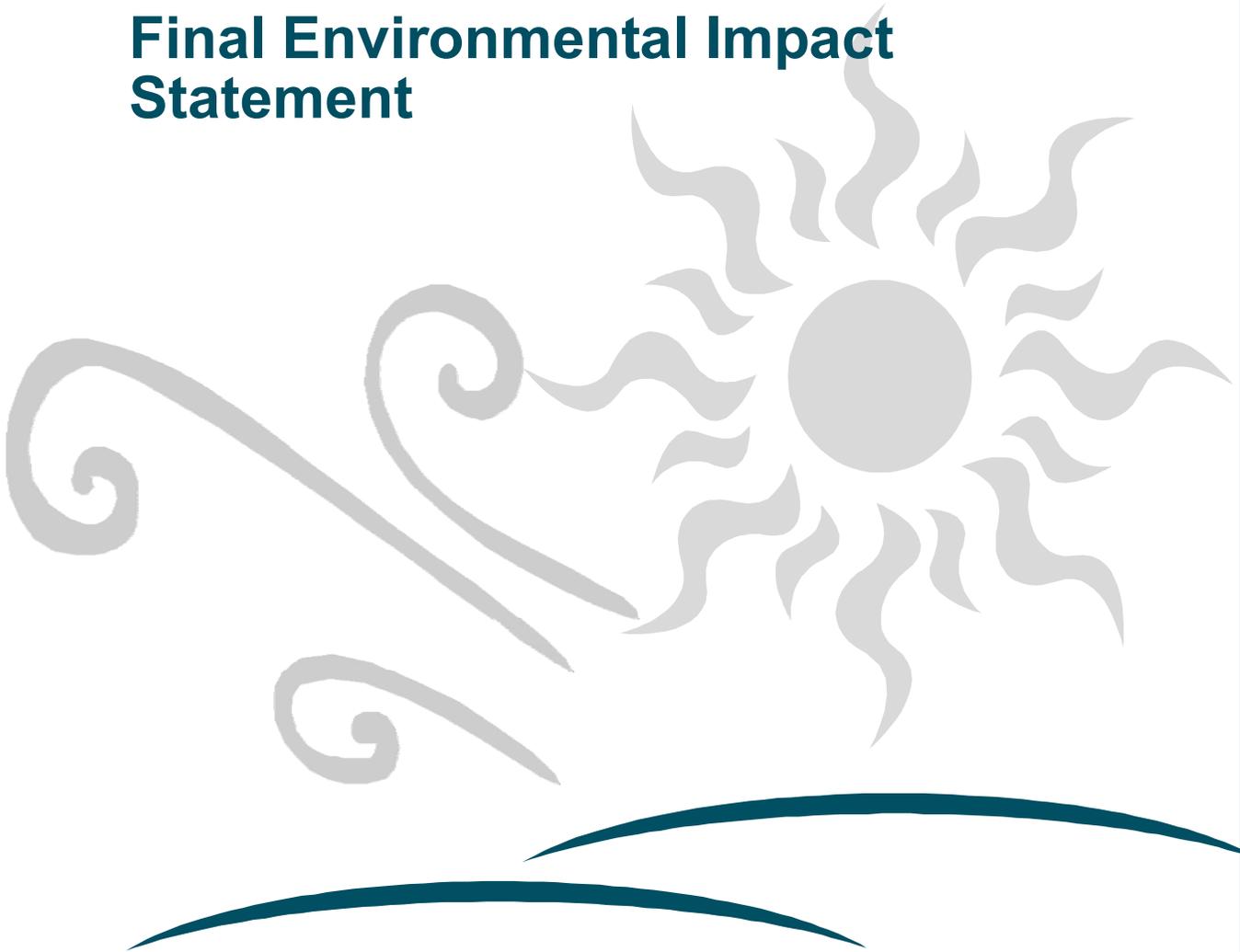


September 2004

Klickitat County Energy Overlay

Final Environmental Impact Statement



Forest: corresponds to the County's Forest Resource (FR) zone.

These land use and zoning groups were used to help define the Geographic Alternatives. Criteria used for developing the Geographic Alternative include geographic continuity (i.e., proximity to each other) and use by species of concern (e.g., avian use for foraging and nesting). Compatibility with development, data availability, and existing management policies were also factors considered in screening habitat alternatives.

Additional protection was considered for areas of high biodiversity and habitats that support special status (state or federal rare, threatened, or endangered) species. According to Priority Habitat Land Use data, forested areas host higher concentrations of owl and other sensitive species habitats. Specific habitat location data are not provided in the EIS to protect location information. A full discussion of impacts to habitats, plants, and animals is provided in Section 3.4.

Based on this screening of the Alternatives, areas with high concentrations of forested habitats are recommended to be excluded from the geographic scope of the Overlay because forest habitats have:

- Higher potential for use by sensitive species and avian species likely to be impacted by wind turbines
- Greater geographic discontinuity (more dispersed) within the County and less similarity compared with agricultural, commercial, and range land.

2.3.4 Areas Under Other Government Agency Management

The Geographic Alternative also considers areas within the County that are managed by other governmental entities, including federal land (National Forest, Bureau of Land Management land, and military sites), state land (state forest and state parks), and tribal lands. As shown on Figure 2-2, much of the land area under other governmental management is located in the northern portion of the County. These include areas managed by the Gifford Pinchot National Forest and the Yakama Nation, as well as the Conboy Lake National Wildlife Refuge. The locations of the properties under other land use management agencies were considered in placing the proposed Overlay boundary to include the southern half of the County.

2.3.5 Limited Geographic Alternative

The Final EIS includes a second geographic alternative (Limited Geographic Alternative), which would limit natural gas-fired facilities to areas within the Overlay where there are sufficient existing water rights or certificates to provide a minimum of 500 acre-feet per year. This does not include water right claims, which could be more difficult to substantiate and transfer. A criterion for water availability in the Limited Geographic Alternative would be:

Within one mile of a section that has at least one water right or certificate equal to or greater than 500 acre-feet per year. Adjacent sections or portions of the sections that have the water right would not be included if it crosses a WIRA boundary.

associated with specific energy generation technologies follow the discussion of general impacts. Likewise, the mitigation sections below suggest measures that are common to any type of proposed energy development. Mitigation measures specific to individual energy development types are discussed in the following sections on energy-specific impacts and mitigation.

3.4.5.2 General Bird and Bat Impacts

Potential impacts to birds and bats could occur through temporary disturbance and displacement during construction, loss of habitat through conversion of land to energy facilities, and ongoing mortality as a result of facility operations. This latter impact would principally be due to impacts from wind turbines and associated structures. Construction disturbance and habitat loss are impacts potentially associated with any energy technology development.

3.4.5.2.1.1 Habitat Effects on Avian Use

According to the WEST study, the highest use by buteos (hawks) occurred in shrub-steppe and forested habitats (riparian and upland trees), but no significant difference was noted in buteo use among habitats (see West report, Appendix B, Figure 3). Plots that contained riparian habitat had significantly higher use by buteos than plots without a riparian habitat component. Use of the project area by eagles was significantly higher in shrub-steppe habitats than the other three habitats examined; no use by eagles was documented in agricultural habitats. Eagle use was also significantly higher if the survey plot contained a riparian area component.

Use of the study area by large falcons (prairie falcons) was significantly higher in forested habitats than agricultural or grassland habitats; use of shrub-steppe habitats was lower than forested areas but not significantly. As with eagles, no falcons were observed in agricultural habitats during the study. Use by large falcons was also significantly higher if riparian habitats occurred within the survey plot. Small falcon (primarily American kestrel) use of agricultural and grassland habitats was significantly higher than use of forested areas, but was similar to use of shrub-steppe habitats. Northern harriers had significantly higher use in grassland habitats than shrub-steppe or forested areas. Use of agricultural areas was similar to grasslands. Northern harrier was the only raptor that had significantly higher use of plots not containing any riparian habitat.

For all raptor species combined, grasslands and shrub-steppe habitats had slightly higher use than agricultural or forested habitats; however, no significant difference was noted in use among the four habitat types. Use of plots by all raptors combined was significantly higher if the plot contained at least some riparian habitat.

Passerines had similar use among all four habitat types. Use of plots by passerines was significantly higher if the plot contained at least some riparian habitat. Corvids had higher use of grasslands and shrub-steppe than agricultural or forested habitats; however, the differences in use among the four habitats were not significant. Corvids also had slightly higher use in plots that did not contain a riparian area component, but the difference was not significant. Waterbirds and waterfowl had higher use of forested (i.e., riparian) and shrub-steppe than grassland or agricultural habitats, but the differences were not significant. Use of survey plots by these groups was also much higher if the plot contained some riparian habitat.

3.4.5.2.1.2 Habitat Effects on Bat Use

Areas used by bats for roosting and foraging are typically not the same areas conducive to development of wind farms, which are usually constructed in open areas to take advantage of

the wind. Therefore, construction of wind farms would not result in the loss or degradation of bat habitat in Klickitat County. The primary impact to bats would be collision mortality, and this would be confined primarily to the migratory species.

3.4.5.2.1.3 Effects of Alternatives on Bird and Bat Impacts

The Geographic Alternative sets boundaries that exclude much of the County's woodland habitats and some cave areas. Therefore, some potential impacts to bird and bat species would be avoided. However, the geographic location of the Overlay includes open range land that several raptor species use for hunting. Procedural Alternative 1 (allowing development outside the Overlay under conditional use) could result in greater impacts because more habitat types are potentially available for development, compared to Procedural Alternative 2, which would exclude energy development outside the Overlay. The No Action Alternative could result in even more impacts because it would provide no incentive to develop energy facilities in areas with the smallest impact to flying animals.

3.4.5.2.2 Mitigation of General Impacts to Birds and Bats

Any construction project has the potential to displace habitat used by birds and bats. However, in general, construction is less likely to take place in bat roosting habitats (caves and trees). Impacts to flying animals may include:

- Loss of habitat
- Displacement or disturbance during migration or reproductive periods
- Mortality due to collision with structures

This discussion will focus mostly on mitigating loss of habitat and disturbance during important periods. Collisions, which are mostly associated with wind energy projects (although some flying animal mortality occurs from collisions with any structure), will be discussed separately below. Because habitat changes and disturbance mostly affect birds, this general discussion will focus on birds.

The information on bird habitat use and migration patterns in Klickitat County in the WEST study will be useful in siting energy projects away from areas that could lead to significant impacts to bird habitat. Additional site-specific studies may be needed to supplement or refine the findings of the WEST Study. Any construction project should assess the potential short-term (construction disturbance) and long-term (habitat loss) impacts to birds and bats. Each site is likely to have unique requirements. Hence, a site-specific management plan should be developed to address impacts to flying animals. The plan might include elements such as:

- Construction timing to avoid disturbing migration or reproductive periods
- Mitigation for loss of habitat such as constructing bird or bat boxes elsewhere
- Deterrence methods to discourage birds or bats from roosting in areas where they could be harmed.

Mitigation measures for specific energy development, including wind energy, are discussed separately below.

Because any type of thermal power plant would have to meet air quality and noise standards, impacts to birds and bats from ongoing emissions are considered low.

Because bats do not roost in habitats likely to be occupied by thermal plant development sites, temporary construction impacts and loss of habitat are considered low. However, bat collision mortality is not unique to wind plants. Previous studies have documented bats colliding with lighthouses (Saunders 1930), communication towers (Van Gelder 1956, Crawford and Baker 1981, Zinn and Baker 1979), tall buildings (Timm 1989; Terres 1956), powerlines (Dedon et al. 1989), and fences (Denys 1972).

Under the Geographic Alternative, the proposed Overlay would exclude some bird habitats associated with forested areas. It could also reduce impacts by mapping that excludes some of the County's higher bird use habitats including cliffs, caves, forested areas, wetlands, and riparian zones and requiring additional mitigation measures in these areas. For gas-fired and biomass facilities, the Limited Geographic Alternative limits development to geographic areas with adequate water resources. The Limited Geographic Alternative further limits development of gas-fired plants to within two miles of existing gas pipelines. These limitations would exclude some bird habitat from development and potentially reduce impacts.

Under Procedural Alternative 1 (Conditional Use Process) thermal energy development projects could still go forward in locations outside the Overlay through the Conditional Use permit process. Under this process, it may be possible to demonstrate no significant adverse impacts to birds or bats through site-specific studies or other mitigation measures.

Under Procedural Alternative 2 (excluding development outside the Overlay), these additional potential impacts would not occur.

Under the No Action Alternative, energy development could occur anywhere within the County. However, the County's existing permit structure gives the County the authority to deny projects through Conditional Use permitting and SEPA reviews when significant adverse environmental impacts cannot be mitigated or when all Conditional Use requirements cannot be met. The No Action Alternative does not provide incentive that may help drive development to low impact locations.

3.4.5.4.2 Mitigation of Thermal Power Impacts to Birds and Bats

Birds and bats are currently protected and managed through existing state and federal Special Status Species regulations, eagle, and migratory bird statutes (see Section 3.4.4.1.1). Other than the site-specific habitat survey recommended for general mitigation, no additional mitigation measures specific to thermal power facilities appear necessary.

3.4.5.4.3 Thermal Power Terrestrial and Sensitive Species Impacts and Mitigation

Developing thermal or other high density energy facilities would likely result in permanent loss of viable plant and animal habitat within the footprint of the development. However, the number and size of the thermal energy development projects are relatively small, so the impacts from such developments are likely to be insignificant. Therefore, no special mitigation measures specific to thermal power generation appear needed to mitigate impacts to terrestrial plants and animals.

RESPONSES TO INDIVIDUAL LETTERS

A-1 Washington Department of Trade and Economic Development

1. Comment noted. State agencies that received a copy of the Draft Environmental Impact Statement (DEIS) are shown on page 5-7 of the DEIS. The Department of Trade and Economic Development has confirmed that Growth Management Act notification requirements do not apply to Klickitat County, as the County does not plan under the Growth Management Act.

A-2 Washington Department of Fish and Wildlife

1. See General Responses #2, #4, and #7.
2. While the development of the overlay may increase the overall number of projects within Klickitat County, the objective of the overlay is to site these projects in locations that minimize environmental and infrastructure impacts. Because of the proximity to wind, gas transmission, and electrical transmission resources in the County, many projects are likely to be sited in the County with or without the overlay. The overall impacts to the County would be lessened through the comprehensive siting process of an overlay.
3. The DEIS identifies potential impacts associated with the proposed energy development and suggests potential mitigation. However, the final mitigation measures are developed by the County to address identified impacts. Smaller wind turbines have potential impacts to birds and the County may take that into consideration in the final energy overlay ordinance.
4. The DEIS used published information from USFWS Federally Listed Endangered or Threatened Species as published in the Endangered and Threatened Wildlife and Plants, WDFW Priority Habitat and Species (PHS) database, Washington State Natural Heritage Database, and priority habitat database information for Klickitat County in GIS format to identify the potential impacts of the proposed overlay to sensitive species and priority habitats. However, because of the sensitivity of some of the information and data use agreements, the locations of concentrations of sensitive species were not disclosed in the DEIS. However, Klickitat County has access to the compiled data in the form of GIS maps and will use these maps in evaluating energy siting.
5. Section 3.4.4.4.2.3 of the DEIS discusses the 200-foot regulatory jurisdiction under the Shoreline Management Act, and provides a general discussion of riparian buffers in Section 3.4.5.2.10. However, the DEIS does not specify required buffers such as those recommended in "Management Recommendations for Washington's Priority Habitats" because riparian impacts should be evaluated on a case-by case basis. The County should consider the recommended buffers in connection with each site-specific siting evaluation. Buffers are addressed in the Shoreline Master Program and the Critical Areas Ordinance.
6. The DEIS considered the presence of large concentrations of forested habitats as one of many factors in setting the boundary of the proposed energy overlay. The intent was to exclude large concentrations of areas of forest habitat because forest habitats tend to be more complex, have higher biodiversity, and lack ideal siting conditions for energy development. It was never the intention of the DEIS alternatives to fully exclude all

forested habitats. As it turns out, these habitats are more concentrated in the northern portions of the County in areas of more rugged terrain, and consist mostly of mixed conifer forests and some oak habitat in the lower elevations. Setting the boundary involved a compromise of many factors which led to including some mixed conifer forested areas near the southwest corner of the County (included because of proximity to existing development and infrastructure) and some oak habitat. The impacts to these areas that are included in the overlay would be considered through the site-specific evaluation process described in the proposed overlay ordinance.

7. The DEIS included the western gray squirrel in its terrestrial habitat evaluation because it is the only non-avian terrestrial state listed species that was believed to be potentially impacted by energy development. There appear to be a few areas within the identified overlay zone (i.e. Dallesport area) that may be suitable habitat for the Western Pond Turtle. Site-specific analysis and published information on known Western Pond turtle nesting habitat and site-specific studies would be used to evaluate potential impacts to nesting activities.

Avian impacts analysis did consider listed endangered bird species and proposed site-specific studies and mitigation would address any potential impacts.

Site-specific habitat studies should include significant wildlife impacts; however, impacts to game animals such as deer and bighorn sheep should be considered in the context to overall wildlife management and may not require special protection. Overall habitat impacts from the proposed energy developments are likely to be minimal when considered relative to the large areas of existing habitat available to game animals in the County.

8. The DEIS provides information on streams where sensitive fish habitats exist, and information on the locations of sensitive terrestrial habitats has been provided to the County. The County will make site-specific decisions on permitting energy development using this information.
9. The DEIS can only provide general mitigation measures for identified impacts due to the lack of site-specific data. Instead, it recommends site-specific studies and mitigation plans to address actual identified project impacts. This approach is proposed for adoption in the draft Overlay Ordinance. The third general mitigation suggested in Section 3.4.5.2.4 reads “deterrence methods” not deference methods. Deterrence methods for reducing potential harm to terrestrial animals could include fencing or design to eliminate attractive structures. The other general mitigation measures provided in comment A-2 #9 may be considered, along with others, on a site-specific basis by the County during the permit review process.
10. The DEIS attempted to use the best available published, peer reviewed data to evaluate general impacts of the proposed overlay. Site-specific and current data is incorporated into the EIS. Further, site-specific habitat studies will be used to evaluate specific project impacts. This recommendation was included in the draft Overlay Ordinance. See General Response #15.
11. The DEIS includes general narrative about the types of habitats present within the proposed Energy Overlay in Section 3.4. Because the area of the overlay is so large, the discussions focus on sensitive habitats such as wetlands and riparian zones and

not impair existing water rights or pending applications, instream flows, or water quality, and is in the public interest (with regard to change to a groundwater right).

3. The Comment period was extended 30 days.

C-30 Ed Kennell

1. Comments noted.

C-31 Carli Palmer

1. See General Response #1.
2. Comment noted.

C-32 Patricia Arnold

1. The Fact Sheet, and Sections 1.1 and 2.2 should be read in conjunction with one another. The general goal of the EIS is to (1) identify areas of the County with energy resources; (2) identify areas with adequate infrastructure for energy development or where such infrastructure can be provided; (3) consider compatibility with existing and planned land use and how to minimize environmental impacts; and (4) facilitate development in appropriate areas by providing a predictable regulatory regime. These goals were re-stated in several ways throughout the EIS, as each goal involves a variety of assessments. However, some clarification has been provided in the FEIS, in response to comments.
2. Project-specific information on available solar or biomass resources would be needed for the County to evaluate a specific proposal. See General Response #6.
3. See General Response #7.
4. In response to comments, a more detailed set of mitigation measures was developed and included in the FEIS as Appendix F. These can be incorporated into the regulatory process, referred to by the public in commenting on projects, or used to mitigate projects through SEPA. Note, however, that existing requirements can be relied on when appropriate to avoid duplicative mitigation. The draft Ordinance provides the County with the ability to require additional mitigation of impacts that go beyond its current regulatory authority.
5. The EIS is designed to evaluate the location of energy resources and infrastructure, including transmission lines. It is also designed to evaluate current land uses, and the environmental impacts of locating energy projects in various areas of the County. While all energy projects have environmental impacts, the northern portions of the County tend to contain more heavily forested habitat, while the southern portions tend to have better energy resources and infrastructure. Because of this, it is possible for the EOZ to be located to take advantage of both energy resources, but also avoid some of the more forested areas of the County. No location will be impact free, but the EOZ can be located with a sensitivity to environmental impacts. To further tailor the location of the EOZ, the Limited Geographic Alternative was developed in response to comments. See General Response #7.