

Evaluation of Northeastern I-5 Route

January 18, 2012

Over a year ago, the public presented a concept for an I-5 Corridor Reinforcement Project route that went farther north and east than any route segments BPA had presented for study. This was called the “gray line.”

After studying the suggestion, we initially decided against developing the route and announced our decision in February 2011. Since then, we have received additional, more specific comments and suggestions about developing this route and decided to evaluate it in more detail.

Over the last several months, we studied a mile-wide corridor to determine whether we should identify a route, add it to the project map and consider it as an alternative in the environmental impact statement. Public comments emphasized the transmission line should be routed as much as possible on public and private timberlands to reduce impacts to private homes. Our evaluation of a northeasterly route was as consistent as possible with this objective, but also reflected relevant limitations on transmission line siting we considered for our proposed routes. Our study included public input, aerial photography, helicopter reconnaissance, multiple field trips, and meetings with affected utilities and with public and private owners of large timberland parcels.

The general guidelines we used included the following:

- Stay north of the more populated areas of Longview, Castle Rock and the areas surrounding Silver Lake.
- Use the most northerly Castle Rock substation site at Casey Road.
- Avoid crossing Lake Merwin or Yale Lake – a span to cross either lake would be up to one mile long and would require extremely tall structures.
- Avoid the Speelyai Creek basin area where there are homes.
- Avoid the Mount St. Helens National Volcanic Monument where transmission lines are not allowed.
- Cross the Lewis River east of the town of Cougar where the river is narrowest.
- Connect to Segment O somewhere north of the East Fork Lewis River.

Except for the portion of the route in the Cougar area, this study looked at broad corridors in which a new line could be located. The Cougar portion was studied in greater detail because of the difficulty in crossing the Lewis River and its surrounding area. To define an exact route, additional study of the entire route would be needed, which would require much more time.

In late November 2011, BPA publicly released a summary of preliminary data for the four alternatives currently being studied in detail in the EIS that we are preparing. This summary, entitled “Preliminary I-5 Route Data by Alternative” (posted at http://www.bpa.gov/corporate/I-5-EIS/documents/I-5_Route_Data_by_Alternative-2011-11-29.pdf), is a data sheet with a wide variety of information about the four alternatives. This data sheet includes housing counts that are based on measurements from the edge of the right-of-way for each alternative to houses within distances of 50, 100, 300 and 500 feet.

Although we do not have a precise alignment or right-of-way edge defined for a possible northeastern route, we estimated the number of houses potentially within these same distances from such a route, given the general corridor that was studied. This estimation was done to allow a rough comparison with similar data for the four existing alternatives that run from Castle Rock to Troutdale included in the EIS.

Starting at Castle Rock we used the northeastern route for the northern half of the line, connecting up at Segment O as has been suggested, and then using the East Alternative for the southern half of the line to get to Troutdale. Although final numbers could vary, it is estimated that for this route from Castle Rock to Troutdale there could be about 10 houses within 50 feet of the route, about 12 houses within 100 feet, about 117 houses within 300 feet, and about 227 houses within 500 feet. The largest concentration (10-20) of homes impacted in Cowlitz County are located just east of Cougar and the impact to these homes would vary depending on the final location of the route, which would also have to consider impacts to wetlands, a campground, and the state highway.

These numbers can be compared to the existing East Alternative, which has the following housing counts: it is estimated that for the East Alternative from Castle Rock to Troutdale there could be about 15 houses within 50 feet of the route, about 25 houses within 100 feet, about 157 houses within 300 feet, and about 286 houses within 500 feet. Based on our study, a new route using the northeastern route thus would have slightly less impact to housing than the East Alternative.

Conclusion

A more northeastern route may affect fewer homes compared to the existing alternatives, but with the following significant consequences. Adding this route would significantly affect project cost, project schedule, the timber industry, trust lands managed by the Washington Department of Natural Resources (WDNR), PacifiCorp properties, small private landowners not yet aware of the project, and the natural environment. Because the development and study of this route would need to be added to our environmental analysis, it would delay release of our Draft EIS and the selection of a preferred alternative, which would affect the many people who have asked us to complete this process as soon as possible.

A likely significant negative impact is on WDNR's Habitat Conservation Plan (HCP). If we build the transmission line on as much WDNR land as many in the public wish, the line would likely negatively affect an existing bald eagle nest and endangered spotted owl habitat in the Siouxon NFR Management area. In addition, this route could negatively impact endangered bull trout; potentially remove old growth forest; and harm a large pristine wetland area. WDNR's interests in timber harvest on their lands also could be significantly impacted since the more northeastern route would further constrain future logging activities on up to 1.6 million acres of timberland.

Compared to the existing East Alternative, this route would cross steeper terrain and require more miles of new access roads. This route would also be considerably more expensive, adding more than \$30 million to the cost of the project because it would be 10 to 15 miles longer and require more roads per mile of transmission line. In addition, there would be costs to compensate for impacts to timberlands in steep terrain, mitigation costs for impacts to wetlands, bull trout and spotted owl habitats, and potential costs to compensate for impacts the transmission line would have on WDNR's HCP and the Siouxon NRF Management Area.

Developing a new route would also add 1.5 to 2 years to the EIS schedule because we would need to further develop and analyze this route for inclusion in the draft EIS. This would postpone the draft EIS and identification of a preferred alternative by up to two years. Additional work would include identifying stakeholders for the corridor, holding additional scoping meetings, developing one or more specific routes in the corridor, adding the new routes to the map and list of route alternatives, developing preliminary designs for access roads and tower locations, conducting environmental studies on those routes, and analyzing them in the EIS.

Considering the results of this study and the significant additional impacts of moving the northern half of the line even farther from populated areas, we have concluded that the suggested corridor offers no significant overall advantage to existing routes proposed from Castle Rock to Troutdale. The northern half of the existing East Alternative is already located in predominately unpopulated forest lands. The proposed route does nothing to reduce the number of homes in the southern half of the route, where most of the homes are.

The existing route alternatives being considered in detail in the draft EIS range from using mostly existing BPA rights-of-way to developing new rights-of-way in the mostly forested eastern area of Cowlitz and Clark counties. Accordingly, we are confident that we have a reasonable range of alternative routes to consider in our NEPA process.

We believe further consideration of this route is not necessary, and that there is no need for further evaluation of this suggestion in our planning or environmental process. The draft EIS that we are preparing for the proposed project will summarize our consideration of various alternatives, including this suggested variation, and the reasons this proposal has been eliminated from detailed study in the EIS.

Mark Korsness, Project Manager

Segment Summaries

The following is a summary of the results of the northeastern route study. Findings are given by segment based on key geographic locators, beginning with the Casey Road substation site area and ending at the route's intersection with Segment O.

Casey Road Substation Site Area to Highway 411

The route heads east across first WDNR property, then Sierra Pacific property until it reaches Highway 411 (West Side Highway). This section of the route traverses relatively moderate timberland terrain near the Casey Road substation site to gentler slopes near the West Side Highway. There is a scattering of homes on small acreages to the west of Highway 411 that are not anticipated to be within 500 feet of the line, but residents may be able to view the line. Main access to this section of the line would likely come from Casey Road and WDNR's extension of Casey Road. Representatives of WDNR have suggested there may be issues of grade and creek crossings on Casey Road that would need to be resolved.

- Pros – Crosses timber farms and associated roads.
- Cons – Visuals from West Side Highway, view shed of some nearby homes and possible WDNR issues.

Highway 411 to I-5 Freeway Crossing

The route continues on an eastern path and crosses the Cowlitz River and I-5. A small number of homes are located on both sides of the Cowlitz River. We believe the route could be located farther than 500 feet from the nearest residence. However, more than 10 homes would be within 600 to 700 feet of the transmission line. The Cowlitz River has several channels in this area, which may require using taller transmission line structures. BPA studied I-5 freeway crossings just north and just south of the existing freeway rest stop. Either I-5 freeway crossing is feasible, with a slight preference to a south crossing due to impact on homes. WDNR owns most of the property just west of the I-5 freeway crossing, and Weyerhaeuser owns most of the property east of the I-5 freeway crossing.

- Pros – The I-5 freeway crossing would create a relatively low impact on tree farms on either side.
- Cons – From the Cowlitz River to the I-5 freeway crossing, the route crosses the widest section of WDNR property. The route may need to be moved north or south to the edge of WDNR property to reduce impacts to WDNR lands, but would then likely increase line length and possibly affect more homes. Though the homes may be more than 500 feet from the center of the route, residents may still be able to view the line.

I-5 Freeway Crossing to the Toutle River Crossing

The route heads east on Weyerhaeuser property and then swings northeast into Lewis County, which allows the route to stay on timberlands and avoid considerable impacts to homes along the Toutle River and in the Silver Lake area. According to Weyerhaeuser, these timber lands are their most productive lands in the United States.

- Pros – Route crosses primarily corporate tree farm properties, avoiding developed areas.
- Cons – By swinging in a northeasterly direction, considerable line length is added, creating added costs and tree farm/environmental/construction impacts. This would also affect a new county and landowners that have not been involved in the project to date.
- Note: It may be possible to go more directly east, crossing the Toutle River twice more. Such a route may be able to stay more than 500 feet from any homes and shorten the overall route by

about 2 to 4 miles, but it is closer to homes. Also, additional Toutle River crossings may raise issues regarding riparian habitat at the river crossings.

Toutle River Crossing to Cougar

The route heads mostly in a southeast direction crossing primarily Weyerhaeuser lands. This route would cross visually sensitive areas near the Mount St. Helens National Volcanic Monument, and may come near two osprey nests, an active bald eagle nest and a Lewis River northern spotted owl site center. There is considerable concern this route, being in steeper terrain, would have much greater impact to cable logging operations and could leave areas down slope from the transmission corridor unmanageable for timber production. Another concern is the impact this route could have on a timber company's ability to control vegetation and fertilize with helicopters in steep terrain because of the difficulty pilots would have navigating around a transmission line.

- Pros – Route stays away from developed areas.
- Cons – This route segment is in more remote and much rougher terrain, with expected greater impacts to the environment, and increased construction costs. Access road requirements would be greater with more stream crossings. The Elk Mountain and Lakeview Peak areas could be very difficult to get through because of extremely steep terrain. If the route is diverted through less steep terrain, it would be longer. Some tower locations would not be accessible from the ground and would require helicopter erection for the whole tower (including the footings and legs). A helicopter could also be required for maintenance, which is difficult during bad weather. Because of the steep terrain, the route would impact logging activities, primarily cable logging, which might not be possible because of safety concerns. There could also be additional visual impacts to National Monument lands and impacts to spotted owl, bald eagle, and osprey.

Cougar to Lewis River Crossing

Options for placing the route in this section are very constrained by existing development, terrain, old growth forests, Mount St. Helens National Volcanic Monument lands and other environmental issues. In the Beaver Bay area just north of the Lewis River, routing complications include needing to cross Cougar Creek, which contains endangered bull trout, and Beaver Bay park/campground with adjoining large, high-quality wetlands. A new transmission line and access roads could potentially affect about 3 acres of forested wetlands and 4 or more acres of forest/shrub wetlands for a total of 7 or more acres of wetland impacts. One or more acres of wetland may require filling for tower sites and an access road. In addition, the route would need to cross just south of a group of about 10 to 20 homes.

The route from just north of Cougar would turn due east until it comes to the PacifiCorp 230-kilovolt wood pole line. From there it would parallel the PacifiCorp 230-kV line in an easterly direction to the Cowlitz PUD substation in the Beaver Bay area. The route would come within 500 feet of more than 10 homes and would affect Beaver Bay Park, which is next to high-quality wetlands, and Cougar Creek which has threatened bull trout. Just past the 10 to 20 homes, the route would then make a sharp turn south, follow existing Cowlitz PUD lines, and cross the Lewis River near the Cowlitz PUD substation.

Another option would be for the route to pass just north of these 10 to 20 homes. But the much rougher/steeper terrain, proximity to the Mount St. Helens National Monument boundary, potential impact to old growth timber, and Cougar Creek's threatened bull trout riparian habitat made this option less desirable.

- Pros - Because of the 10 to 20 homes located near the Lewis River crossing, this route would impact homes, but possibly fewer homes than the East Alternative does north of the Lewis River.
- Cons - East of Cougar, the route would come close to a number of homes. The route may also create impacts to the campground, a proposed trail, wetlands, require riparian clearing on any Cougar Creek tributary (with endangered bull trout), and old growth timber.

Lewis River Crossing to Segment O Intersection

From a point near Cowlitz PUD's Beaver Bay Substation, the route would head south across the Lewis River into steep terrain crossing primarily WDNR lands, then Weyerhaeuser lands until intersecting Segment O. There is a bald eagle nest on the south side of the Lewis River near or at the crossing. Due to the steep terrain and lack of existing roads for accessing towers, tower spotting and routing/designing new access roads on steep side slopes would be challenging.

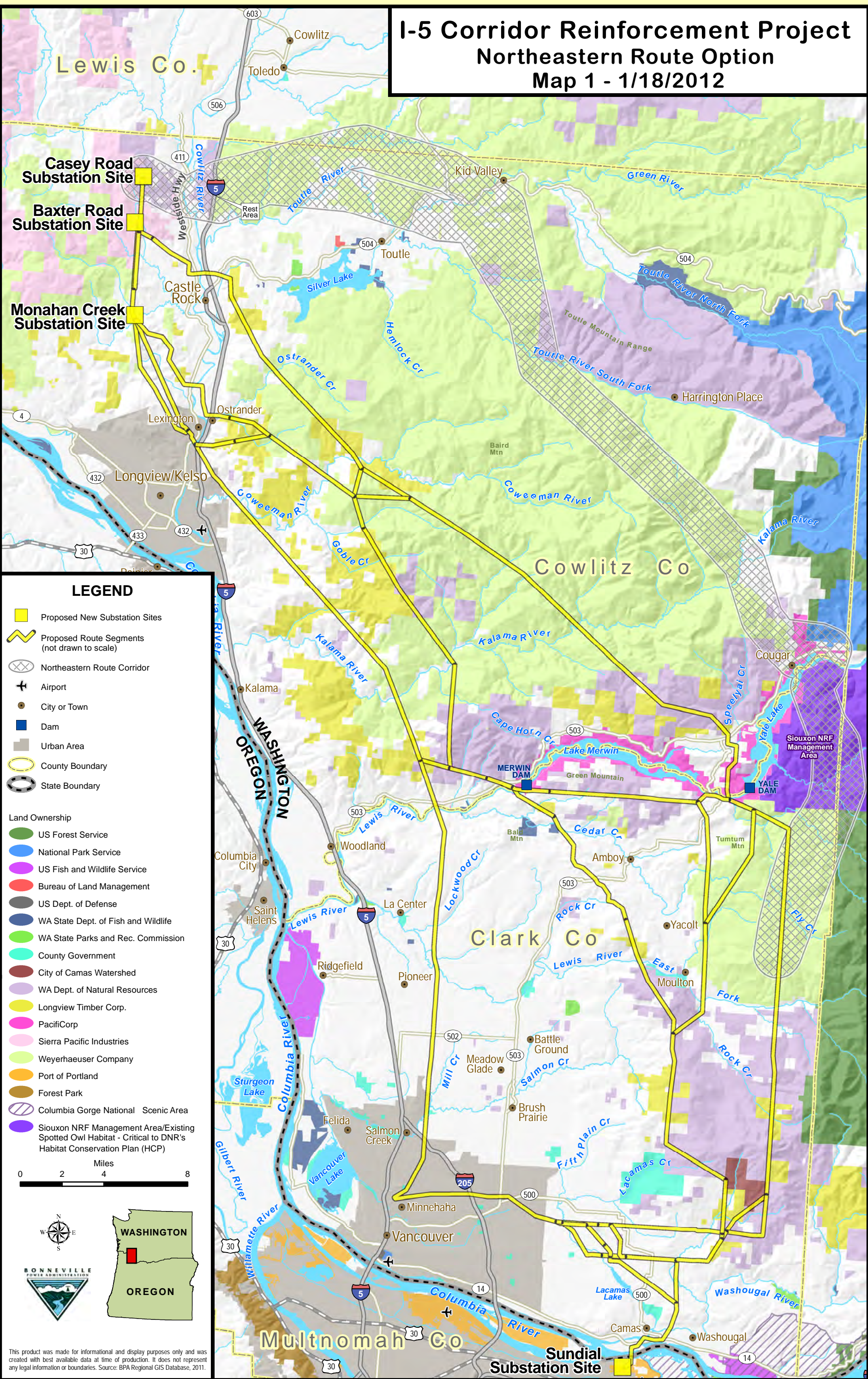
U.S. Fish and Wildlife Service (USFWS) representatives have noted that the route would cross WDNR's Siouxon NRF Management area (see attached maps). When surveyed in 2006, considerable spotted owl activity was found (Final Report USFWS Agreement #13410-6-J023 Northern Spotted Owl Survey On DNR-Managed Lands In Southwest Washington and State Trust Lands Habitat Conservation Plan Northern Spotted Owl Surveys In Southwest Washington). This area is an important component of WDNR's Habitat Conservation Plan (Final Habitat Conservation Plan, September 1997). WDNR developed a multi-species Habitat Conservation Plan to comply with the federal Endangered Species Act (ESA) for management of state trust lands (WDNR 1997). The HCP includes several main conservation strategies for the northern spotted owl, marbled murrelet, western Washington runs of several salmonids, and other federal and state-listed, unlisted, and candidate species. In addition, the incidental take permit covers seven other upland species listed by the federal government as endangered or threatened. The plan covers approximately 1.6 million acres of state trust lands within the range of the northern spotted owl. All WDNR management activities are covered. The WDNR has a contractual agreement with the USFWS and the National Marine Fisheries Service to implement the HCP (Washington State Department of Natural Resources Habitat Conservation Plan 2003 - Implementation Monitoring).

WDNR's logging activities are already constrained by its HCP, and any clearing of the critical wildlife habitat for a BPA corridor through the Siouxon NRF Management Area would further constrain an already challenging situation. A transmission line through the Siouxon NRF Management area could affect how WDNR manages its five planning units, possibly void their Habitat Conservation Plan, and delay planned logging and payments from trust lands outside of the Siouxon NRF Management Area. In addition, due to the steep terrain in the Siouxon Management Area, a transmission line there could have considerable impact on WDNR's timber management and cable logging operations.

To avoid crossing WDNR's Siouxon Management Area, routings farther east were considered. This more eastern routing would cross both WDNR land and U.S. Forest Service (USFS) lands. The adjoining USFS land is also prime spotted owl habitat and is being actively managed as such.

- Pros - Route stays away from developed areas.
- Cons - Route would cross steep terrain with potential impacts to a bald eagle nest, spotted owl nests and habitat, WDNR's HCP and WDNR's timber management and timber harvest.

I-5 Corridor Reinforcement Project Northeastern Route Option Map 1 - 1/18/2012



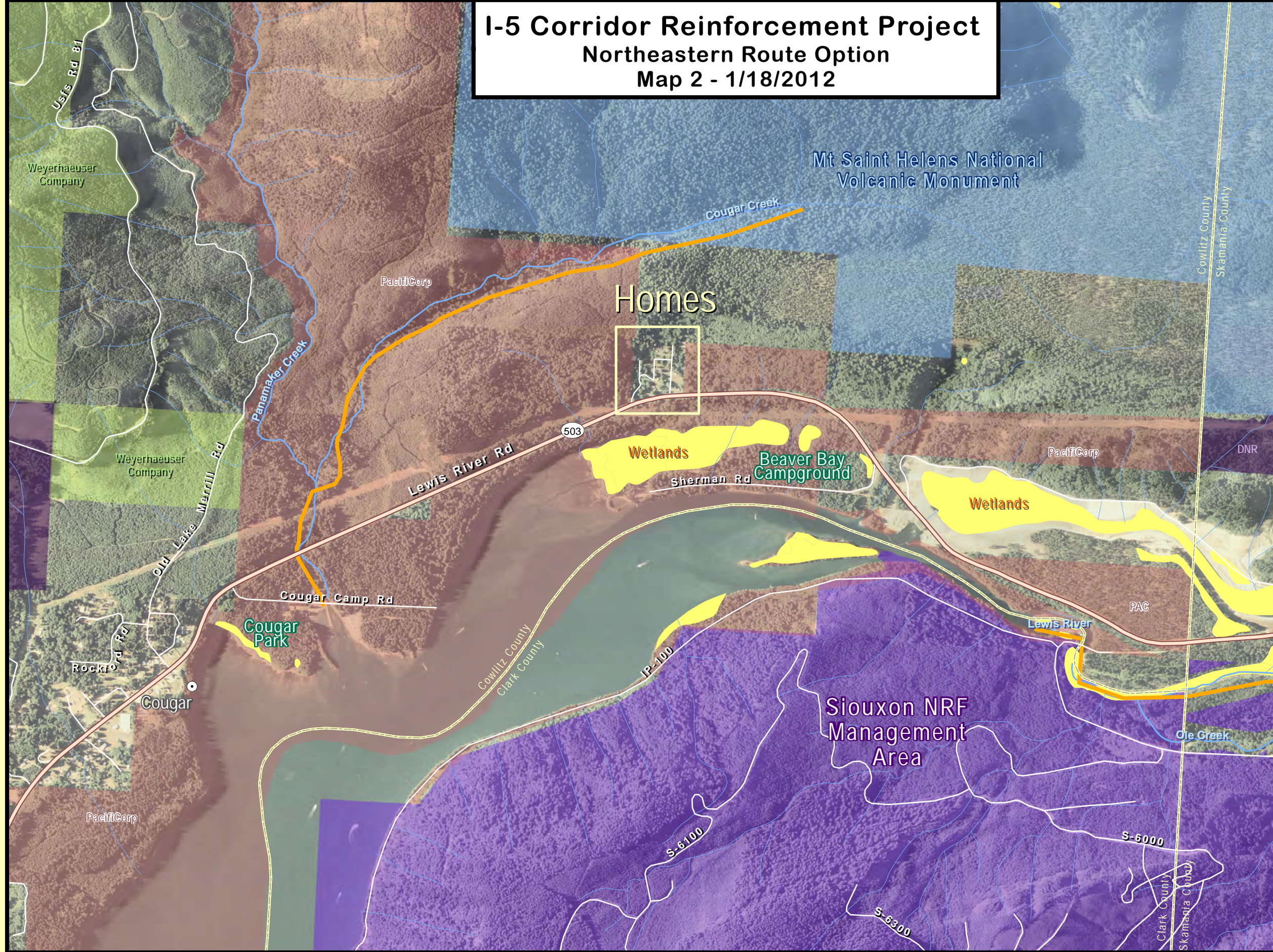
LEGEND

- Proposed New Substation Sites
 - Proposed Route Segments (not drawn to scale)
 - Northeastern Route Corridor
 - Airport
 - City or Town
 - Dam
 - Urban Area
 - County Boundary
 - State Boundary
- Land Ownership
- US Forest Service
 - National Park Service
 - US Fish and Wildlife Service
 - Bureau of Land Management
 - US Dept. of Defense
 - WA State Dept. of Fish and Wildlife
 - WA State Parks and Rec. Commission
 - County Government
 - City of Camas Watershed
 - WA Dept. of Natural Resources
 - Longview Timber Corp.
 - PacifiCorp
 - Sierra Pacific Industries
 - Weyerhaeuser Company
 - Port of Portland
 - Forest Park
 - Columbia Gorge National Scenic Area
 - Siouxxon NRF Management Area/Existing Spotted Owl Habitat - Critical to DNR's Habitat Conservation Plan (HCP)



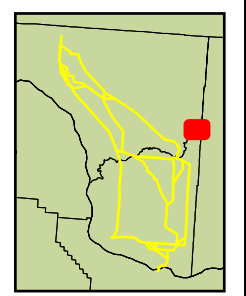
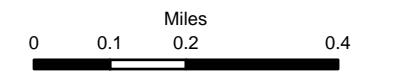
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I-5 Corridor Reinforcement Project Northeastern Route Option Map 2 - 1/18/2012



LEGEND

- Cities & Towns
- County Boundary
- NWI Wetlands
- Bull Trout Critical Habitat Streams
- Land Ownership**
- National Park Service
- PacifiCorp
- Weyerhaeuser Company
- WA Dept. of Natural Resources
- Siouxon NRF Management Area/Existing Spotted Owl Habitat - Critical to DNR's Habitat Conservation Plan (HCP)



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