



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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December 29, 2011

René Beliveau, Director/Building Official  
San Juan County Community Development and Planning  
P.O. Box 947  
Friday Harbor, WA 98250

Dear Mr. Beliveau:

**RE: Review of Wetlands Reports for the Dalton Property**

Thank you for providing the Washington State Department of Ecology (Ecology) with copies of the wetland reports for the Dalton property at 758 Hawkins Road on Orcas Island (TPN 27352205000). Ecology staff are available to provide technical assistance to San Juan County (County) whenever possible.

I have reviewed the wetland reports for the subject property prepared by Kayl Consulting (dated January 12, 2011) and by SNR Company (dated November 23, 2011) that you sent me last week. The Kayl report describes two onsite wetlands and a stream identified during site visits in November and December 2010. The SNR report concludes that there are no wetlands or streams on the property based on a site visits in September and November 2011.

After reviewing these two reports, I believe the Kayl report more accurately describes conditions on the ground and more closely conforms to the regulatory definitions of waters of the state and wetland delineation standards of practice. I visited the subject property on September 22, 2010 along with Washington Department of Fish and Wildlife (WDFW) Area Habitat Biologist Brendan Brokes. I observed sufficient wetland indicators (hydrophytic vegetation and redoximorphic concentrations in the soil) during that site visit to ask one of the property owners for a wetland delineation. Mr. Brokes determined that the stream in question is in fact a regulated water of the state.

The Kayl report determined that wetlands were present based on the presence of wetland vegetation (100 percent of dominant species were FACULTATIVE or wetter); hydric soil indicators, including redoximorphic concentrations (Indicator F6); and positive wetland hydrology, including surface water, a water table at the surface and saturation. The methods described and findings in the Kayl report are consistent with the wetland delineation standards and procedures described in the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the*

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*Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (hereafter, WMVC Regional Supplement) (U.S. Army Corps of Engineers 2010). The soil colors and textures described in the Kayl report are corroborated by the official series description for Coupeville loam, which is classified as a hydric (i.e., wetland) soil, published by the USDA Natural Resources Conservation Service (NRCS), which includes common (2%-20%) redoximorphic concentrations and depletions between 18 -30 cm and many ( $\geq 20\%$ ) concentrations and depletions between 18 -30 cm (available at: <http://www2.ftw.nrcs.usda.gov/osd/dat/C/COUPEVILLE.html>). SNR states that no redoximorphic features are present in the soils and that “untrained practitioners” (Mindy Kayl and Scott Rozenbaum) misidentified organic staining as redoximorphic features. Ms. Kayl has enough delineation experience to recognize a redoximorphic feature. Mr. Rozenbaum is an experienced wetland delineator and soil scientist and it is extremely unlikely that he would not recognize and properly identify redoximorphic features.

There are a number of statements and findings in the SNR report that are not consistent with regulation of waters of the state or wetland delineation standards. Ecology has reviewed several SNR stream and wetland reports in the past months (including site visits), all of which include methods and findings that deviate significantly from the delineation standards described in the Corps delineation manual and WMVC Regional Supplement. SNR reports consistently misinterpret or disregard field indicators, concluding that wetlands and streams are not present. SNR’s novel regulatory interpretations are not reflective of wetland science or reports from qualified wetland biologists. The SNR reports include a detailed discussion of local and regional geology. While this discussion may be interesting, relative to contemporary wetland and stream conditions, it is superfluous and unnecessary. Specific examples of erroneous methods or conclusions in the SNR report for the Dalton property include the following:

- § 3.1.3, p. 10 Soils, Geology. “To assess soils and hydrogeology, SNR dug four test pits using a backhoe on November 4, 2011. Each pit was dug to a depth of at least six feet...” Wetland delineation requires an examination of soils and hydrology (and vegetation), by typically digging down to 20 inches (WMVC Regional Supplement, pp. 41-42). Excavating to a depth of 6 feet may provide useful information for characterizing the subsoils but is not needed for a wetland delineation.
- § 3.1.3, p. 11 Soils, Geology. Fig. 3-4. surface layer is labeled “Mollisol (humus)” ” The organic layer is humic, which is typically indicative of aerobic (i.e., not wetland) decomposition”. Test Pits 1-3, the SNR data sheets uniformly identify the soil surface to a depth of 8 inches as a humus layer and SNR concludes that this humic organic layer is the result of aerobic decomposition. Humus (and humic substances) or soil organic matter (SOM) are simply the organic compounds that are resistant to decomposition and are not necessarily indicative of aerobic conditions (Richardson, J.L. and M.J. Vepraskas, ed. 2001). Accumulation of SOM is typically greater under anaerobic conditions. The organic layers described in the

SNR report appear to be consistent with hydric soil indicators A2 (Histic Epipedon) or A3 (Black Histic) in the WMVC Regional Supplement. Mollisols are not common soils in San Juan County and are typically basic (alkaline) soils. The NRCS description lists Coupeville loam as moderately to slightly acidic above 30 cm depth.

- § 3.1.3, p. 12 Soils, Geology and Data Sheets. Soil textural classes in Figure 3.5 (USCS) and on SNR data sheets are not consistent with USDA textural classes as specified in the WMVC Regional Supplement (p. 44, ¶ 4).
- § 3.4.2, p. 23 Surface Water Background. SNR contends that the ditches and pond on the subject and neighboring properties are not natural waters, not waters of the United States, and that there is no clear evidence on aerial photographs of their presence until 2008.

The stream (and ditches) on the Dalton property and adjoining parcels meet the definition of a water of the state and are subject to State regulation. Whether they are waters of the United States is a jurisdictional determination made by the Army Corps of Engineers.

The 1962 San Juan County Soil Survey, published by the Soil Conservation Service (now NRCS) shows mapped intermittent streams and a perennial pond on and near the Dalton property. The background aerial photograph was taken in 1946. The mapped soil unit in the 1962 survey is Bellingham silt loam, currently classified by the NRCS as a hydric soil.

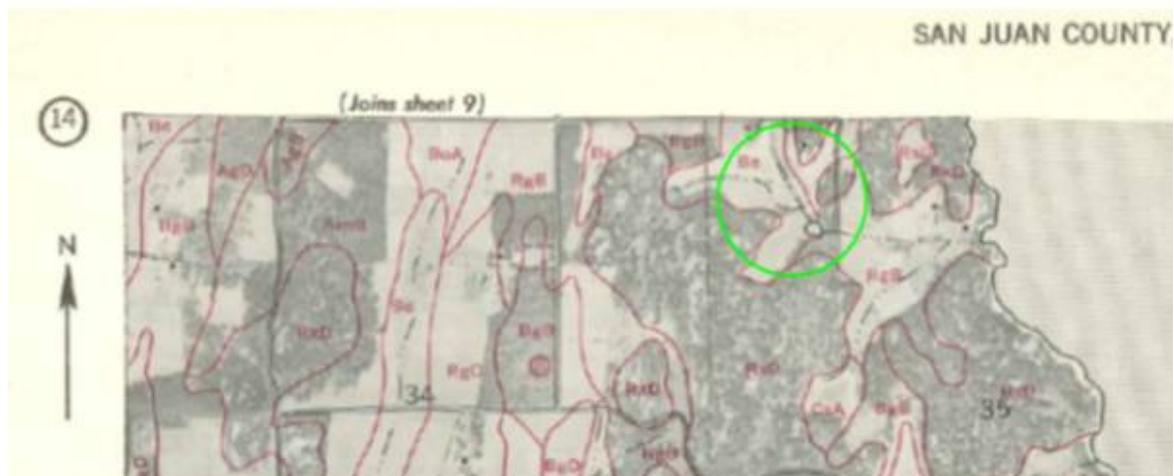


Figure 1. Excerpt from Sheet 14, 1962 San Juan County Soil Survey showing streams and pond on Dalton property (green circle), 1946 aerial photograph.

- § 4.1.3, p. 29 Wetland Evaluation. "SNR took soil samples for further lab analysis...Once soils were dry, moisture in the form of distilled water was added to obtain 10% water content by weight. The soil color was then determined using the Munsell Color Charts for soils...". For the purpose of wetland delineation, drying

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and then re-wetting soil samples prior to coloring in a laboratory is contrary to recognized standards of practice. The WMVC Regional Supplement clearly states, “Always examine soil matrix colors in the field immediately after sampling.” (p. 42 ¶ 5). Trained wetland scientists know that drying and rewetting soils can result in significant changes in soil color, yielding erroneous results.

- § 4.1.3, p. 29 Wetland Evaluation. SNR concludes, “No true hydrophytes were observed...All of the vegetation on the site is Facultative”. Hydrophytic vegetation (i.e., a hydrophyte) is present when more than 50 percent of dominant species across all strata are rated Obligate (OBL), Facultative Wetland (FACW) or Facultative (FAC) (WMVC Regional Supplement, Dominance Test, p. 28 ¶ 3). FAC vegetation is wetland vegetation. The information in the vegetation section of SNR’s Data Sheets call into question SNR’s understanding of proper wetland delineation methods required by state law. The data plot sizes are listed as 10 square feet (sf) for all except the tree layer in Data Plot 3 (20 sf). A 10 sf plot would have a radius of less than 2 feet. Data plots for the herb layer typically have a radius of 5 feet and the plot radii for the shrub and tree layers are progressively larger. Dominant species are incorrectly identified in Data Plot 3 the Dominance Test is incorrectly calculated, listing only 1 of 2 dominant species as hydrophytic, when the correct ratio is 4 of 6 species, which meets the hydrophytic vegetation criterion.

The determination as to whether a water feature is a water of the state (i.e., regulated) ultimately rests with the regulatory agencies. On the Dalton property, WDFW already concluded that the stream in question is a water of the state and therefore, by my reading, meets the stream and riparian area definition in County Code (SJCC 18.30.160.A.4). The Kayl report, prepared by a qualified wetland biologist, identifies two wetlands on the property that also meet the definition of a regulated water of the state. I would recommend that the County accept the findings in the Kayl report, including the proposed restoration plan.

Again, thank you for requesting Ecology’s assistance in reviewing these wetland reports. Please let me know if you need any further assistance or if you have any questions about my comments, please give me a call at (425) 649-7148 or send an email to [paan461@ecy.wa.gov](mailto:paan461@ecy.wa.gov).

Sincerely,



Paul S. Anderson, PWS

Wetland Specialist

Shorelands and Environmental Assistance Program

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PSA: ca

cc: Erik Stockdale, Ecology Shorelands & Environmental Assistance Program  
Brendan Brokes, Washington Department of Fish and Wildlife  
Susan Powell, U.S. Army Corps of Engineers

References:

Environmental Laboratory. 1987. *Corps of Engineers wetlands delineation manual*, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

J.L. Richardson and M. J. Vepraskas (eds.). *Wetland Soils: their Genesis, Morphology, Hydrology, Landscape, and Classification*. CRC Press, Boca Raton, FL

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*. U.S. Army Engineer Research and Development Center Environmental Laboratory, Vicksburg, MS.