

EXHIBIT J**DRAFT FINDINGS**

(These Findings are in draft form and will be finalized after the Planning Commission completes its deliberations)

BACKGROUND

1. The County is required by State law to periodically update its Comprehensive Plan and Development Regulations adopted to implement the Growth Management Act (GMA). This Ordinance constitutes the County's Wetlands policy and regulations.
2. This Ordinance reflects the findings of the Department based on studies designed and conducted by Dr. Paul Adamus, a nationally known wetland scientist. In April 2005 the County commissioned Dr. Adamus to review provisions of Chapter 17.02 ICC pertaining to Wetlands, to prepare technical reports in support of that review, and to recommend any changes necessary to ensure appropriate levels of protection for Wetlands consistent with Comprehensive Plan goals and policies.
3. County staff collected data specified by Dr. Adamus from 103 County wetlands between June and November 2005. Those wetlands comprise a spatially-balanced statistical sample of the 958 wetlands known at this time to exist in Island County (11% by number, 34% by area). The wetlands were selected systematically in collaboration with Dr. Donald Stevens, a statistician known for expertise in design of regional sampling networks. Over 2100 landowners surrounding 284 wetlands were contacted in advance of the field work, and permission was requested for property access to collect on-site wetlands data. Among the landowners contacted, more positive than negative replies were received in response to the County's request for one-time property access.
4. In collaboration with Dr. Adamus, County staff compiled data on additional characteristics of all known County wetlands using existing maps of various themes, and Geographic Information Systems (GIS).
5. County staff also reviewed information from over 720 of the County's permit files/on-site evaluations, as well as information from historical accounts. Aerial photographs and satellite imagery covering multiple time periods were interpreted to identify alterations of wetlands, and results were compared with data from the field visits and permit files.
6. In a County report, "Wetlands of Island County, Washington: Profile of Characteristics, Functions, and Health" published in August 2006, Dr. Adamus summarized and interpreted the data. Methods that were used to collect and compile the data are described in appendices to that report.
7. As required by the Growth Management Act (GMA), Dr. Adamus also conducted a Best Available Science (BAS) review of over 200 technical publications relevant to wetland buffers and other protective measures. His review is contained in the County report, "Best Available Science for Wetlands of Island County, Washington: Review of Published Literature" The review emphasized literature from the Pacific Northwest and

literature published subsequent to literature reviews by the Washington Department of Ecology (WDOE) and others. A draft of this report was circulated for Agency and public comment in June, 2007. The final report was published in November 2007.

8. The County has also completed a number of other reports, studies or memos prior to preparing the Wetlands revisions to its CAO. They include a Wetland Vegetation Monitoring Protocol; and, trends studies for land use and clearing and grading.

PEER AND PUBLIC REVIEW

9. This Ordinance and the County reports referenced above were reviewed independently by a Professional Peer Review Panel that included three academic scientists, two private wetland consultants with expertise in water quality and habitat functions of wetlands, and a wetland specialist who once worked for Island County and now works for Pierce County.
10. The County also convened an Agency Peer Review Panel comprised of agency and tribal representatives. The Panel also reviewed the County reports and this Ordinance.
11. The County has hosted multiple public informational workshops about the CAO Wetlands update project; three public hearings were conducted by the Planning Commission and the Planning Commission also met two times in public sessions to deliberate before acting to make its recommendations to the Board of Commissioners
12. The sixty (60) day review by public agencies has been completed and the County has complied with the requirements of the State Environmental Policy Act (SEPA) before its final action on this Ordinance.

EXISTING CONDITIONS

13. Measured in terms of lack of recent alterations and dominance of native plants, most County wetlands are in good condition. The area surrounding most County wetlands is also in good condition. State and federal laws require measures to ensure that the wetlands remain in good condition, so that they continue to provide services beneficial to local residents and the national interest. The County has committed to funding a long-term program to monitor water quality throughout the County, and to initiate source identification and adaptive management where necessary, in order to help ensure that the condition of wetlands and other surface waters remains good.
14. Almost all the alterations to County wetlands occurred prior to the mid-1900s. Since the adoption of the County's wetland rules in 1984, relatively few wetlands have been filled or irreversibly impacted. The very small number of alterations that have been permitted by the County, mainly in response to Reasonable Use legal requirements, are more than offset by the regeneration of vegetation in wetlands altered before 1984.
15. Island County's wetlands differ from those of other counties partly in the fact that none are along rivers or in river flood plains. Where the wetlands connect to streams, the streams travel a short distance before reaching the ocean. Thus, in Island County the usual runoff-retaining functions of wetlands are of little or no importance in reducing flood damages to downstream structures during storms.

16. The County's review of the wetlands provisions of the existing Critical Areas Ordinance indicated that its previous regulatory categories, minimum size thresholds for regulation, and associated buffer width requirements did not represent best available science. All changes the County now proposes are recommended after considering best available science.

BUFFER FACTORS – INTENSITY, SENSITIVITY AND IMPORTANCE

17. Consistent with the guidance offered by the Washington State Department of Ecology (WDOE) and the County's BAS review, this Ordinance uses three factors in making site-specific buffer determinations for wetlands: (a) the *impact intensity* of the proposed activity, especially, the potential for generating pollutants and affecting suitability of the wetland as habitat, (b) the intrinsic *sensitivity* of the Wetland and its surroundings, and (c) wetland *importance*, as reflected by functions, values, and scarcity. Use of these three factors is consistent with guidance of the Washington Department of Community and the Washington State Department of Community, Trade, and Economic Development (CTED) and the WDOE.
18. Land Use Intensity will be judged on a case-by-case basis and will be determined based on the Use proposed, Lot Size, extent the Lot has been or will be Cleared and potential adverse impacts that may be attributed to the proposed Use or Structures.
19. With regard to wetland importance, as indicated by functions, the most important of the easily-recognizable wetland types in Island County are bogs, wetlands in coastal lagoons and the delta estuary, mature forest wetlands, non-estuarine wetlands having more than about 5 acres of ponded water, wetlands in close uphill proximity to streams supporting anadromous fisheries or resident salmonid fish, wetlands dominated by native plant species, mosaic and small ponded wetlands, and wetlands with a relatively high level of habitat function as determined by use of the County's modification of the WDOE *Wetland Rating System for Western Washington*. Because they are more reflective of local conditions, the County proposes to use these wetland types in lieu of the wetland categories (I, II, III, IV) proposed by the WDOE.
20. Reasons for Assigning Greater Importance to the Specified Wetland Types.

Coastal Lagoon Wetlands, Delta Estuary Wetlands, Other Estuarine Wetlands. The WDOE *Rating System* considers coastal lagoons a "Special Characteristic" due to the exceptional importance of their associated marine life and anadromous fish, relative scarcity, and historically high rates of alteration or loss. Coastal lagoon wetlands comprise only 12 % of the wetland acreage of Island County. The County has 1 Delta Estuary and Other Estuarine Wetlands account for less than 1% of the wetland acreage found in the County.

Bogs. The WDOE *Rating System* considers bogs a "Special Characteristic" due to their unusually great sensitivity to pollutants, high loss rates in Western Washington (due to peat mining and agricultural conversions), and to their unusual plants. The 13 confirmed bogs comprise only 5 % of the wetland acreage of Island County. Approximately 59 additional areas may qualify as bogs, but require verification by a wetland professional during a site visit.

Mature Forested Wetland. The WDOE Rating System considers it a “Special Characteristic,” due to the long time period required to fully replace mature forest, relative scarcity of this habitat type in Island County, and historically high rates of loss. Wetlands of this type also provide outstanding habitat for many wildlife species, especially cavity-nesters.

Large Non-estuarine Ponged Wetlands. Wetlands of this type are among the most important ones for water birds and amphibians. Their large area of water and long water residence times also make them particularly sensitive to nutrient inputs, warming, evaporation, and the potential for resultant blooms of nuisance algae. Many adjoin lakes or are near estuaries. There are approximately 28 such wetlands, 16 % of the wetland acreage in the County.

Wetlands associated with Anadromous Fish Streams, Resident Salmonid Streams, Delta Estuary, or Coastal Lagoons. Most wetlands filter and process pollution. Even when those wetlands are not accessible to fish, this function assumes greater importance when the wetlands are located upstream of waters heavily used by salmonids, such as anadromous fish streams, pocket estuaries, and coastal lagoons. Because streams and other channels have not been mapped comprehensively in Island County, all wetlands within 500 ft of an Anadromous Fish Stream, Resident Salmonid Stream, the Delta Estuary, Coastal Lagoon, or Bog are presumed to be functionally connected to those features if they are in the same watershed, unless contrary evidence is provided. There are approximately 155 wetlands, constituting about 25 % of wetland acreage that are considered associated with these natural features.

Wetlands Dominated by Native Plants. These wetlands are usually more sensitive to alteration of their buffer areas than ones dominated by non-native species. For more than 20 years the existing Ordinance has assigned them the highest level of protection (Category A). Based on a statistical sample, these wetlands may comprise 79% of the County’s wetlands. However, less than 50 % of the County’s wetlands are estimated to have only this attribute. Most also fall in one of the other categories discussed above.

21. In all, under the proposed CAO for wetlands, about 8 % of the County’s wetlands may fall into Category A, 15 % in Category B, 2 % in Category C, and the balance, 75 % in Categories D and E. The County expects these wetland categories will be the basic for buffer determinations about one-half the time and habitat will determinative for buffers for the remainder of the wetlands. The exact percentage cannot be determined conclusively without on-site inspections. The number of wetlands in the currently used Categories A, B, and C is unknown.
22. Factors that predict wetland sensitivity include hydrologic connectivity and the slope and erodibility of soils surrounding the wetland.
23. Reasons for the Particular Factors Used to Assess Wetland Sensitivity

Steep Slopes and Erodible Soils. Excessive sediment input degrades wetlands. To filter this sediment and other pollution before it reaches wetlands, the vegetated buffers need to be wider if they are on top of potentially erodible soils and steeper slopes. Rills, gullies, and other concentrated drainage ways that render buffers much less effective are more

likely to form on steep slopes and in erodible soils. The largest multiplier used is the same one (1.5) that the WDOE recommends to account for steep buffer slopes around wetlands. The buffer widths that result from applying the multipliers to Island County wetlands are mostly within the 170 ft range supported as the maximum for forested buffers on the steepest-sloped most-erodible soils. The widths also are mostly within the range that would result from applying a widely-used rule-of-thumb of “4 ft increase in buffer width (beyond a baseline width) for every degree of slope.”

Presence or Absence of a Surface Water Outlet. Other factors being equal, wetlands without outlets are more sensitive to pollution effects because whatever pollution gets carried in cannot easily be flushed out.

Small Contributing Area. Other factors being equal, in proportionately small contributing areas, such as the headwaters of streams and the upper margins of watersheds, buffers are more effective and whatever pollutant sources are present are proportionately larger.

BUFFERS – WATER QUALITY AND HABITAT

24. The primary purpose of the buffer widths is to protect water quality within wetlands. The specifications in this table reflect generally the range of buffer widths identified in locally relevant technical literature as being necessary to retain excessive nutrients and sediments. However, in the past most buffer recommendations have been developed for hydrologically open systems such as streams and their riparian areas, rather than relatively closed systems with long retention times, such as wetlands. Pollution is more likely to accumulate, rather than pass through, in systems that are closed. Thus, closed systems such as depressional wetlands are potentially more sensitive and may require wider buffers than those recommended for streams.
25. A minimum width of 20 feet for retention of eroded soil in Washington is specified by the NRCS for buffers (filter strips) of herbaceous vegetation. The County proposes to apply that threshold to the least important wetland type (Type E) in the lowest-risk situation in terms of land use intensity and wetland sensitivity. The NRCS specifies a width of 40 ft for retention of dissolved contaminants in runoff under precipitation conditions typical of Island County. However, because the NRCS specification does not take into account the pollutant loading rates (“Impact Intensity”), wetland sensitivity, or wetland type, the County proposes to apply this specification mainly where low-intensity activities occur near the less sensitive wetlands of no outstanding importance.
26. Another threshold appears to be approximately 100 ft. That buffer width (a) is commonly specified as a minimum for protecting the water quality of wells (WAC 246-290-135), (b) is specified in WAC222-30-010 for protecting the more important wetlands from polluted runoff associated with timber harvest in their buffers, and (c) is supported tenuously by reviews of buffer effectiveness literature conducted by several other authors, and (d) is the buffer width likely to be specified for most wetlands under the current Island County CAO. A maximum of 200 ft is reserved for the rare situation where high-intensity activities (e.g., urban roads) will occur within the buffer of a very important and sensitive depressional wetland with no outlet that is surrounded by erodible soils. There are no applicable studies in the published literature that support this specific

number. Rather, it represents an informal extrapolation based on principles of pollutant transport and our best judgment. In general, widths greater than the 100 ft specification cited above are needed to ensure effectiveness of buffers over the long term (because pollutant processing effectiveness may decline over time) and during unusual storm events. A few studies have shown buffers to lose capacity for storing sediments and retaining phosphorus over a period of many years. Sediments that have been successfully retained in buffers for years can be flushed into wetlands by severe storms. Buffer widths of greater than 100 ft are also justified to retain pollutants where high-intensity activities occur on coarse-textured soils and/or around the more sensitive types of wetlands. Buffer requirements related to water quality protection also are subject to modification based on slope gradient. The particular multipliers used in the CAO are not supported precisely by empirical data, but the general principle of requiring wider buffers on steeper slopes is, and the multipliers are generally consistent with WDOE guidance.

27. For the following reasons, the County modified slightly the Habitat assessment component of the WDOE *Wetland Rating System*, as well as some of the buffer widths recommended by the WDOE in their "Buffer Alternative 3": (a) to better reflect conditions and ecological relationships unique to Island County, (b) to give greater recognition to wetlands the County considers particularly important; and (c) to simplify the components of the *Rating System* so it can be applied by a landowner in consultation with maps, aerial imagery, and databases currently available from the Department, and with subsequent verification by the Department.
28. The County compared habitat scores determined using both the unmodified and modified WDOE *Wetland Rating System*, as applied to the countywide statistical sample of wetlands, and found there to be a highly significant and positive correlation between scores from the two methods, suggesting that overall they are operationally interchangeable.
29. With regard to protecting the habitat functions of wetlands (e.g., the ability of wetlands to support species that require or have a strong affinity for wetland conditions), the County's BAS report identified only a few studies whose conclusions are transferable to the wetland-dependent species and wetland types that occur in Island County. One study, conducted in the Seattle area, suggested that screening a wetland with a thin line of tall vegetation may be sufficient to minimize direct disturbance of water birds by people. Another study suggested a buffer width of 50-100 ft might be sufficient to limit the spread of some non-native plants into wetlands. Other studies pertain to a few wetland-dependent birds that nest in or near wooded wetlands of Island County, and suggest a minimum buffer width of about 150 ft for those species. No studies prove the need to use much wider buffers (well in excess of 200 ft) to sustain populations of Island County wetland-dependent animals that also use woodlands which surround ponded wetlands. No studies have shown that buffers must be wooded in order to support most of the County's wetland-dependent species.