



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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June 30, 2008

Brian Shea
Grays Harbor County
Department of Public Services
Planning and Building Division
100 West Broadway, Suite 31
Montesano, WA 98663-3614

RE: Proposed Grays Harbor CAO April 2008 Initial Draft

Dear Mr. Shea:

Thank you for providing the Department of Ecology's (Ecology) Water Quality program the opportunity to review and comment on the April 2008 draft of Grays Harbor County Critical Areas Ordinance (CAO). We are strongly encouraged by your efforts to increase streamside protections, and thereby, promote water quality protections and subsequent fish and wildlife protections in your County. We are also encouraged that your policy discussion addresses the important connection between water quality and salmonid fish protections.

Ecology would like to call attention to several important water quality concerns that should be addressed when designing fish and wildlife critical area protections and designating critical areas.

1. Grays Harbor County should consider that existing surface water quality may impair the functions and values of critical areas

Ambient monitoring has demonstrated that several streams within Grays Harbor County exceed the numeric temperature criterion required to protect the aquatic uses of Washington State's waters. *See* Washington State's 2008 draft Water Quality Assessment. More extensive monitoring in Grays Harbor County would likely yield more waters not meeting standards.

The purpose of the Water Quality Standards for surface waters of the state of Washington is, in part, to ensure the propagation and protection of fish, shellfish, and wildlife. WAC 173-201A-010. Included in the Water Quality Standards is the numeric temperature criterion to protect aquatic life and specifically salmonid species. WAC 173-201A-200. Therefore, when surface waters do not meet the relevant water quality standards, the surface waters' "functions and values" as critical areas supporting salmonid habitat are also not being protected.

In order to best protect the function and values of critical areas, Grays Harbor County must consider the existing water quality conditions and address the continuing causes of those water quality impairments.

2. Consider regional Total Maximum Daily Load (TMDL) studies as Best Available Science to ensure that Grays Harbor County addresses why waters are not meeting the temperature criteria necessary to protect salmonids.

Ecology recommends reviewing the Upper Chehalis Temperature TMDL, which provides useful information to help understand how land use patterns and riparian practices impact the water quality necessary to protect salmonid fish.

First, the Upper Chehalis temperature TMDL states that a lack of sizeable riparian vegetation and degraded riparian areas clearly impact stream temperatures. Riparian buffers should be sized to support adequate native vegetation, specifically mature native trees. Moreover, buffers should allow for side channels, riverine wetlands, and backwaters to be preserved and possibly reestablished or reconnected. For this reason Ecology's Water Quality Program concurs with the Washington Department of Fish and Wildlife (WDFW) on their buffer width recommendations. These widths will meet the site potential shade necessary to protect stream temperatures. See letter from Katie Knight at WDFW to Brian Shea.

The Upper Chehalis Temperature TMDL also states that alteration of stream morphology will impact water temperatures. Excessive storm flows and increased sedimentation can further erode the stream banks. This erosion creates wider and shallower streams that are more susceptible to thermal radiation, and therefore, are more likely to increase in temperature. Activities such as the conversion of native land cover to impervious or semi-pervious surfaces are what will increase surface storm flows. The sole use of stormwater mitigation techniques found in the Western Washington Stormwater Manual may not provide adequate protection unless regional development patterns seek to reduce overall percentages of impervious surfaces on a sub-basin scale.

Low flows may also impact instream temperatures, and subsequently, the salmonid habitat. Low flows are caused in part by stream channel widening and shallowing, and in part, by ground water reductions. Reduced infiltration and the proliferation of withdrawals may contribute to reduced ground water and hyporheic flows.

Importantly, the Upper Chehalis temperature TMDL also notes that if watershed hydrology is further altered, riparian re-vegetation may not be sufficient to ensure adequate thermal protection. Therefore, to fully protect instream temperatures and the functions and values of the fish and wildlife critical areas, it is necessary to provide adequate riparian vegetation as well as prevent the further alteration of stream morphology. Essentially, changing base flows to surface flows, or in other words, causing less infiltration and more runoff by converting native cover to impervious and semi-pervious surfaces, will alter the stream morphology and subsequently, salmonid habitat. Grays Harbor County should consider land preservation as well as Low Impact Development and Zero Impact Development ordinances to prevent and minimize stormwater flows that will alter watershed hydrology and ensure adequate protection of critical areas that drain to salmon bearing streams.

3. Consider drainage areas and sub-basins as part of critical areas

When designating critical areas, Grays Harbor County should consider that best available science suggests riparian vegetation alone may not be adequate to properly protect fish habitat. Development patterns that significantly alter the hydrology can increase surface flows and eventually impact stream channel morphology. In the simplest of terms, this causes increased

erosion, channel widening and shallowing, and impacts to the habitat and spawning and rearing areas. While adequate buffers that provide site potential shade, hydrologic connection to channels and wetlands, and the cooling effects of microclimatic conditions, are necessary to prevent increases in thermal radiation. These protections alone will not suffice to protect against water quality and salmonid habitat degradation. Therefore, proposed new developments in sub-basins that drain to protected areas should also undergo the review procedures of critical areas, and be subjected to the development standards for fish habitat protection.

4. Development standards - Grays Harbor County Draft County Code 18.06.140 - should ensure that actions do not contribute to a violation of the State Water Quality Standards in order to provide adequate fish habitat protection

Grays Harbor County draft County Code 18.06.140 should include a statement that development may not *contribute* to a violation of the State's Water Quality Standards as applied to the beneficial aquatic uses of the Water Quality Standards. Specifically, the Code should add a clause to ensure that developments in a sub-basin consider net effects of stormwater runoff to the stream. Those impacts should consider the impacts of increased runoff (flow), as well as the impacts to instream temperatures and dissolved oxygen content. Merely sizing stormwater mitigation to meet the requirements of a 24-hour storm addresses the cumulative impacts of converting a sub-basin that was previously native cover.

Furthermore, Grays Harbor County should also include a clause in GHCC 18.06.140(A)(g)(iv), clearly stating no discharges to a stream will be allowed that *contribute* to a violation of State's Water Quality Standards. Moreover, no discharge should be allowed that will likely contribute to the cumulative impacts of stream channel morphology changes and impacts to temperature and dissolved oxygen. If surface waters are not currently meeting water quality standards, areas draining to those waters should prevent further contribution and subsequent harm to salmonids, as well as not impede efforts aimed at attaining water quality standards.

The Department of Ecology Water Quality program will gladly assist Grays Harbor County in the development of the additional Code language to better strengthen CAO protections to ensure adequate protection of salmonids. For technical assistance in updating the CAO to better incorporate water quality-related best available science, please contact Todd Bolster (360 407-6551) at the Department of Ecology Water Quality Program.

We greatly appreciate Grays Harbor County's work on developing this Ordinance. We look forward to working with you in the future.

Sincerely,



Todd Bolster
Water Quality Program
Department of Ecology