

MEMORANDUM

To: East Orcas Water Supply Committee

From: Jacque Klug, Watershed Lead

Date: September 29, 2005

Subject: Cascade Creek Instream Flow Recommendations

In anticipation of the Department of Ecology's processing of water rights in the Cascade Creek watershed, a request was made for a review of instream resource needs of the stream by fish biologists from the Washington Department of Fish and Wildlife and the Ecology's Water Resources Program. In June 2005, the biologists conducted measurements of the stream bed and habitat at several points in the watershed. Measurements were made from the mouth of the creek to Mountain Lake. An effort was made to collect existing data on stream flow measurements and fish observations, but very little data exist. Consequently, the recommended flows are based on general observations in the Washington State Stream Catalogue. Based on the stream catalog, coho and chum spawn in Cascade Creek during December.

Toe-Width Recommended Flows for WRIA 2								
Stream Name	Tributary to	Average Toe Width (in feet)	Toe-Width Flow for Fish Spawning and Rearing (in cfs)					
			<i>Chinook Spawning</i>	<i>Coho Spawning</i>	<i>Chum Spawning *</i>	<i>Steelhead Spawning</i>	<i>Steelhead Rearing</i>	<i>Salmon Rearing</i>
Cascade Creek (@ RM 0.3 d/s of bridge u/s of falls)	Puget Sound	13.7	34.9	16.9	16.9	32.2	6.7	6.0
Cascade Creek (@ RM 0.2 d/s of falls)	Puget Sound	13.5	34.3	16.6	16.6	31.7	6.6	5.9

The final stream flow recommendations for Cascade Creek from the biologists are:

January -April: 11.3 cubic feet per second (cfs) for coho and chum incubation
May-November: 6 cfs for salmon rearing. If there is available water during May and June, an allocation limit should be used to protect outmigration flows.
December: 16.9 cfs for coho and chum spawning

As many of you know, during several months of the year all of the flow from Cascade Creek is diverted by Rosario Utilities, as authorized in their adjudicated water rights. Ecology made two observations of flow during June and July of 2005. During these times, all of the flow was diverted by Rosario Utilities, and according to our spot measurements of flow, there was not enough flow in the creek to fully satisfy Rosario's authorized water right diversion rate. Consequently, regardless of any stream flow recommendations, Ecology would not be able to approve any new water rights for a year-round supply from the Cascade Creek watershed, additional appropriations would likely cause impairment of the senior water right holder.

Existing applications on file for diversion from the Cascade Creek total 6.127 cfs, of which 1.082 cfs is for municipal or domestic supply, 5.045 cfs is requested for other purposes, and 543 acre feet per year is requested as storage in Mountain Lake. The physical limitations on flow during the dry season and the limitations on flow for the instream resources makes approval of new water rights in the watershed very unlikely, at least under the current management regime.

Conclusions

The existing water rights, storage and diversion management structure, and instream resource needs of the Cascade Creek watershed make approval of new water rights from the watershed highly unlikely. However, Ecology recognizes that meeting the future water needs of the community is an important goal and is committed to working with the water systems, water right holders and applicants, and the Moran State Park to address the various needs in the watershed.

At this time Ecology sees three potential paths for addressing the water supply issues in the watershed. First, Ecology and the water systems currently diverting water from the watershed should coordinate future water supply planning, conservation efforts, and determine if existing water rights held by the systems can be used to meet the needs of the community. This approach could lead to potential purchases of water, leases or sales of water rights, and/or more coordination on upgrading infrastructure.

Second, Ecology and the water systems and Moran State Park can measure stream flows and lake levels to determine if water can be appropriated during some times of the year. The water systems would then need to evaluate if the systems can store and manage their water supply to meet the needs of their residents with an interruptible supply.

Third, Ecology, the water systems, and Moran State Park could begin a technical investigation of changing the storage and diversion regime from the Mountain Lake/Cascade Creek system. The study would need to address storage, the resource needs of the Moran State Park, including any potential impacts of additional storage or drawdown of the lake to the Park. Ecology currently has grant funding available for storage assessment projects that San Juan County could apply for, but we would need to act quickly, as grant applications are due October 31, 2005.

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