

M E M O R A N D U M

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To: Craig Baker

From: Allen Moore

Subject: Pigeon Creek #1 Chronic Soil Erosion and Associated
Turbidity Caused by Overflow from Municipal Water
Storage Lagoon

On April 2, 1975 while conducting a biological sampling survey in the vicinity of the Weyerhaeuser Sulfite Pulp Mill pier in Port Gardner, I observed highly turbid water bordering the shoreline. The source was the waters flowing from Pigeon Creek #1 some 500 yards to the south from where the turbid water was first observed.

After hiking up the creek, the cause was found to be the overflow from a municipal water reservoir located approximately 100 feet above the west side of Pigeon Creek.

The overflow cascades through a small gully, very rapidly eroding the loosely consolidated soil of nearly 100 percent sand. This sand layer appears to be quite thick (over 50 feet) and is constantly being eroded by the overflow resulting in a number of landslides. This steep hillside is heavily wooded with Douglas Fir, hemlock and some cedar, alder and bigleaf maple. The repeated landslides have toppled a number of these trees into the gully. About 350 feet down the gully where the overflow stream enters Pigeon Creek #1, a large delta of sand several feet thick has been formed. It is possible that the trees in this delta area have been smothered although only time will tell the amount of damage.

According to a stream survey conducted by Jim DeShazo, Department of Game Fisheries Biologist, prior to the damage to the streambed caused by the reservoir overflow, the ability for the stream to support a spawning population of rainbow and cutthroat trout had already been seriously reduced due to erosion coming from housing and small logging activities. The further erosion caused by the reservoir overflow will further delay, by a number of years, any natural stream rehabilitation.

On April 3, 1975 water samples were taken to quantify the sediment load. Results are listed below:

	Turbidity	Total Sus. Solids
Pigeon Creek #1 above reservoir overflow	3	6 mg/l
Pigeon Creek #1 1 1/2 miles below reservoir overflow near stream mouth	420	1,497 mg/l

Also, the below pictures were taken of the creek and resulting turbidity in Port Gardner.

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Pigeon Creek #1 above
reservoir overflow
(Note clear water)



Pigeon Creek #1
1 1/2 miles below reservoir
(Note turbid water)



Pigeon Creek at Mouth
Emptying into Port Gardner Bay
(Note turbid plume along beach)

