



### **LAKE LEVEL 101 – LAKE STEVENS, WA**

The lake level is controlled both naturally and artificially with a weir structure. On the northeast end of the lake there is an outflow channel which flows through downtown along Hartford Rd and into Catherine Creek.

The natural level is controlled by a sandbar prior directly at the beginning of the outflow channel. The channel naturally builds up sediment and debris which helps to hold the lake level to a natural minimum depth. This is estimated to be approximately 209 feet above sea level.

The weir structure is an adjustable “dam” made up of a series of weir boards stacked up to artificially hold water back in the lake. The bottom weir board has a cutout in it to allow for fish passage. The weir boards are installed or removed as necessary to help maintain the lake level and regulate it during higher flows.

The lake level varies throughout the year, but the intent of the weir is to hold as much water back as possible in the spring and summer in order to maintain an ordinary high water mark of 211.5 ft above sea level. If the water level gets higher than 211.8 ft above sea level with the weir boards installed, then some of the boards are removed as necessary to avoid high water levels.

The lake level is controlled artificially using the weir structure per the City’s Hydraulic Permit with the Department of Fish and Wildlife for one reason; hold an adequate amount of water back in the lake in spring and summer so that water flows sufficiently through the outflow channel into Catherine Creek in the fall during the dry months for the fish to migrate up into the lake and to spawn in the channel. The permit only allows the weir boards to be installed and maintained between March 15<sup>th</sup> and October 15<sup>th</sup> of each year. Any fluctuations in lake level outside of this timeframe is 100% naturally occurring.

Due to circumstances beyond the City’s control (heavy rains in the spring, groundwater table infiltration, dry spells in the summer, etc.), the lake level often fluctuates higher than the targeted ordinary high water mark of the lake with no weir boards in place and often drops well below the targeted low water mark (210.5 ft above sea level) with all of the stop logs in place.

The City’s authority to control the lake levels is strictly for fish migration. Fluctuations in lake level are often beyond the control of the City through artificial means. The lake level is not maintained for recreational purposes.