

WATER SHORTAGE RESPONSE PLAN

Utility Advisory Committee

10 March 2015



Philip D. Lusk

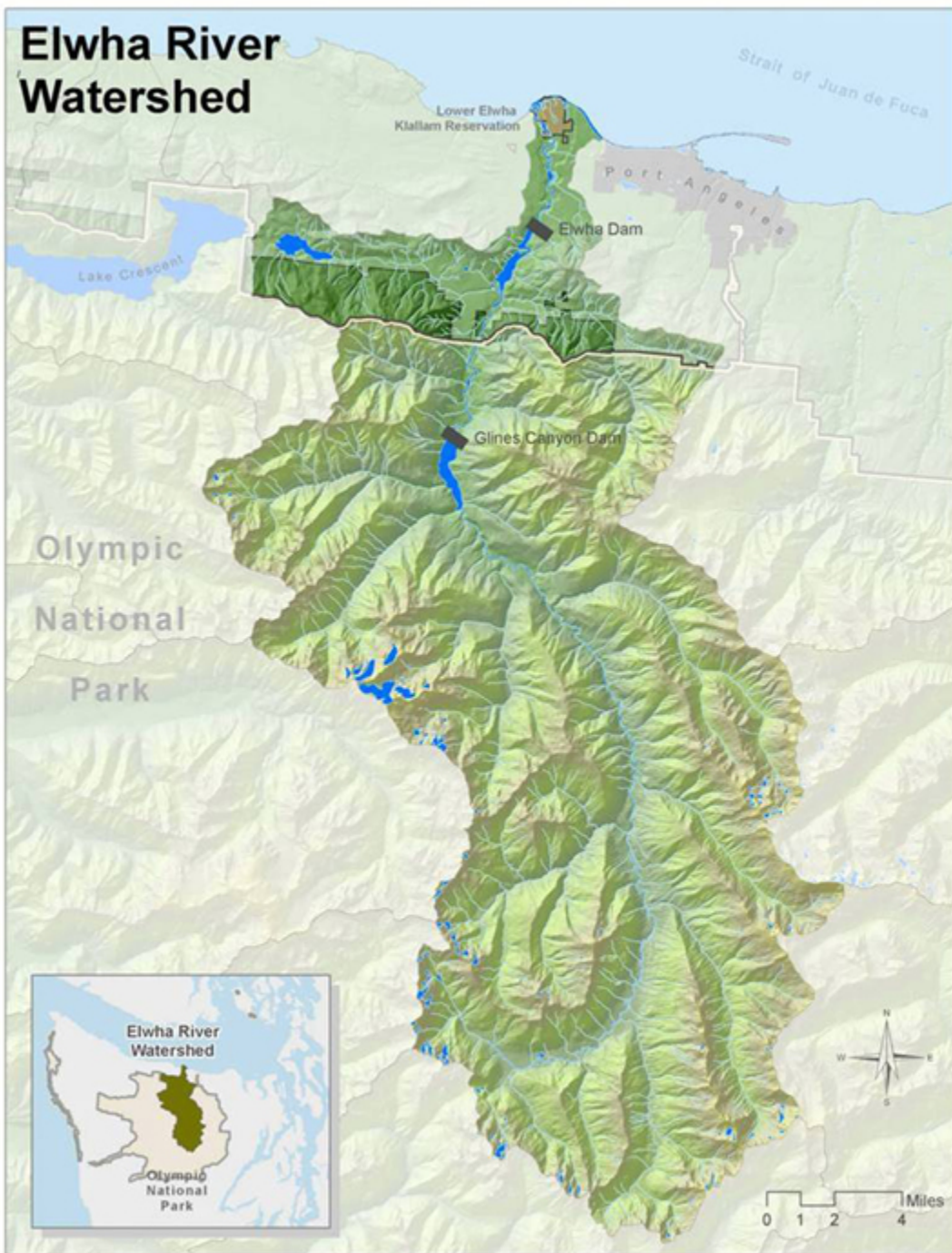
Deputy Director for Power and
Telecommunication Systems
Department of Public Works & Utilities
City of Port Angeles, WA
360.417.4703
plusk@cityofpa.us

Water Shortage Declaration

- The City could declare a shortage in 2015 due to low snow pack and other factors in the Elwha River watershed
 - Three City water shortage declarations since 2002
 - Stage 2 declaration on July 8, 2003
 - Reason: Peabody Heights Reservoir taken out of service
 - Stage 3 declaration on September 25, 2005
 - Reason: Low Elwha River flows
 - Stage 2 declaration on September 26, 2006
 - Reason: Low Elwha River flows

Water Shortage Response Plan

- Water Shortage Response Plan Stages
 - Stage I
 - Staff alerted that a water conservation promotional campaign may be needed.
 - Stage II
 - Voluntary conservation. Begin public information campaign.
 - Stage III
 - Outdoor restrictions. Voluntary sprinkling restrictions. Intensive public information.
 - Stage IV
 - Mandatory outdoor restrictions. Essential water uses only.
 - Stage V
 - Water rationing.

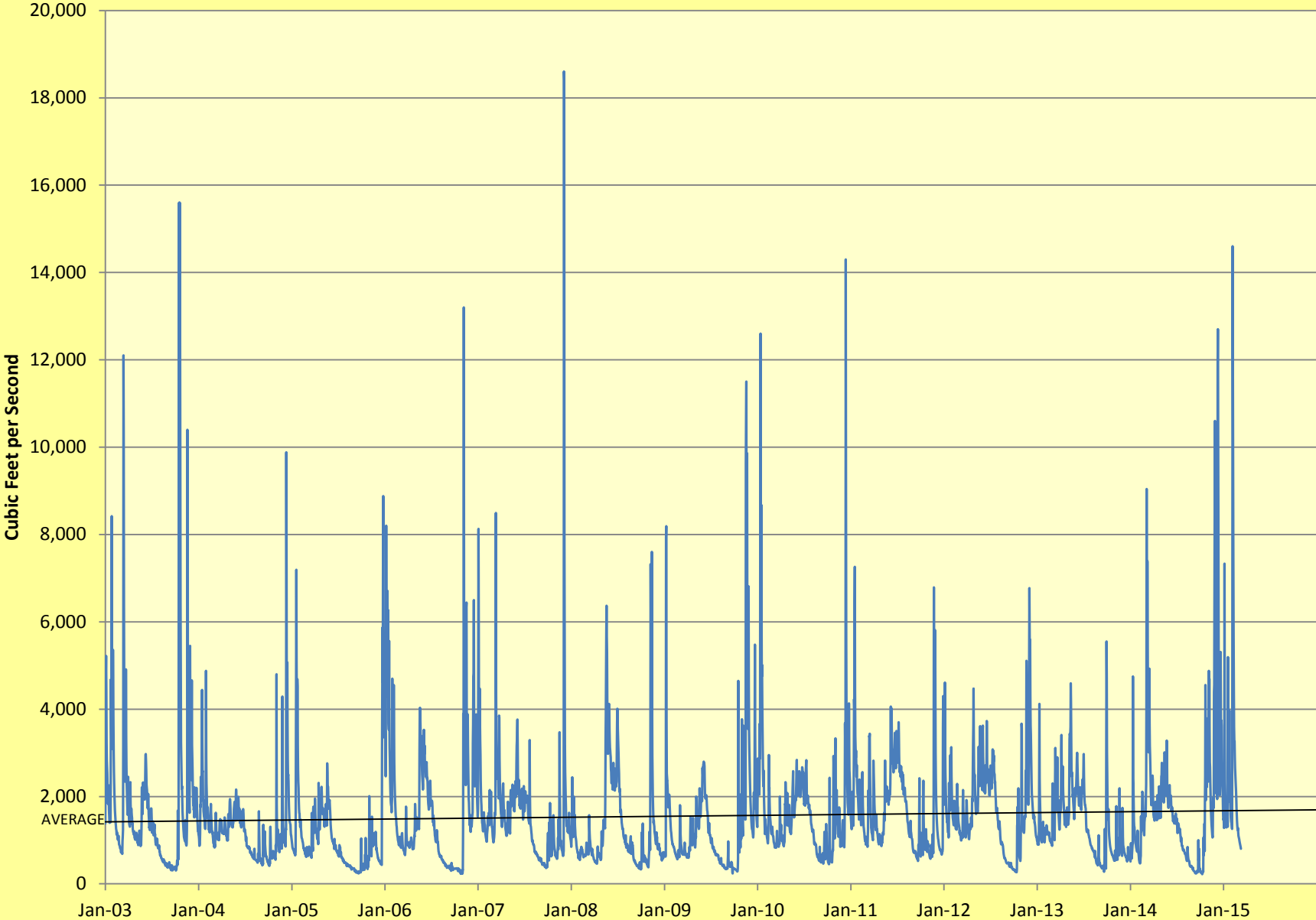


- The peninsula's largest watershed
 - 321 square miles of drainage and 70 miles of river tributaries
- The City obtains its drinking water from two sources
 - A Ranney collector well or from the lower Elwha Water Treatment Plant

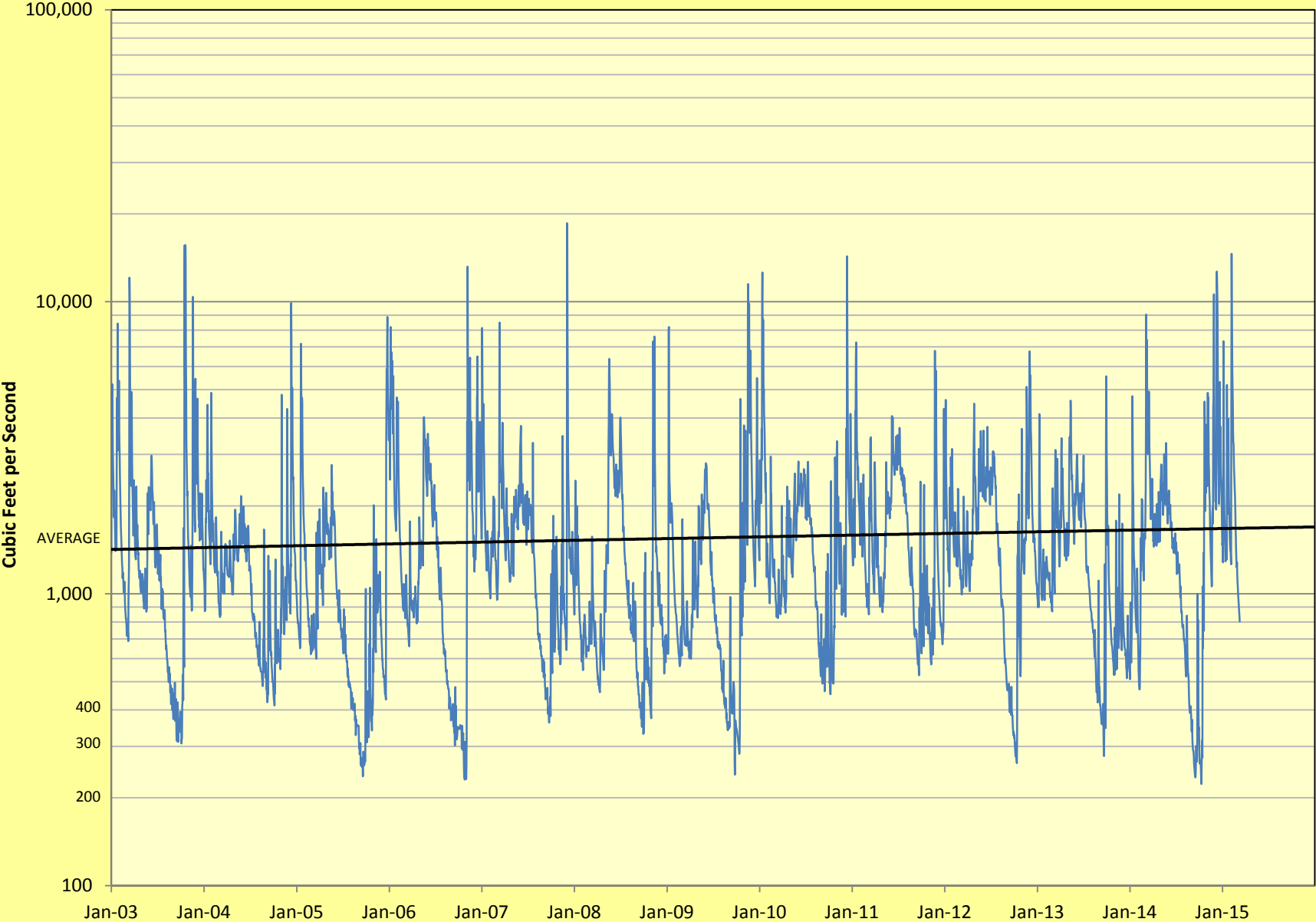
Water Conservation Program

- The water conservation program has two components to decrease City water use:
 - Supply-side measures for system efficiency
 - Demand-side measures for water conservation
 - Free devices such as low flow showerheads, low flow faucet aerators, and water saving dams for toilets
 - Rebates for downspout disconnects and rain garden installation
 - Working to provide rebates for water-efficient toilets, rain barrels, watering timers, and soil moisture meters

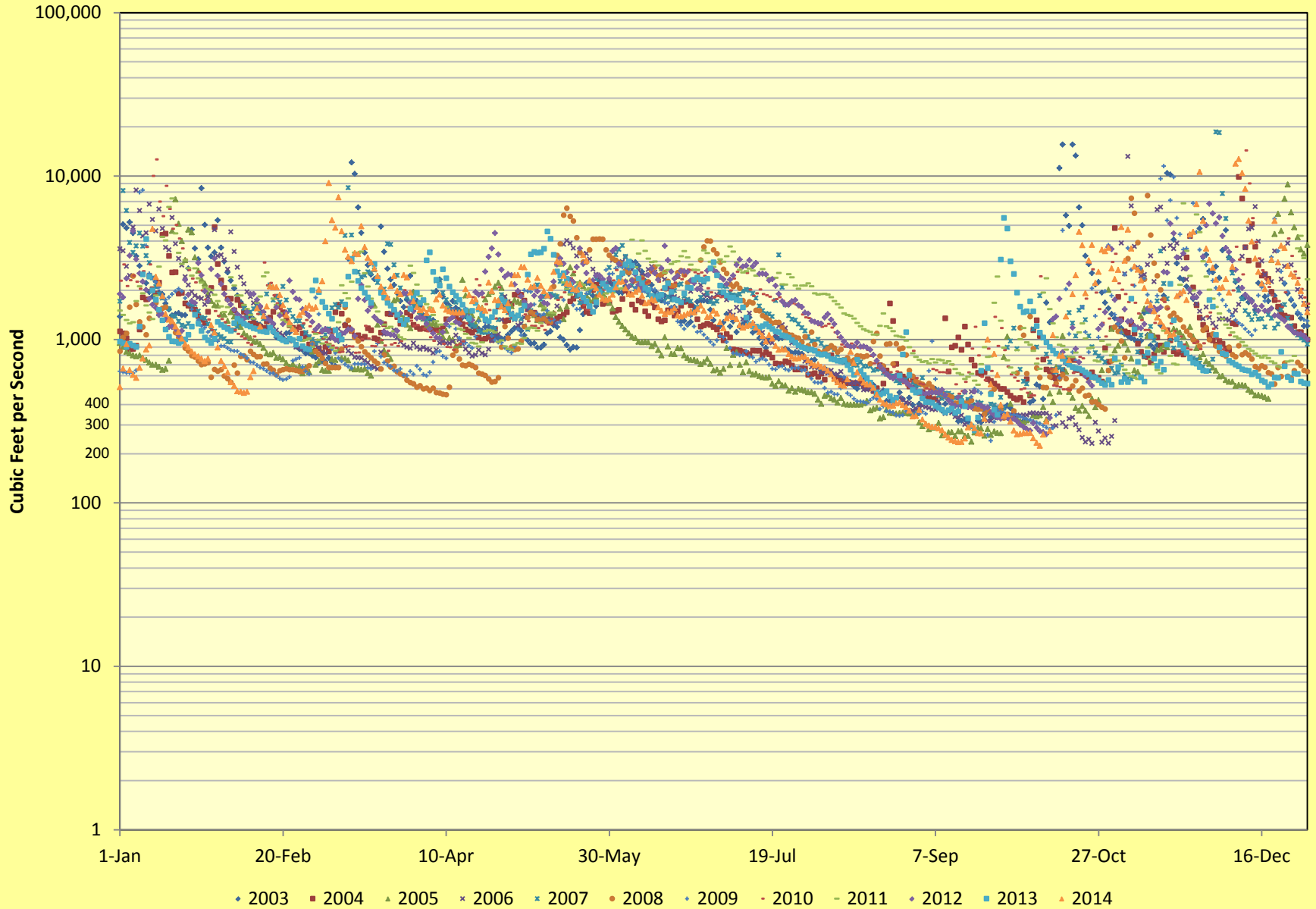
Elwha River Mean Daily Discharge



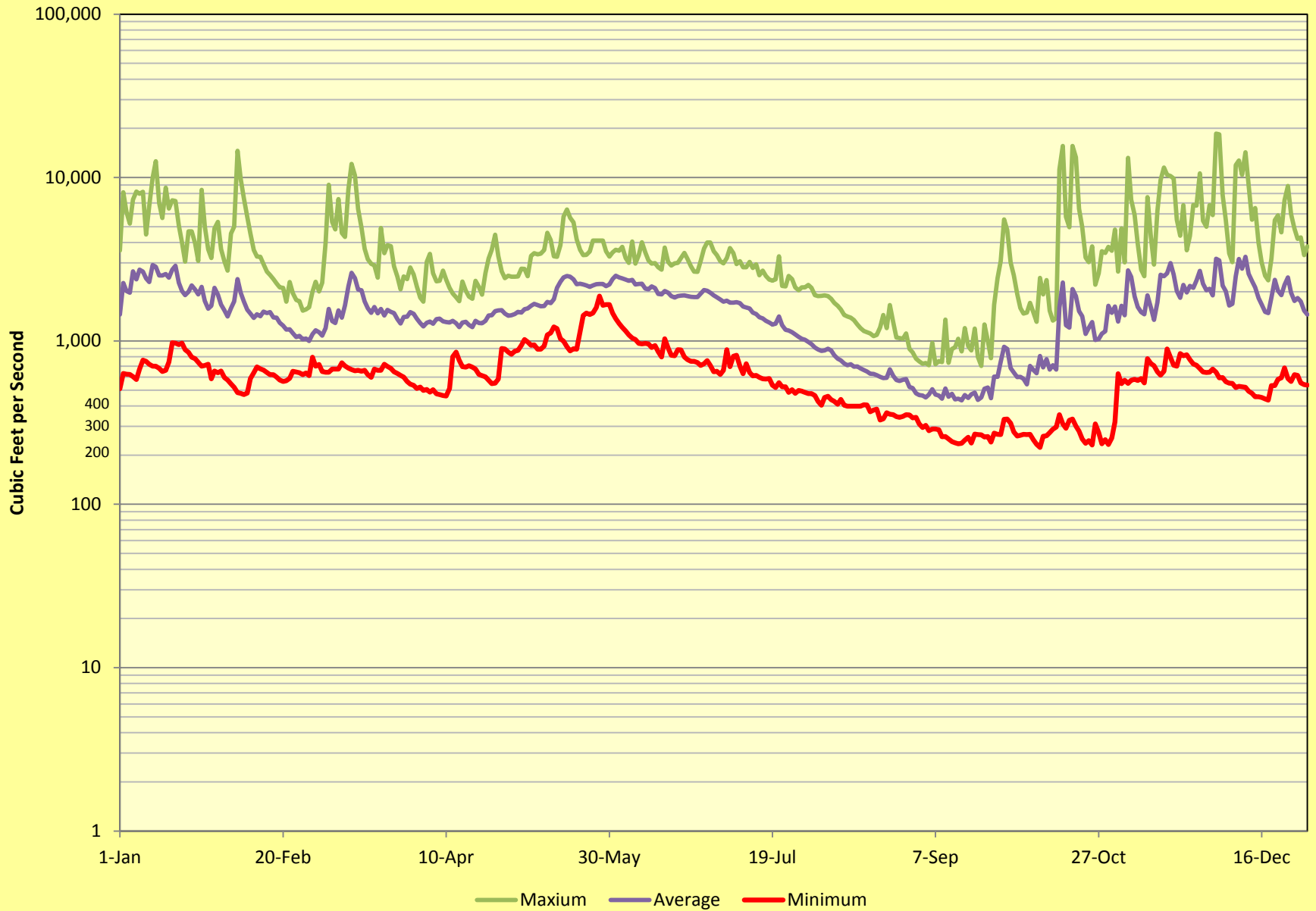
Elwha River Mean Daily Discharge (log 10 scale)



Elwha River Daily Flow (2003 - 2014 in log 10 scale)

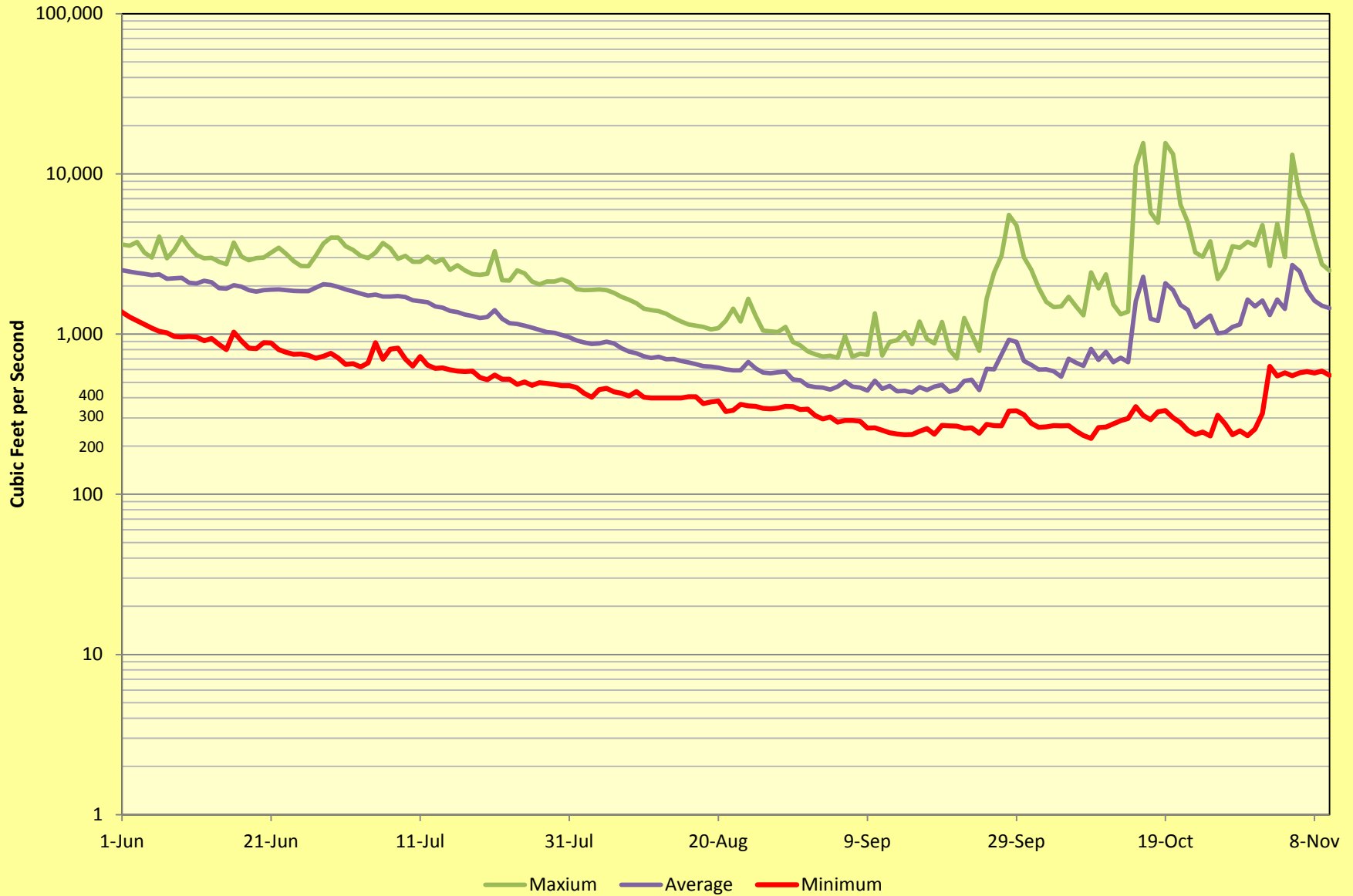


Elwha River Daily Flow (2003 - 2014 in log 10 scale)

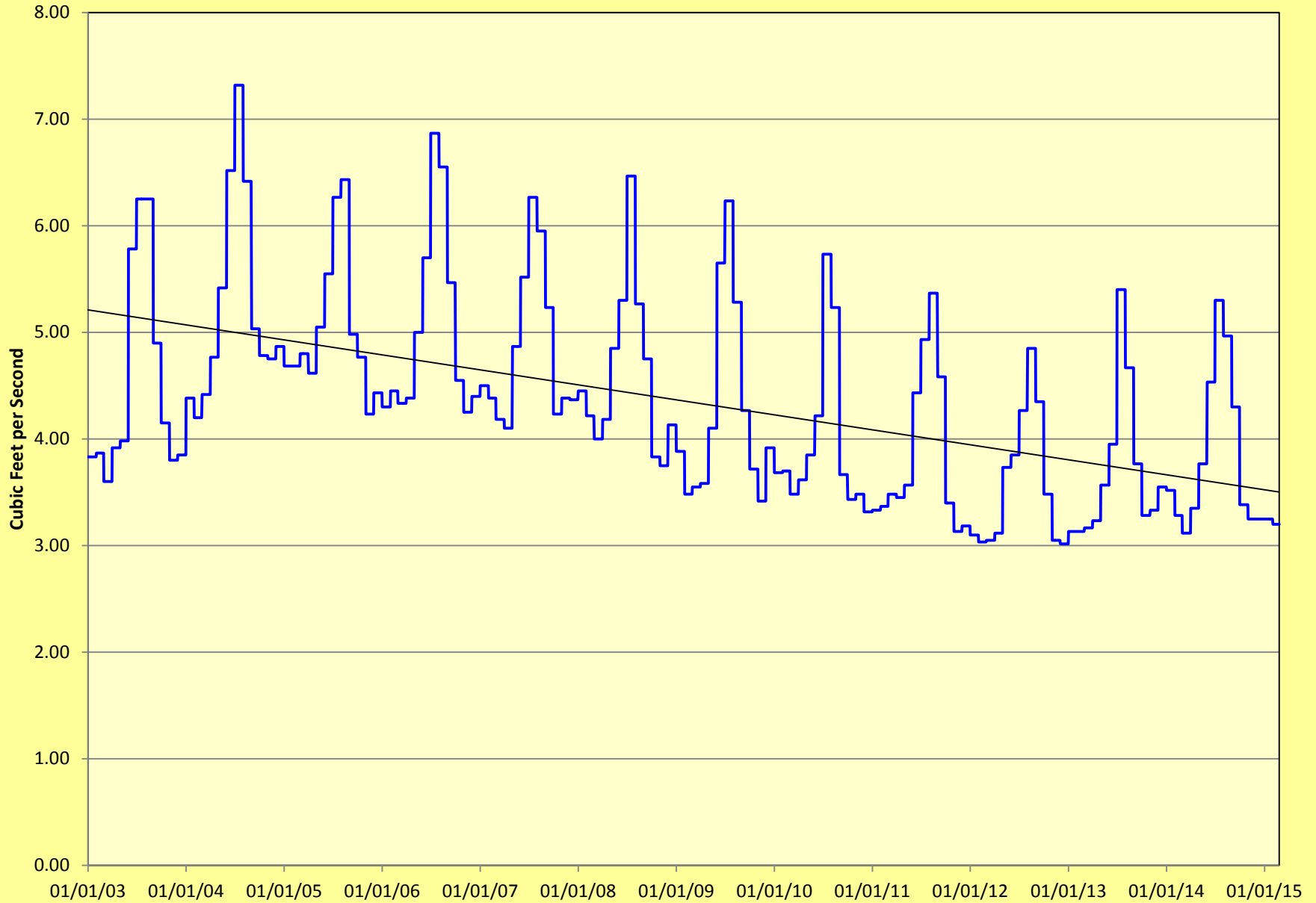


Elwha River Daily Flow During Critical Months

(2003 - 2014 in log 10 scale)

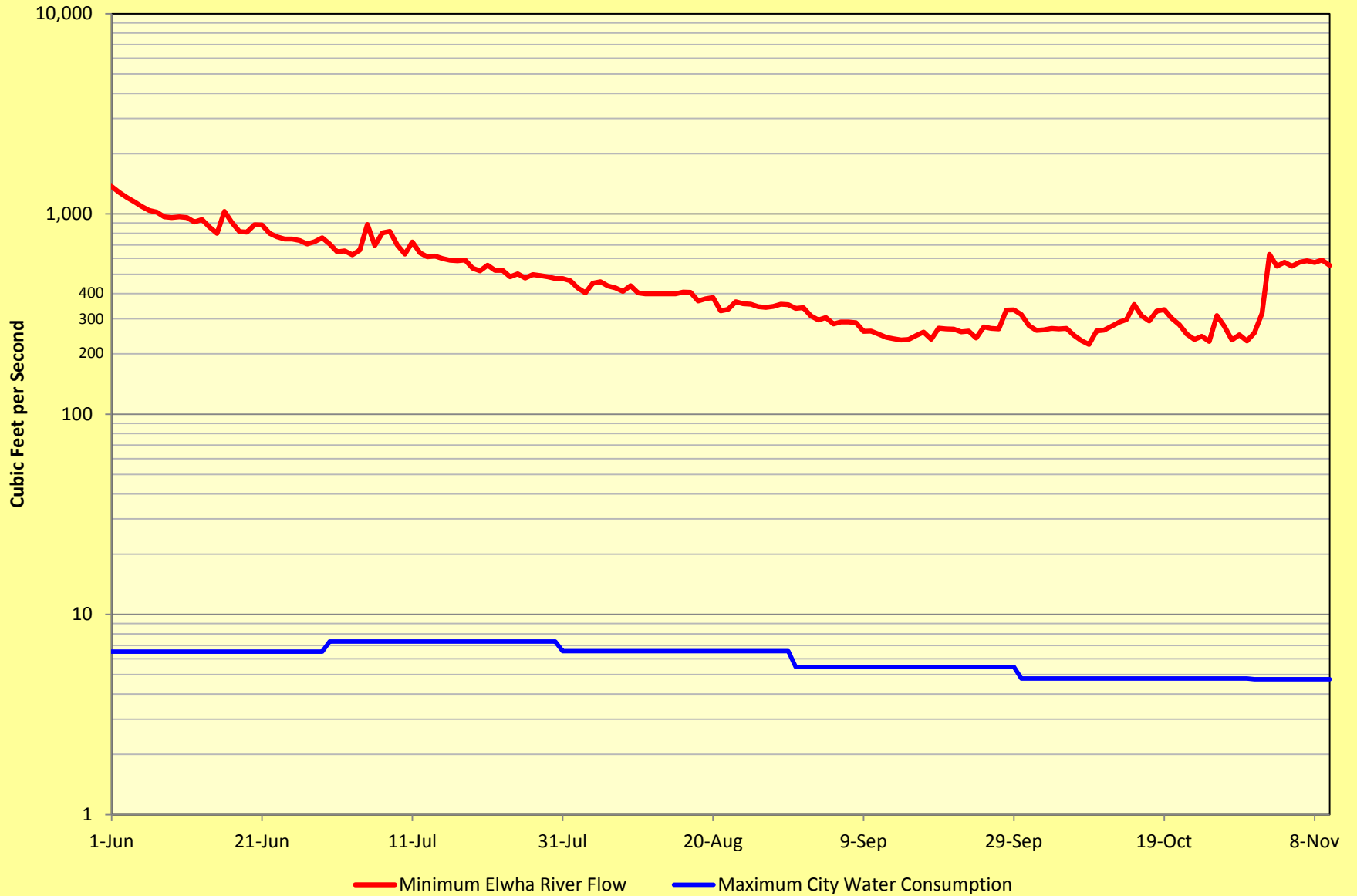


City of Port Angeles Daily Water Consumption



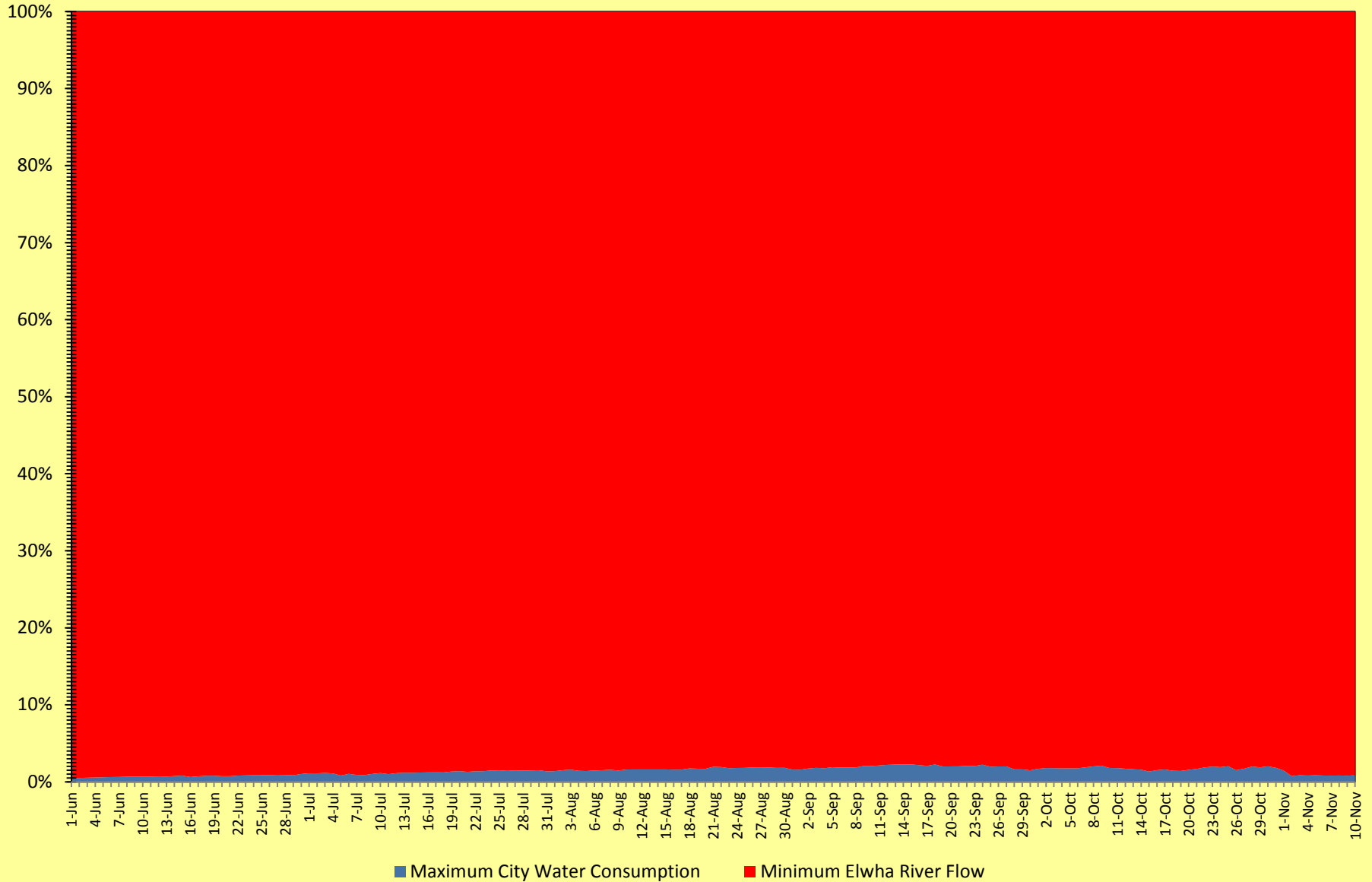
Elwha River Flow vs City Water Consumption

(2003 - 2014 Mean Daily Comparison During Critical Months in log 10 scale)



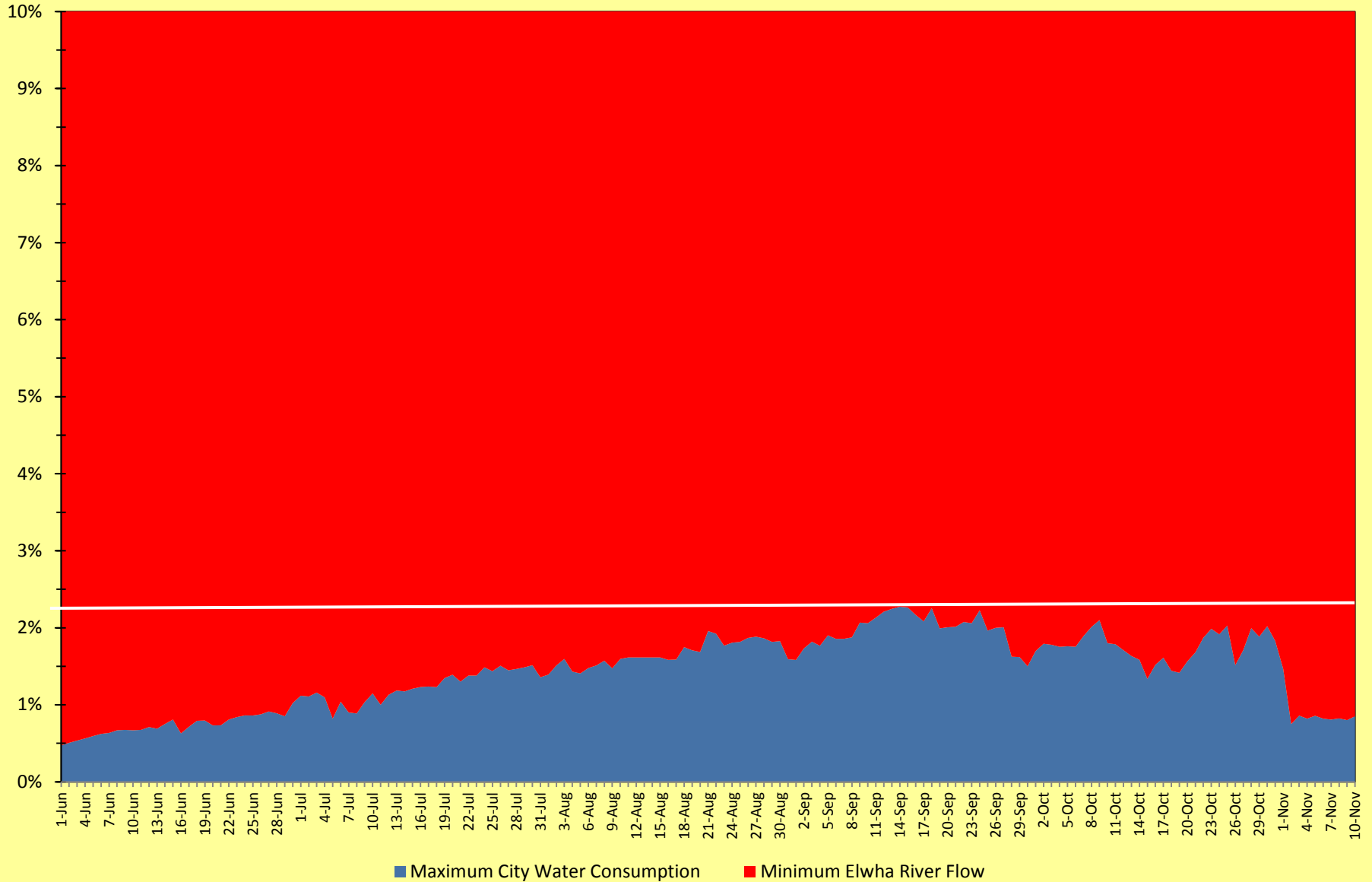
Elwha River Flow vs City Water Consumption

(2003 - 2014 Percentage Daily Comparison During Critical Months)



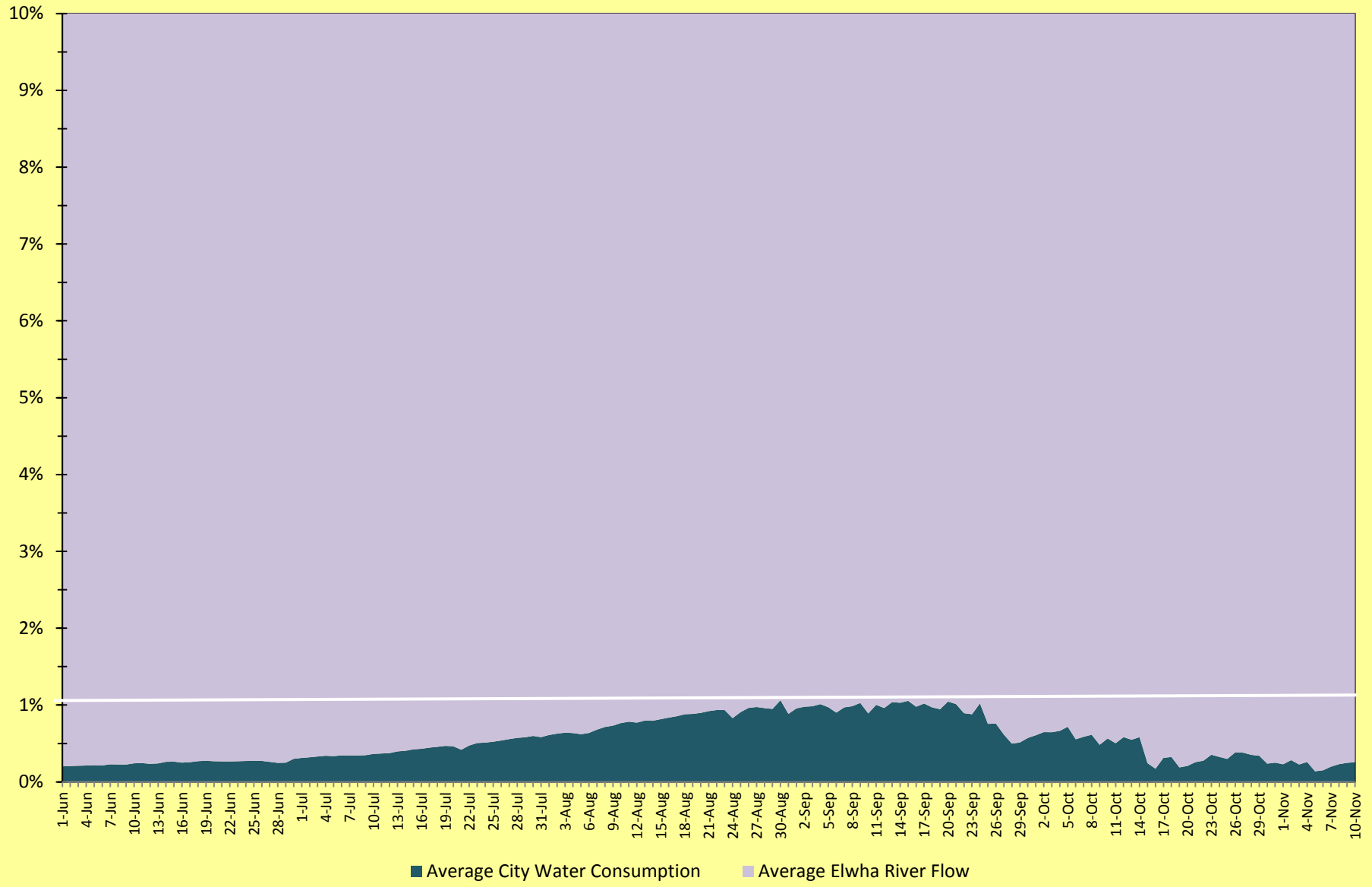
Elwha River Flow vs City Water Consumption

(2003 - 2014 Percentage Daily ZOOM Comparison During Critical Months)



Elwha River Flow vs City Water Consumption

(2003 - 2014 Percentage Daily ZOOM Comparison During Critical Months)



Water Shortage Response Plan Summary

- A water shortage could be declared in 2015
 - Most likely to occur in mid- to late-September
 - Most likely a response to efforts to preserve fish spawning habitat
 - Compared to 2005-2006 declared shortages, less likely to occur and to have smaller impacts
 - Most likely no impact on Seasonal Water Usage Program
 - Summer (1 June to 31 August) uniform consumption rate
 - Recommendations
 - Consider official Stage 1 water shortage declaration
 - Develop prescriptive standards for water shortage declarations
 - Continue and expand water conservation program

An aerial photograph of a coastal town and harbor. The water is a deep blue, and the town is built on a peninsula. There are several large buildings, a marina with many boats, and a road that runs along the coast. The sky is clear and blue. Overlaid on the image is yellow text providing contact information for Phil Lusk.

Phil Lusk
**Deputy Director of Power and
Telecommunications Systems**
Public Works & Utilities Department
plusk@cityofpa.us
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<http://www.cityofpa.us>