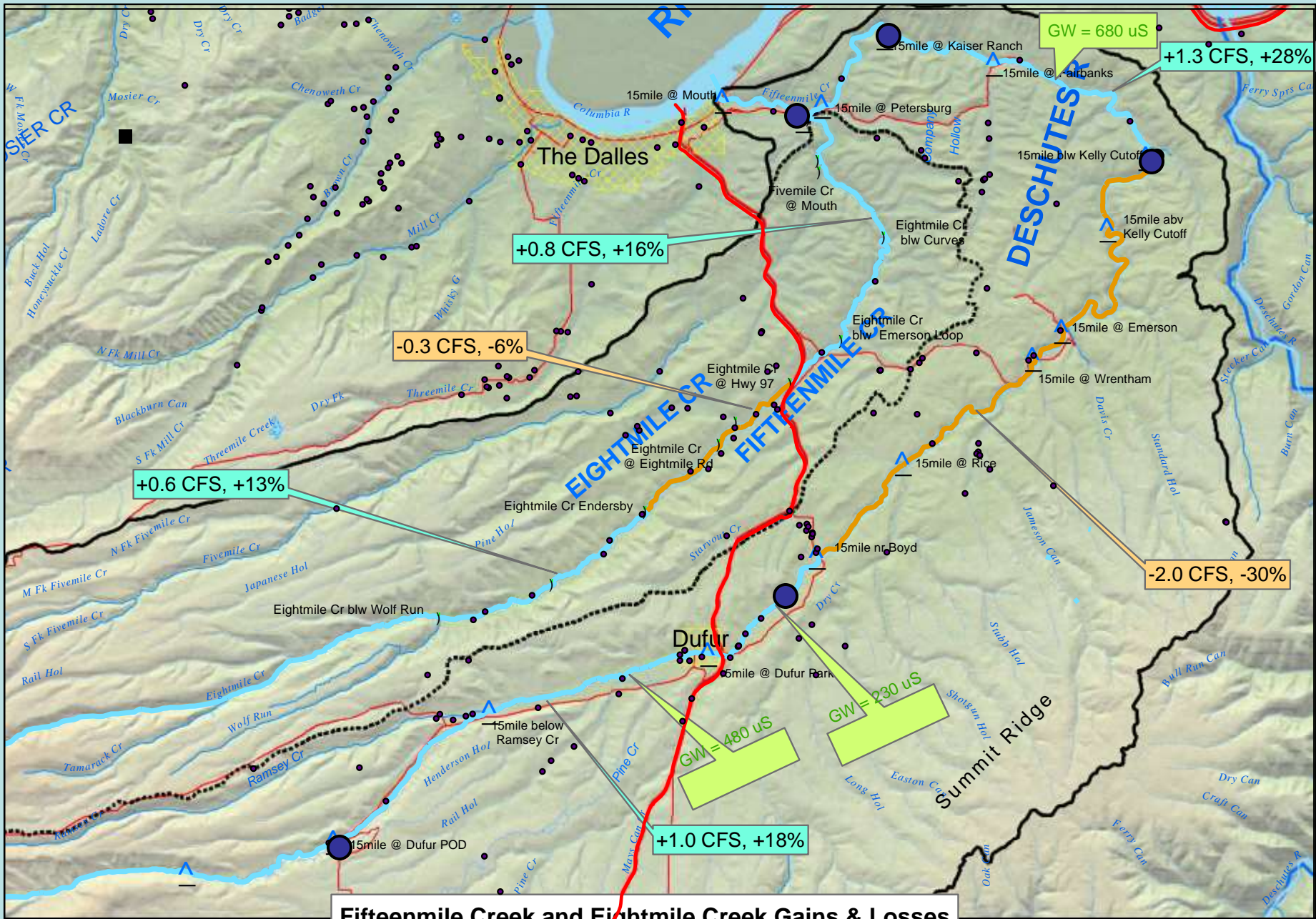


Additional GW/SW interaction monitoring for Fifteenmile Creek

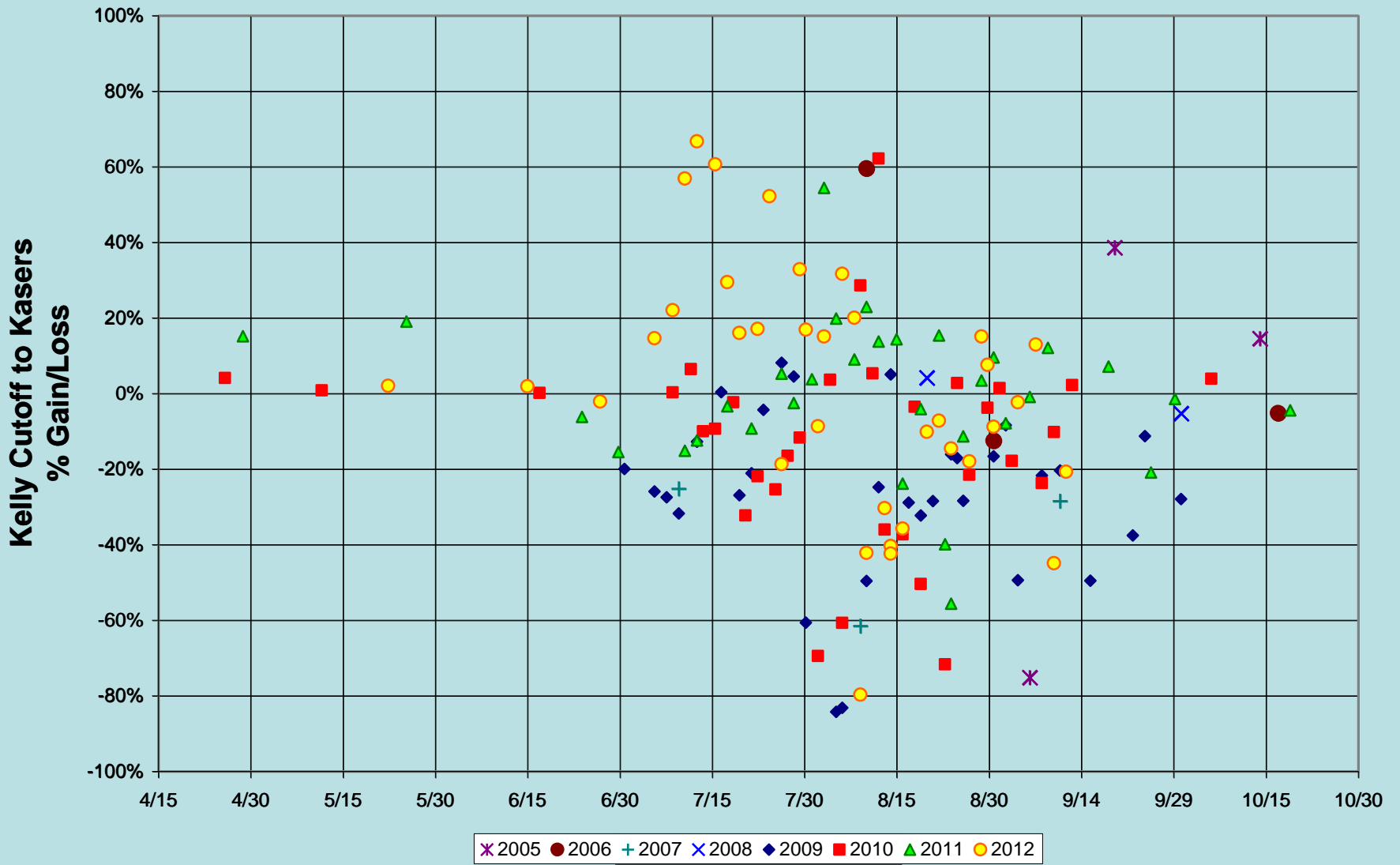
Jonathan La Marche, Hydrologist
Oregon Water Resources Department



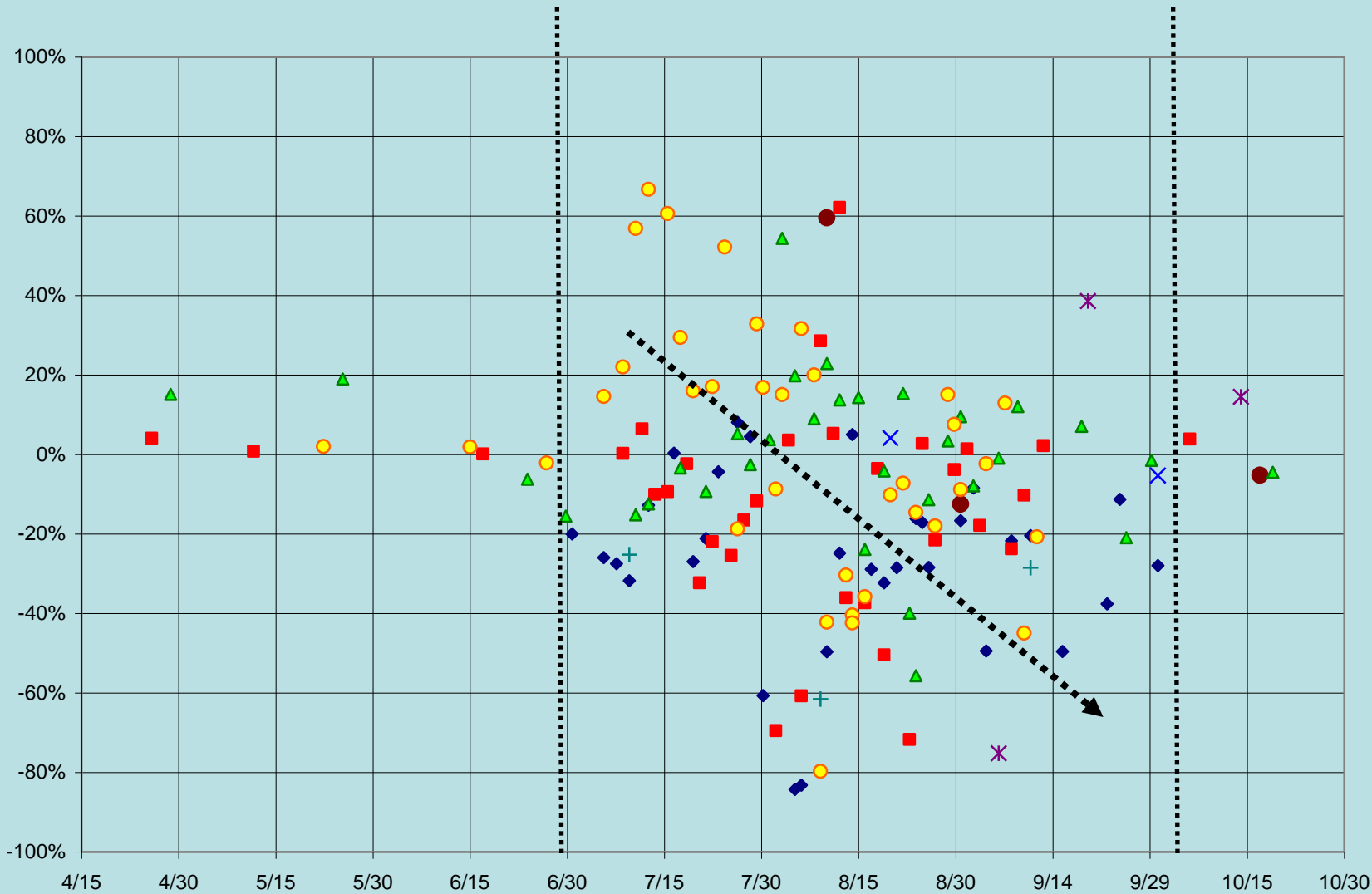


Fifteenmile Creek and Eightmile Creek Gains & Losses

- Legend**
- Fifteenmile & Eightmile Creeks (GAIN)
 - Fifteenmile & Eightmile Creeks (LOSS)
 - Fifteenmile Creek Watershed Boundary
 - Eightmile Creek Divide
 - City
 - Streams
 - Roads
 - Highways
 - GAIN (cfs, %)
 - LOSS (cfs, %)
 - Eightmile Synoptic Measurement
 - ▲ Fifteenmile Synoptic Measurement

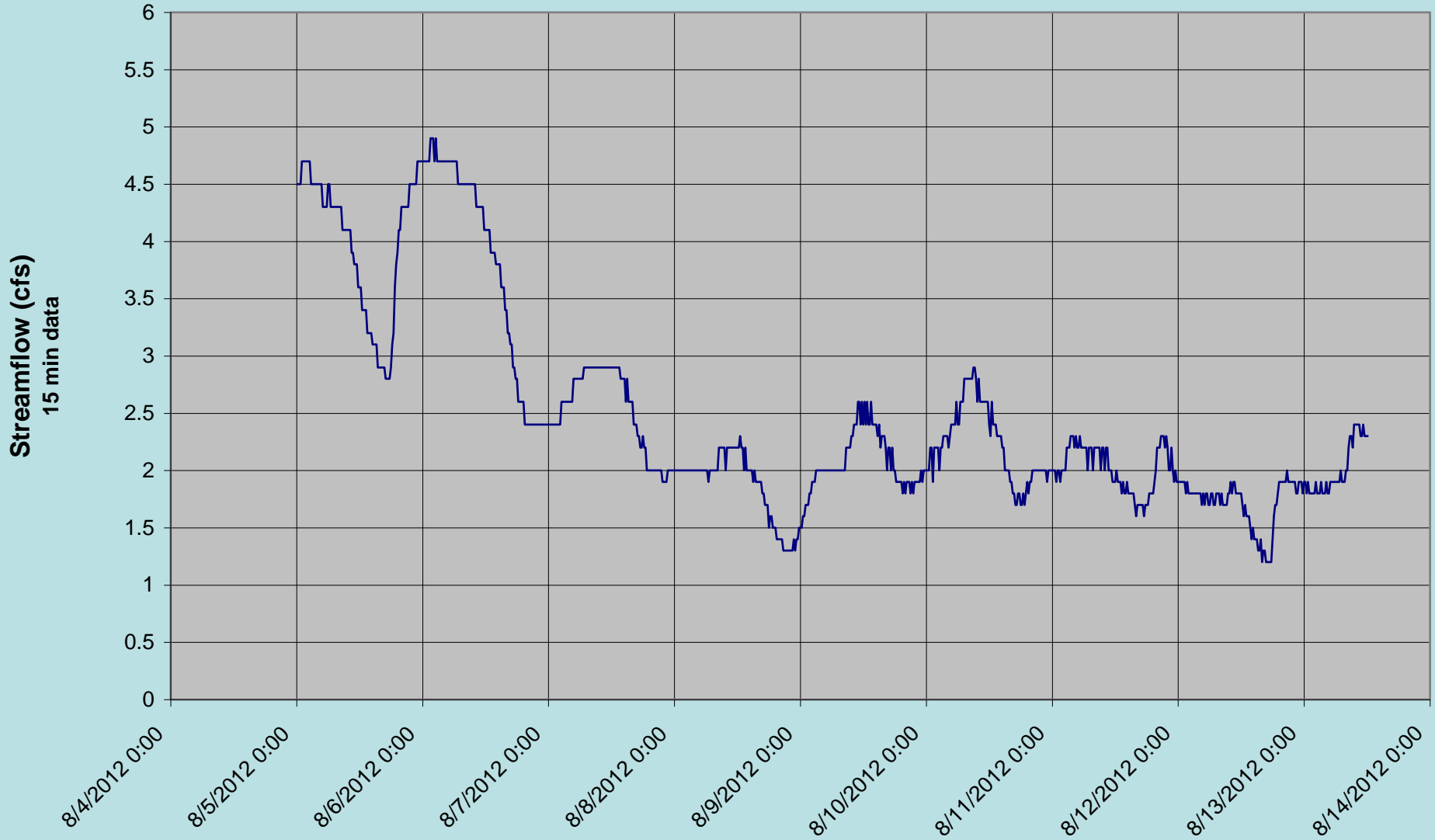


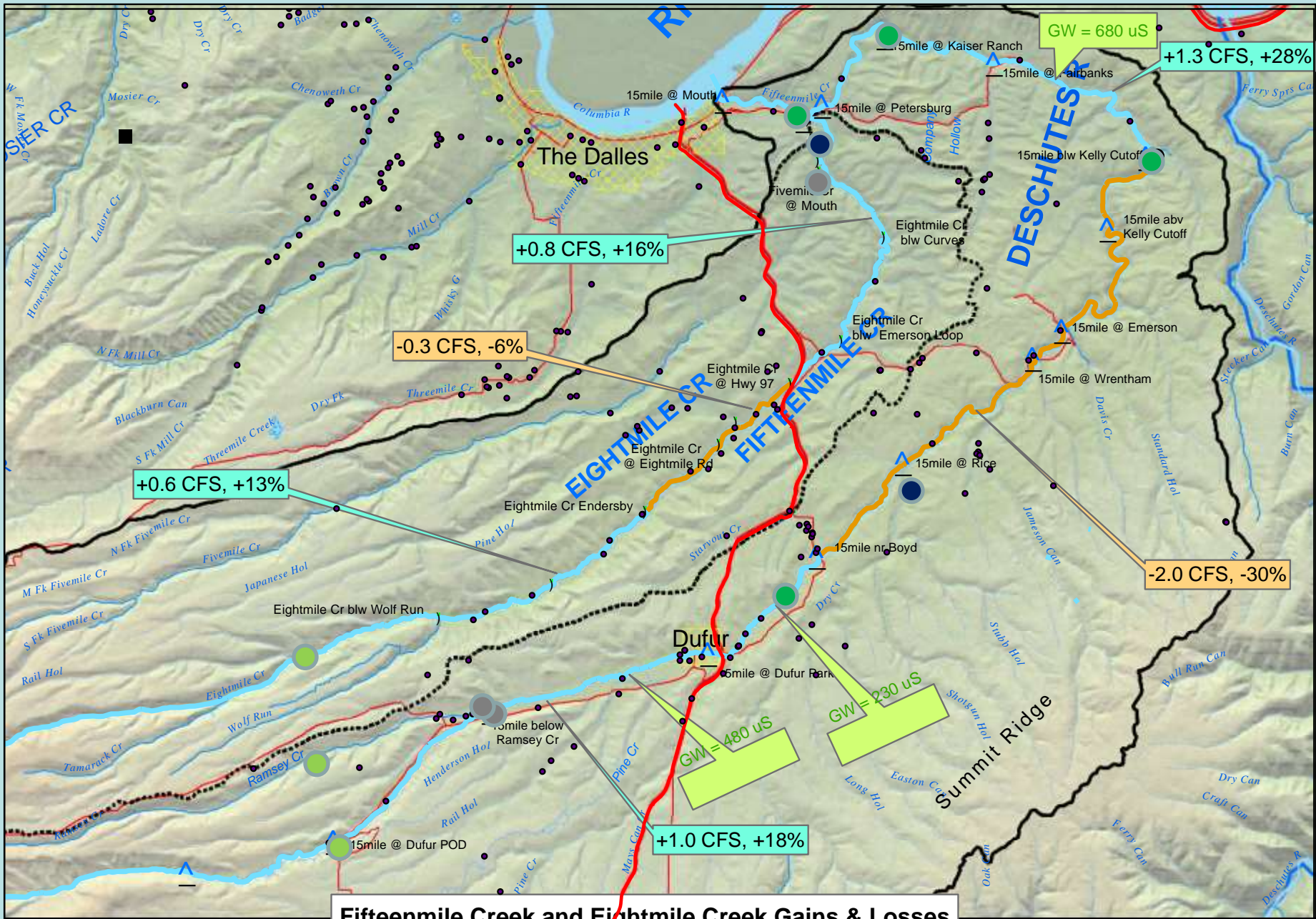
Kelly Cutoff to Kasers % Gain/Loss



✖ 2005 ● 2006 + 2007 ✖ 2008 ◆ 2009 ■ 2010 ▲ 2011 ○ 2012

Fifteenmile Cr Stream Gage (#14105550) near The Dalles, OR





Fifteenmile Creek and Eightmile Creek Gains & Losses

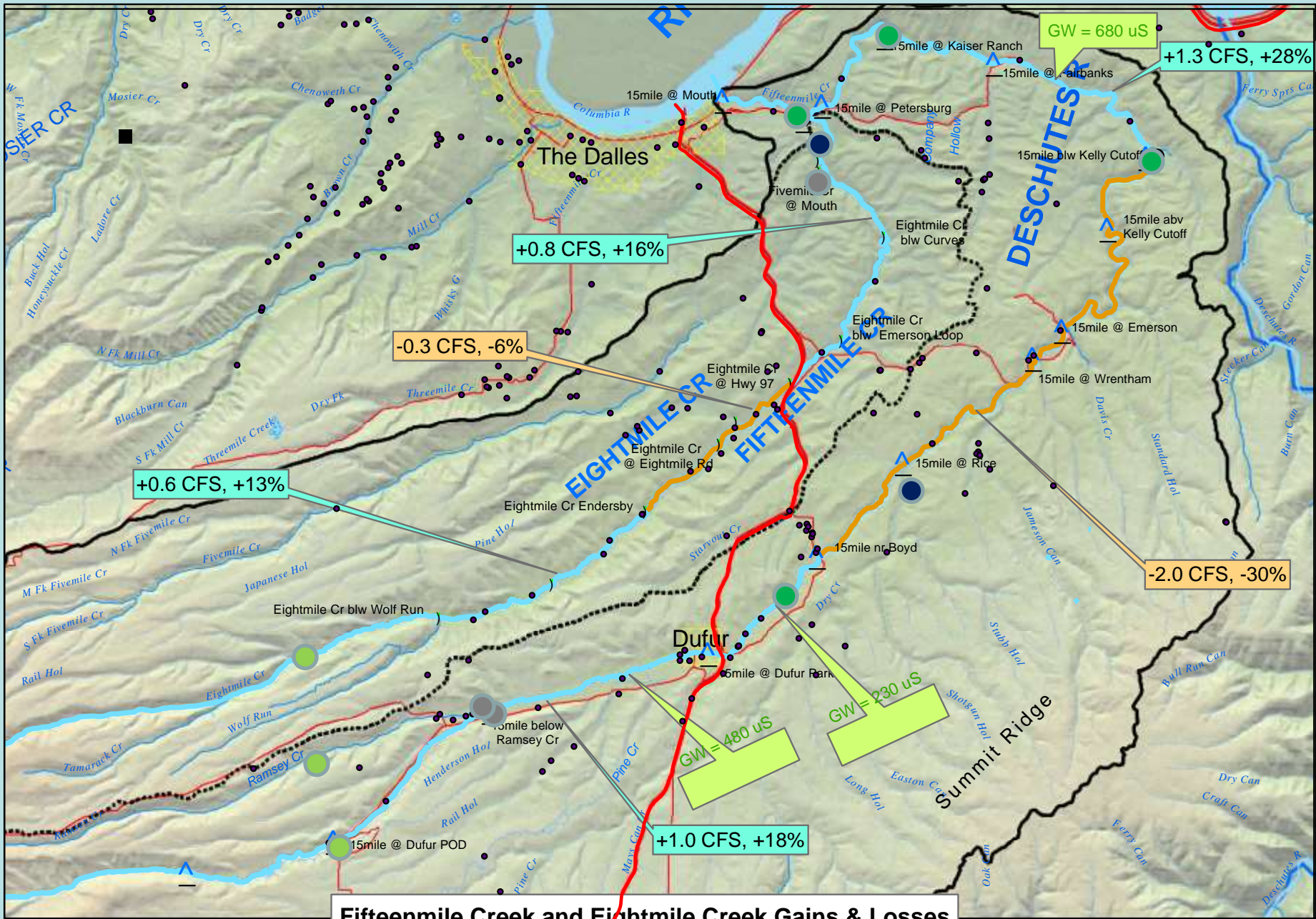
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 - ^ Fifteenmile Synoptic Measurement

Basin Water Budget

- $GW = P - ET - R$
- GW = groundwater recharge
- P = precipitation
- ET = plant evapotranspiration
- R = runoff (streamflow)
- USGS watershed model PRISM

Enhanced monitoring proposal

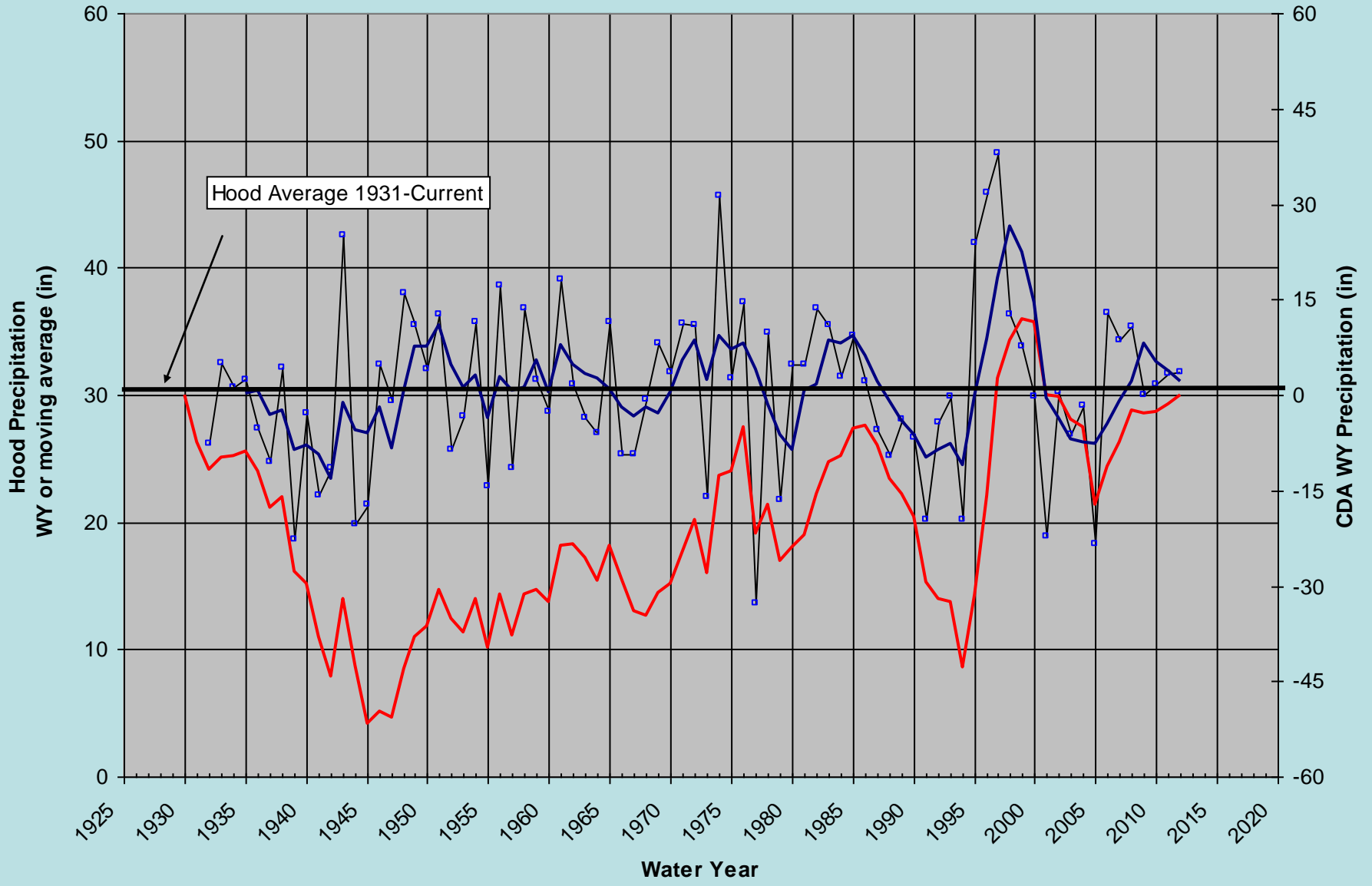
- Equip Fifteenmile stream gage near mouth with a bank operated cable-way. **River Surveyor Purchased.**
- upgrade two OWRD gages near Boyd and at Kelly cutoff with data loggers and telemetry
- Equip stream gage near Kaser with telemetry and OWRD compatible logger.
- provide QA/QC for ODFW and FWT stream gages, and field support. **Install five new stream gages, two at ODFW sites.**
- Develop and calibrate watershed PRMS watershed model.



Fifteenmile Creek and Eightmile Creek Gains & Losses

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Hood River EXP STN Precipitation (inches)



—□— Hood R WY Precip — Hood River CDA 1932- — 4 per. Mov. Avg. (Hood R WY Precip)