

Skagit County Flood Risk Management Seattle City Light FERC Relicensing Update

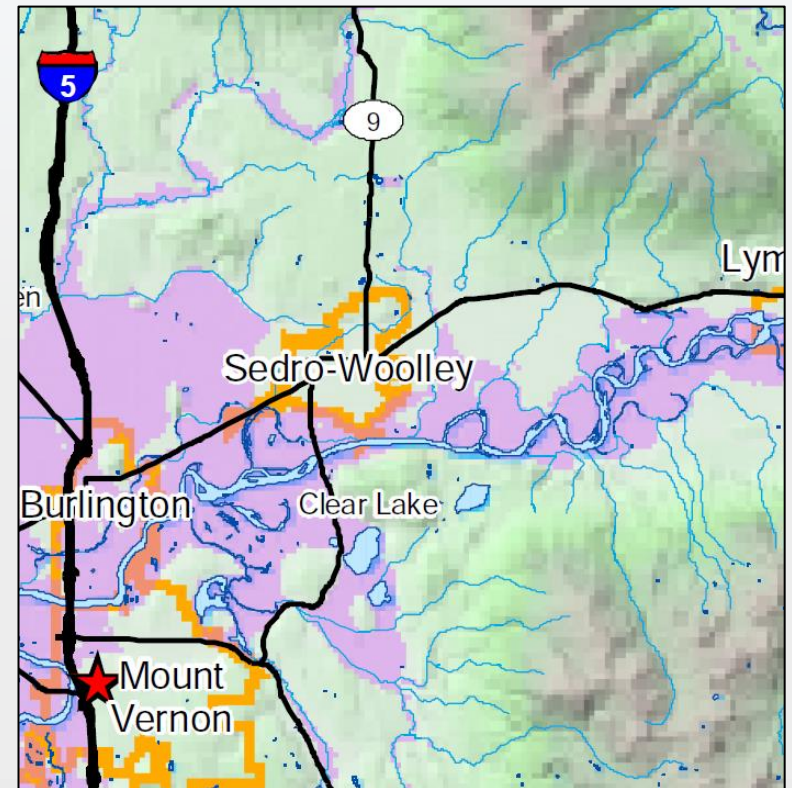
Skagit Council of Governments
December 7, 2022

Skagit County
Skagit County Dike District and Drainage Flood Control Partnership
Skagit County Drainage and Irrigation Districts Consortium

Photo credit: Marlin Greene/One Earth Images

Skagit River Fun Facts

- ❖ Skagit River is the third largest river on the West Coast
 - Sacramento and Columbia
 - Skagit is the only river with wild and scenic designation
 - Sauk and Cascade have uncontrolled flows
- ❖ Corps estimates a 100 year flood event on the Skagit is roughly 220,000 cfs
- ❖ Major populations and infrastructure is located in the Skagit floodplain
 - Burlington, Mount Vernon, Sedro Woolley, La Conner, Hamilton, Lyman
 - Critical EMS facilities (fire, public works, police, hospitals)
 - Anacortes Water Treatment Plant
 - I-5, Hwy 9, Hwy 20, Hwy 536, Hwy 11
 - PSE Power transfer stations are in the floodplain



LEGEND

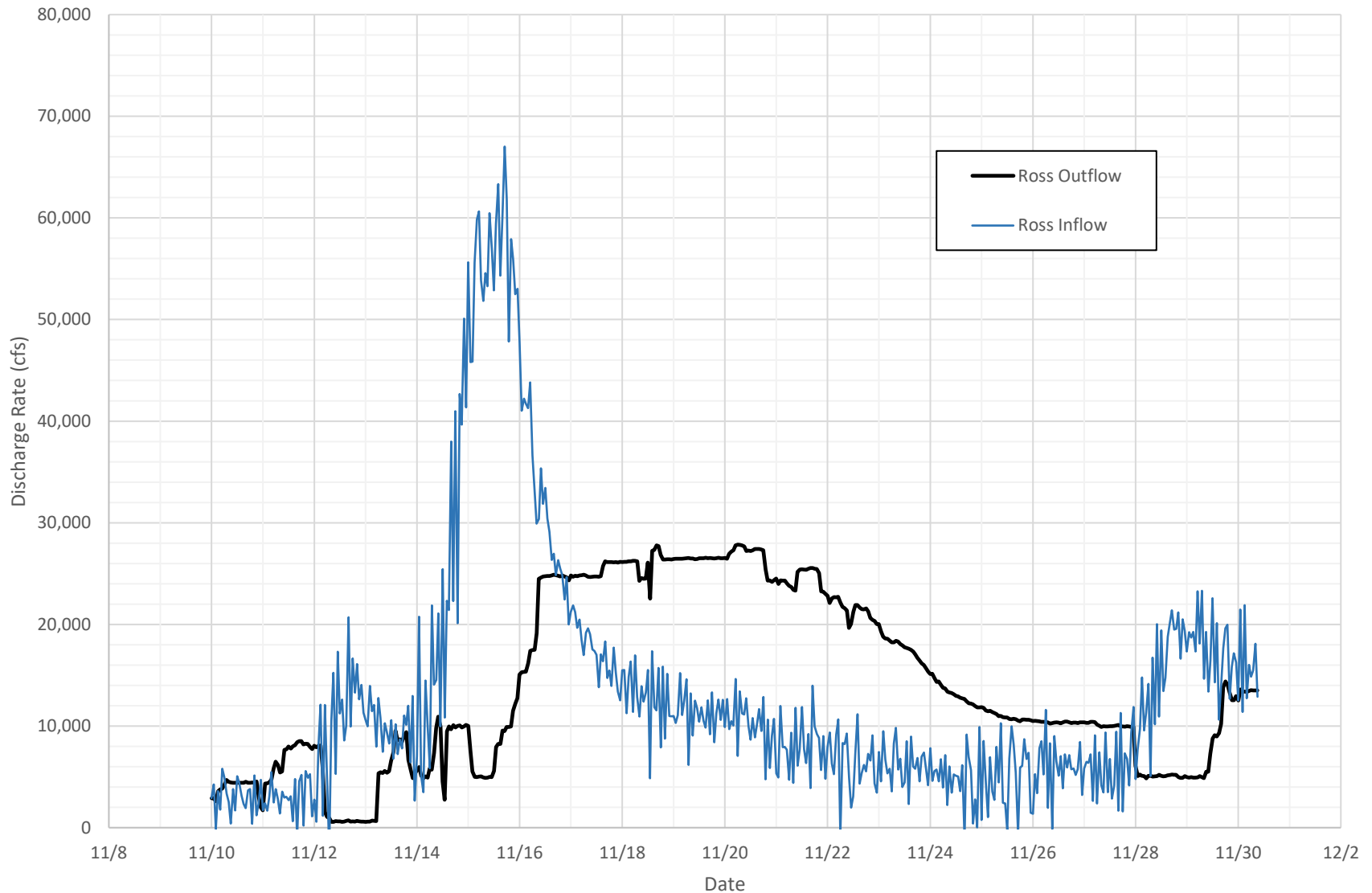
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|---------------------------|-------------------------|
| ★ County Seat | County Boundary |
| Interstate | Incorporated Area |
| State Route | Major Water Body |
| FEMA 100-Year Flood Plain | River, Creek, or Stream |

November 2021 Flood Debrief

- ❖ 2021 Flood was about 130,000 cfs at Mount Vernon
 - 1,000,000 gallon jugs of water each second
- ❖ SCL had approximately 170,000+ ac-ft of storage at Ross
 - Current License = 60,000 ac-ft
 - Nov. 2021 SLC had extra 110,000 ac-ft of storage
 - Diablo and Gorge are pass-through (no flood storage)
- ❖ Inflow of record to Baker and Skagit –likely a sign of the future
 - Inflows to Ross 67,000 cfs
 - Outflows only 5,000 cfs at peak
- ❖ Flood would have been **appx. 8-ft higher** without the storage from at Baker & extra storage from Ross
 - Overtop Levees
 - Overtop Mount Vernon Floodwall
 - Cutoff routes to hospitals
 - Impacts to critical sewer and water facilities

2021 Flood Recap – The Importance of Storage

2021 Flood Hydrographs



Reservoir Storage & FERC Licenses

Mainstem Skagit
Seattle City Light
25% Skagit Watershed

Local FERC Flood Risk Reduction
Leads

**Most cost effective
way to reduce flood
risk for all
downstream
communities**

Skagit
County

Skagit Dike
Partnership

Skagit Drainage
Consortium

US Army Corps
of Engineers

**SCL is currently relicensing the Skagit Project
once in a lifetime opportunity
to reduce flood risks in our communities**



Seattle City Light FERC Relicensing STORAGE REQUEST

Ross Reservoir Operations and Flood Risk Reduction

Flood Control is the Primary Purpose of Ross

- ❖ 1946 Corps recommended 200,000 ac-ft of flood storage
- ❖ 1954 revised license set flood storage at 120,000 ac-ft

SCL Current Operations

- ❖ Fish Settlement Agreement
- ❖ Includes Requirements for Recreation
- ❖ Drawdown starts earlier than flood control schedule
- ❖ More flood storage is available than required under current license

Local FERC Relicensing Flood Risk Reduction Request

MORE STORAGE

EARLIER
DRAWDOWN

License Requirement	Current Operations	Proposed Operations
Flood Storage Capacity	120,000 ac-ft	200,000 ac-ft
Date	December 1 st	November 1 st

- ❖ Consistent with project purpose
- ❖ Consistent with observed trend of early season major floods
- ❖ Consistent with current operations based on USGS data
- ❖ Most cost effective way to reduce downstream flood risks

Local FERC Relicensing Flood Risk Reduction Request

MORE STORAGE

- ❖ November 2021 flood could have been 8-ft higher
 - Catastrophic flooding of downstream communities
 - Mount Vernon floodwall and levees overtopped/failed
- ❖ Large inflows predicted to become more frequent with climate change
- ❖ Consistent with Corps 1946 Recommendations

Local FERC Relicensing Flood Risk Reduction Request

Earlier Drawdown

Major
Floods
Occur
Before
Dec. 1st

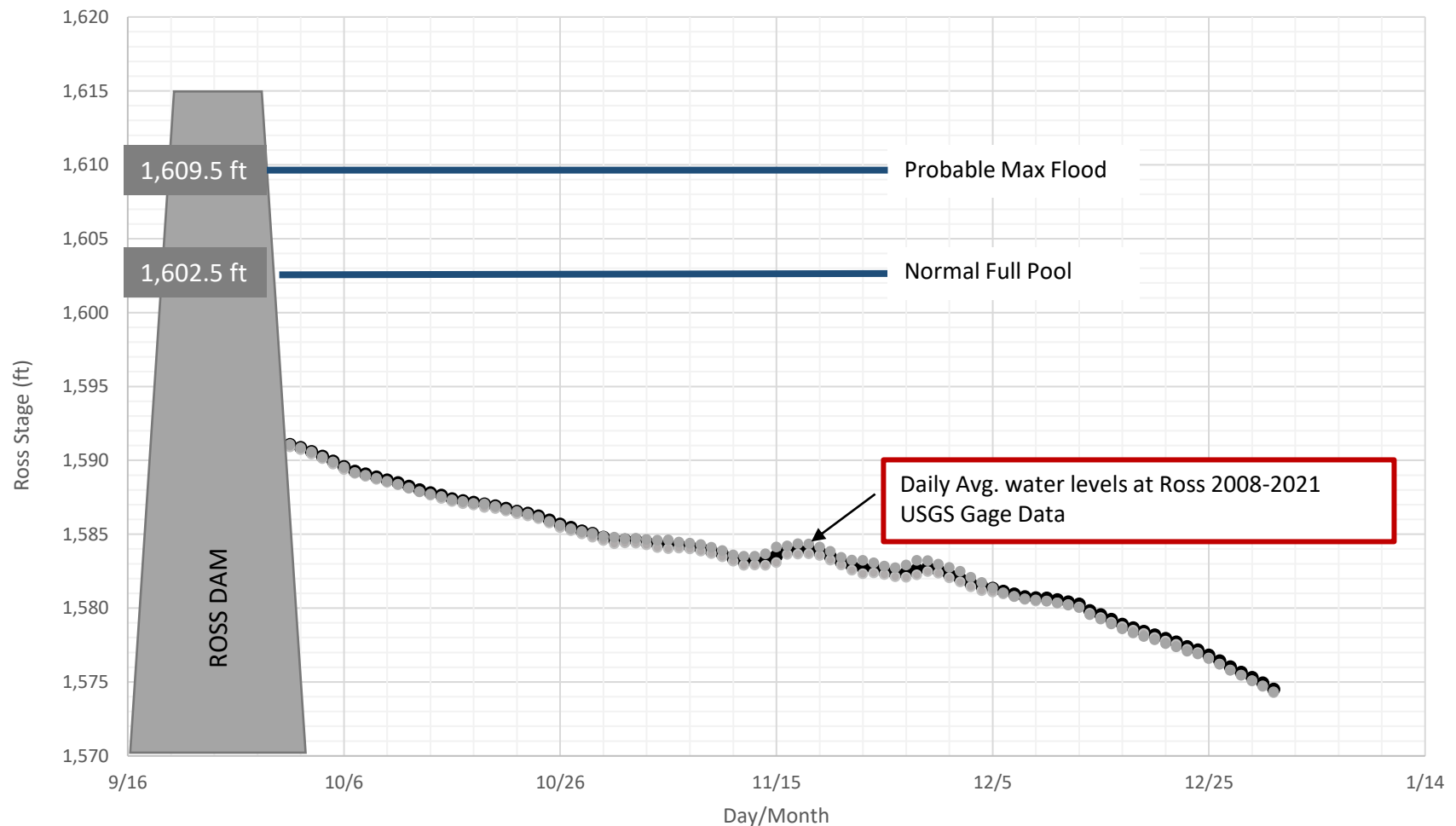
Climate
Change
Research
Predicts
Earlier
Floods

Flood Date	Flood Category	Stage Mount Vernon (ft)
Nov. 11, 1990	Major	Unverified
Nov. 25, 1990	Major	37.37
Nov. 30, 1995	Major	37.34
Oct. 17, 2003	Major	33.12
Oct. 21, 2003	Major	42.21
Nov. 6, 2006	Major	39.37
Nov. 23, 2017	Major	34.69
Nov. 16, 2021	Major	37.32 (P)

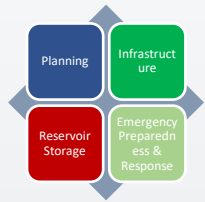
Local FERC Relicensing Flood Risk Reduction Request



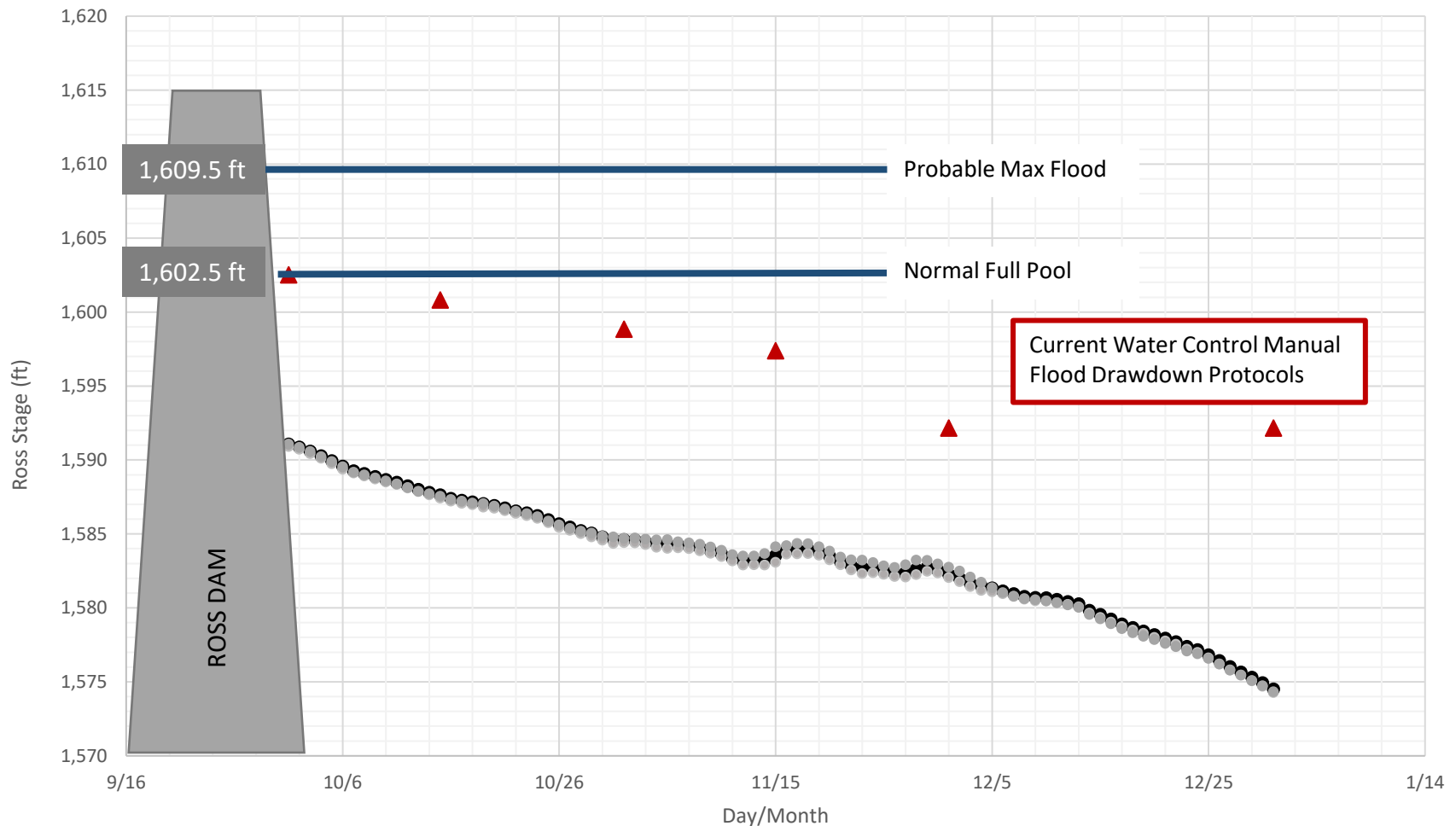
Proposed Alternative Operating Scenario



Local FERC Relicensing Flood Risk Reduction Request



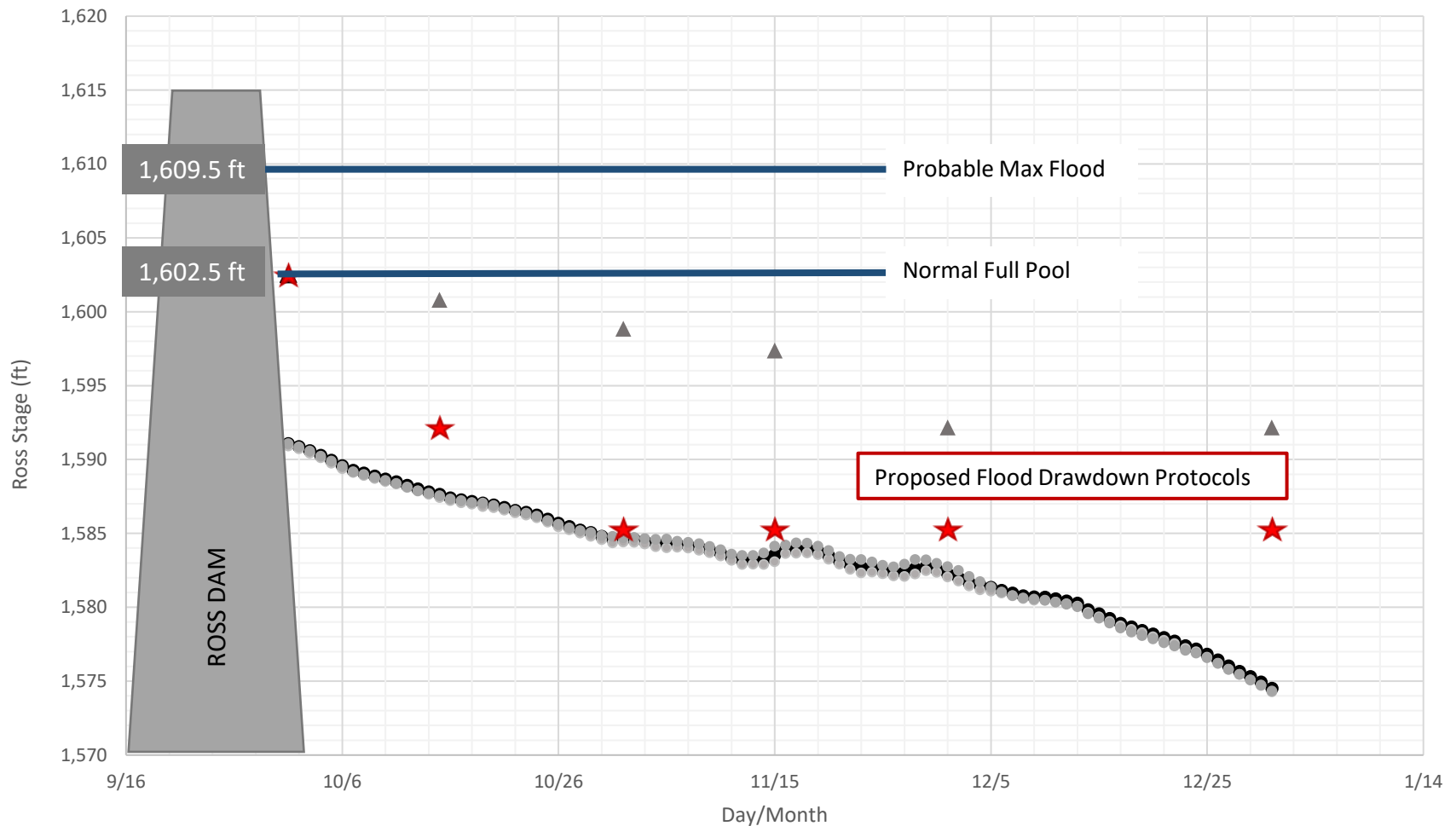
Proposed Alternative Operating Scenario



Skagit County: Comprehensive Flood Risk Management



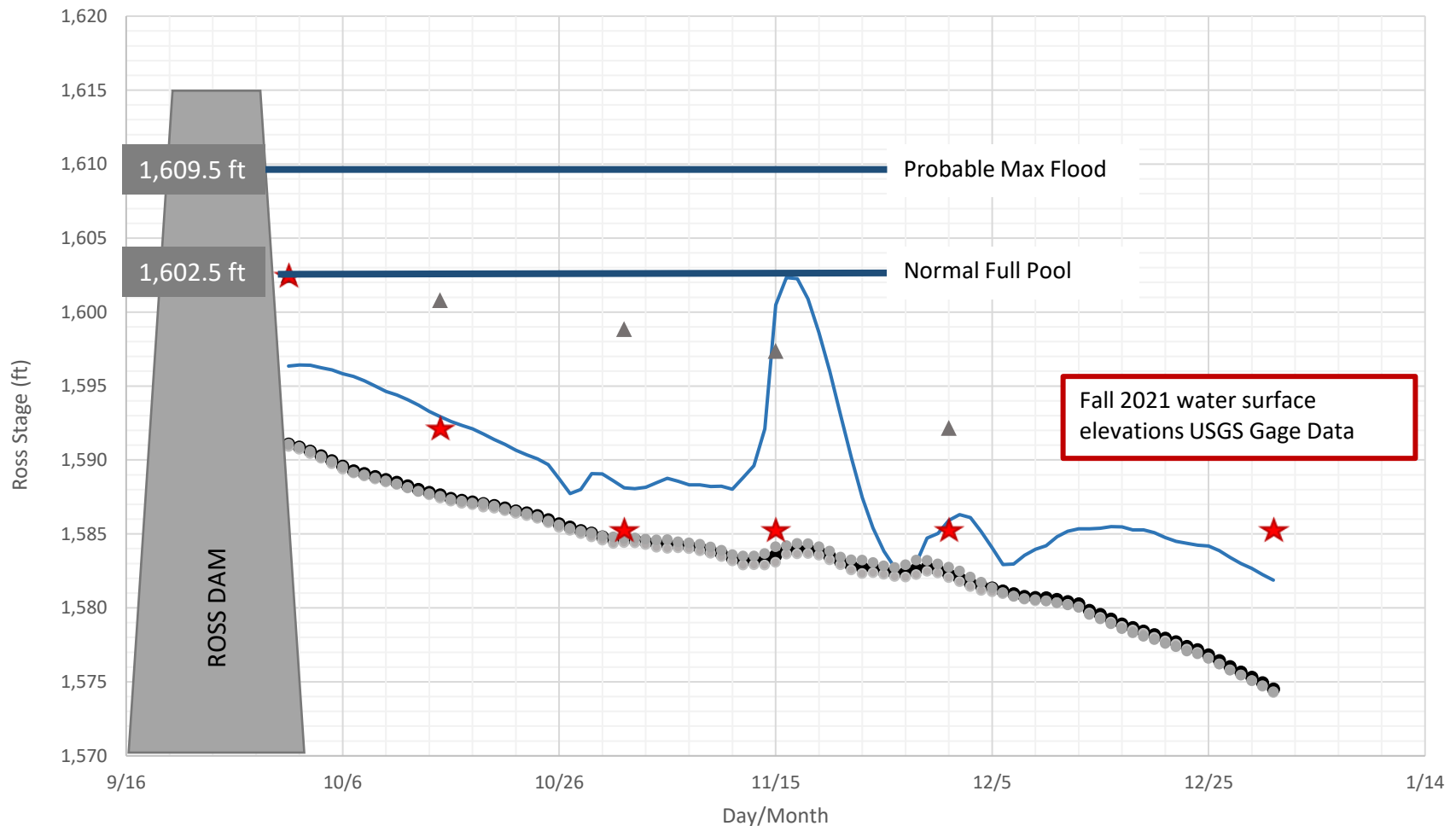
Proposed Alternative Operating Scenario



Local FERC Relicensing Flood Risk Reduction Request



Proposed Alternative Operating Scenario



Local FERC Relicensing Flood Risk Reduction Request

NEXT STEPS

- ❖ SCL files preliminary License Application in December of 2022
- ❖ Local communities members support Skagit County and Skagit Dike District Partnership