

NorthernGrid

Northwest Power and
Conservation Council
July 14, 2021

Topics

Introduction to NorthernGrid

2030 Data Submission

Regional Transmission Power Flows

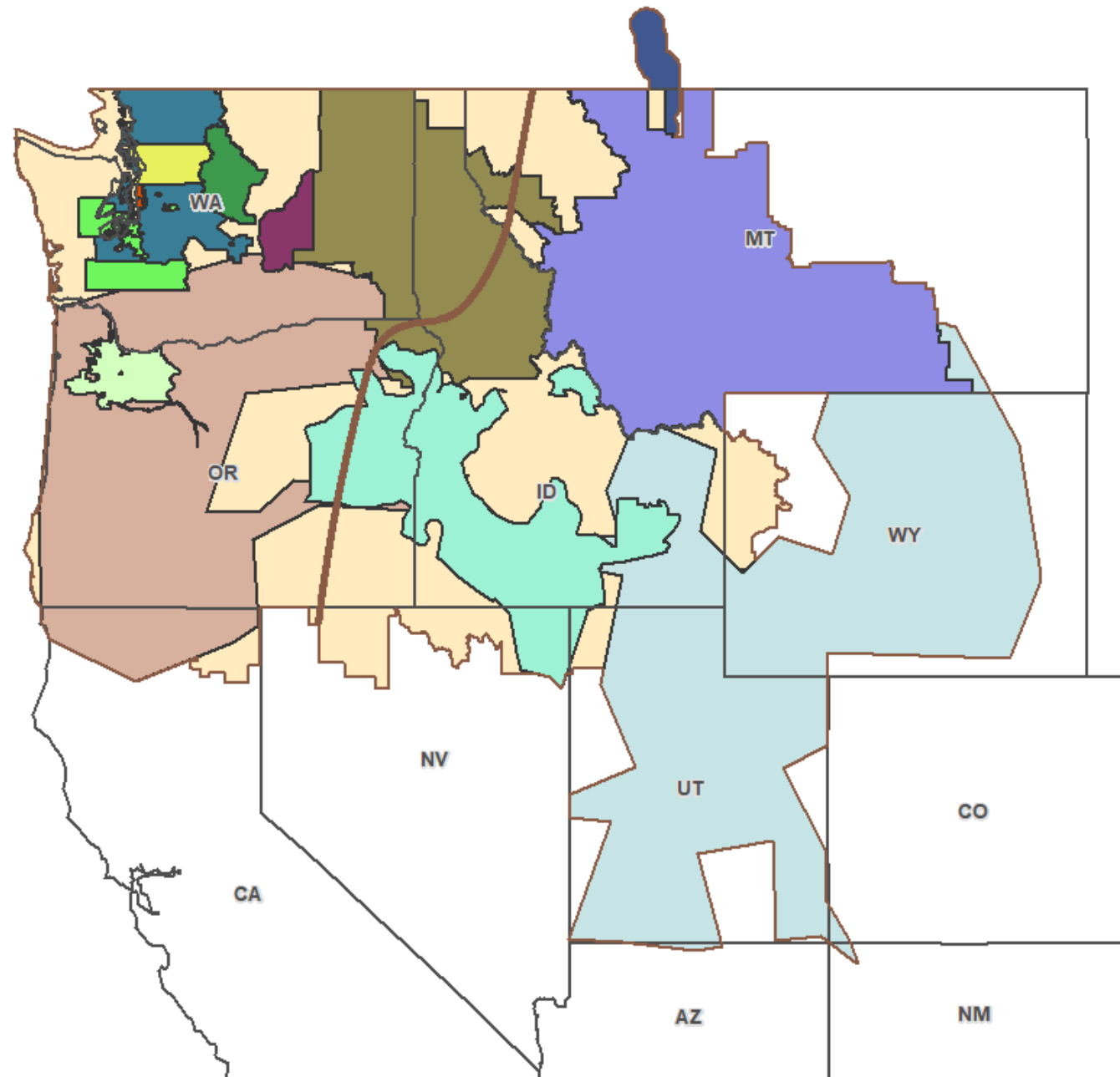


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Association of Members

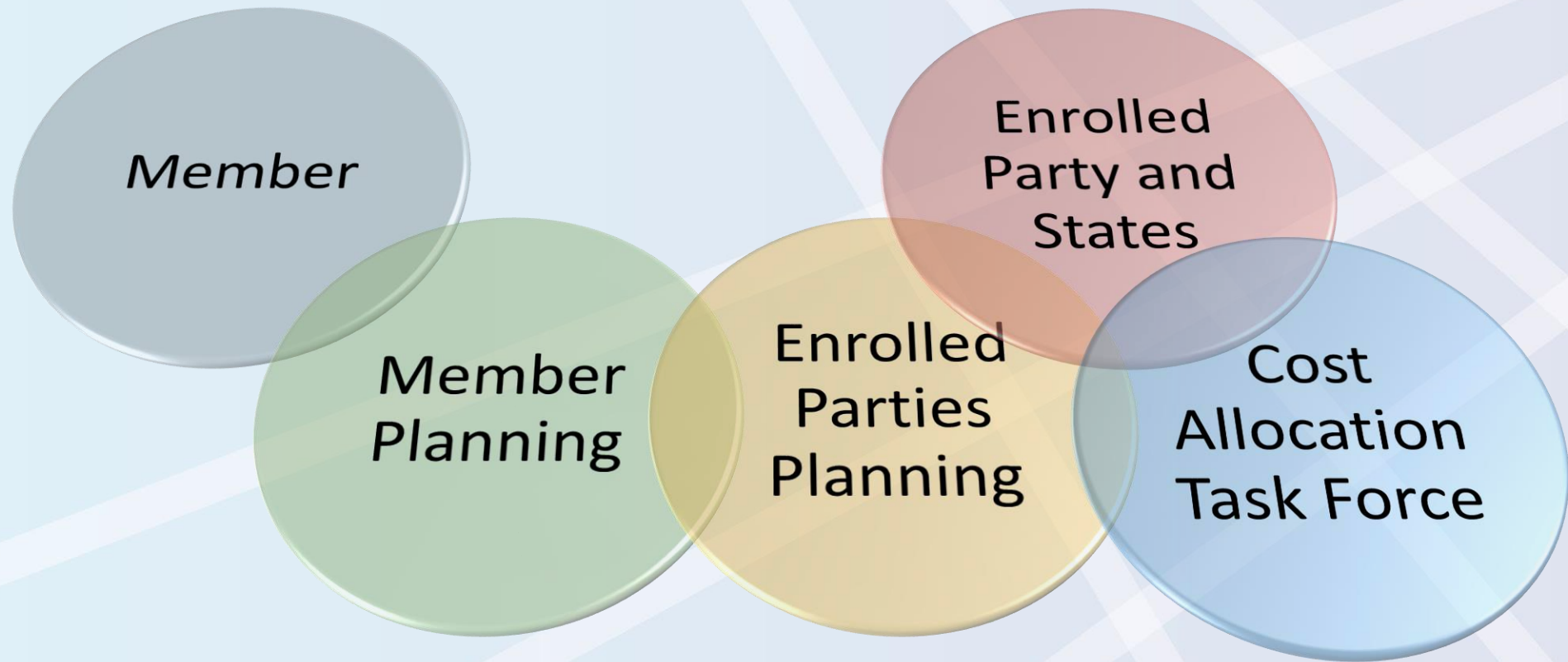


CHELAN COUNTY



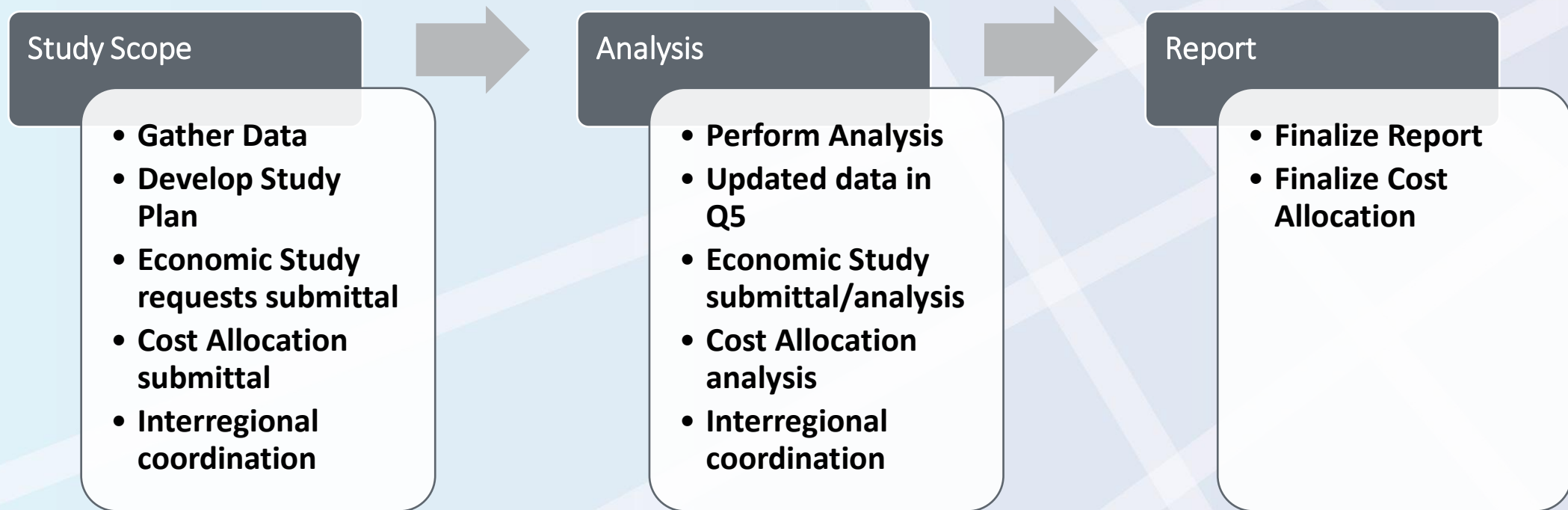
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Committees



Regional Transmission Process

- Work together to create a Regional Plan that “exceeds” a simple rollup of all the Local Area Plans



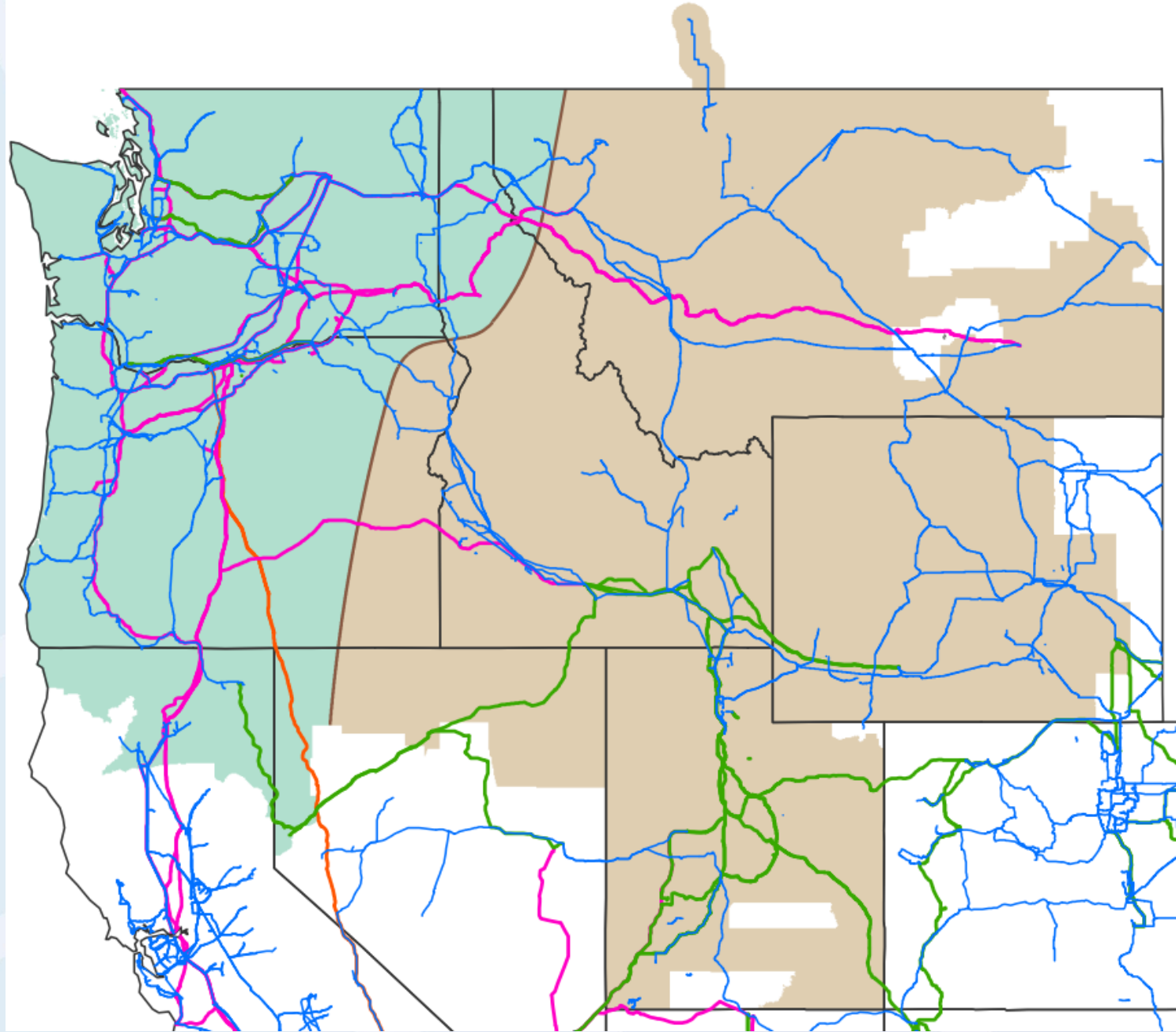
A Regional Transmission Plan is not a Construction Plan

NorthernGrid Schedule of Deliverables



NorthernGrid Subregions

- Pacific Northwest
- Intermountain

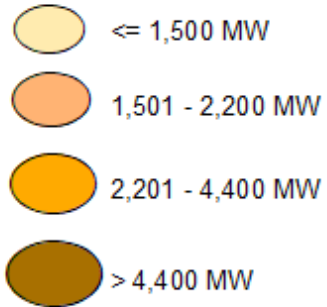


Summer Load

Annual Summer Load Growth and Peak Load

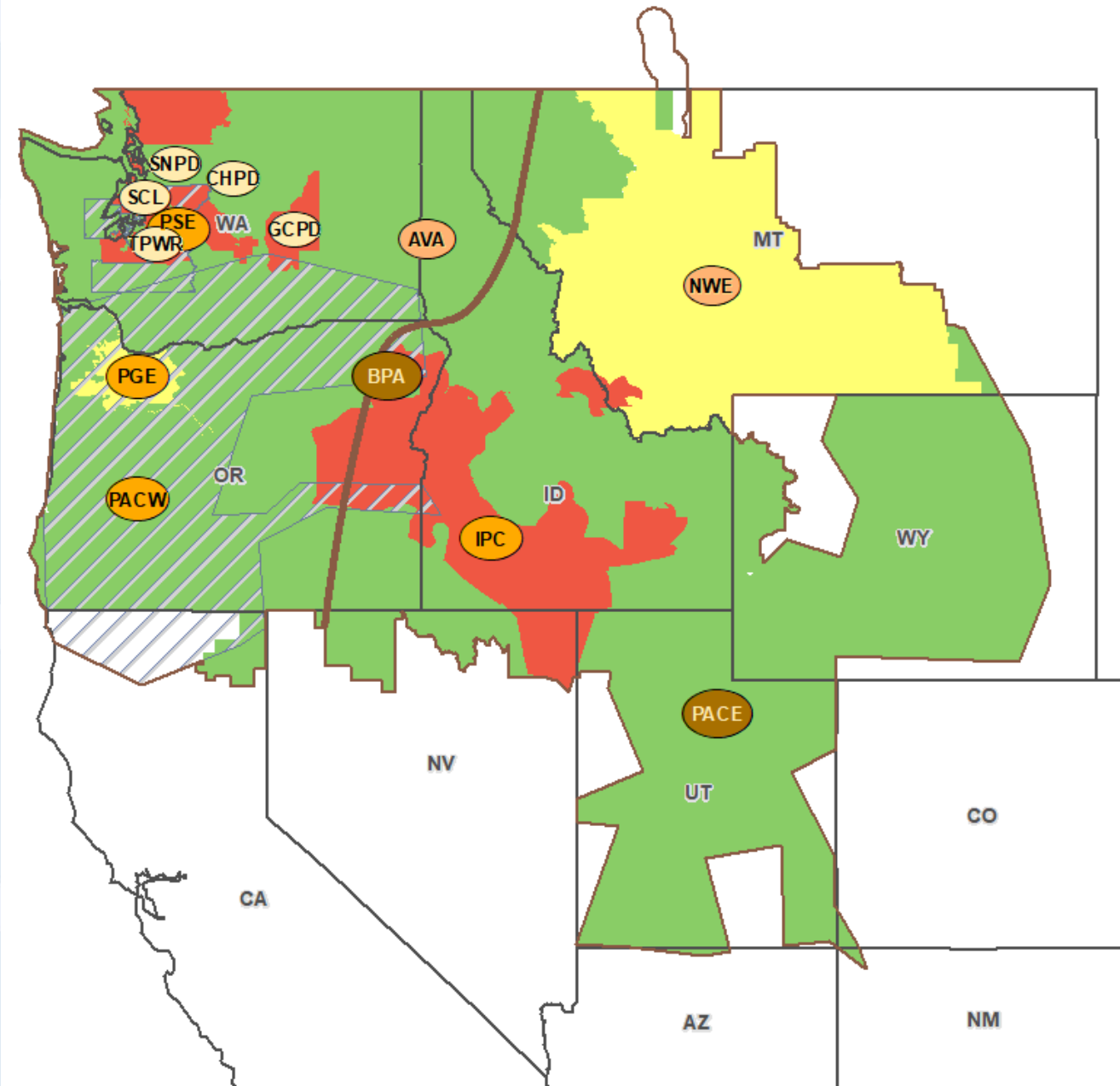
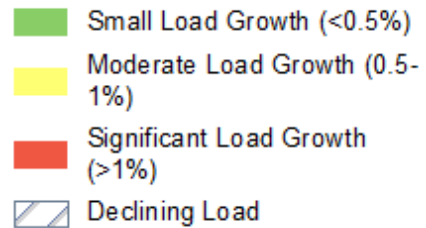
2024 - 2030

Summer Peak Load



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Annual Summer Load Growth

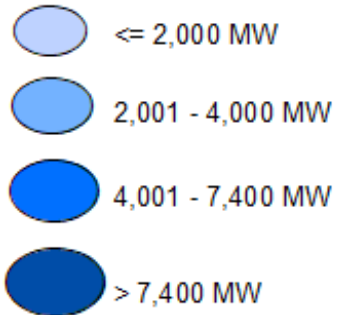


Winter Load

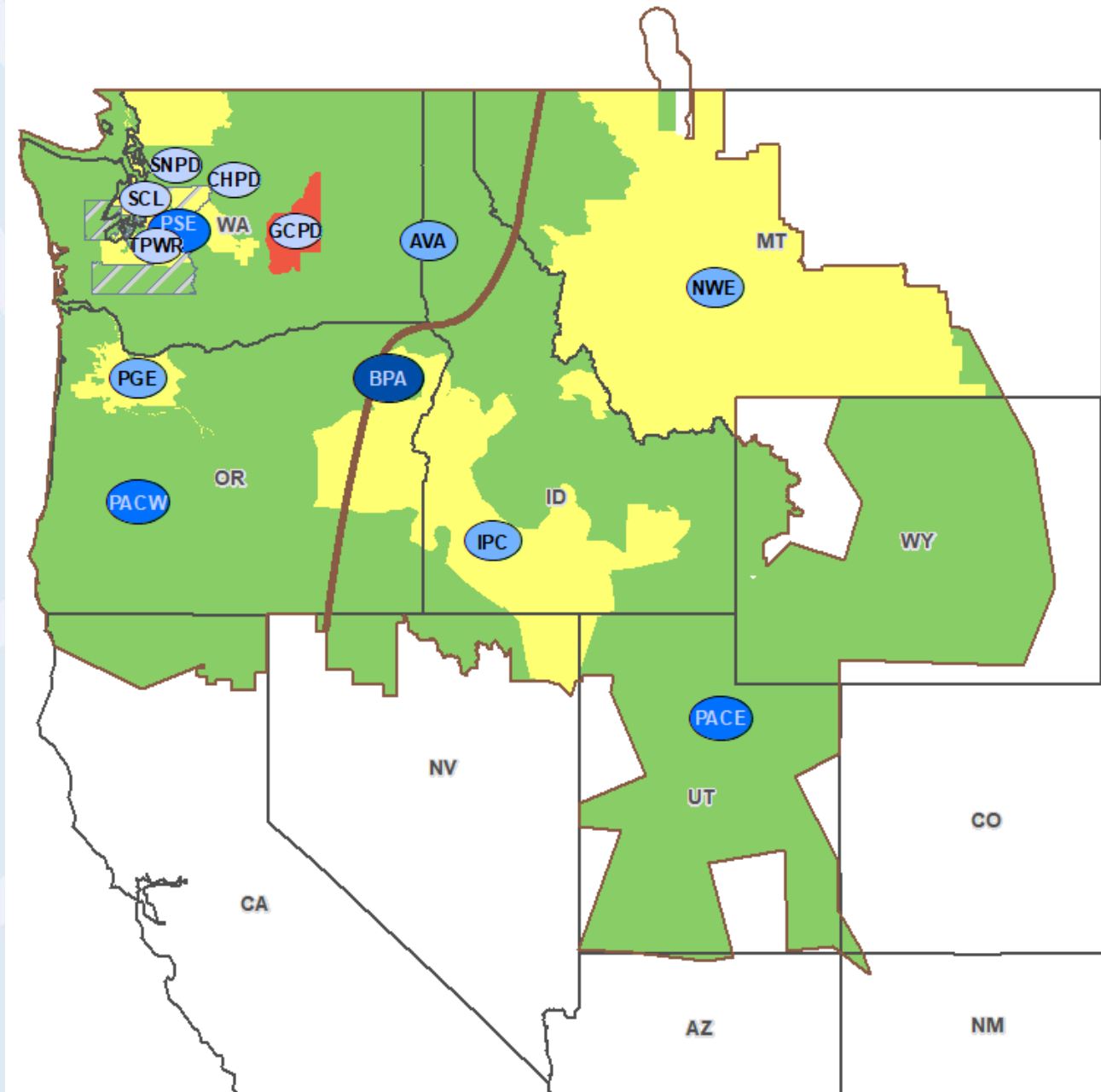
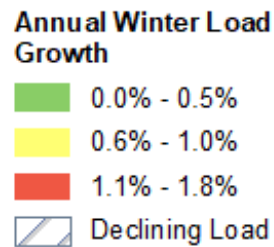
Annual Winter Load Growth and Peak Load

2024 - 2030

Winter Peak Load



Annual Winter Load Growth



2030 Resource Retirements



Coal



Natural Gas



Wind

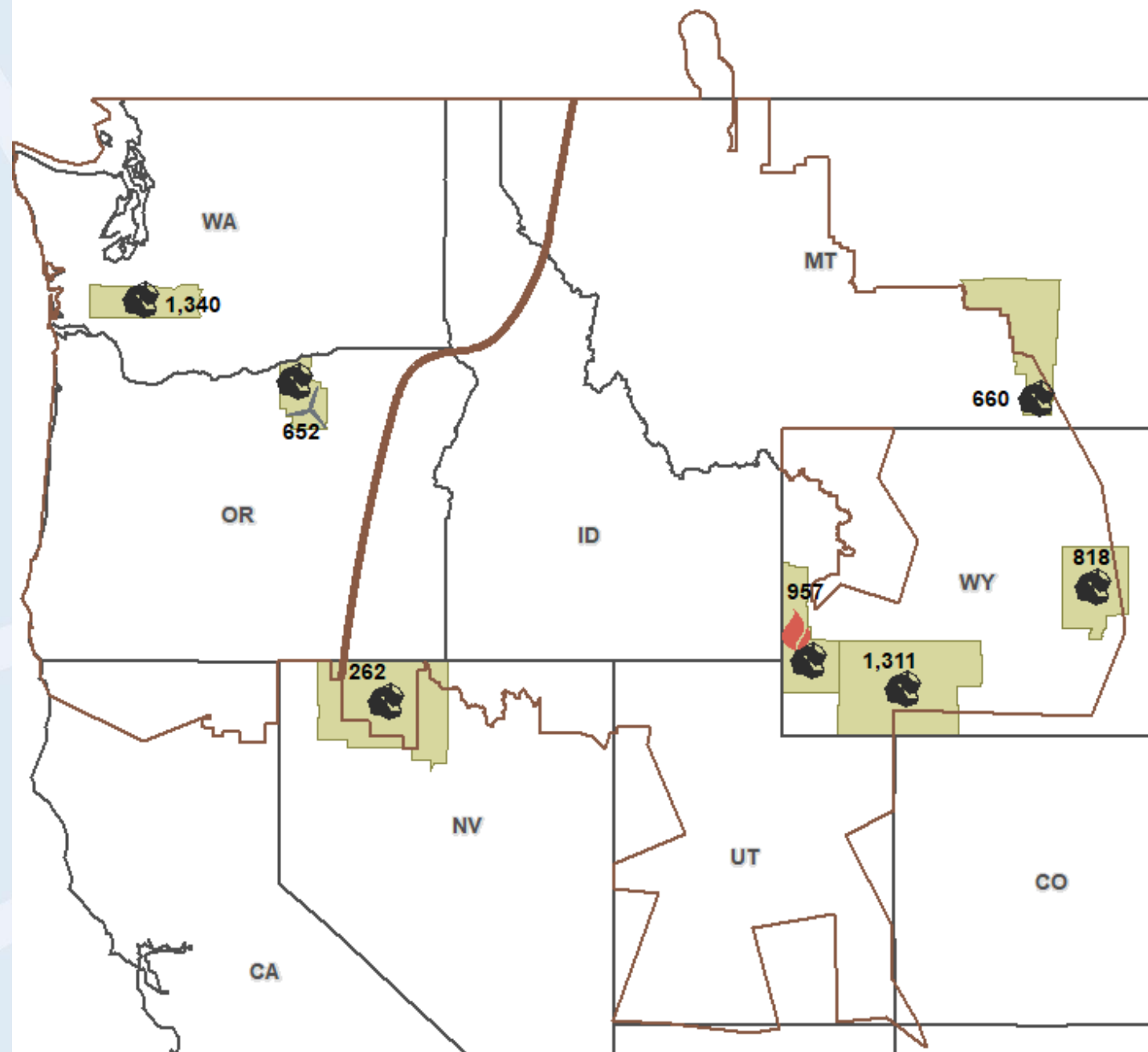


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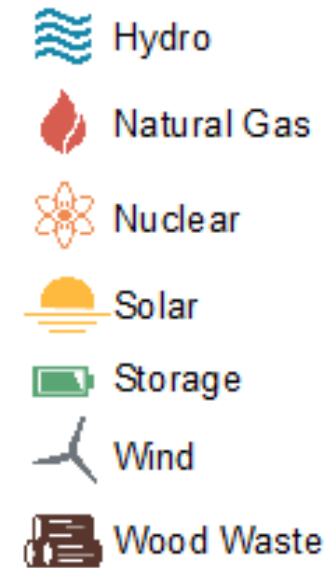


County with Resource Retirement

Numbers indicate total MW of retirement in the county



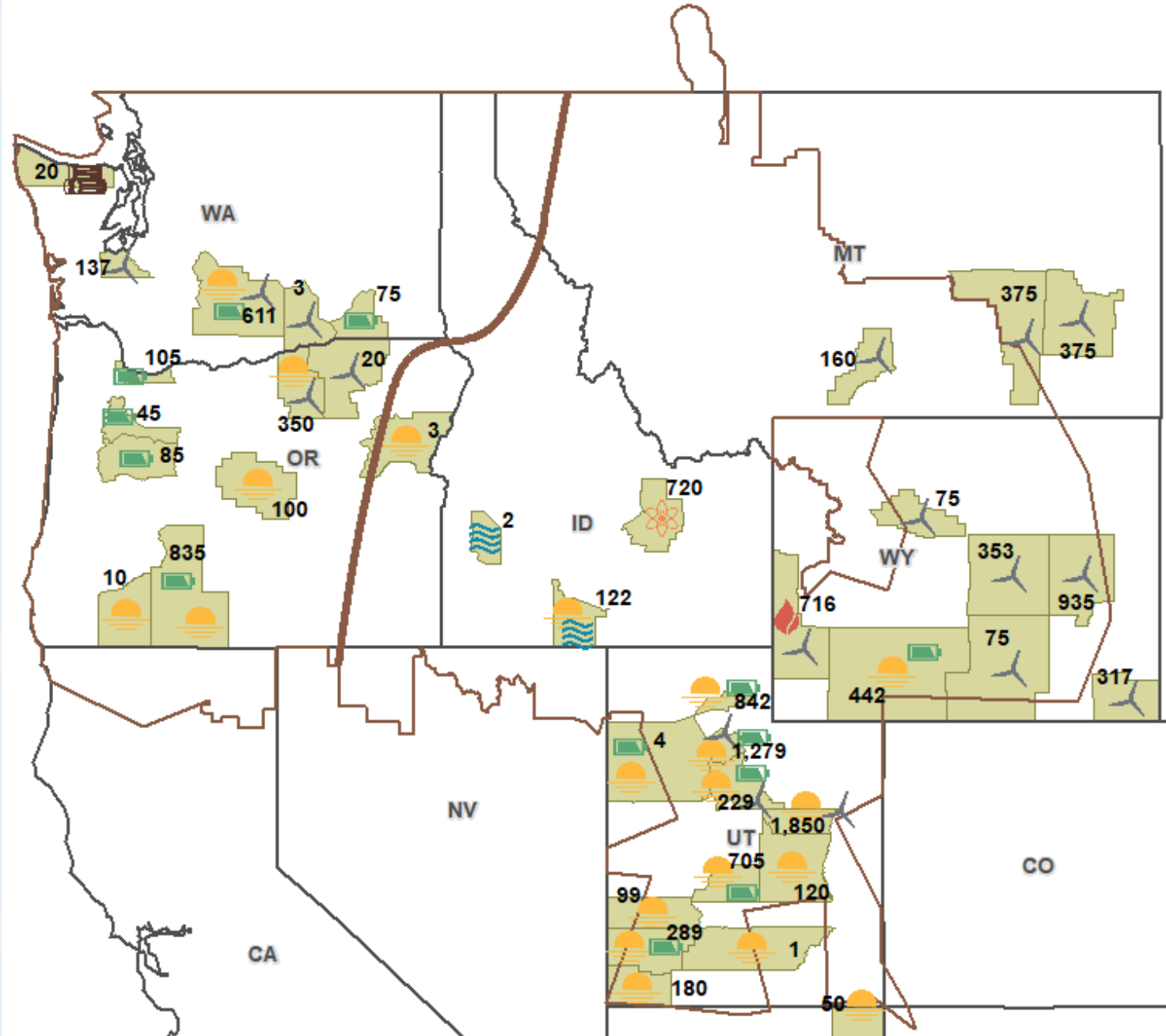
2030 Resource Additions



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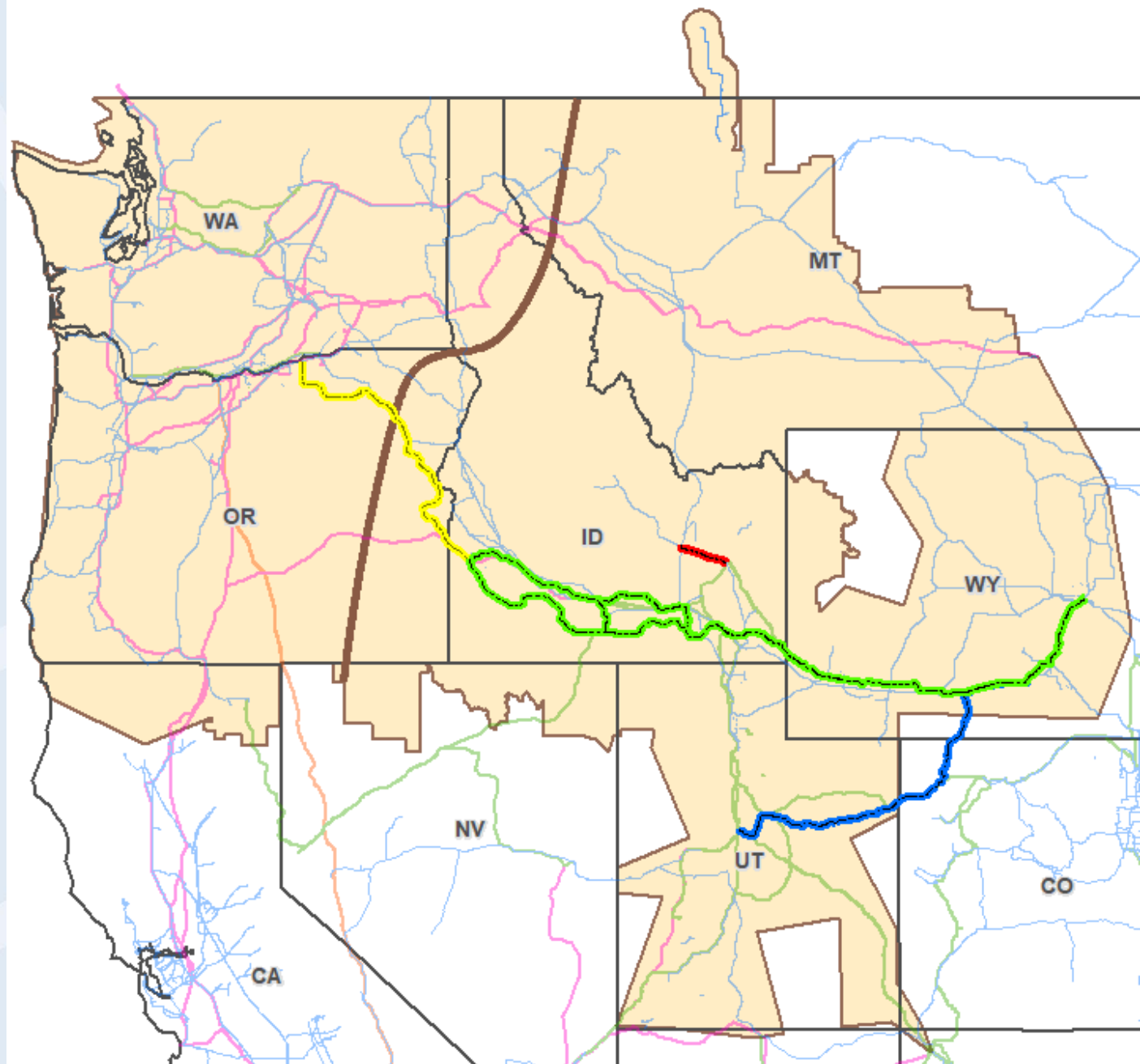
County with Resource Addition

Numbers indicate total MW of addition in the county












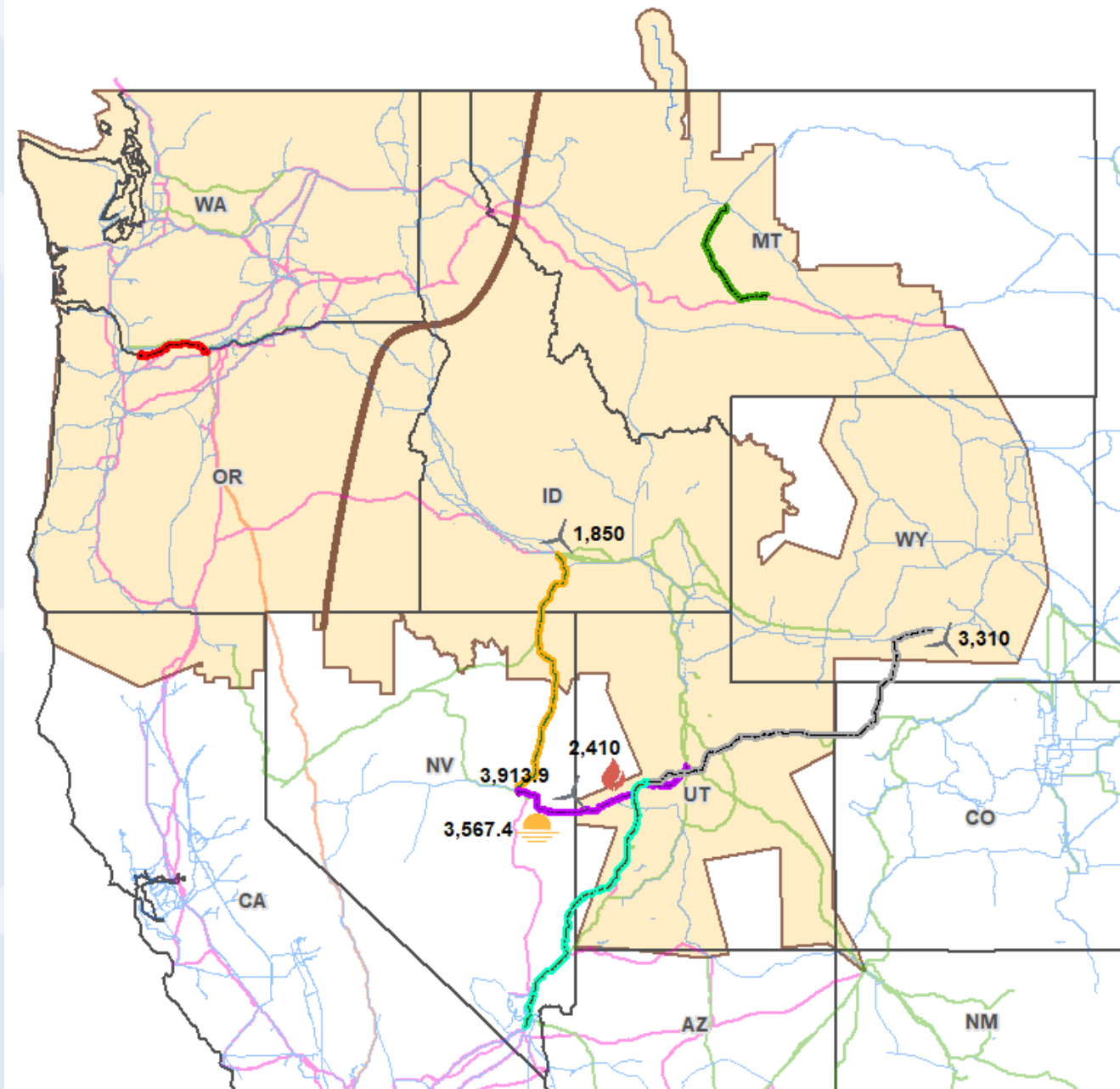
2030 Member Transmission Projects

- Antelope 345 kV AC*
- Boardman to Hemingway 500 kV AC
- Gateway South 500 kV AC
- Gateway West 500 kV AC



2030 Regional and Interregional Projects

-  Natural Gas
-  Solar
-  Wind
-  Cascade Renewable 400 kV DC
-  Cross-tie 500 kV AC
-  Loco Falls 230kV AC
-  SWMP North 500 kV
-  Transwest Express 500 kV DC
-  Transwest Express 500 kV AC



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Past, Present and Potential Future Flows



AC plus DC Intertie Daily Transfers

4/19/1998



4/19/2020



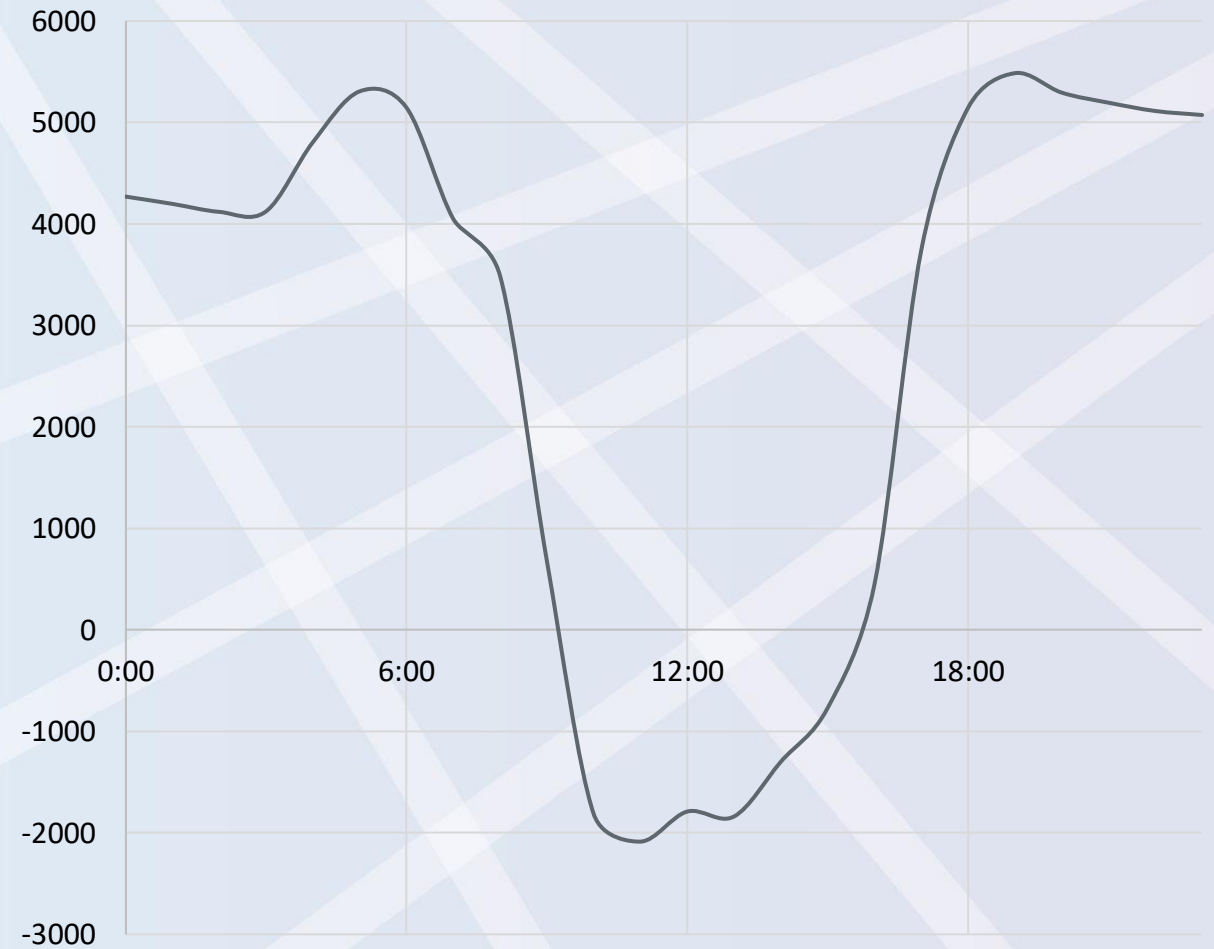
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AC plus DC Intertie Daily Transfers

4/19/2020



4/19/2030

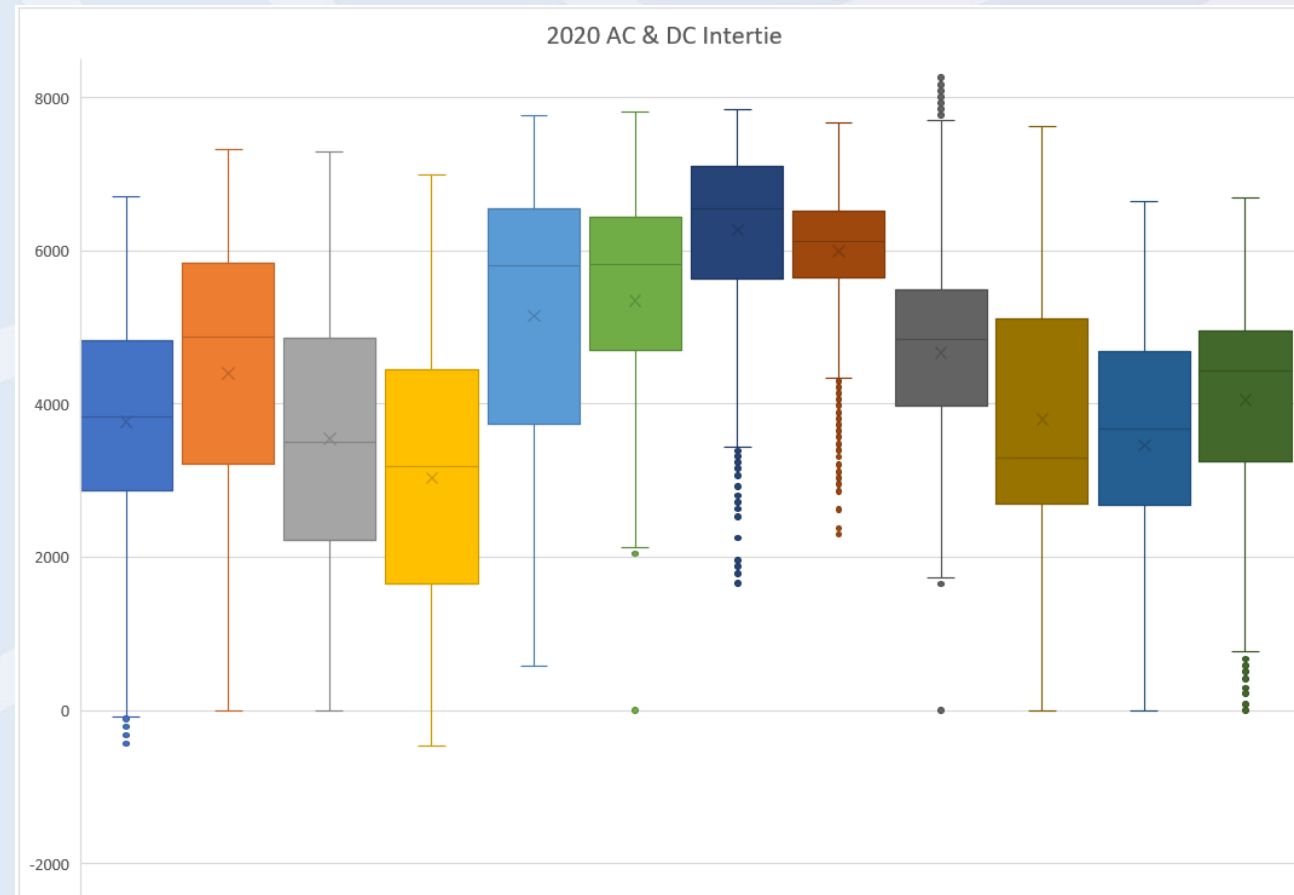
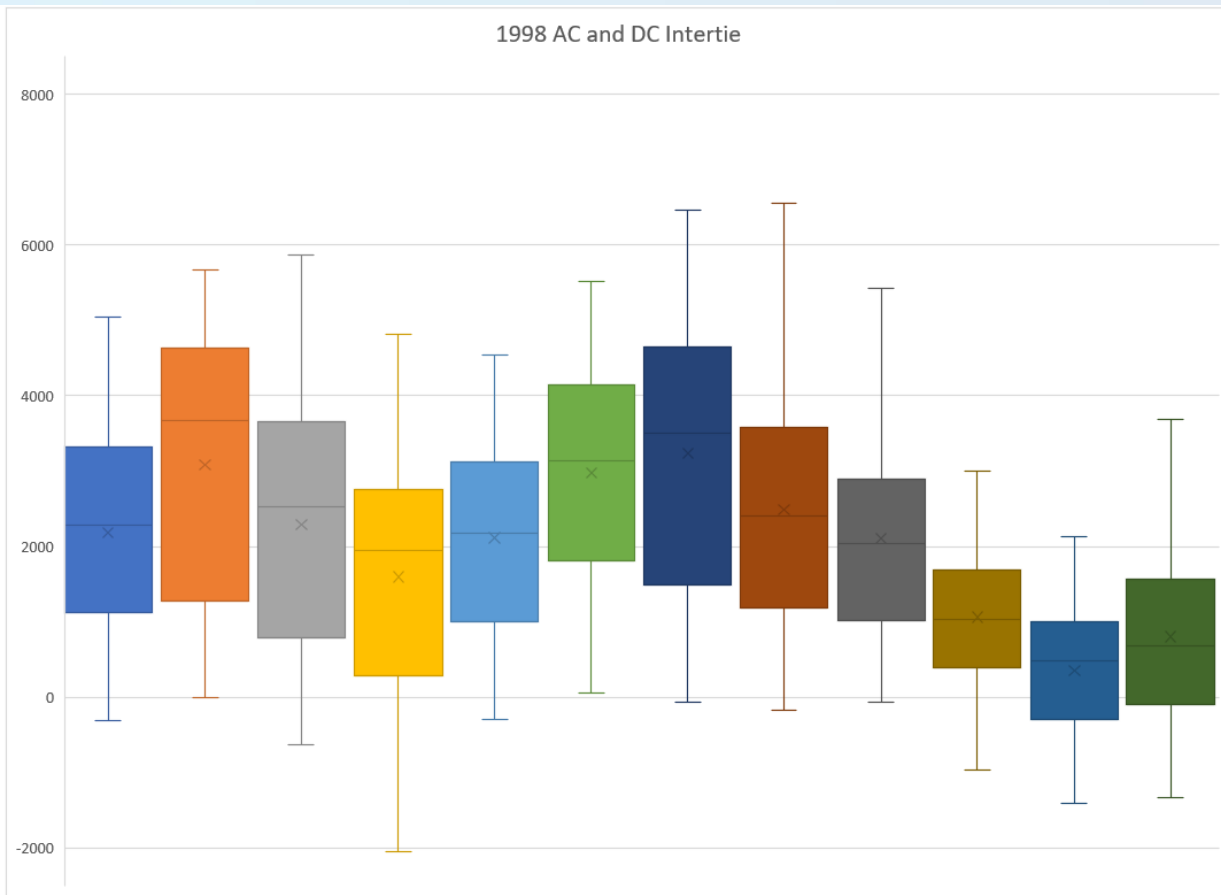


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AC plus DC Intertie Monthly Transfers

1998

2020



■ January ■ February ■ March ■ April ■ May ■ June ■ July ■ August ■ September ■ October ■ November ■ December

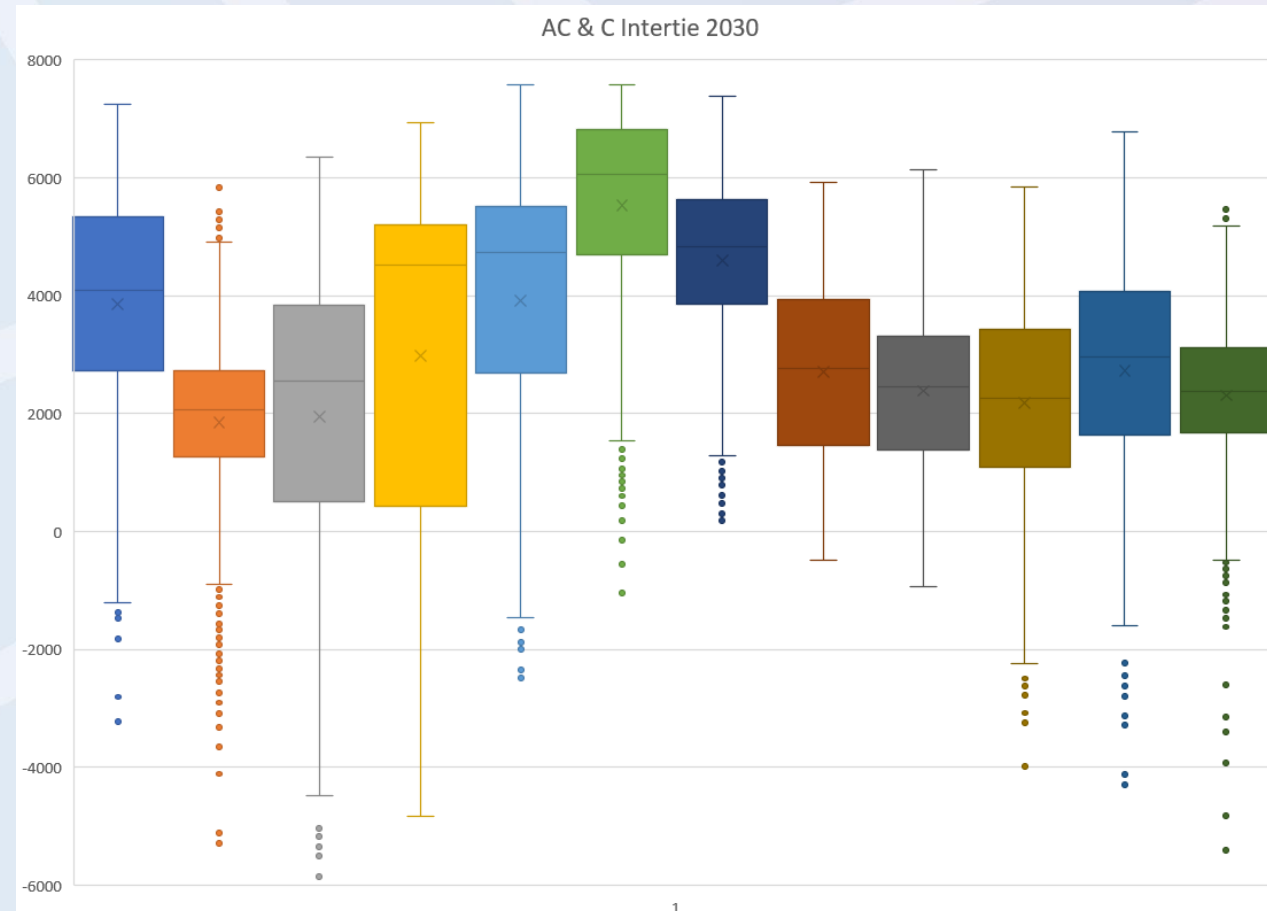
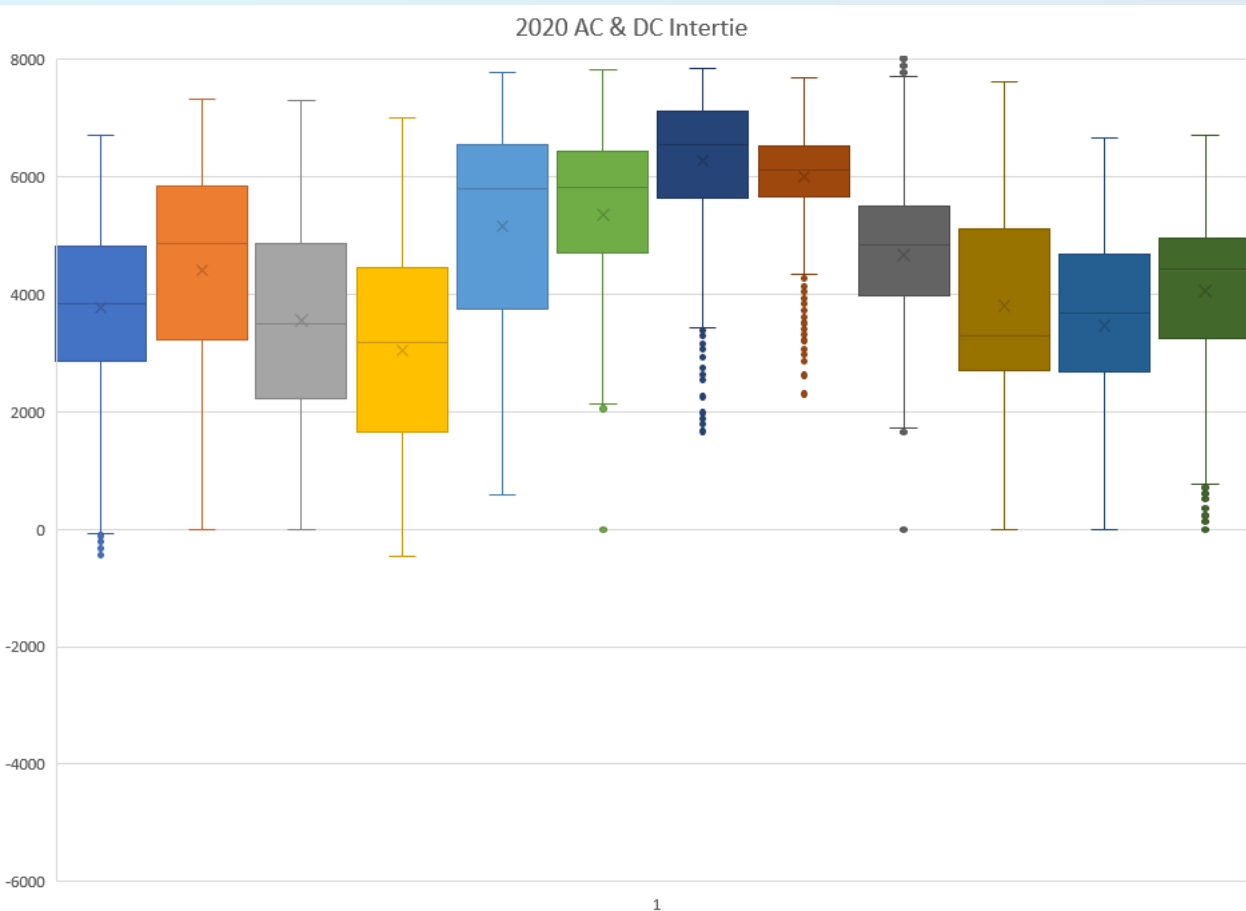


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AC plus DC Intertie Monthly Transfers

2020

2030



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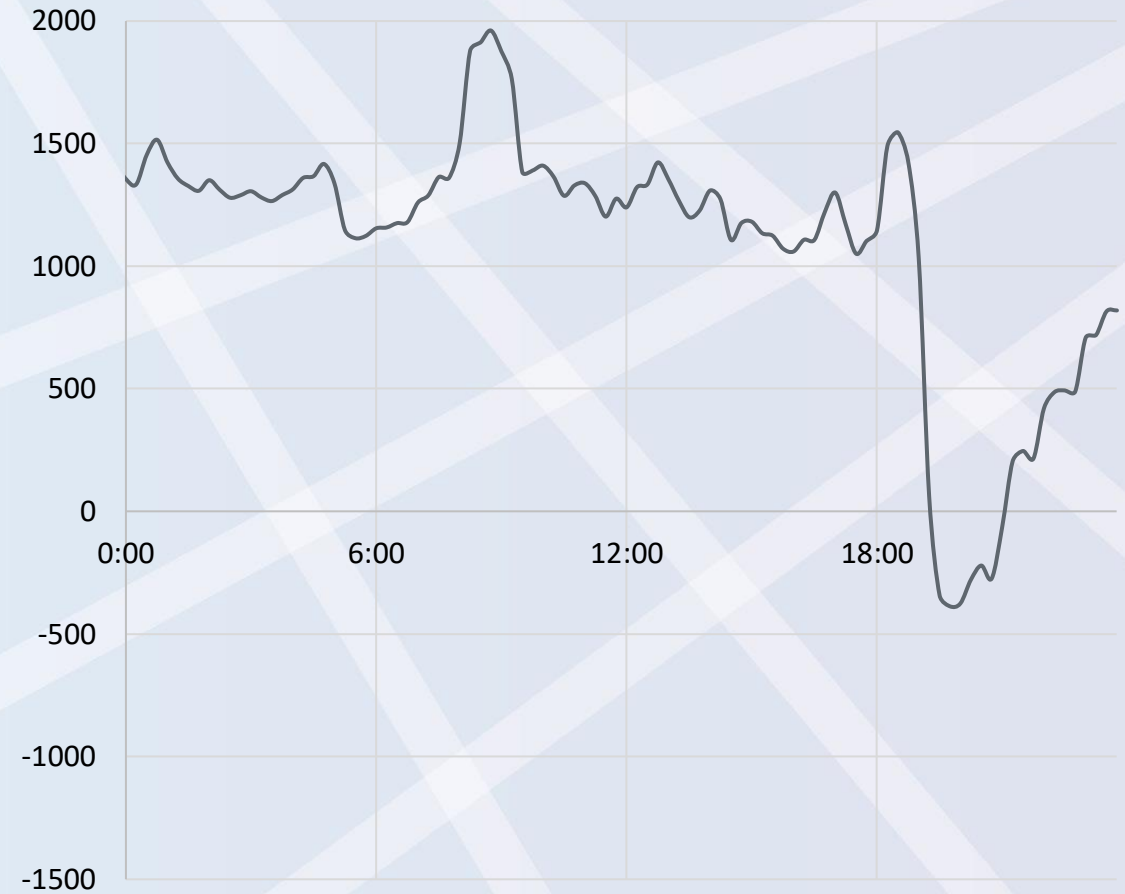
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Northwest to British Columbia Daily Transfers

4/19/1998



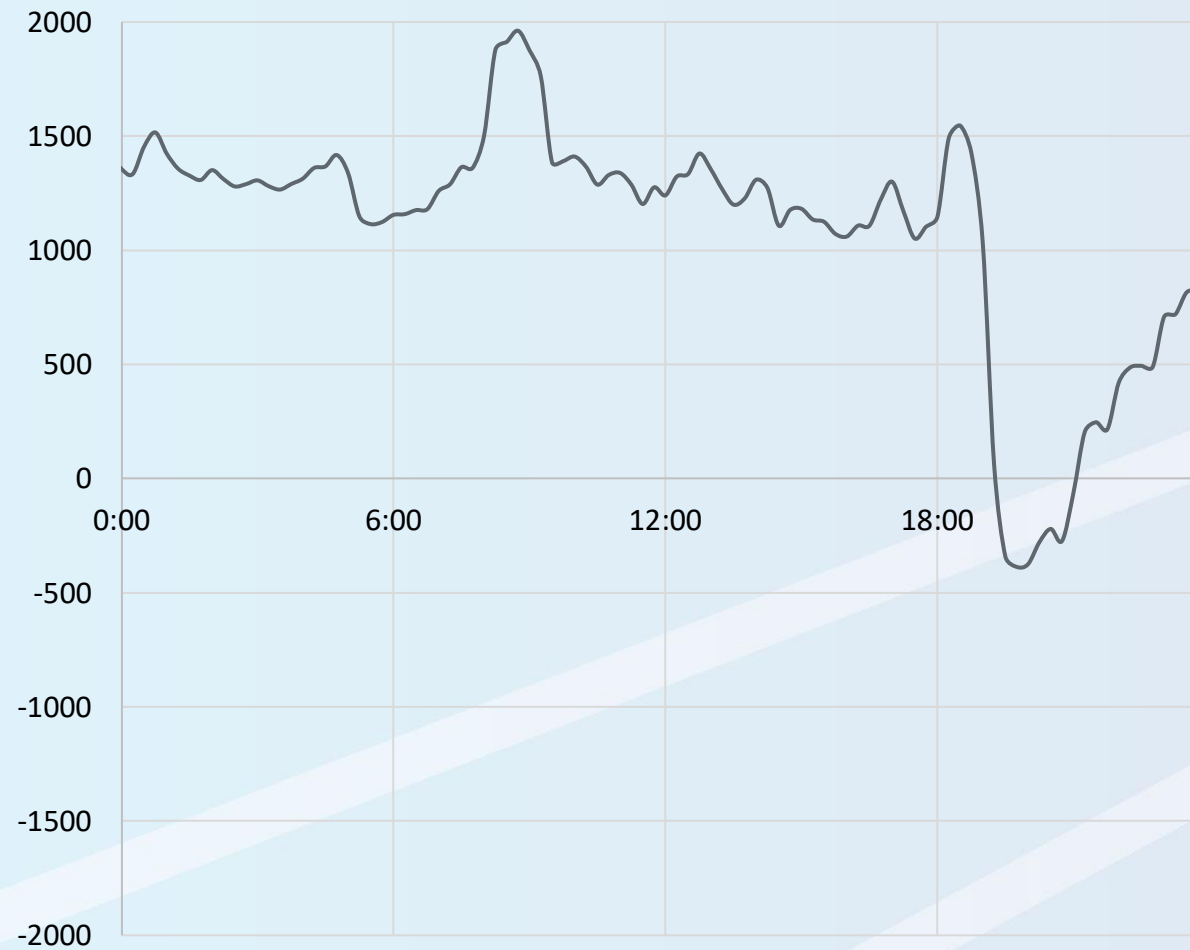
4/19/2020



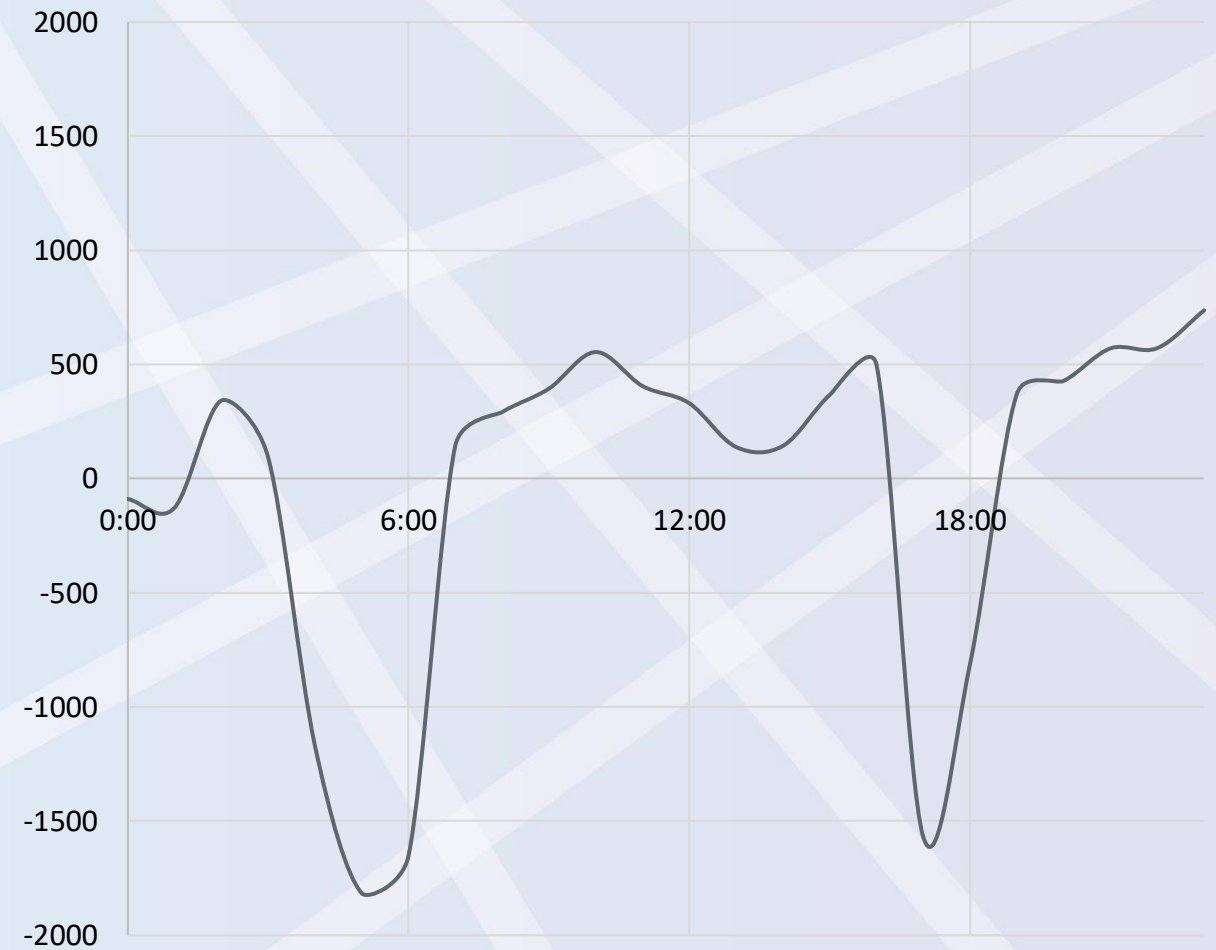
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Northwest to British Columbia Daily Transfers

4/19/2020



4/19/2030

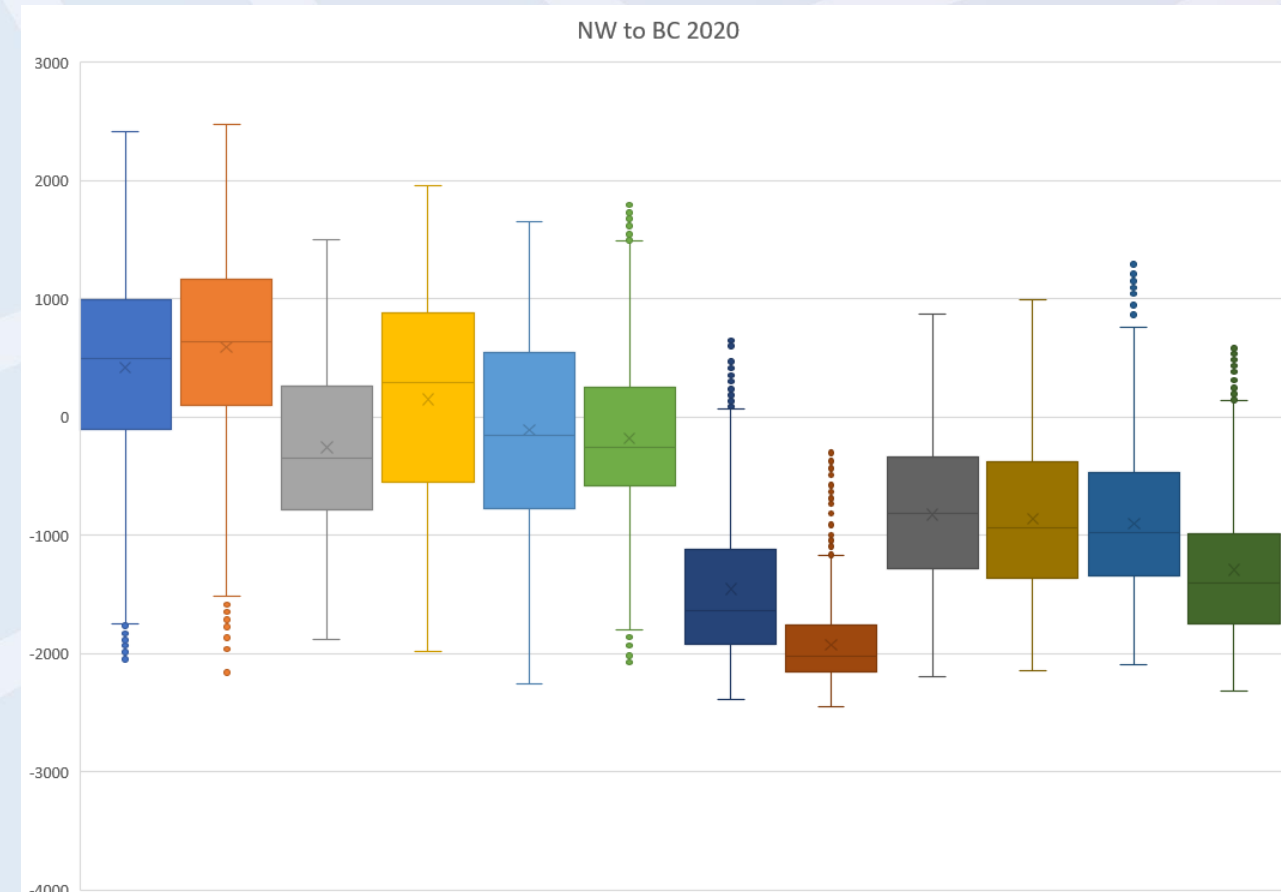
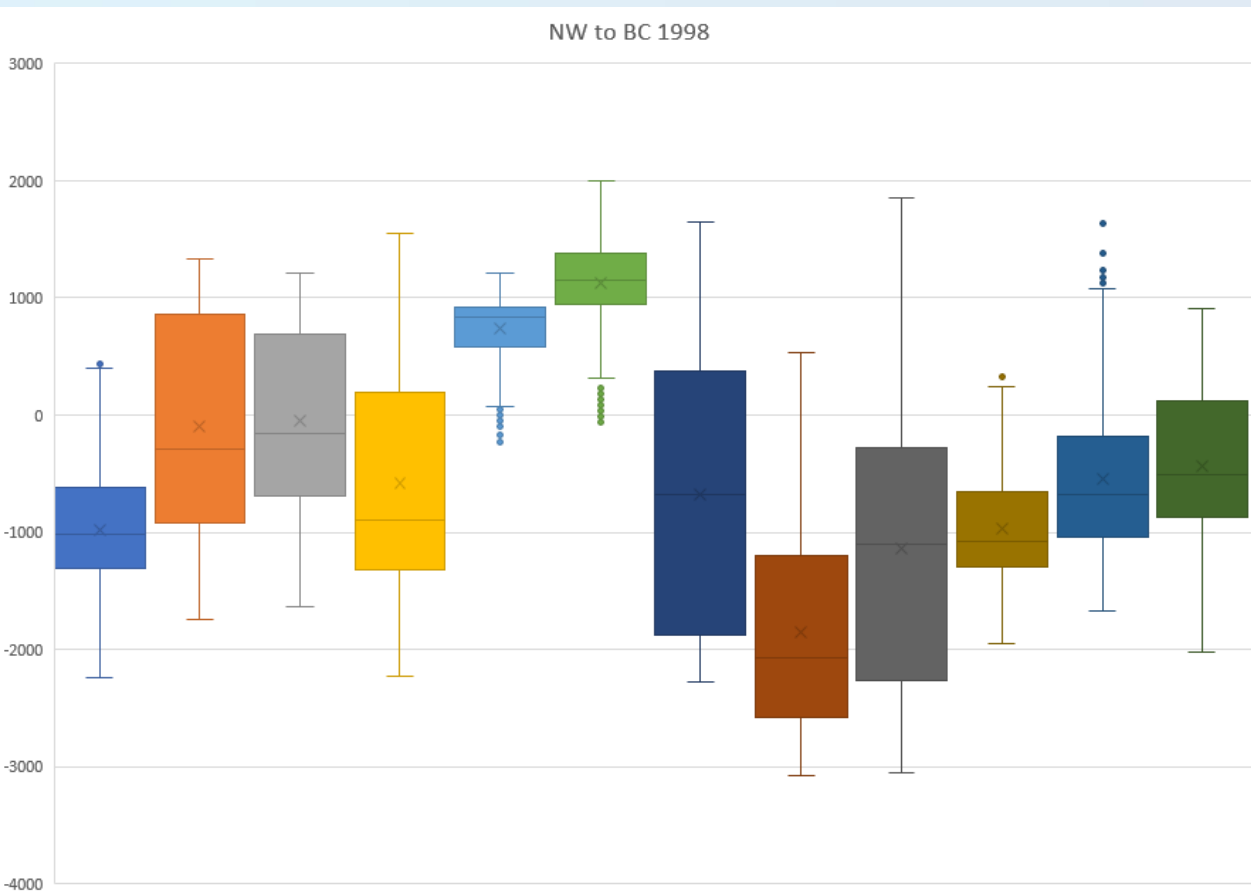


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Northwest to British Columbia Monthly Transfers

1998

2020



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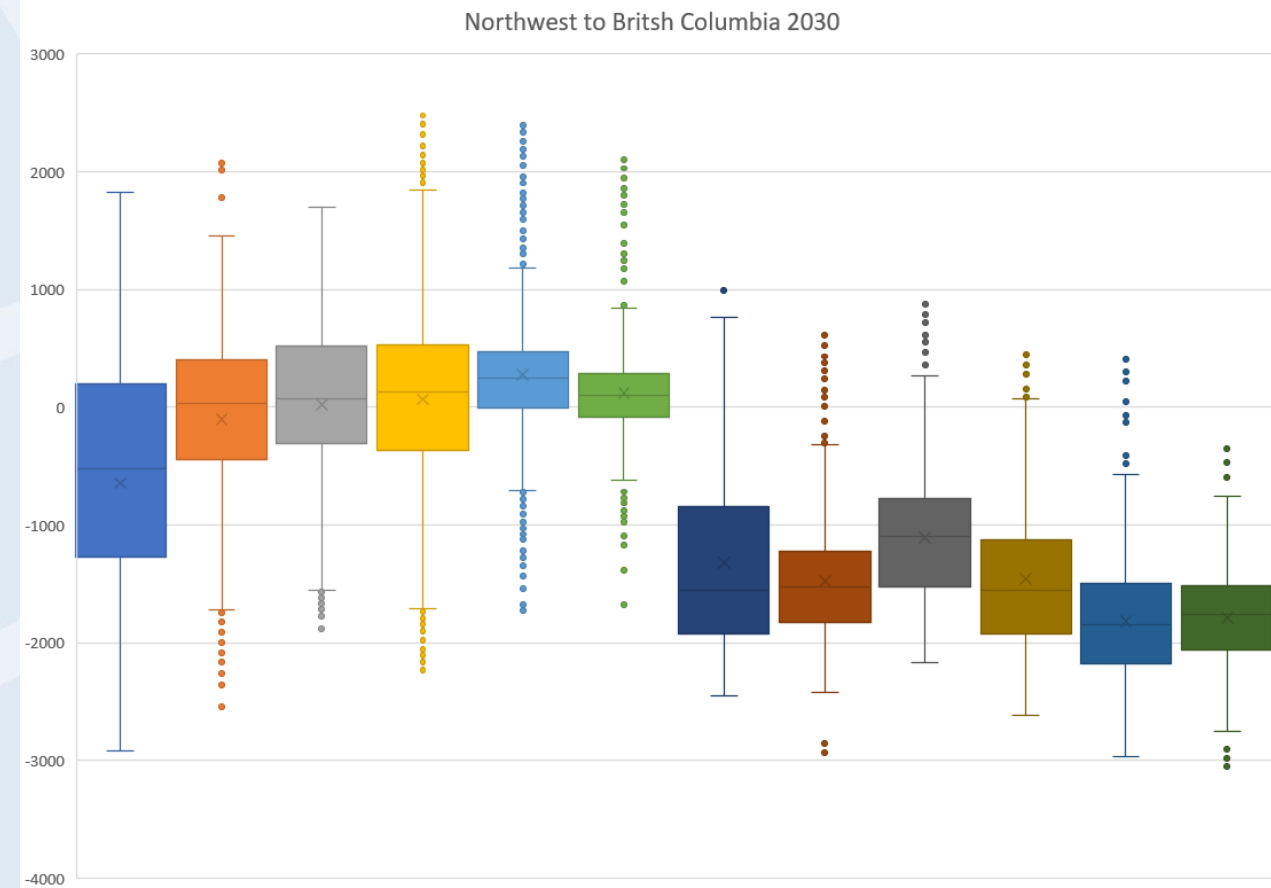
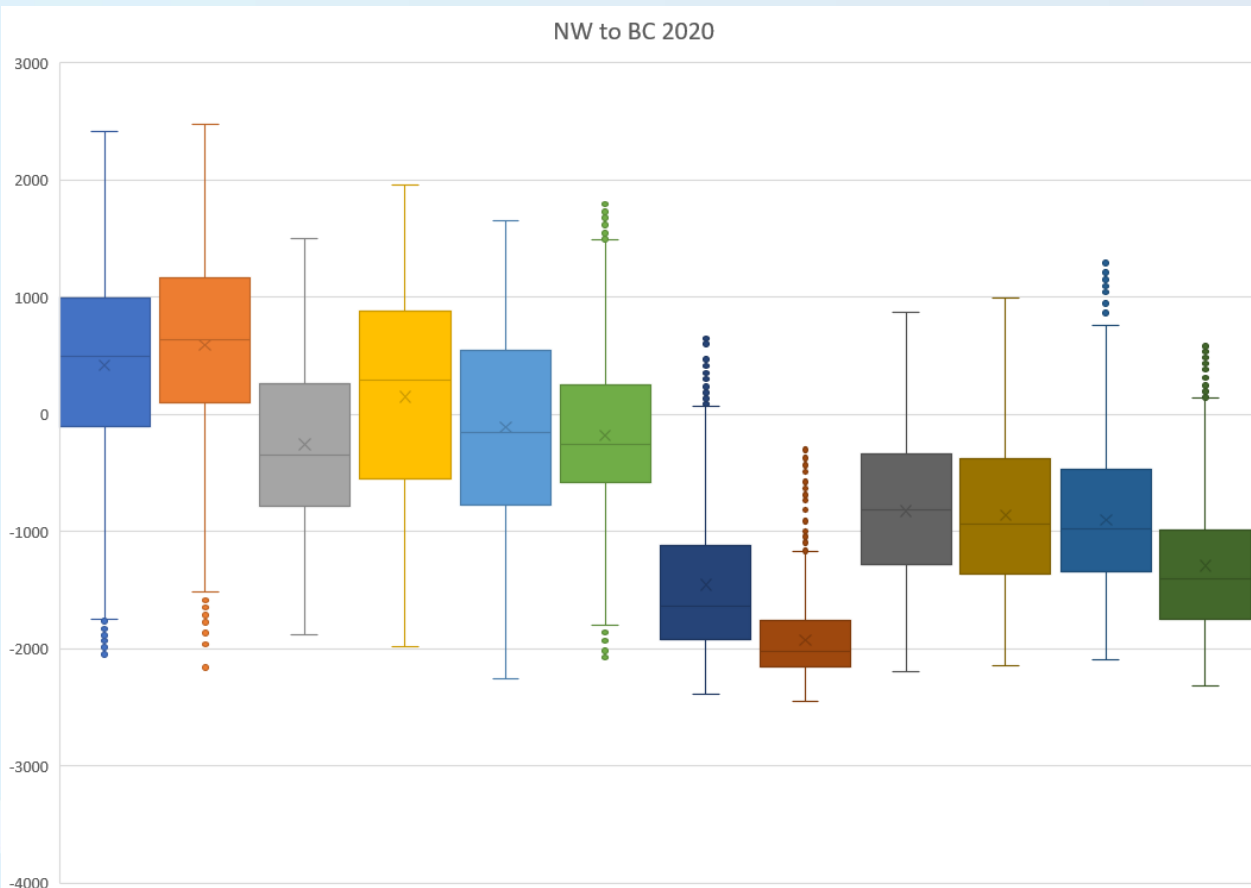


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Northwest to British Columbia Monthly Transfers

2020

2030



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Northwest to Montana Daily Transfers

4/19/1998



4/19/2020



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Northwest to Montana Daily Transfers

4/19/2020



4/19/2030

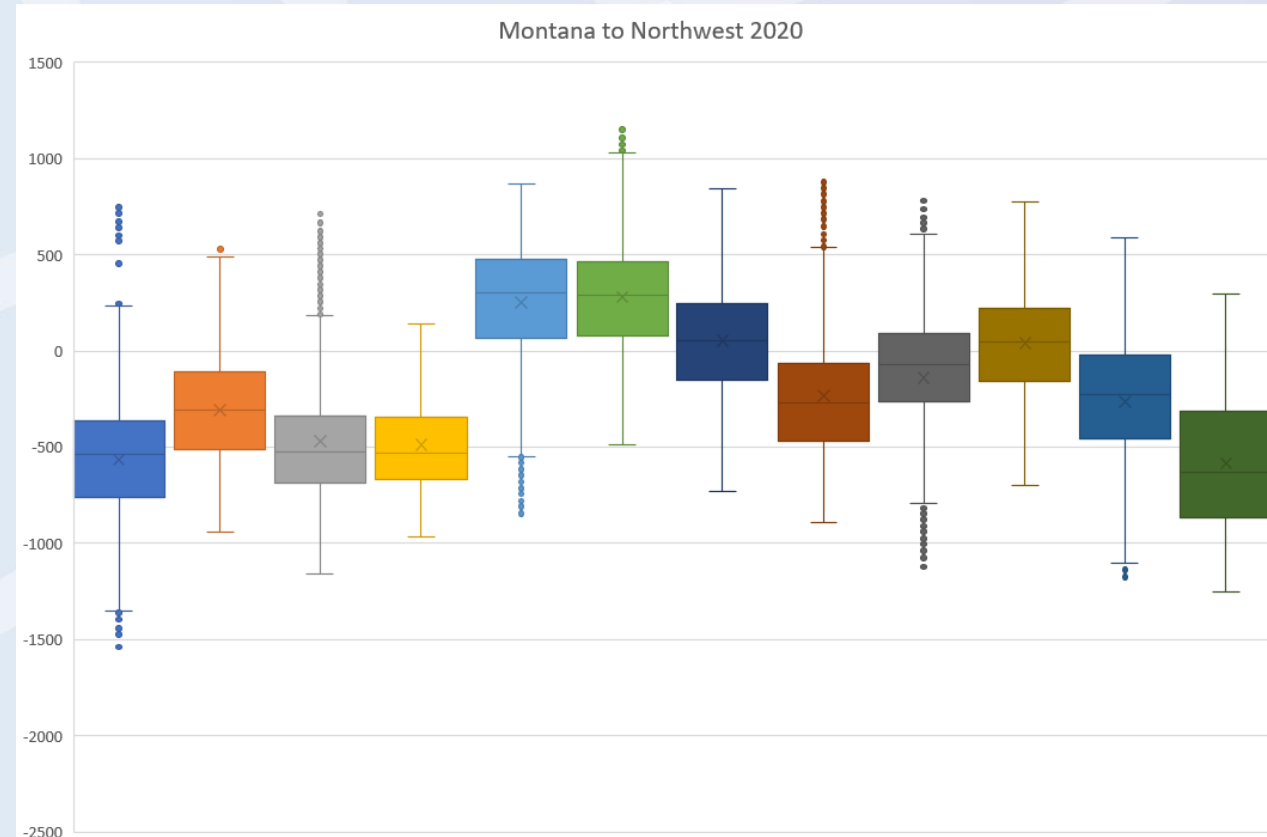
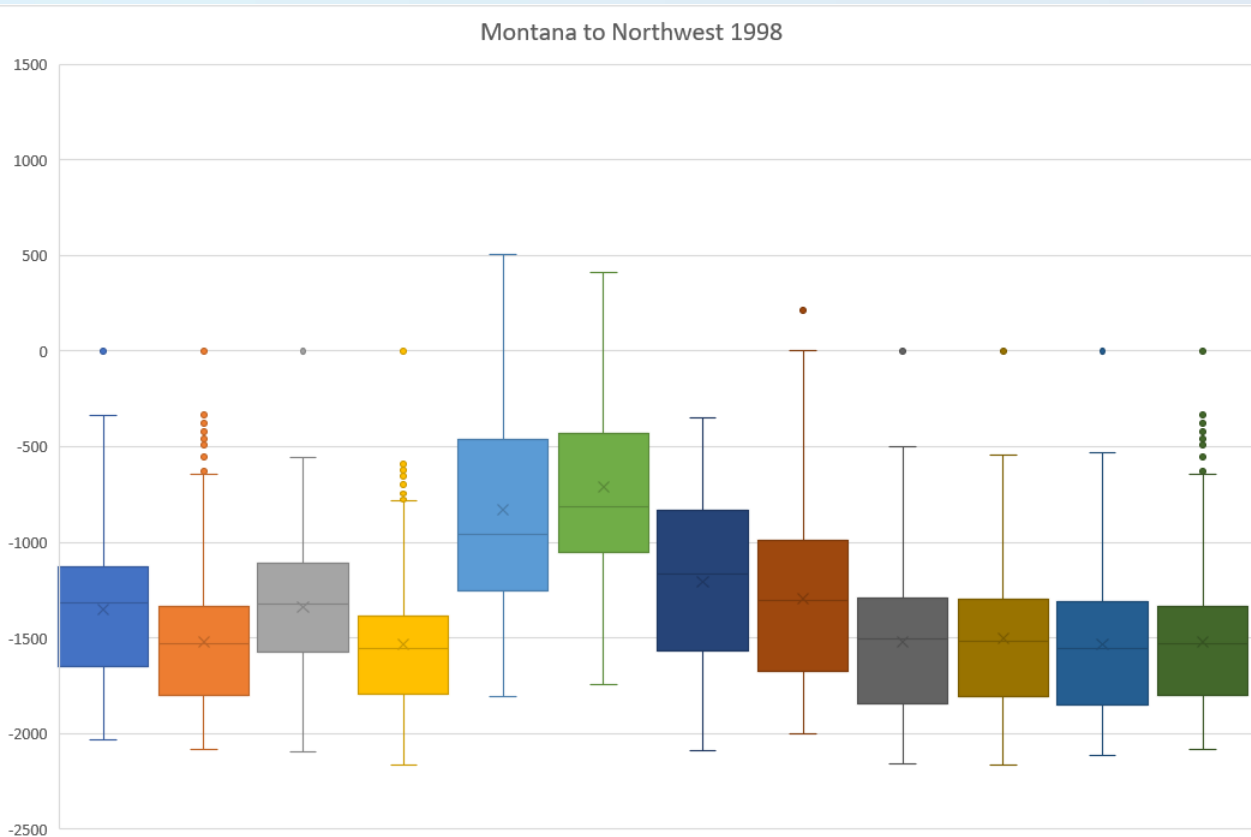


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Northwest to Montana Monthly Transfer

1998

2020



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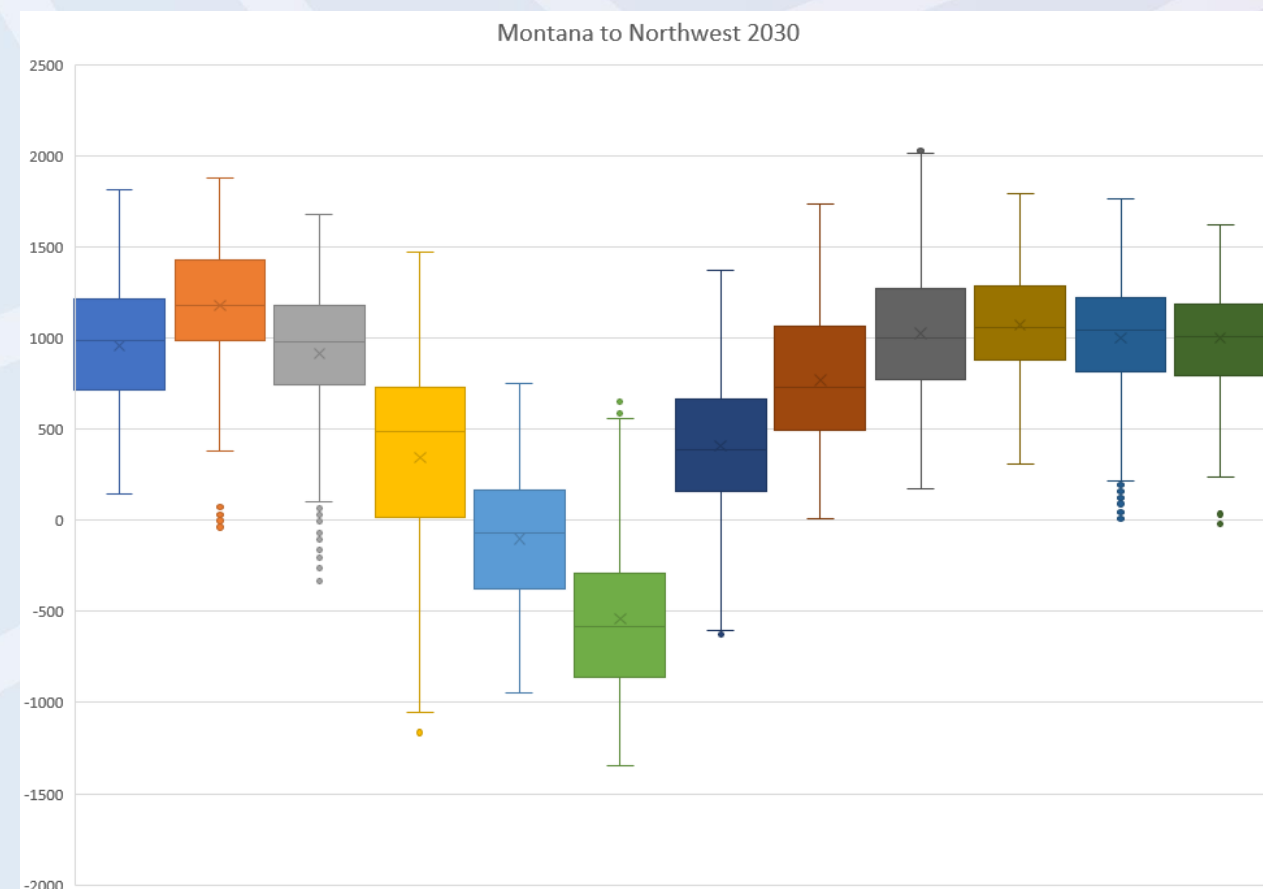
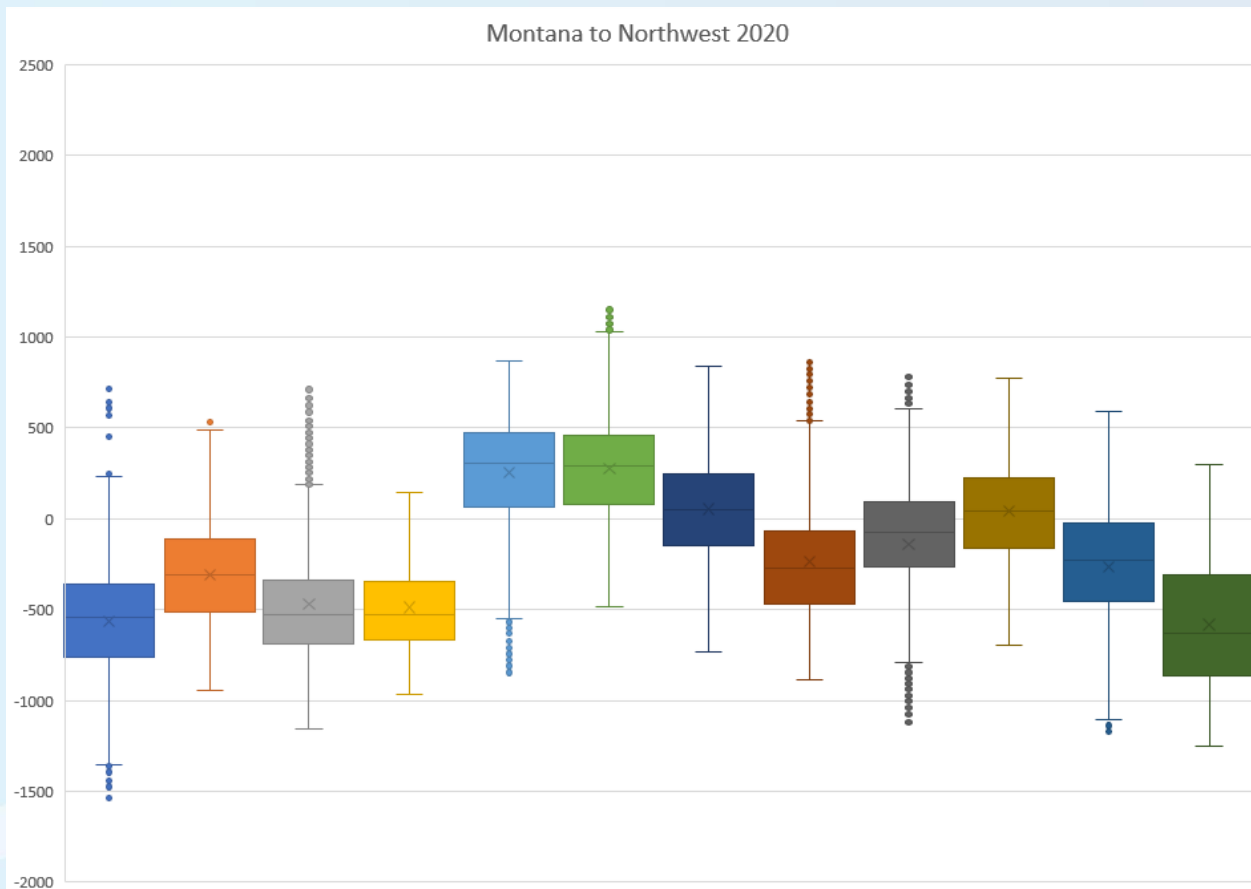


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Northwest to Montana Monthly Transfer

2020

2030



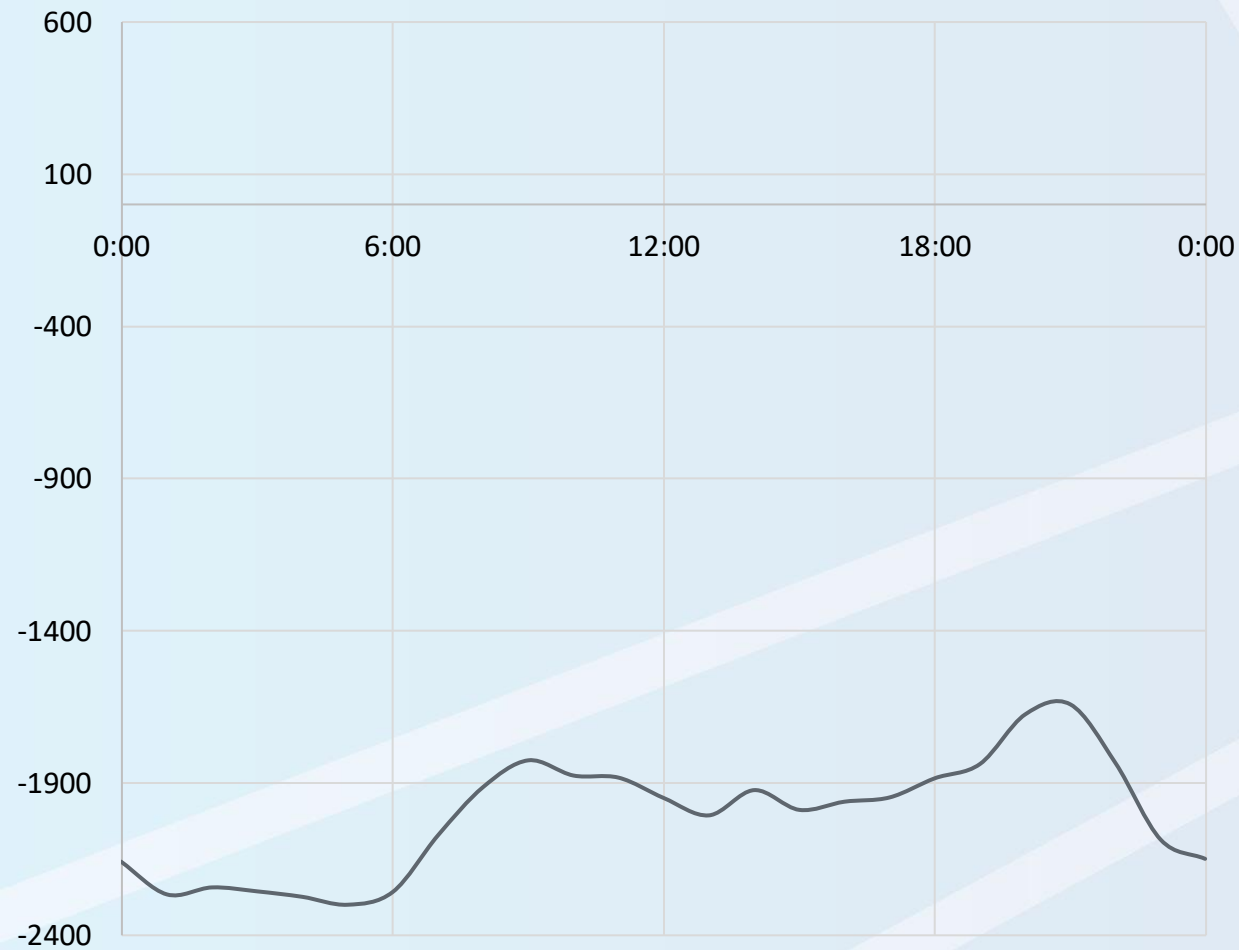
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Northwest to Idaho Daily Transfers

4/19/1998



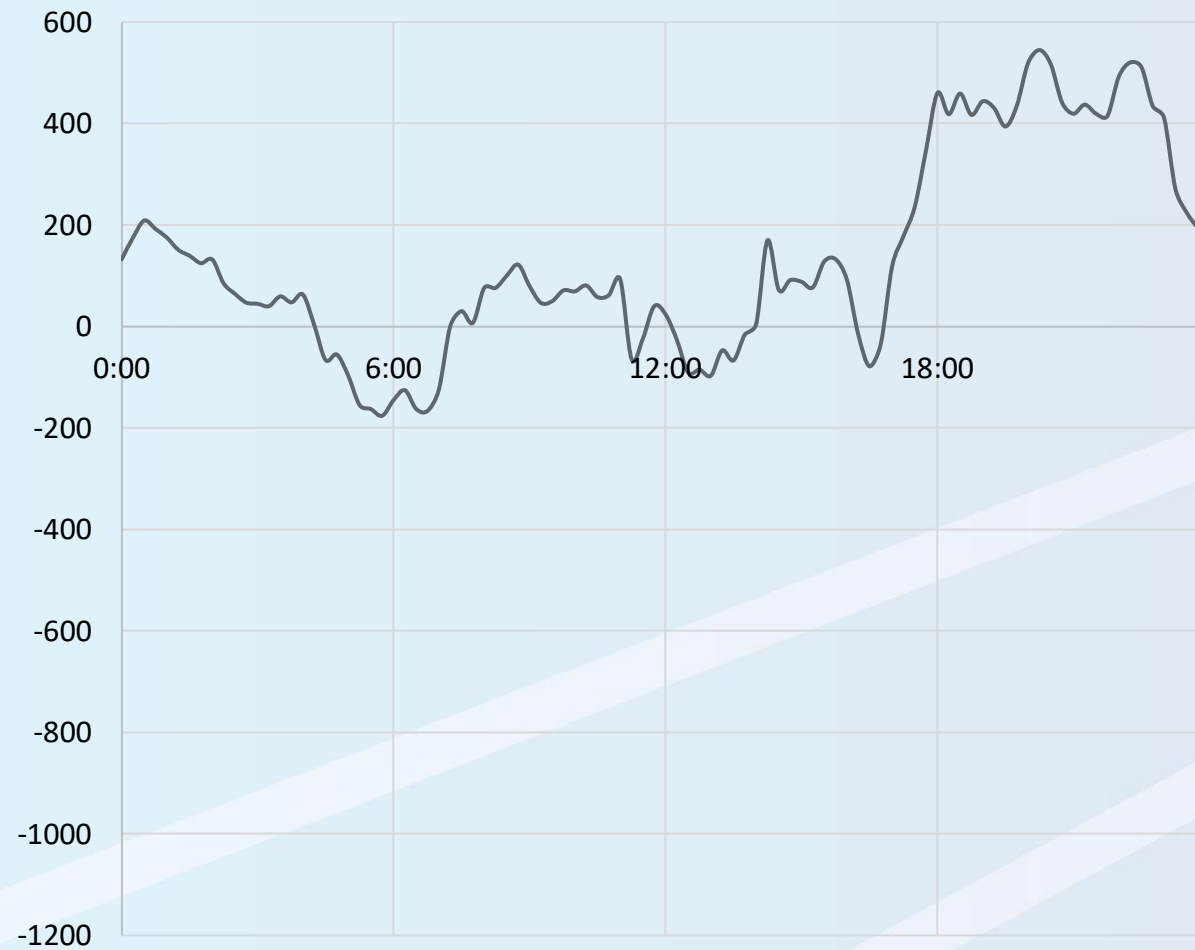
4/19/2020



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Northwest to Idaho Daily Transfers

4/19/2020



4/19/2030

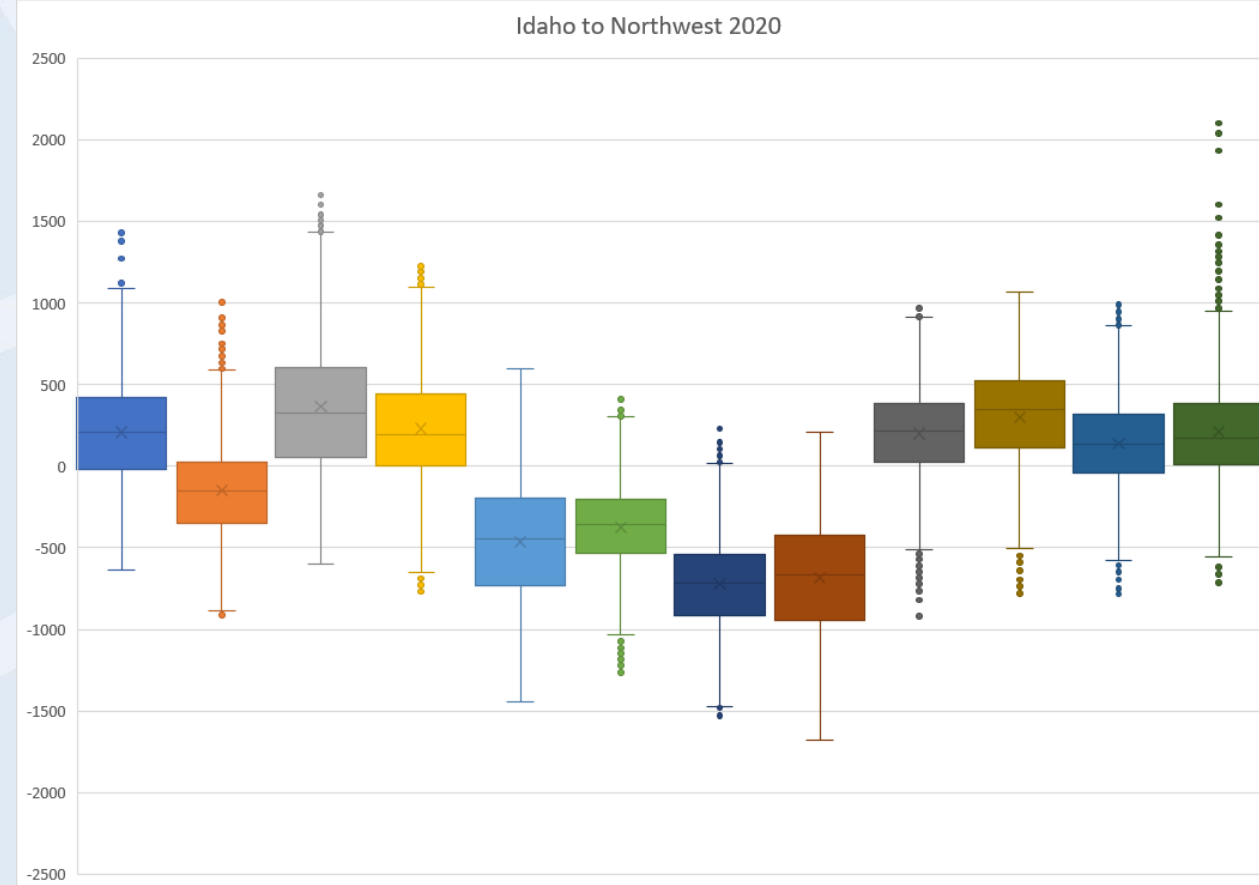
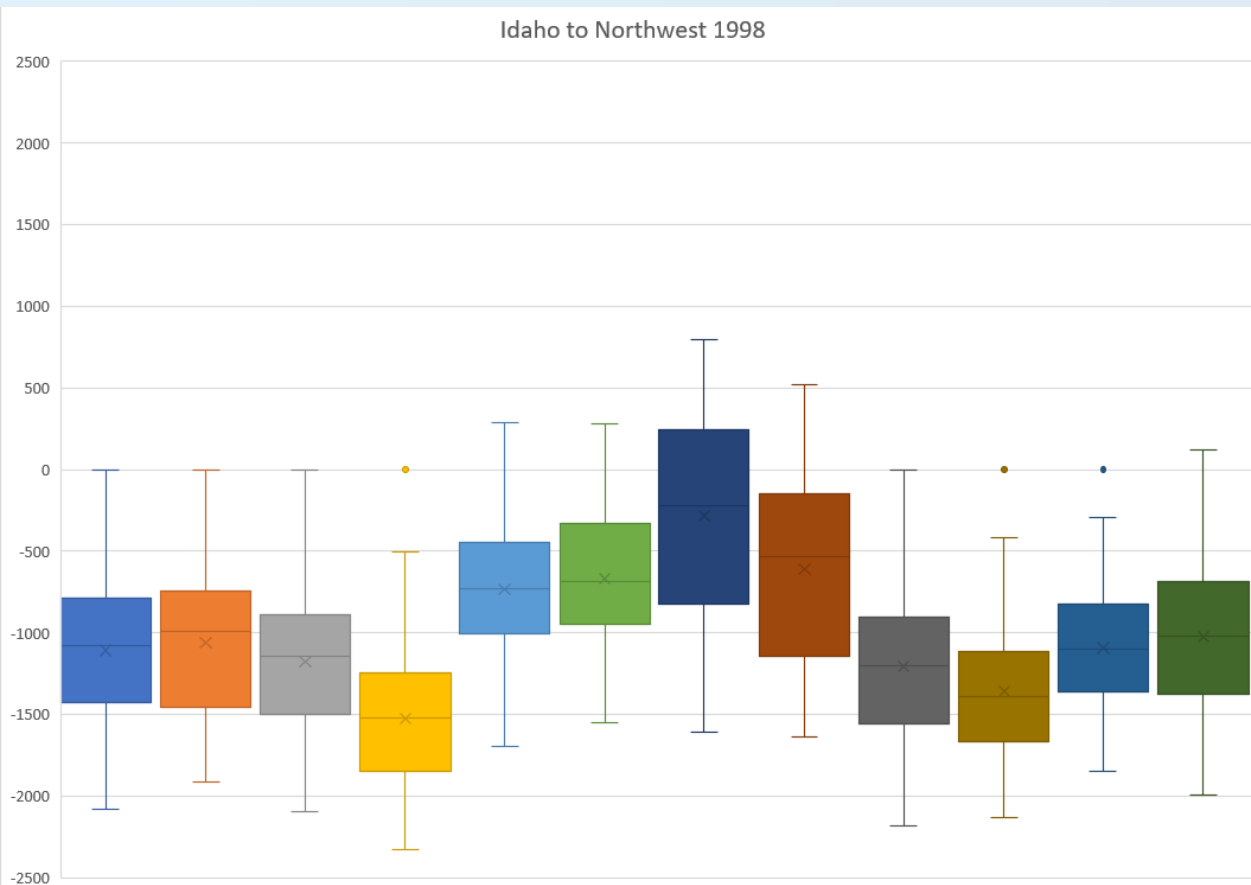


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Northwest to Idaho Monthly Transfers

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2020



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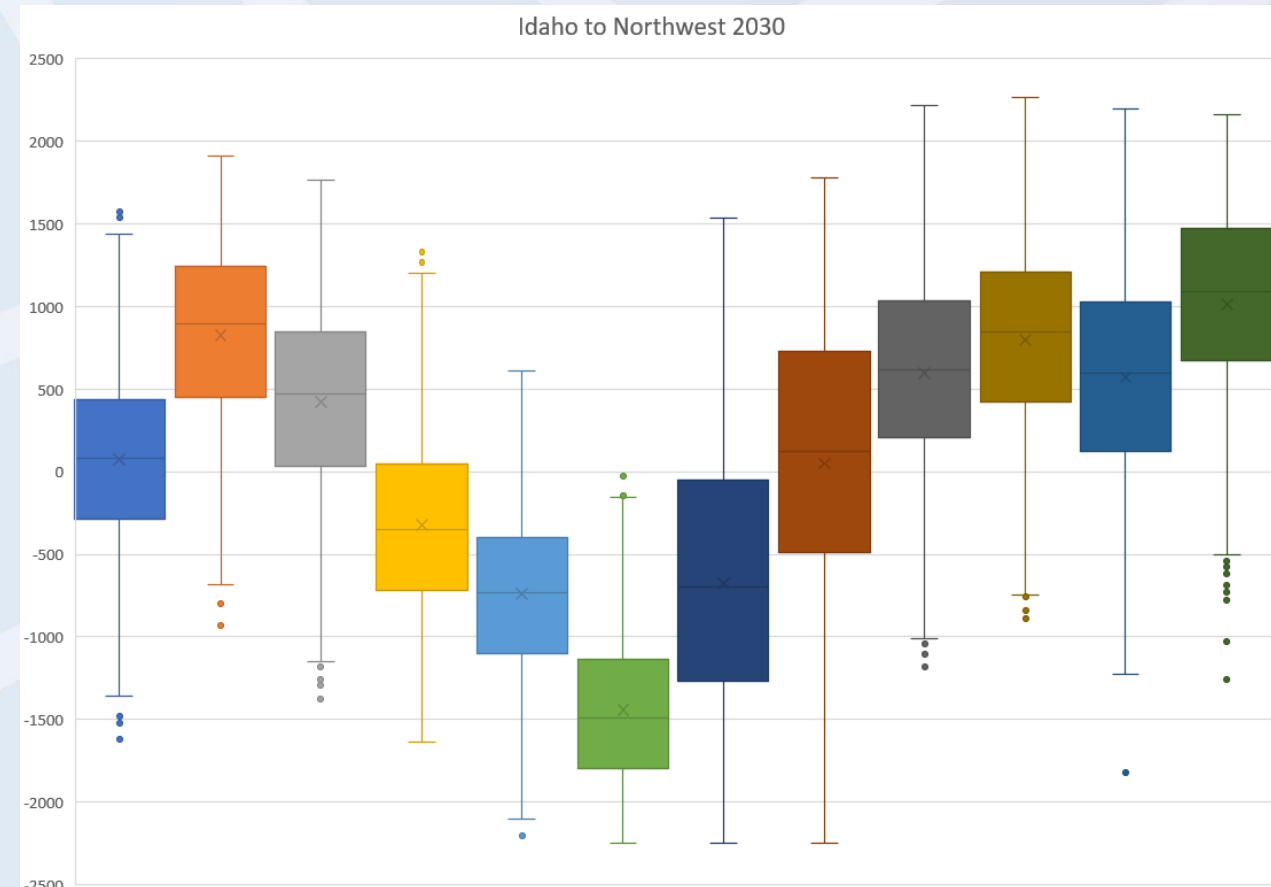
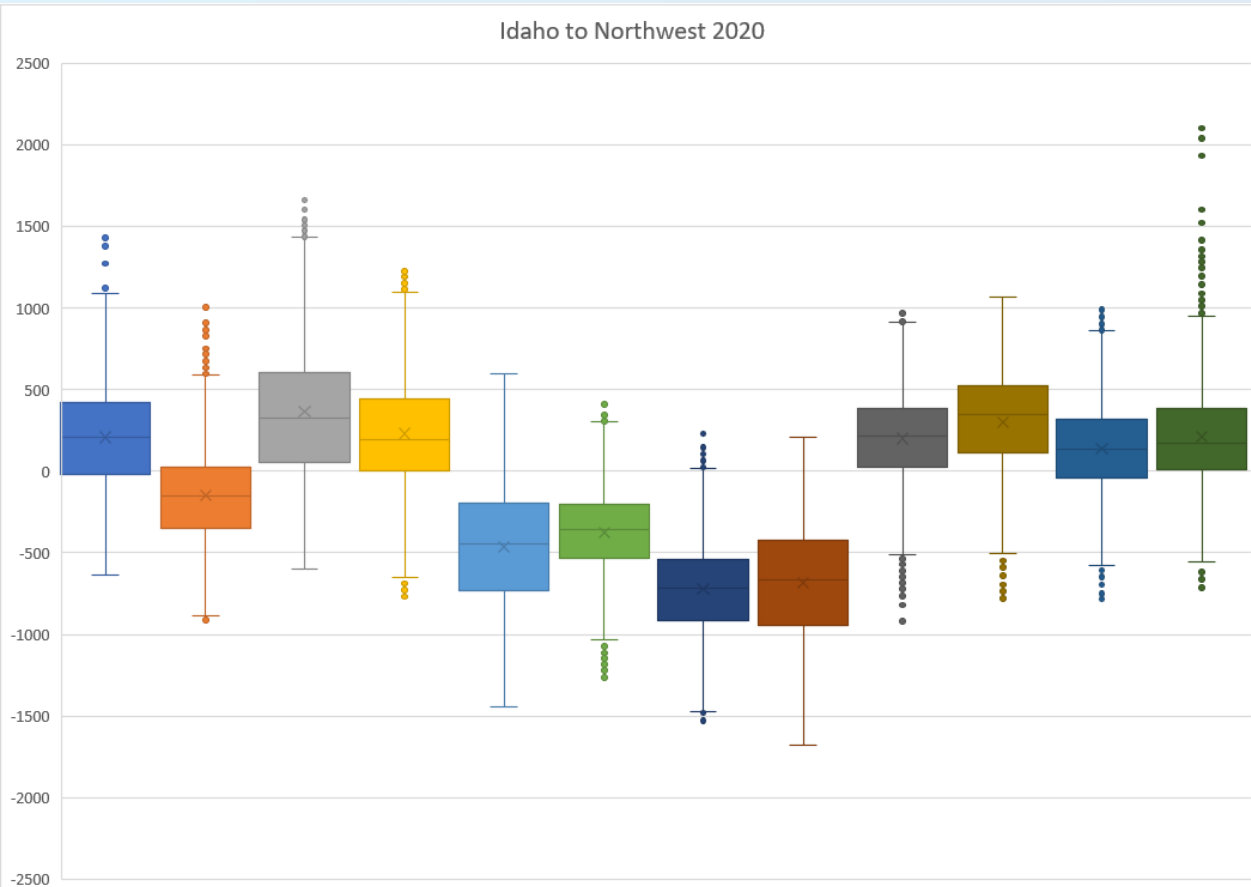


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Northwest to Idaho Monthly Transfers

2020

2030



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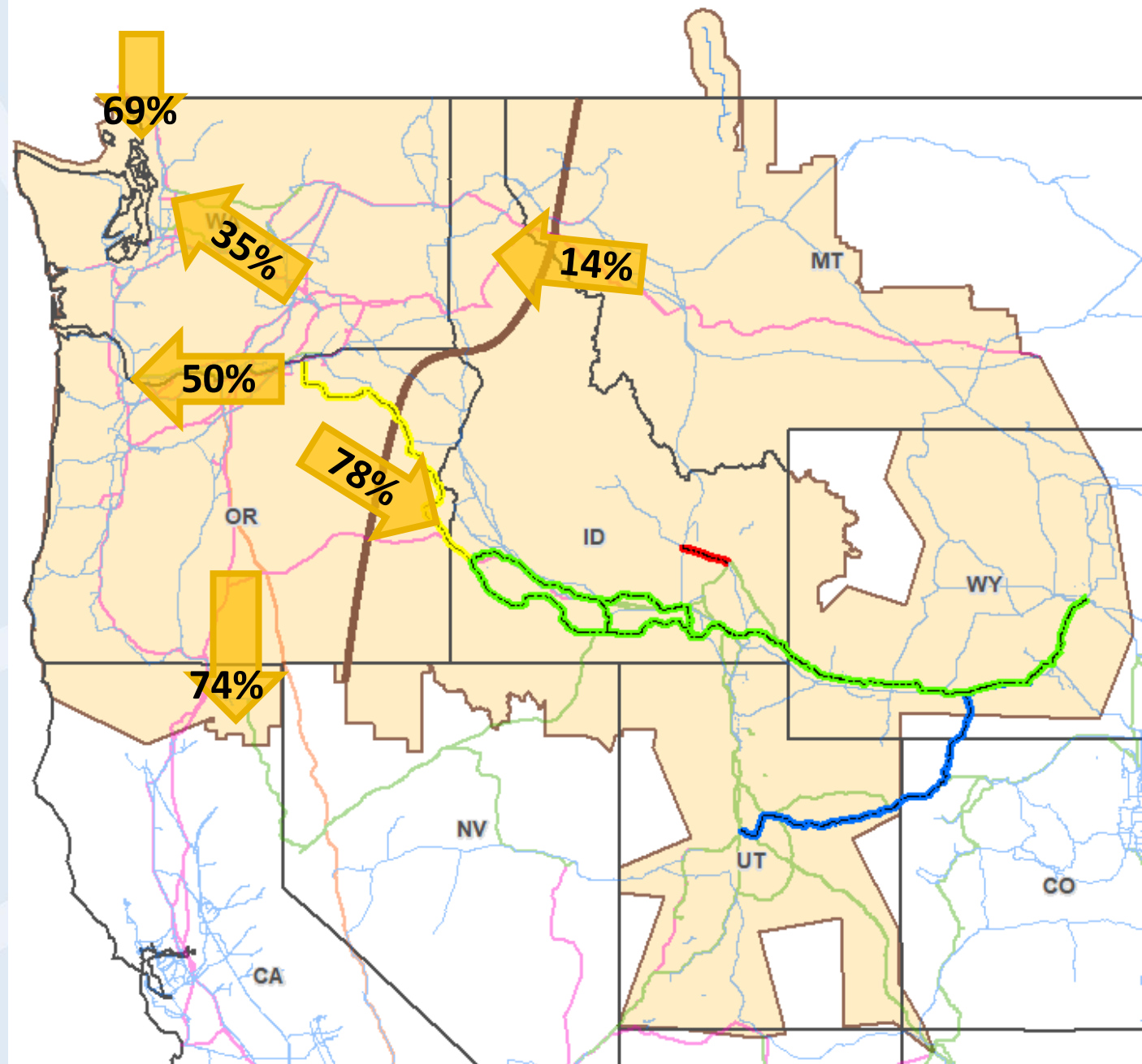


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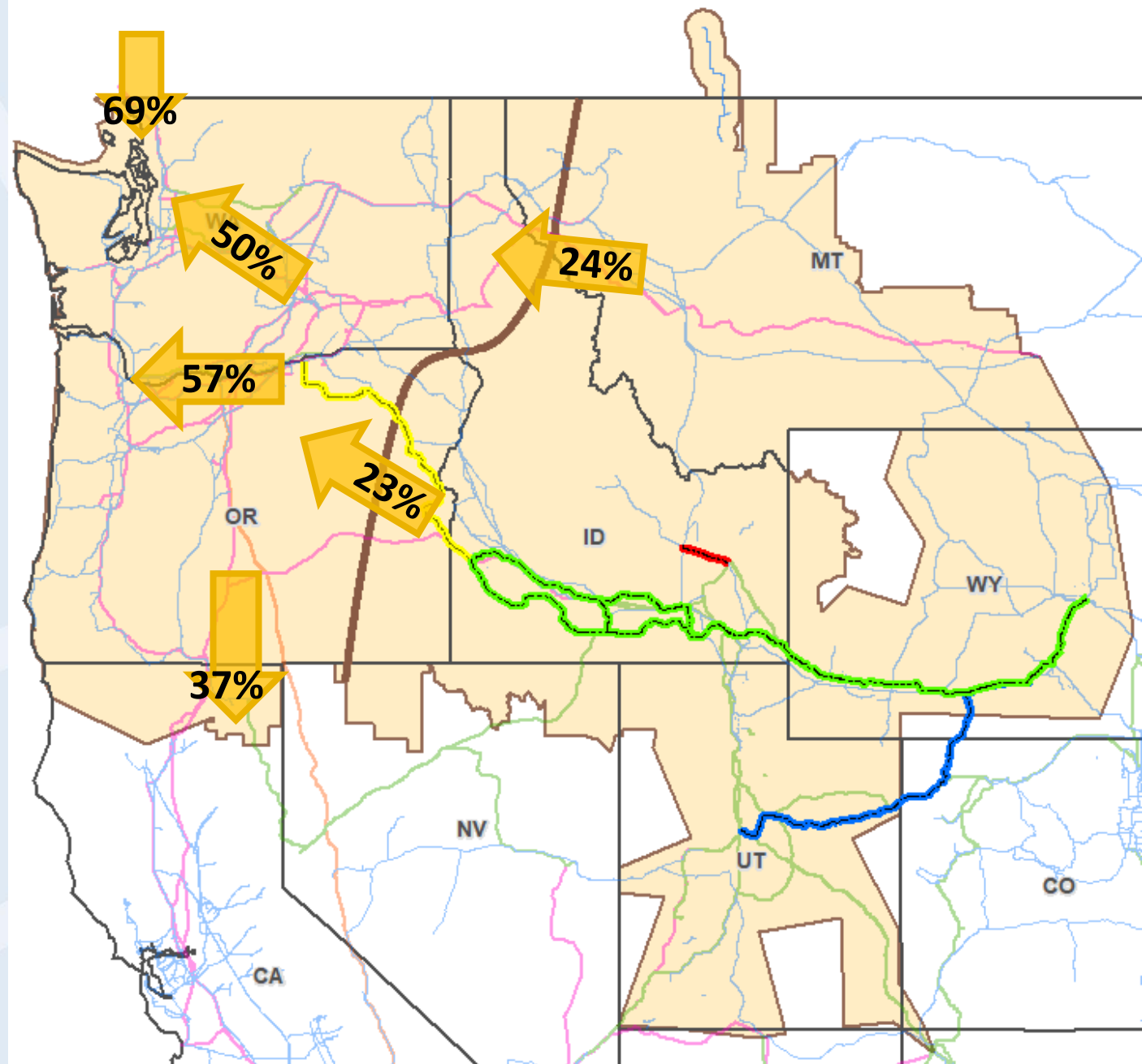
Unpacking the 2030 Flows for Analysis



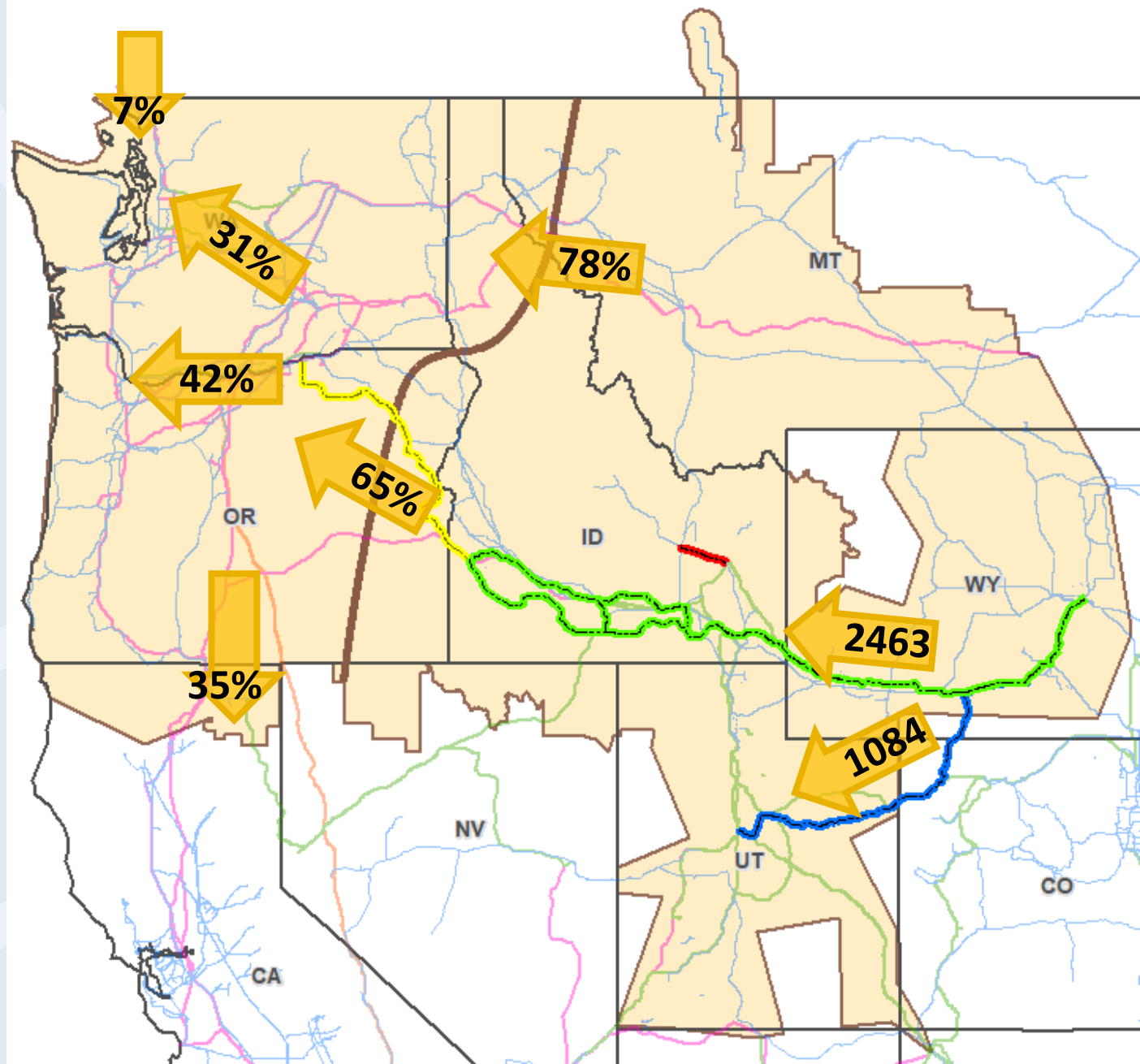
1) Heavy Summer
Load
July 30th
Hour ending 16:00



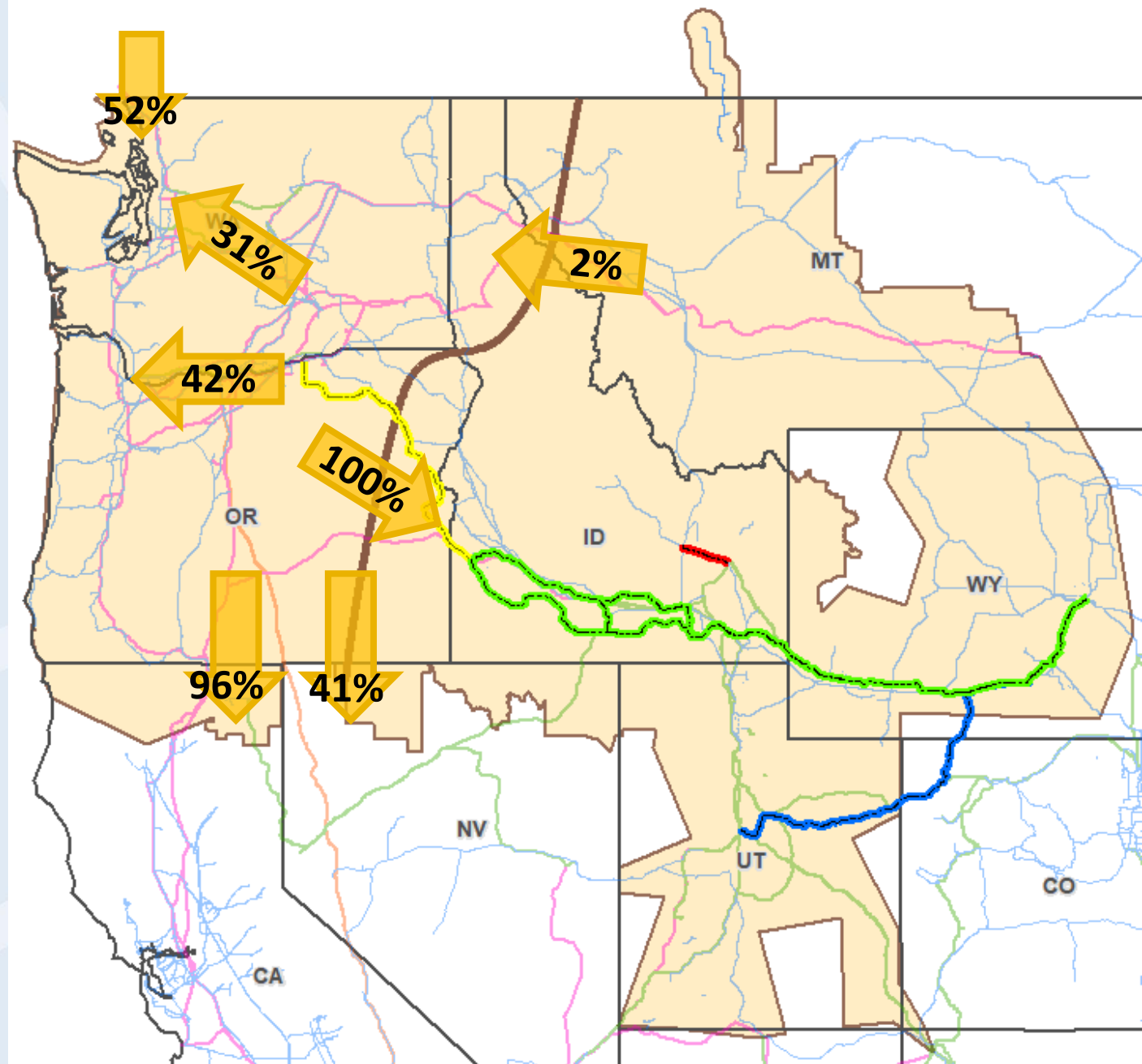
2) Heavy Winter
Load
December 19th
Hour ending 12:00



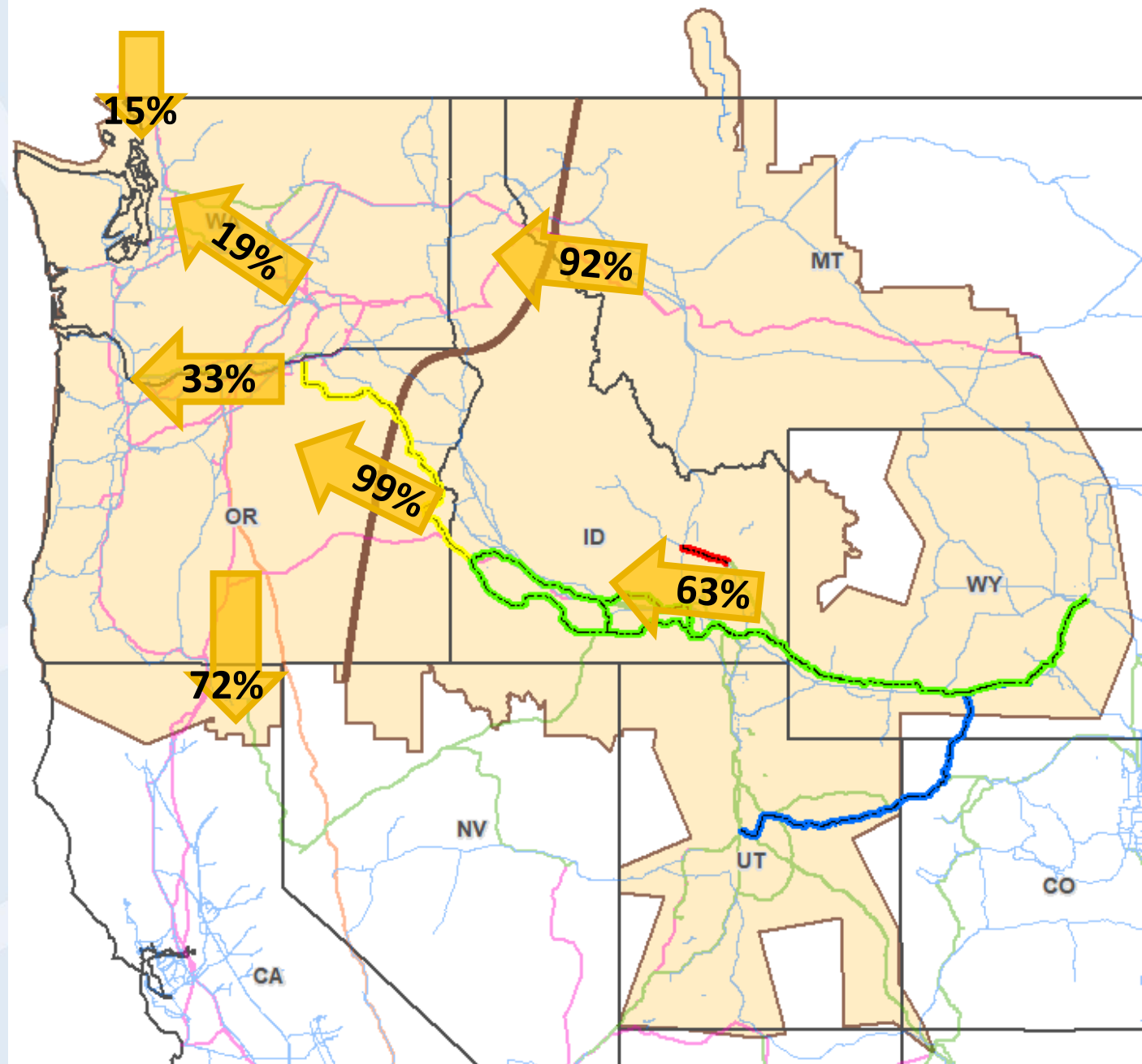
3) High Wyoming
Wind Generation
Output
February 1st
Hour ending 1:00



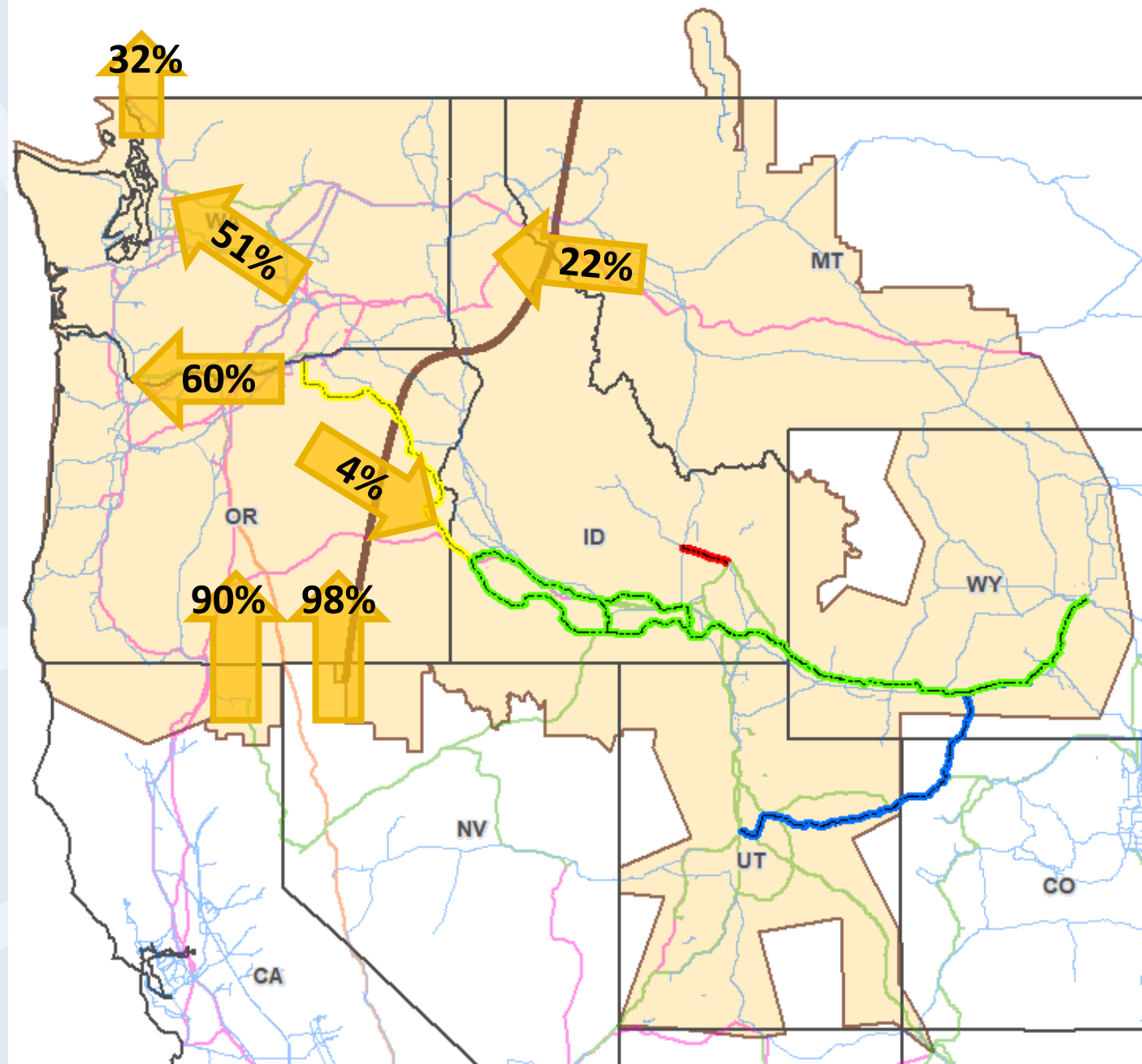
4) High Northwest
to Idaho Transfer
July 20th
Hour ending 17:00



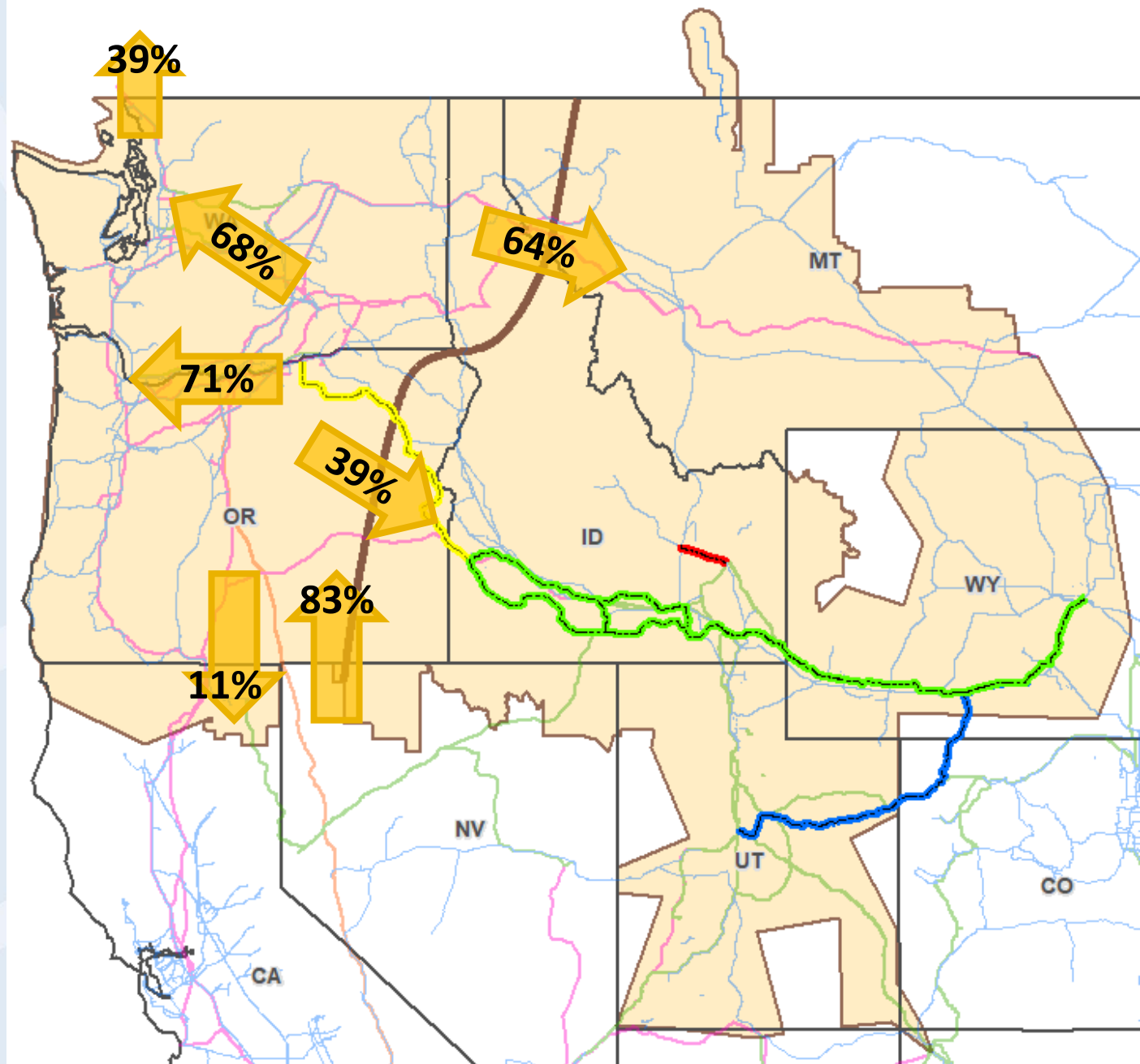
5) High Transfer
Across Idaho
September 29th
Hour ending 1:00



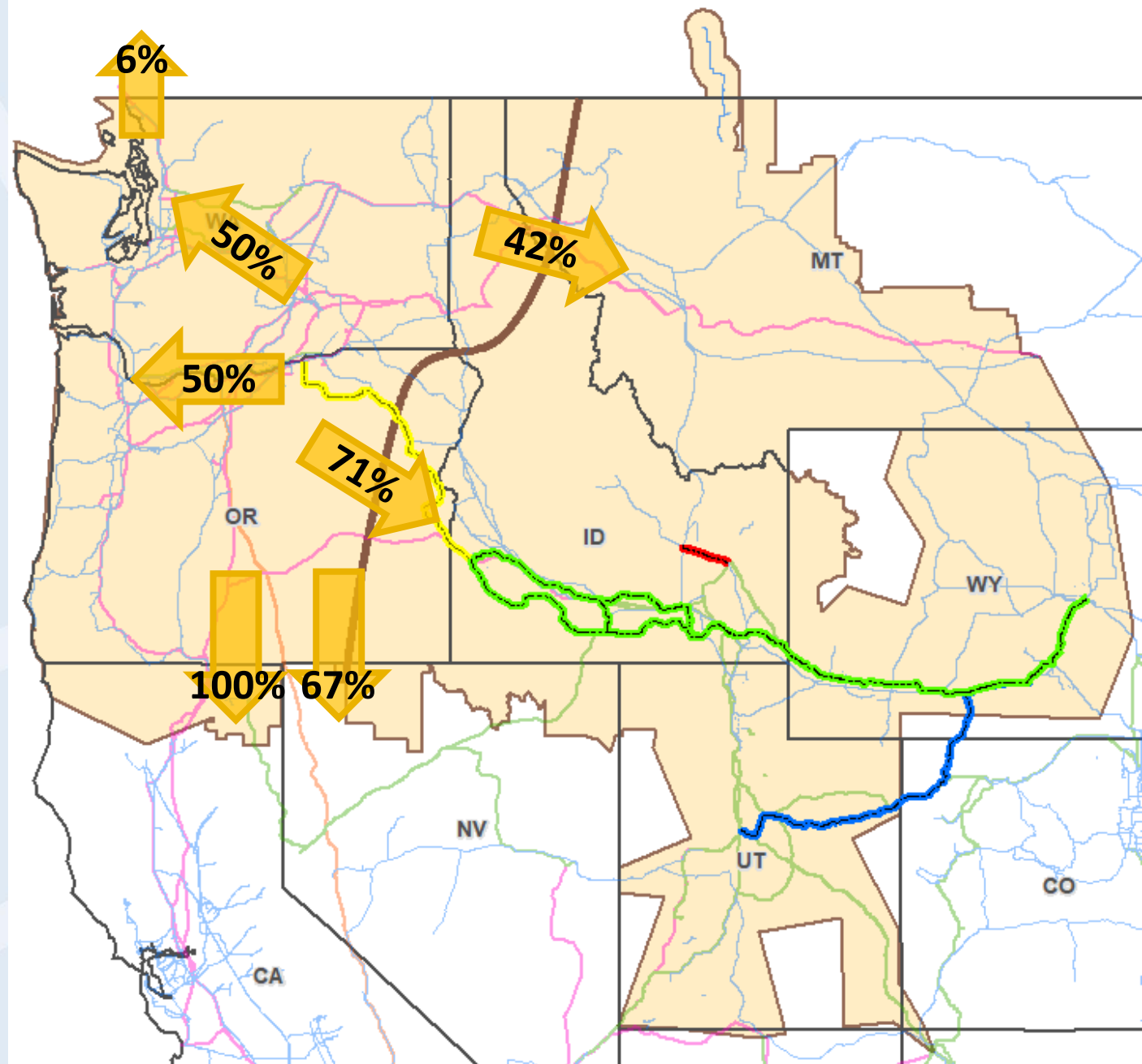
6) High California to
Northwest Transfer
March 10th
Hour ending 15:00



7) High West of Cascades Transfer
April 3rd
Hour ending 11:00



8) High Northwest
Hydro
June 4th
Hour ending 18:00



Thank you!

Dave Angell

Vice President

Regional Transmission Activities

dave.angell@nwpp.org

