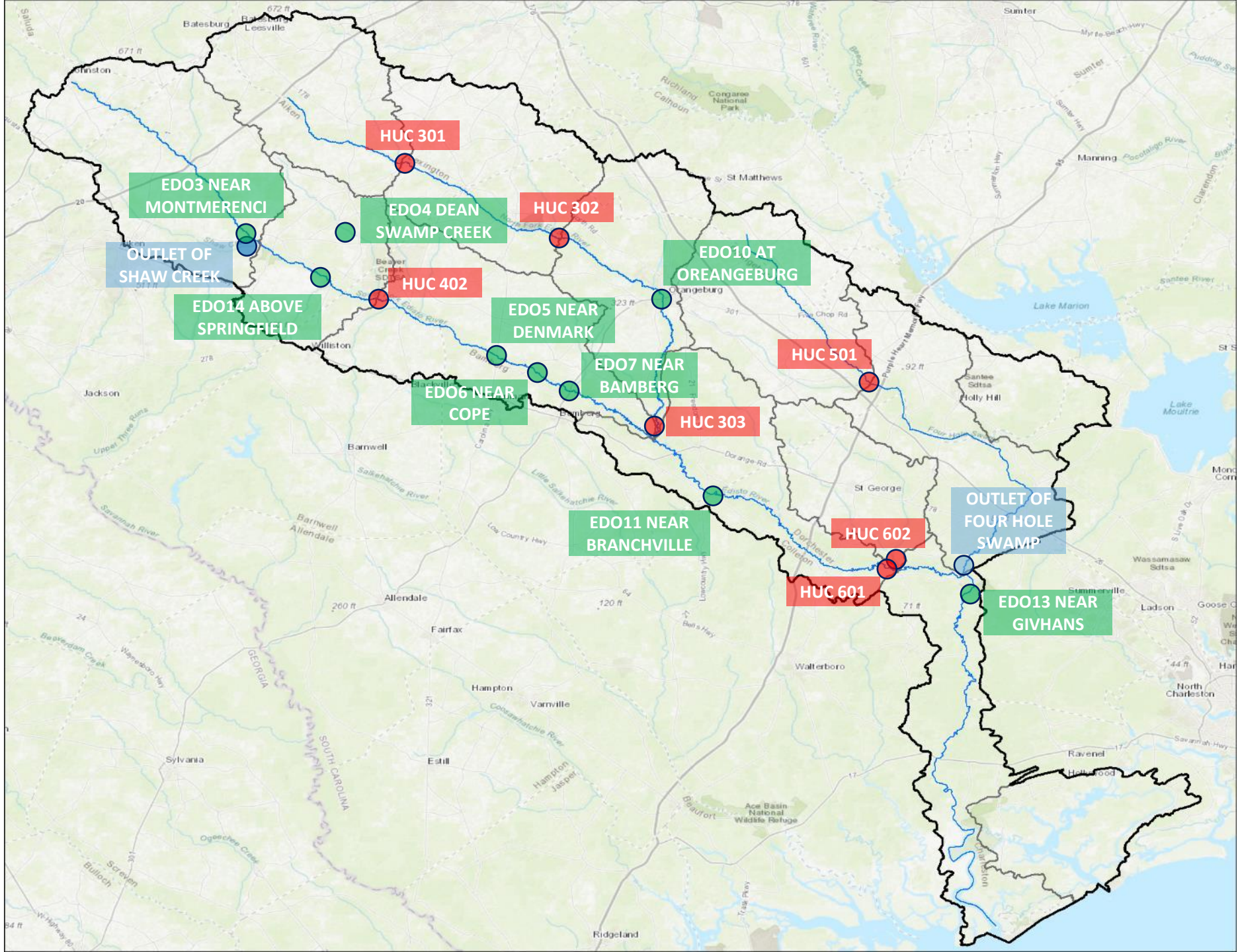
Comparison of Hydrologic Performance Measures for each Planning Scenario

Strategic Nodes

HUC 10 Outlet

USGS Gage

Other Strategic Nodes

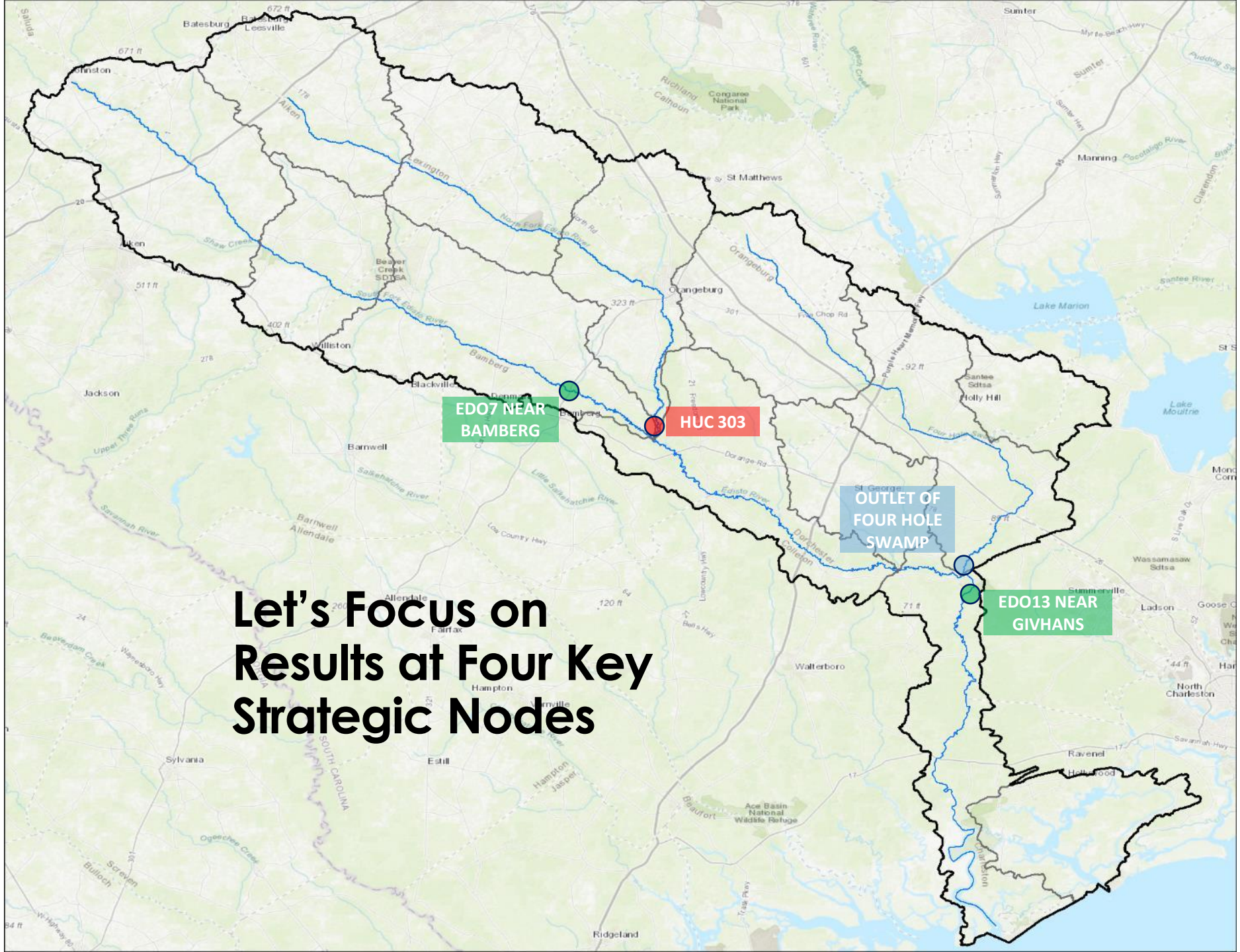


Strategic Nodes

HUC 10 Outlet

USGS Gage

Other Strategic Nodes

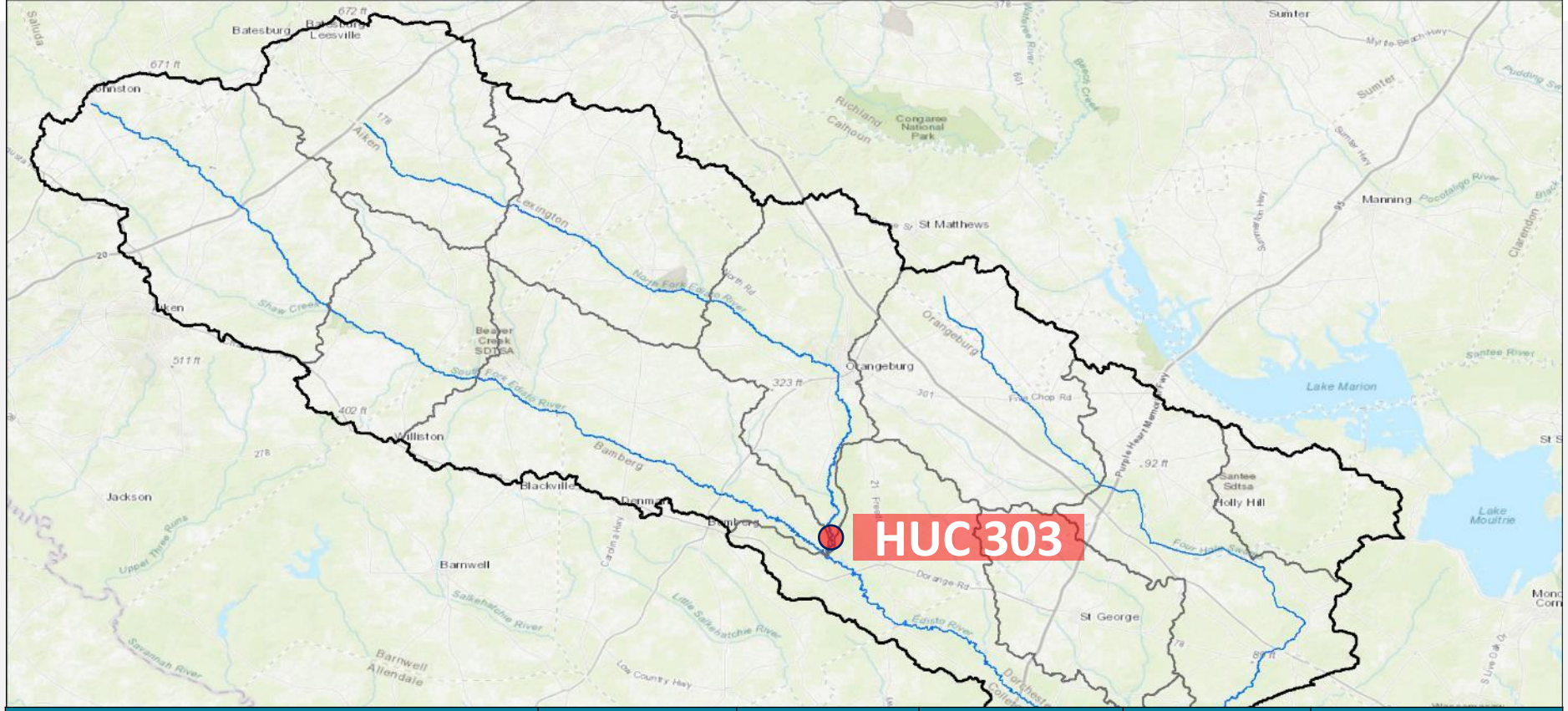


HUC 303

HUC 10 Outlet

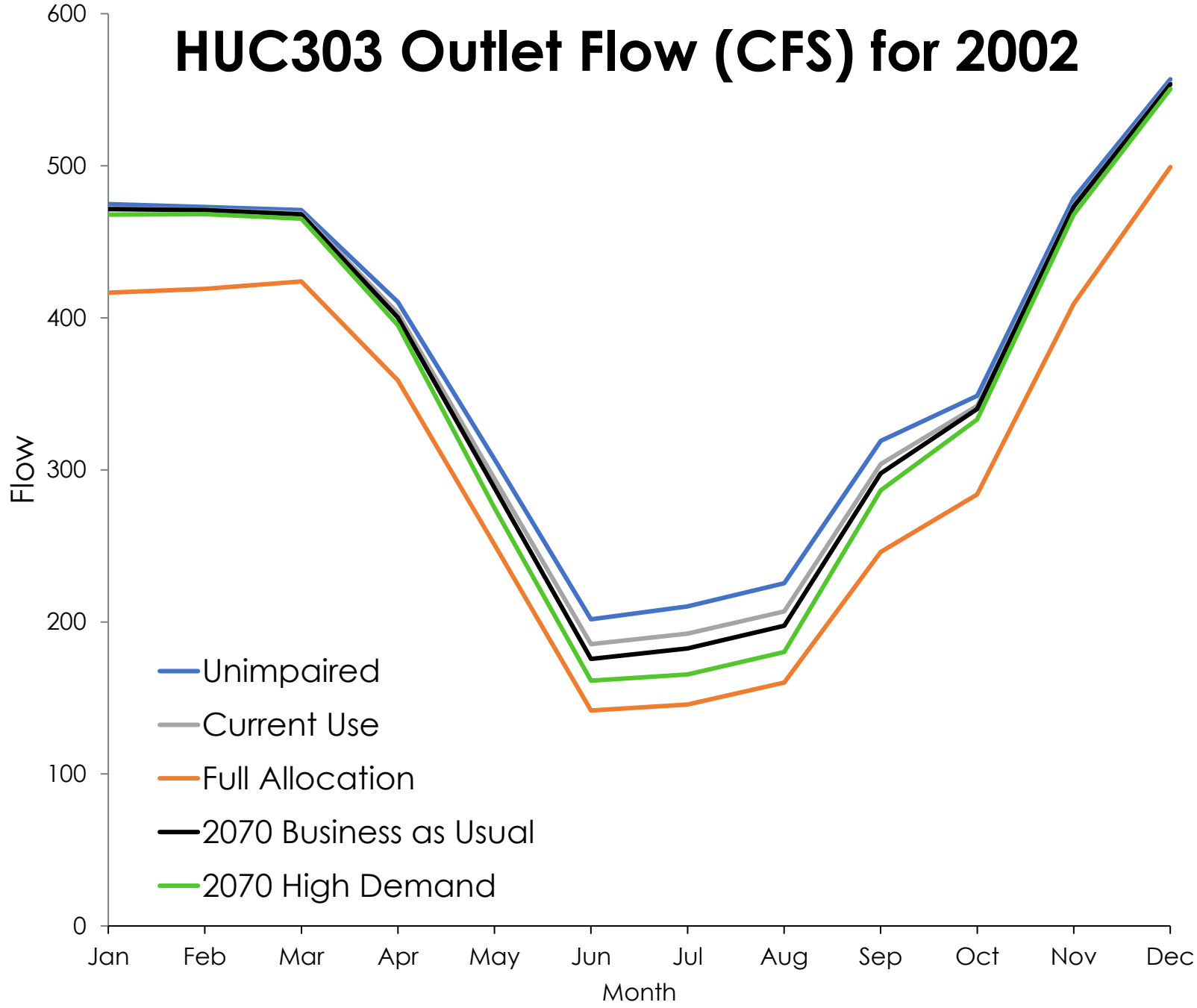
USGS Gage

Other Strategic Nodes



Flow Performance Measures

HUC303 Outlet	Current Use	UIF	BAU 2070	HD 2070	Full Allocation
mean flow (cfs)	760	770	755	747	705
median flow (cfs)	684	694	681	675	627
25th percentile flow (cfs)	503	517	497	485	446
10th percentile flow (cfs)	373	388	366	356	319
5th percentile flow (cfs)	322	336	316	303	267


HUC303 Outlet Flow (CFS) for 2002
600
500
400
300
200
100
0
Flow
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
Unimpaired
Current Use
Full Allocation
2070 Business as Usual
2070 High Demand

EDO7

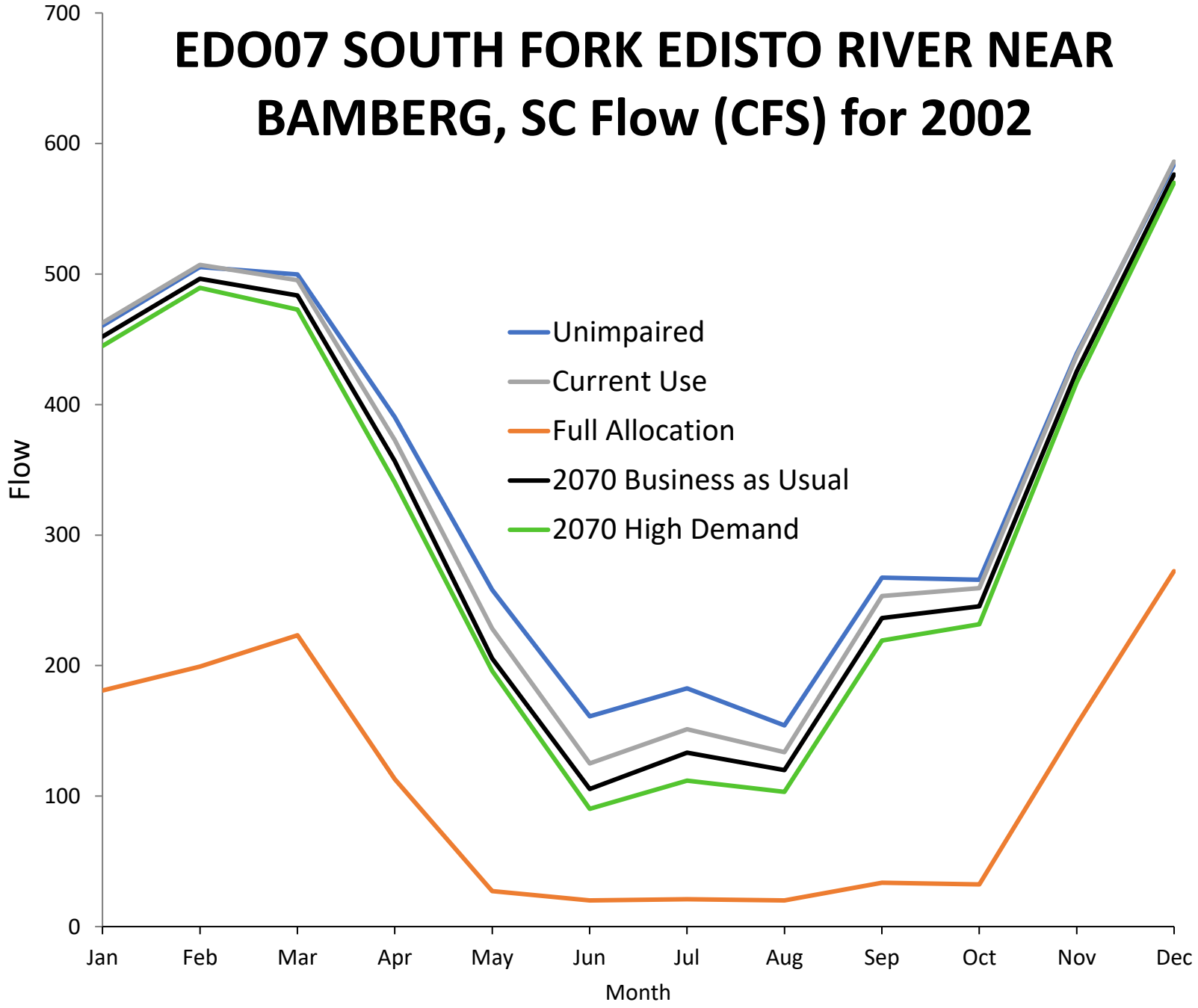
HUC 10 Outlet

USGS Gage

Other Strategic Nodes

EDO07 SOUTH FORK EDISTO RIVER NEAR BAMBERG, SC	Current Use	UIF	BAU 2070	HD 2070	Full Allocation
mean flow (cfs)	949	964	932	917	650
median flow (cfs)	801	816	783	769	490
25th percentile flow (cfs)	472	490	452	435	210
10th percentile flow (cfs)	339	360	319	301	90
5th percentile flow (cfs)	270	295	245	226	33

Flow Performance Measures


EDO07 SOUTH FORK EDISTO RIVER NEAR BAMBERG, SC Flow (CFS) for 2002
700
600
500
400
300
200
100
0
Flow
Unimpaired
Current Use
Full Allocation
2070 Business as Usual
2070 High Demand
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

Outlet of Four Hole Swamp

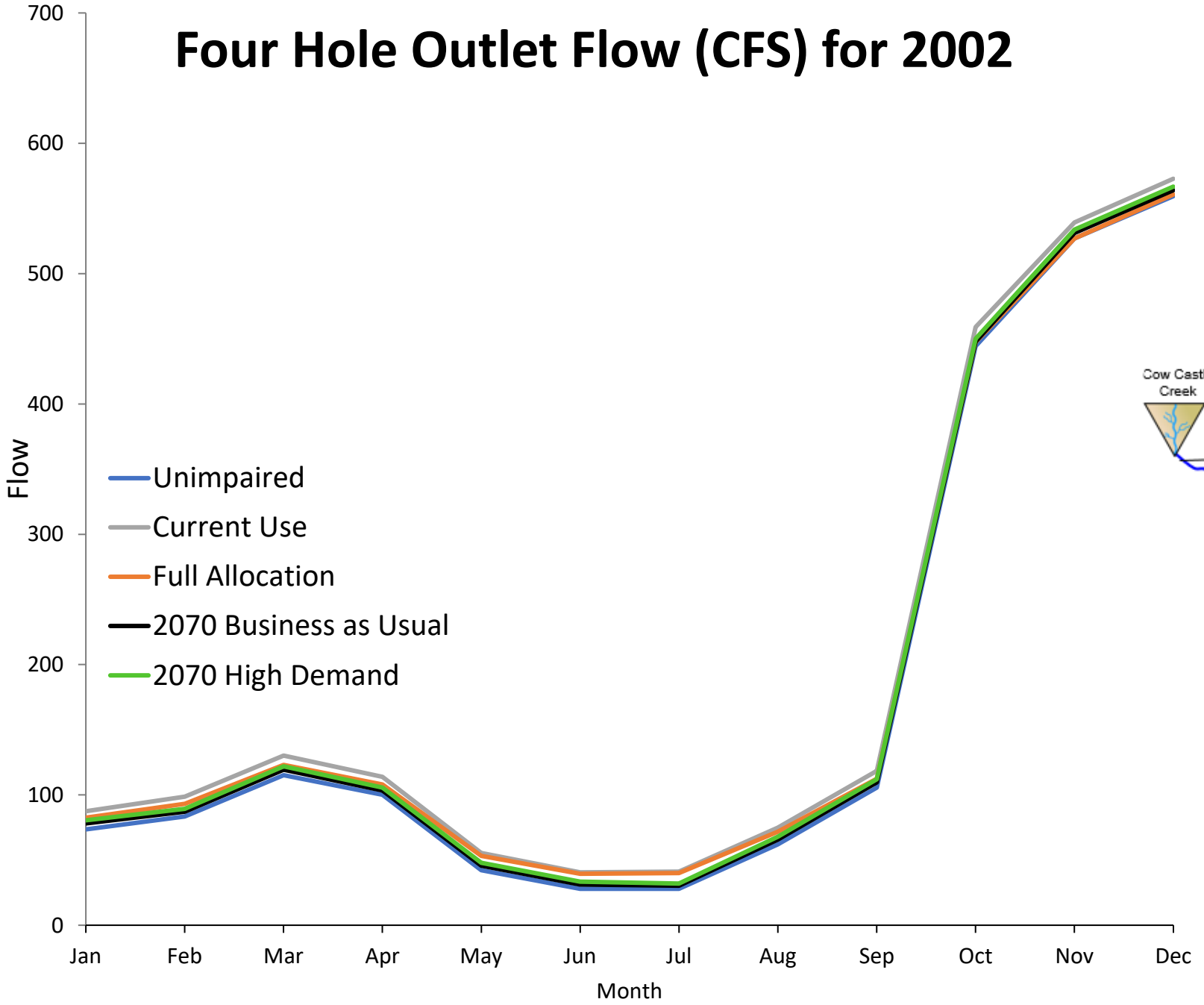
HUC 10 Outlet

USGS Gage

Other Strategic Nodes

Four Hole Swamp Outlet	Current Use	UIF	BAU 2070	HD 2070	Full Allocation
Flow Performance Measures					
mean flow (cfs)	451	437	441	443	441
median flow (cfs)	296	284	287	290	286
25th percentile flow (cfs)	148	136	139	141	141
10th percentile flow (cfs)	87	74	77	79	83
5th percentile flow (cfs)	68	56	59	61	65

Four Hole Outlet Flow (CFS) for 2002

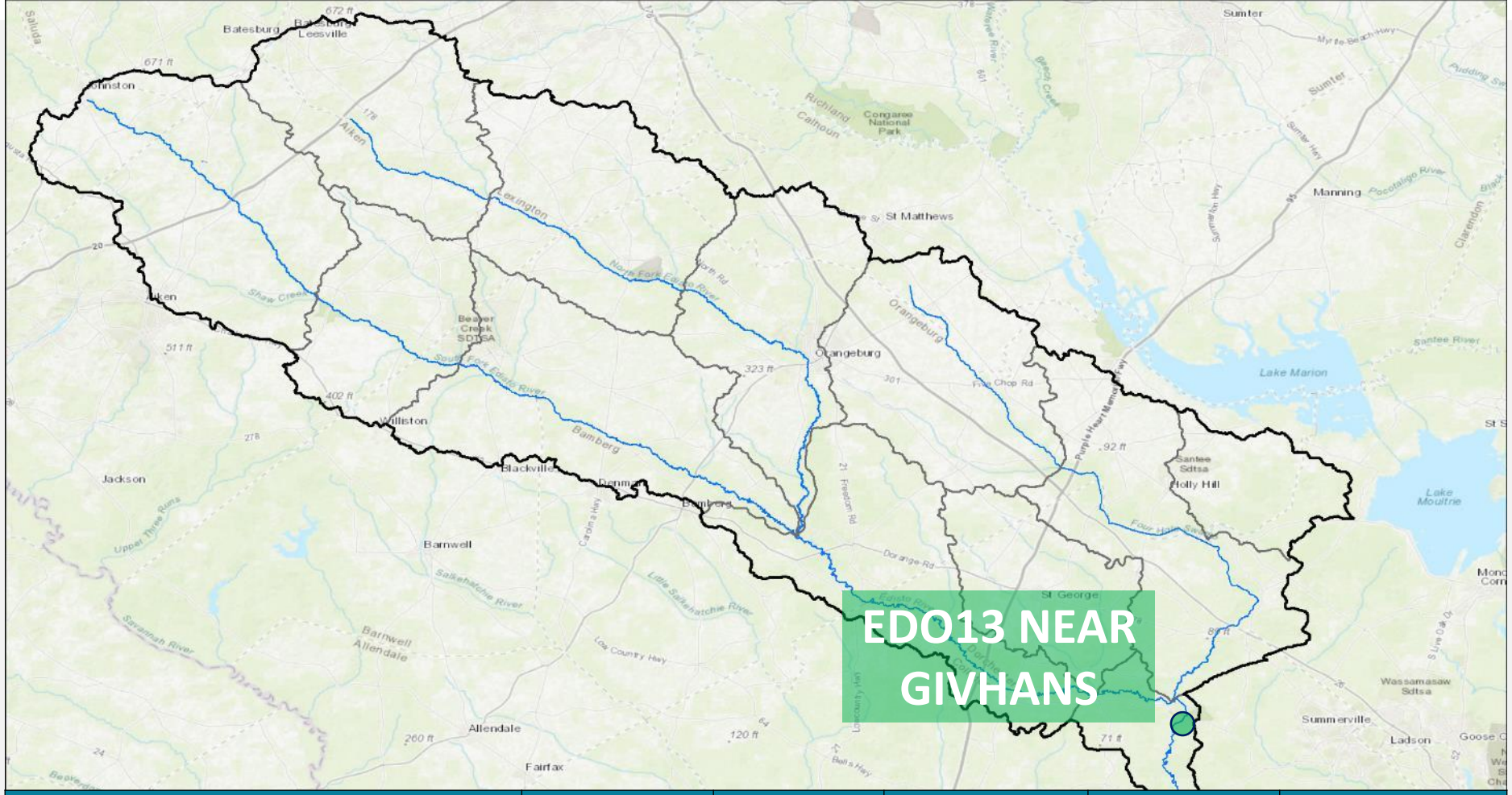


EDO13

HUC 10 Outlet

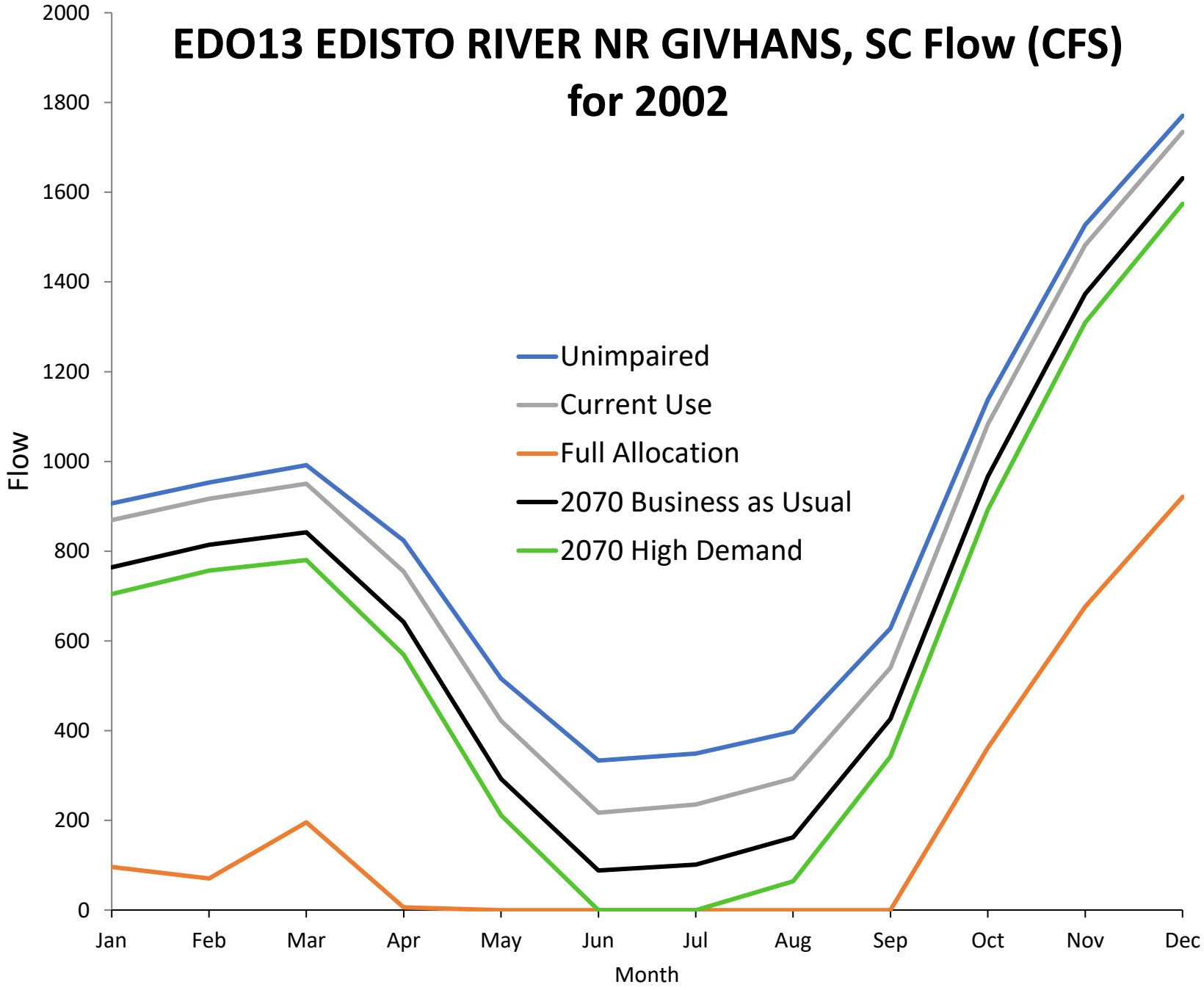
USGS Gage

Other Strategic Nodes



Flow Performance Measures

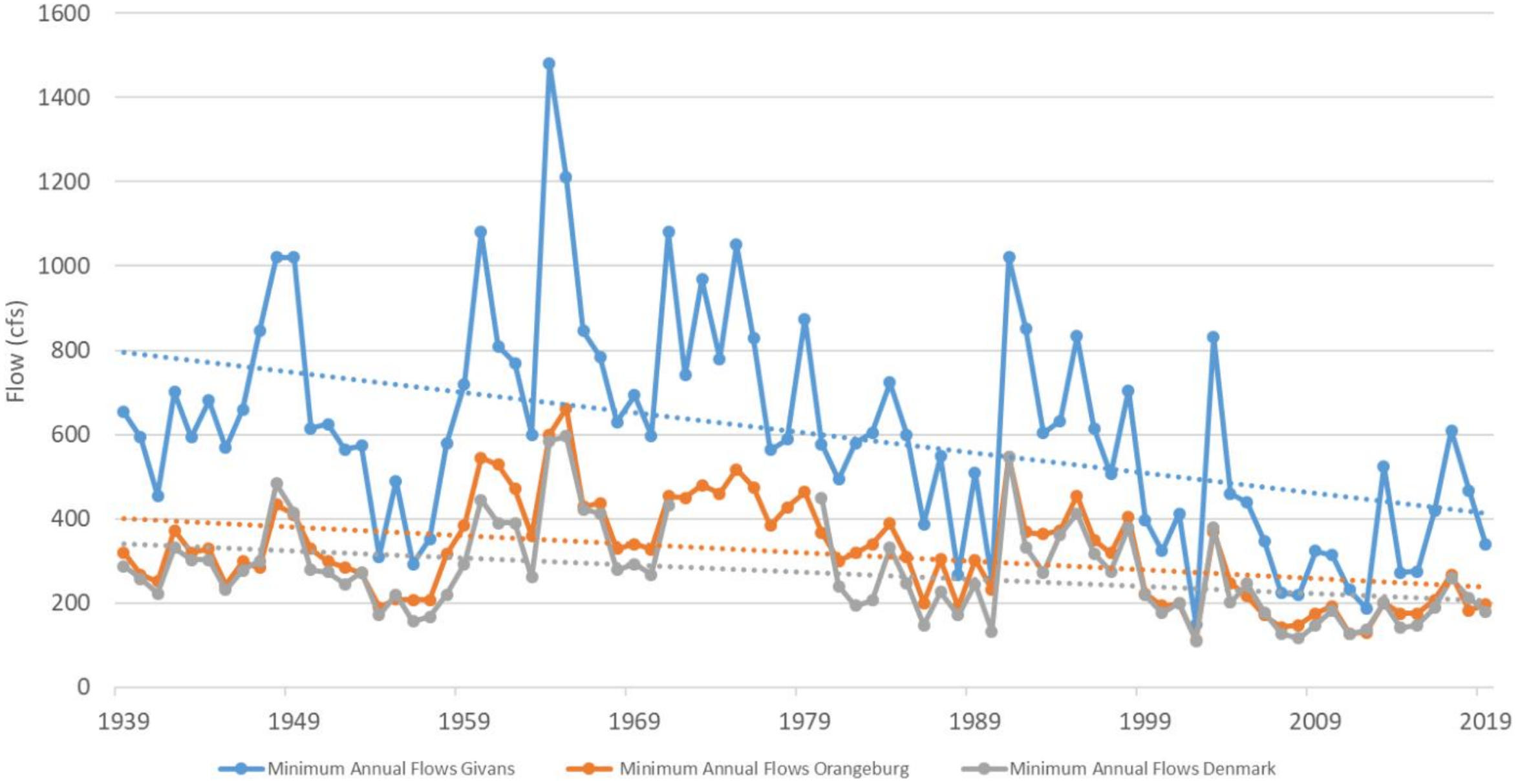
EDO13 EDISTO RIVER NR GIVHANS, SC	Current Use	UIF	BAU 2070	HD 2070	Full Allocation
mean flow (cfs)	2593	2667	2475	2396	1821
median flow (cfs)	1751	1826	1633	1570	939
25th percentile flow (cfs)	994	1095	863	780	253
10th percentile flow (cfs)	658	755	539	451	0
5th percentile flow (cfs)	520	618	393	299	0


EDO13 EDISTO RIVER NR GIVHANS, SC Flow (CFS)
for 2002
Flow
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
Unimpaired
Current Use
Full Allocation
2070 Business as Usual
2070 High Demand

Analysis of Results

- Widespread shortages are not projected, as a function of projected demand increases. This includes new Ag demands.
- Impacts on river **low flows** are discernable:
  - Absolute low flow at Givhans during drought of record is projected to go to zero for 2 months
  - Increase in frequency of low flows at Givhans
- Potential supply thresholds reached for Charleston and Aiken with 2070 High Demand scenario
- Climate could be a bigger driver of supply shortages than population demographics

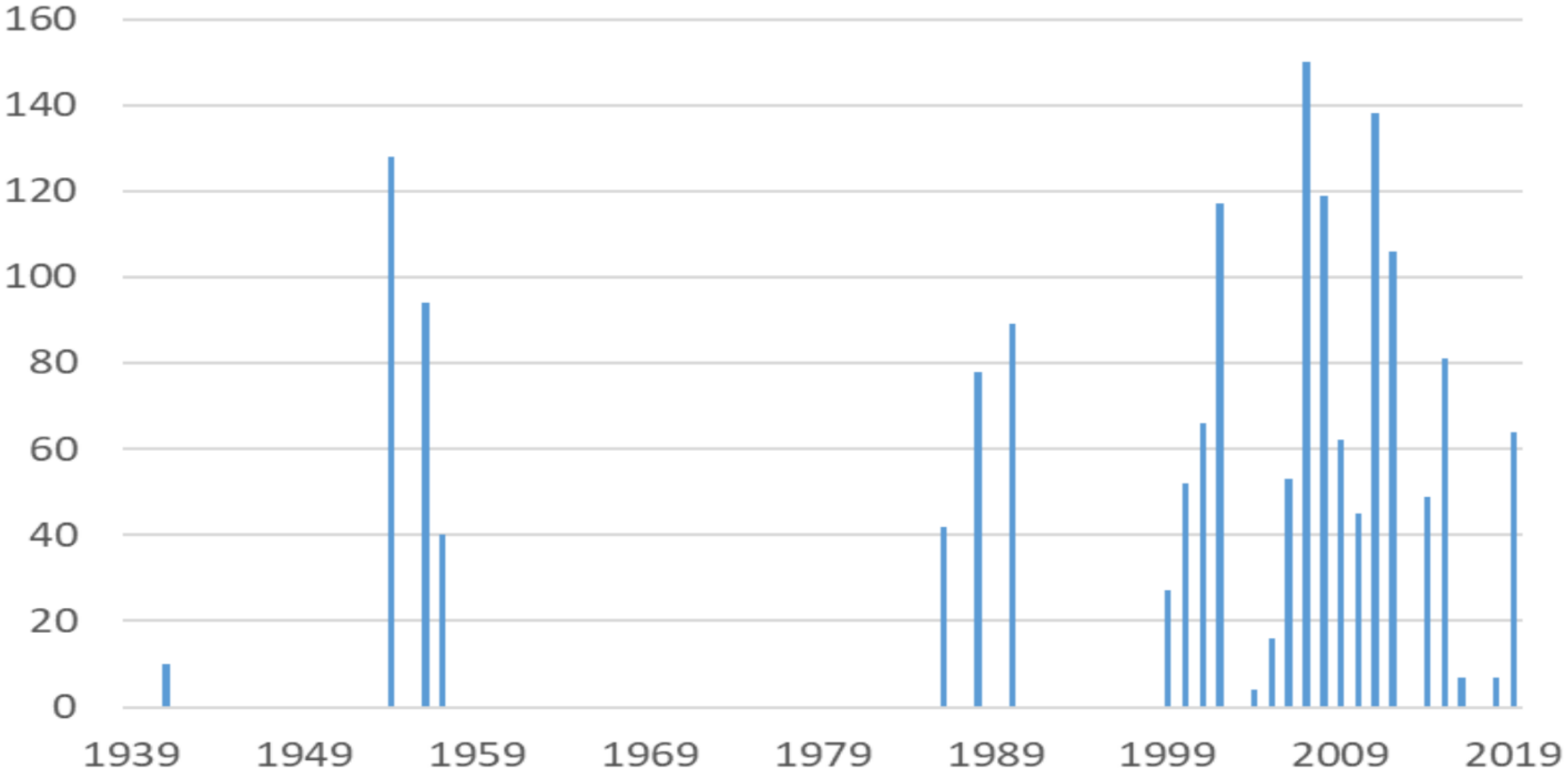
Minimum Annual Flow (Lowest Flow of Each Year)



Courtesy Jason Thompson, Presented at the Feb 21 ERBC Meeting

Days Below Minimum Instream Flow (20% of Mean)

*as measured at Givhans



Courtesy Jason Thompson, Presented at the Feb 21 ERBC Meeting

Annual Low Flows (Observations)

- Basin wide patterns and trends in low flows are primarily due to changes in annual precipitation and changes in the precipitation patterns within each year (similar annual amounts occurring in fewer, but bigger events)
- Patterns and trends are further complicated by changes in surficial ground water drawdown, land use/cover and cumulative surface withdrawals across the basin.
- Though withdrawals are not likely the most significant cause of the lower flows, the river is more susceptible to drawdown during prolonged dry spells.
- River basin plans should focus on what we can do during the extreme low flows