



Edisto River Example

- ▶ We incorporated 4 flow-ecology metrics as performance measures of Edisto River water use scenarios. They are:
 - ▶ Mean Daily Flow
 - ▶ Base Flow (flow contributed by groundwater)
 - ▶ Duration of Low Flow
 - ▶ Timing of Low Flow
- ▶ These were chosen based on:
 - ▶ Relevance to water withdrawal and drought management
 - ▶ Strength of relationship
 - ▶ Distribution: All stream classes and basin area represented
 - ▶ Readily calculable in SWAM



Edisto River Example

- ▶ **Why?** This enables you to evaluate the actual impact on the basin's health *and* compare multiple scenarios quickly
- ▶ **How** we used them:
 - ▶ Evaluate the performance of water use scenarios on stream and river health at strategic nodes
 - ▶ Strategic nodes, stream reaches of interest, and selected tributaries.
 - ▶ Applied them in a risk management context: high, medium, low risk to loss of biological health

EDO10

HUC 10
Outlet



USGS Gage



Other
Strategic
Nodes



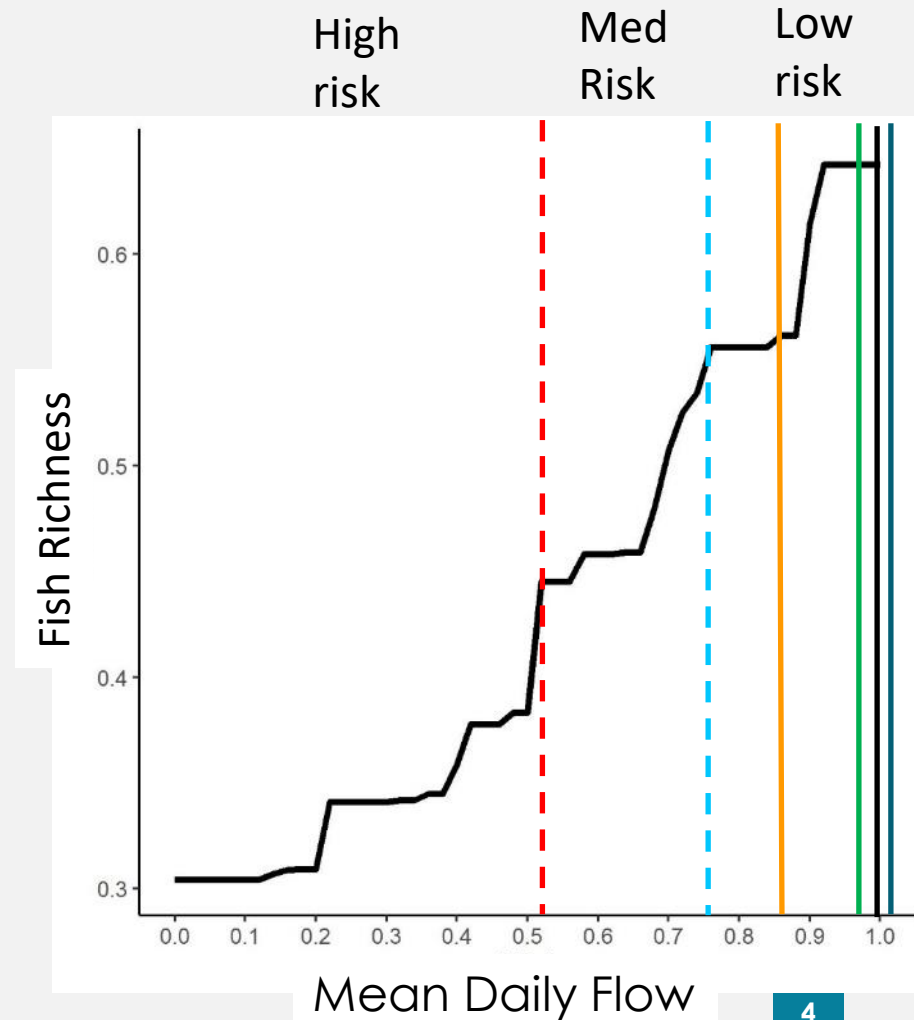
**Flow
Performance
Measures**



Mean daily flow: EDO10 NORTH FORK

Scenario	Current	Predicted	% change	Bio Metric	Change in Bio	SE
UIF	723.21	741.43	2.5%	Richness	1.9%	15
HD 2070	723.21	709.94	-1.8%	Richness	-1.4%	15
Full	723.21	622.04	-14.0%	Richness	-10.4%	15
BAU	723.21	721.48	-0.2%	Richness	-0.2%	15

SE Plains: Stable baseflow



EDO6

HUC 10 Outlet ●

USGS Gage ●

Other Strategic Nodes ●

Flow Performance Measures



EDO06 SOUTH FORK EDISTO RIVER NEAR COPE, SC	Current Use	UIF	BAU 2070	HD 2070	Full Allocation
mean flow (cfs)	774	792	764	752	486
median flow (cfs)	654	669	644	635	364
25th percentile flow (cfs)	435	456	422	412	159
10th percentile flow (cfs)	322	345	309	293	58
5th percentile flow (cfs)	256	285	240	223	6

Mean daily flow: EDO06 SOUTH FORK

Scenario	Current	Predicted	% change	Bio Metric	Change in Bio	SE
UIF	772.96	791.43	2.4%	Richness	1.8%	15
HD 2070	772.96	750.83	-2.9%	Richness	-2.2%	15
Full	772.96	488.10	-36.9%	Richness	-28.2%	15
BAU	772.96	763.10	-1.3%	Richness	-1.0%	15

SE Plains: Stable baseflow

