

***Guadalupe, San Antonio, Mission, & Aransas Rivers and
Mission, Copano, Aransas, & San Antonio Bays
Basin and Bay Area Stakeholder Committee (GSA BBASC)***

***Technical Analyses of GSA
BBEST Recommendations –
Part 3: Run-Of-River Diversions***

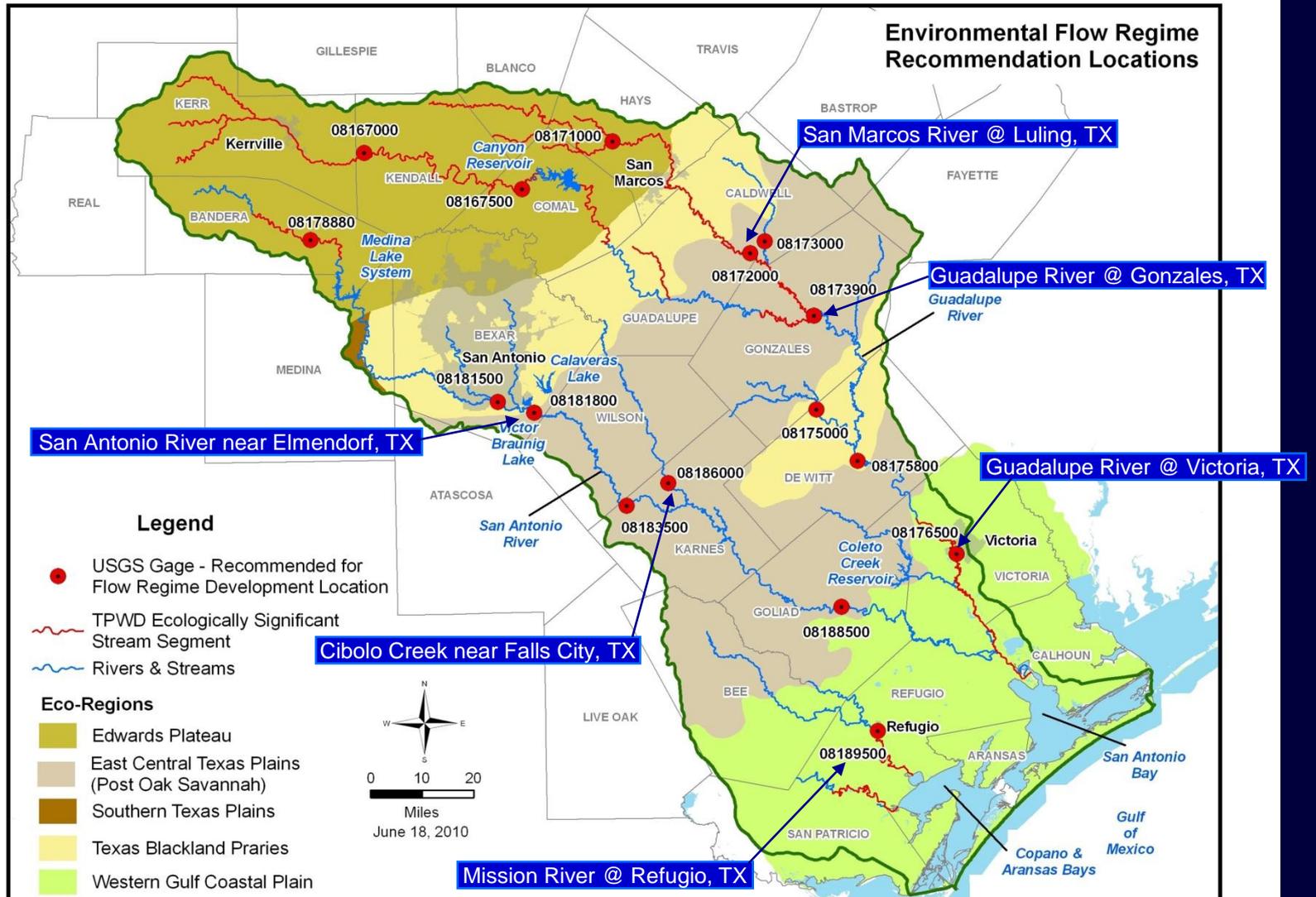
**Brian Perkins, PE
Ed Oborny**

May 4, 2011

Presentation Format

- 1) Project Description**
- 2) Project Hydrology: Availability for Diversion**
- 3) Instream Ecology**
- 4) Questions / Clarifications**
- 5) Discussion by the BBASC**

Run-Of-River Diversion Locations



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Descriptions

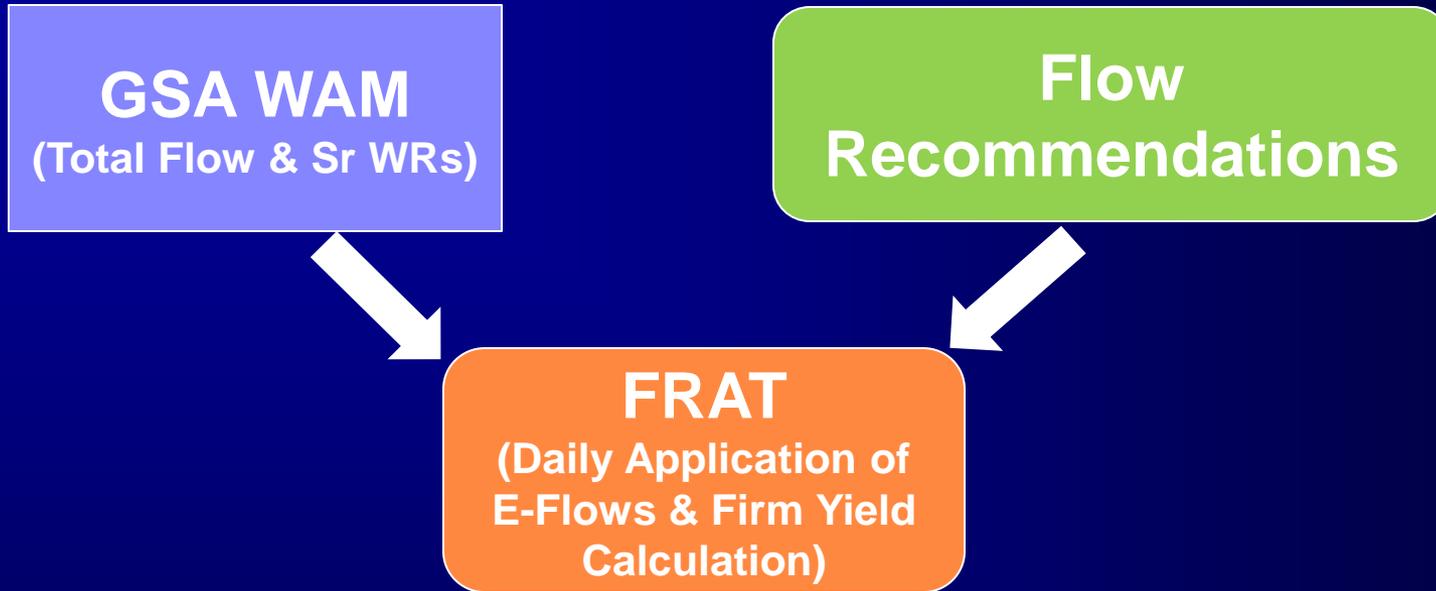
- Desired Run-Of-River Diversions of 10,000 acft/yr**
- Uniform Diversion of Streamflow When Available, Subject to Downstream Senior Water Rights and Environmental Flow Criteria**

- Scenarios:**
 - **No Environmental Flow**
 - **Lyons Method**
 - **BBEST Recommendations (Subsistence and Baseflow Only)**

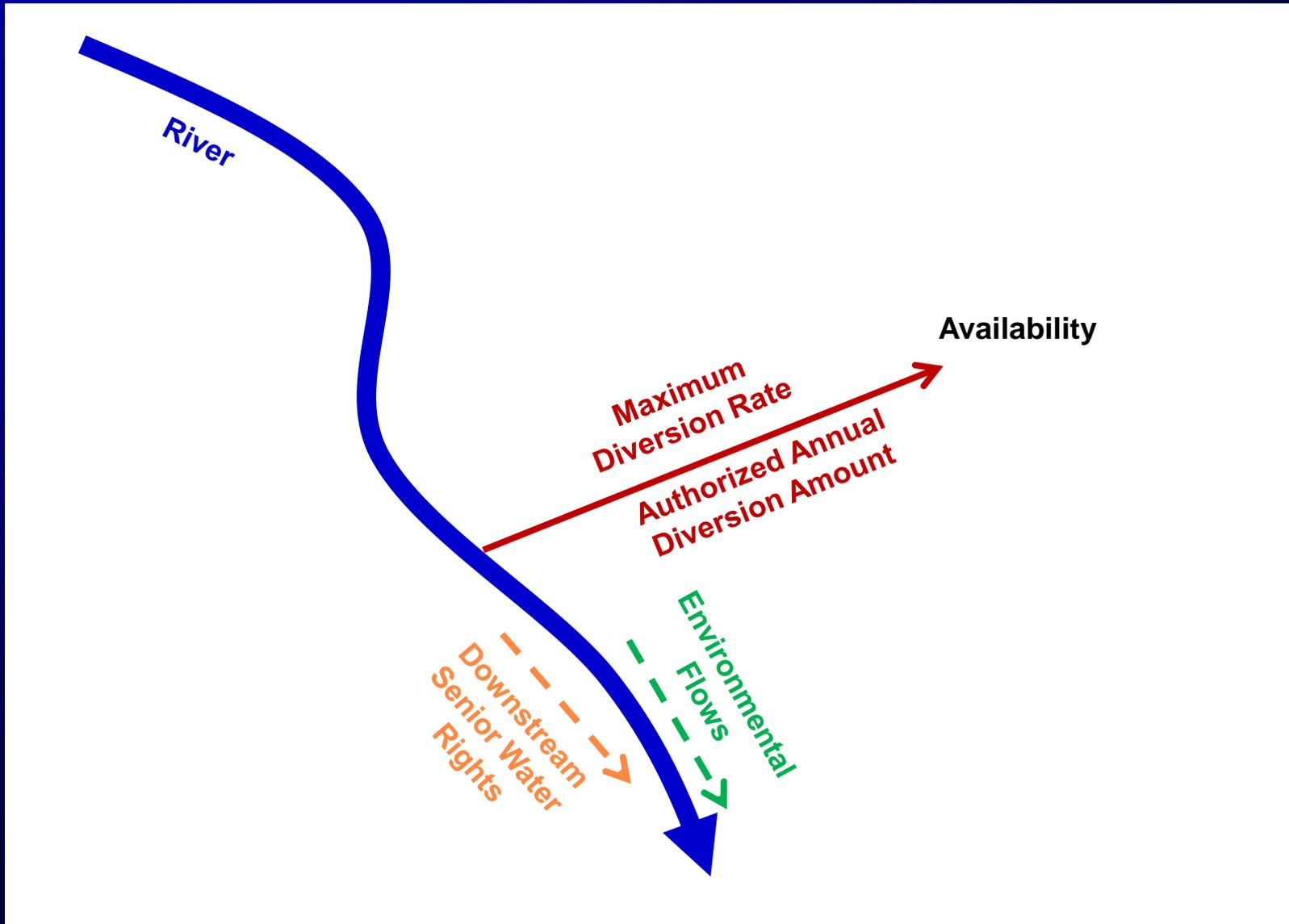
Run-Of-River Diversions

- ❑ **No Environmental Flow**
 - **Theoretical maximum diversion subject to downstream senior water rights only.**
- ❑ **Lyons Method**
 - **TCEQ desktop environmental flow used in permitting. Uses 40% (Oct – Feb) and 60% (Mar – Sept) of monthly medians as flow criteria.**
- ❑ **BBEST Recommendations (Subsistence and Baseflow Only)**
 - **Subsistence and Baseflow components from the recommended flow regime from the GSA BBEST Recommendation.**

Run-Of-River Diversions



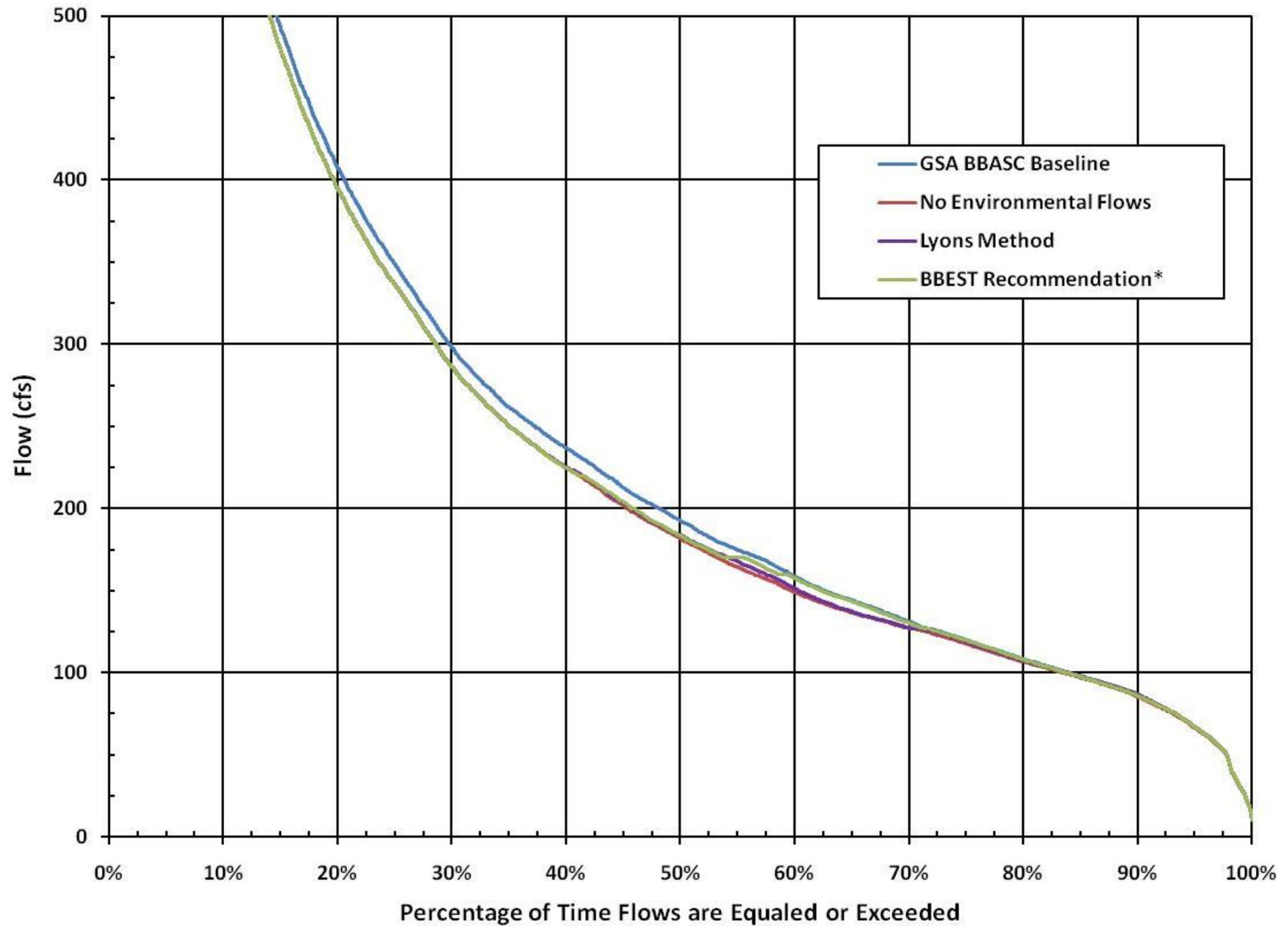
Run-Of-River Diversions



Run-Of-River Diversions – San Marcos River @ Luling

	No Environmental Flow	Lyons Method	BBEST Recommendation
Maximum Annual Diversion (acft/yr)	10,000	10,000	10,000
Average Annual Diversion (acft/yr)	6,161	5,542	5,015
Minimum Annual Diversion (acft/yr)	0	0	0
Monthly Reliability	56.6%	45.8%	37.0%
Daily Reliability	57.9%	52.8%	46.1%

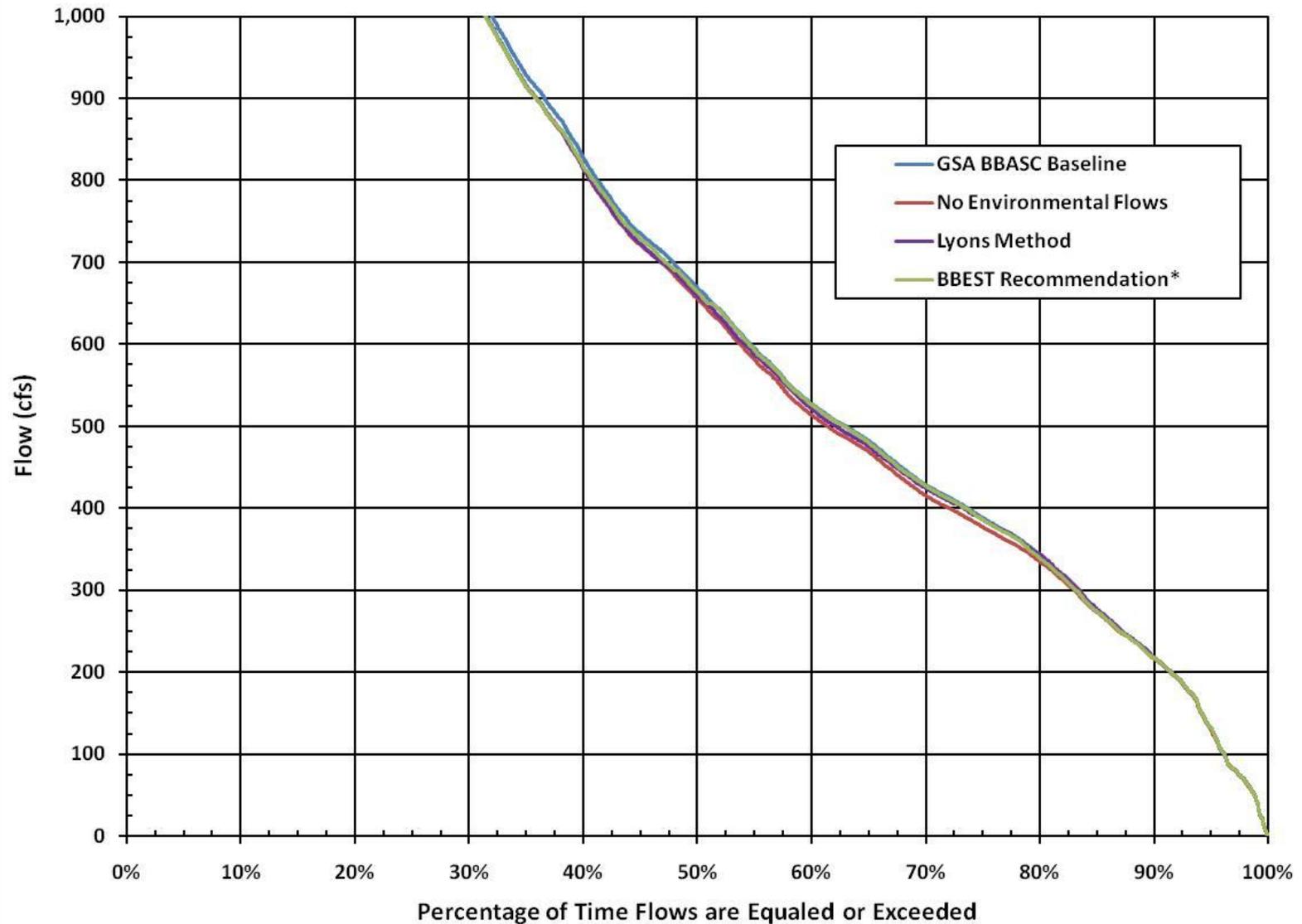
Run-Of-River Diversions – San Marcos River @ Luling



Run-Of-River Diversions – Guadalupe River @ Gonzales

	No Environmental Flow	Lyons Method	BBEST Recommendation
Maximum Annual Diversion (acft/yr)	10,000	10,000	10,000
Average Annual Diversion (acft/yr)	8,130	5,997	5,128
Minimum Annual Diversion (acft/yr)	54	10	22
Monthly Reliability	80.1%	49.5%	38.1%
Daily Reliability	80.4%	58.5%	49.8%

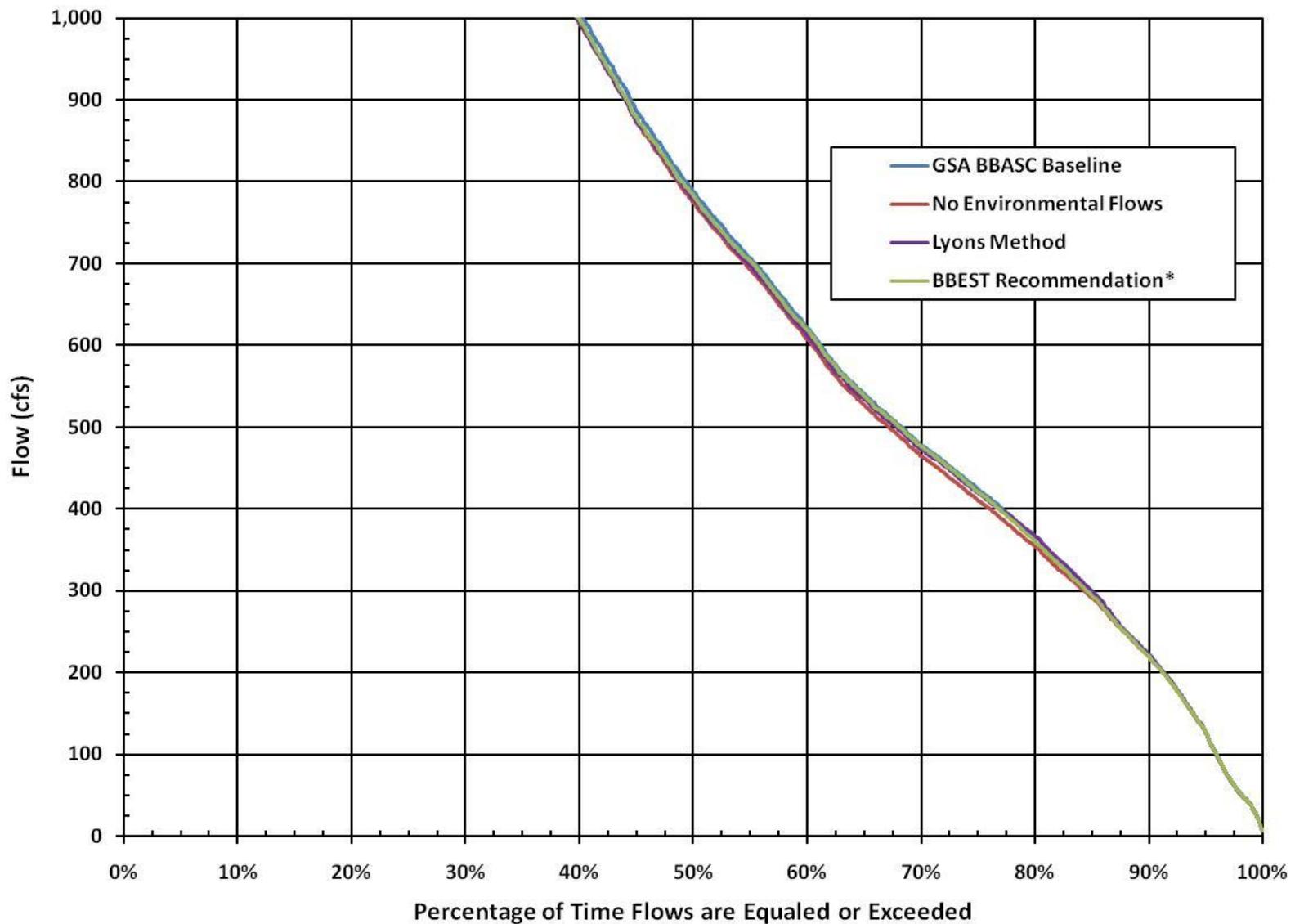
Run-Of-River Diversions – Guadalupe River @ Gonzales



Run-Of-River Diversions – Guadalupe River @ Victoria

	No Environmental Flow	Lyons Method	BBEST Recommendation
Maximum Annual Diversion (acft/yr)	10,000	10,000	10,000
Average Annual Diversion (acft/yr)	8,547	6,273	5,831
Minimum Annual Diversion (acft/yr)	584	82	311
Monthly Reliability	85.0%	48.3%	42.0%
Daily Reliability	85.3%	62.2%	57.0%

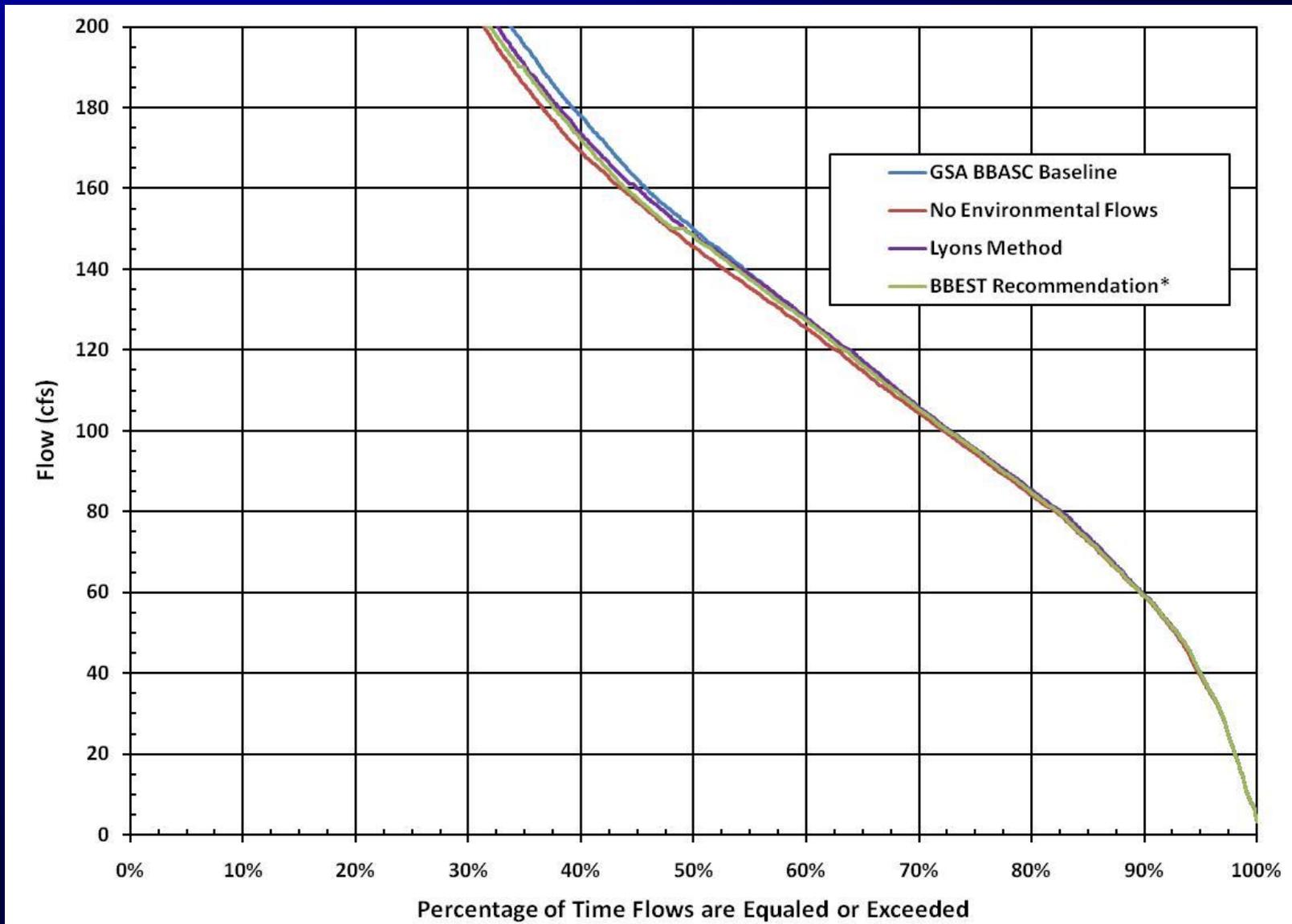
Run-Of-River Diversions – Guadalupe River @ Victoria



Run-Of-River Diversions – San Antonio River near Elmendorf

	No Environmental Flow	Lyons Method	BBEST Recommendation
Maximum Annual Diversion (acft/yr)	10,000	10,000	9,368
Average Annual Diversion (acft/yr)	4,437	3,066	3,797
Minimum Annual Diversion (acft/yr)	0	0	0
Monthly Reliability	41.2%	18.7%	24.7%
Daily Reliability	42.4%	29.2%	35.2%

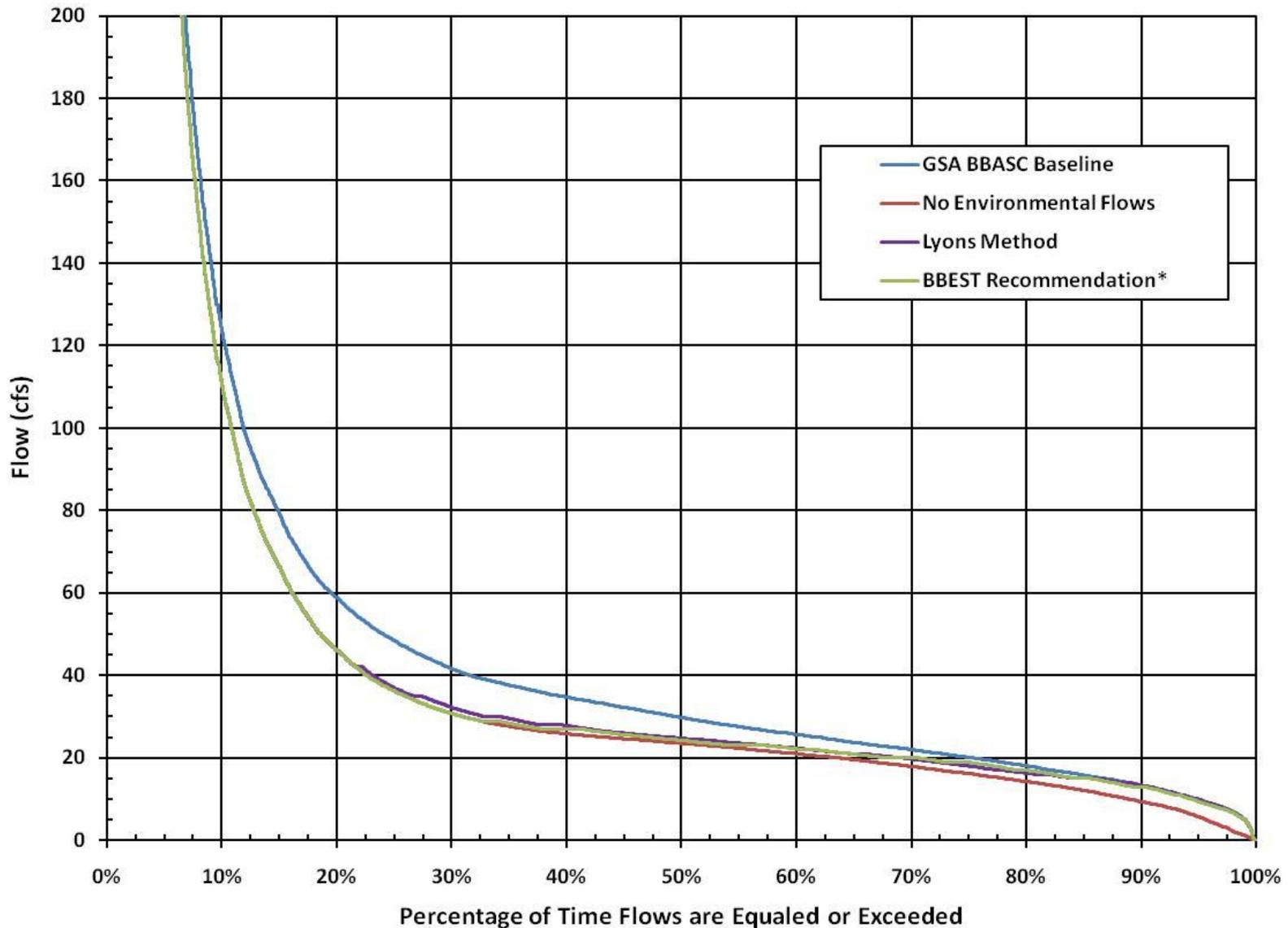
Run-Of-River Diversions – San Antonio River near Elmendorf



Run-Of-River Diversions – Cibolo Creek near Falls City

	No Environmental Flow	Lyons Method	BBEST Recommendation
Maximum Annual Diversion (acft/yr)	9,598	9,559	9,509
Average Annual Diversion (acft/yr)	5,575	4,440	4,676
Minimum Annual Diversion (acft/yr)	204	82	133
Monthly Reliability	32.7%	16.2%	15.0%
Daily Reliability	42.6%	32.9%	33.2%

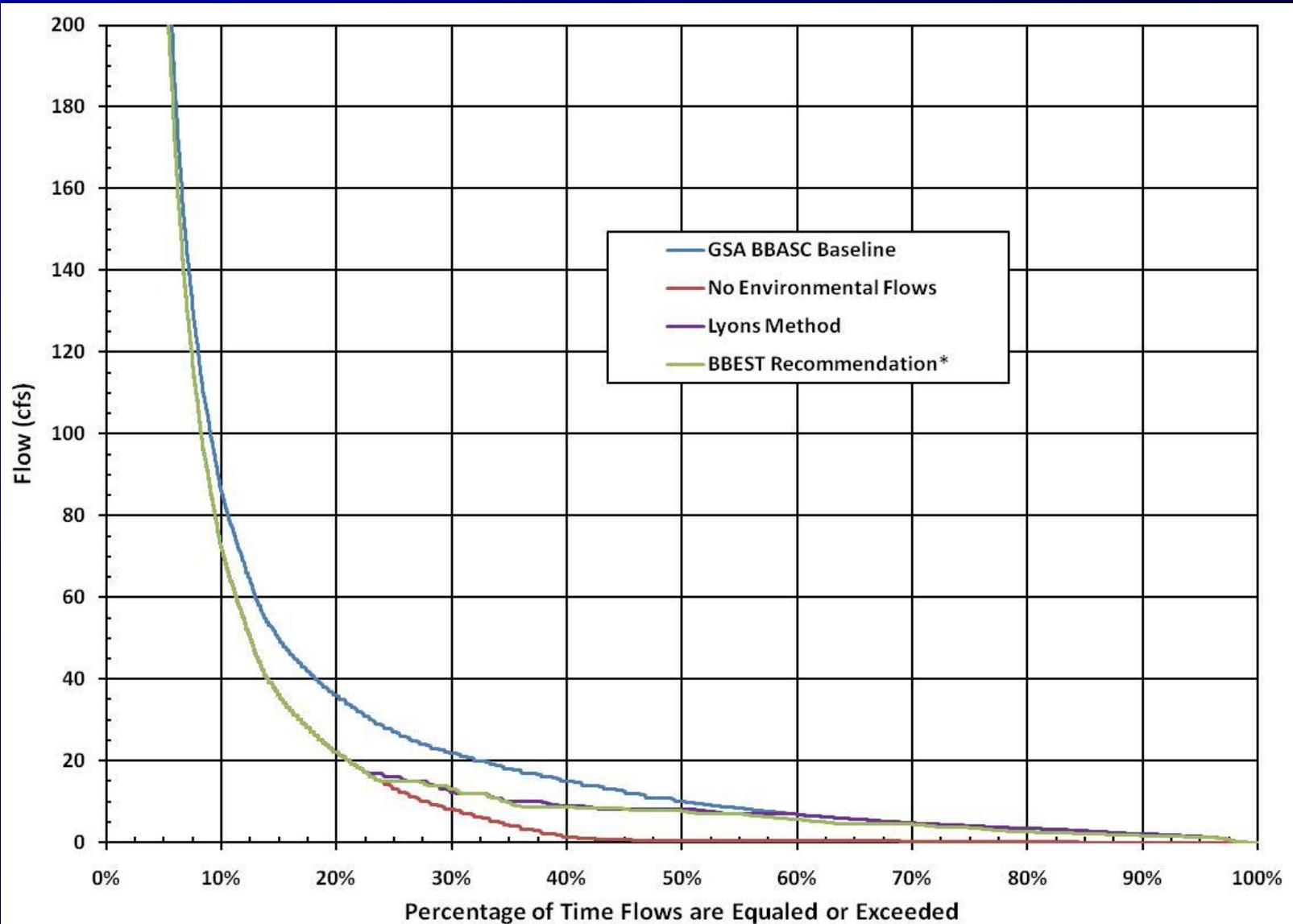
Run-Of-River Diversions – Cibolo Creek near Falls City



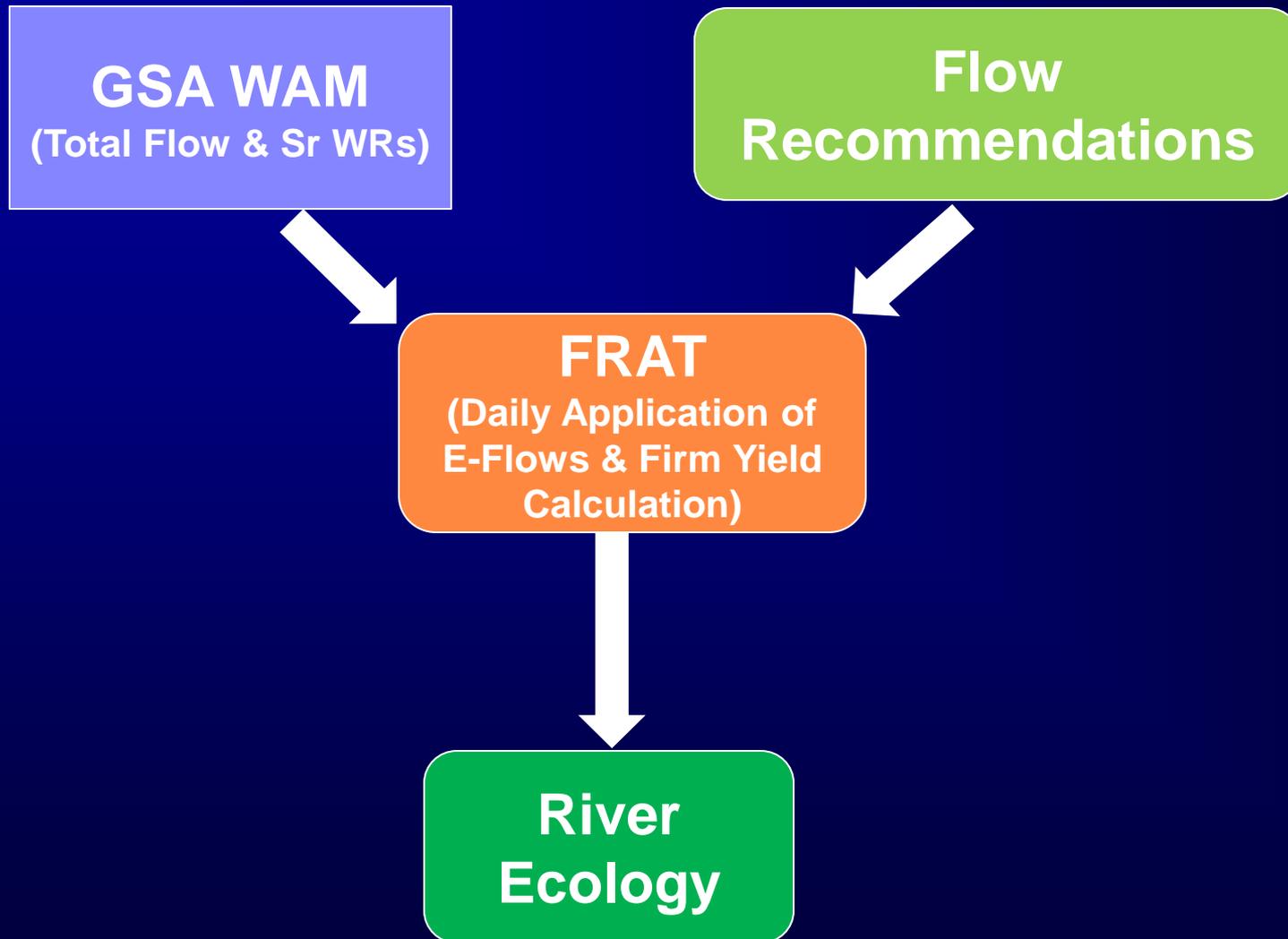
Run-Of-River Diversions – Mission River @ Refugio

	No Environmental Flow	Lyons Method	BBEST Recommendation
Maximum Annual Diversion (acft/yr)	10,000	9,699	9,896
Average Annual Diversion (acft/yr)	6,039	3,605	3,852
Minimum Annual Diversion (acft/yr)	0	0	0
Monthly Reliability	25.1%	11.7%	11.3%
Daily Reliability	44.6%	29.6%	30.2%

Run-Of-River Diversions – Mission River @ Refugio



Run-Of-River Diversions



Run-Of-River Diversions

BIO-WEST
Presentation

Questions, Comments, & Discussion