

***Nueces River and Corpus Christi and Baffin Bays
Basin and Bay Area Stakeholders Committee
(Nueces BBASC)***

***Discussion of Nueces BBASC
Technical Support Work***



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March 28, 2012**

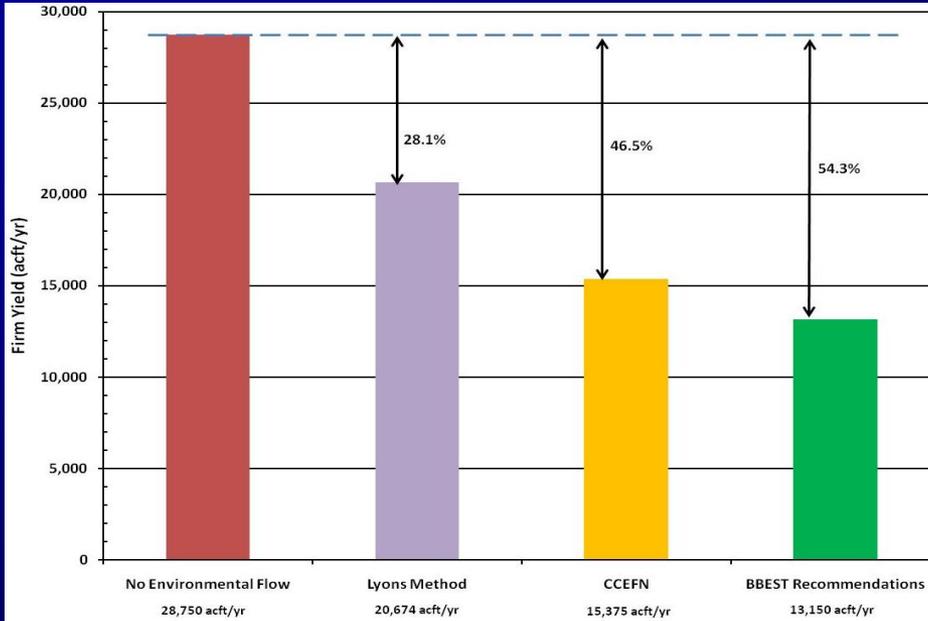
Topics of Discussion in Technical Support Scope of Work

- 1) Planned Water Supply Project Evaluation**
- 2) Potential Standard & Strategy Evaluations**
- 3) BBASC Recommendations Regarding
Environmental Flow Standards**
- 4) Meetings & Technical Reporting**

Planned Water Supply Project Evaluation

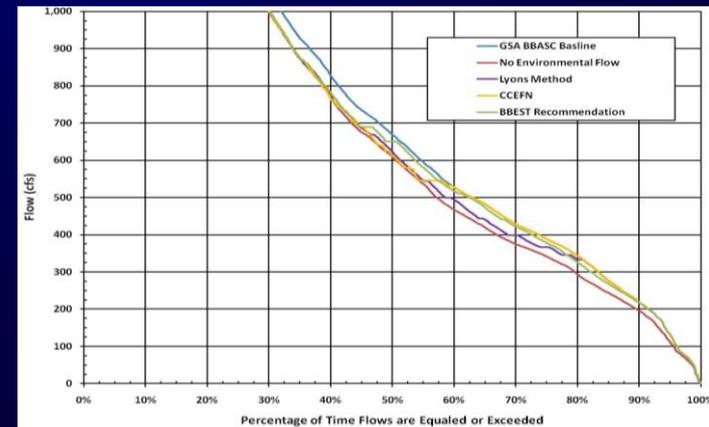
- 1) Nueces Off-Channel Reservoir (Region N)**
 - a) 280,000 acft storage capacity**
 - b) 1250 cfs Maximum Diversion from Lake Corpus Christi (LCC) when LCC is in top 1 foot of conservation pool or spilling**
- 2) Lower Sabinal Edwards Aquifer Recharge Enhancement Project**
 - a) 8,750 acft storage capacity**
 - b) 454 acres temporarily inundated when full**

Planned Water Supply Project Evaluation



- 1) Firm Yield
- 2) Cost of Water

- 3) Resulting Streamflows
- 4) Ecological Significance

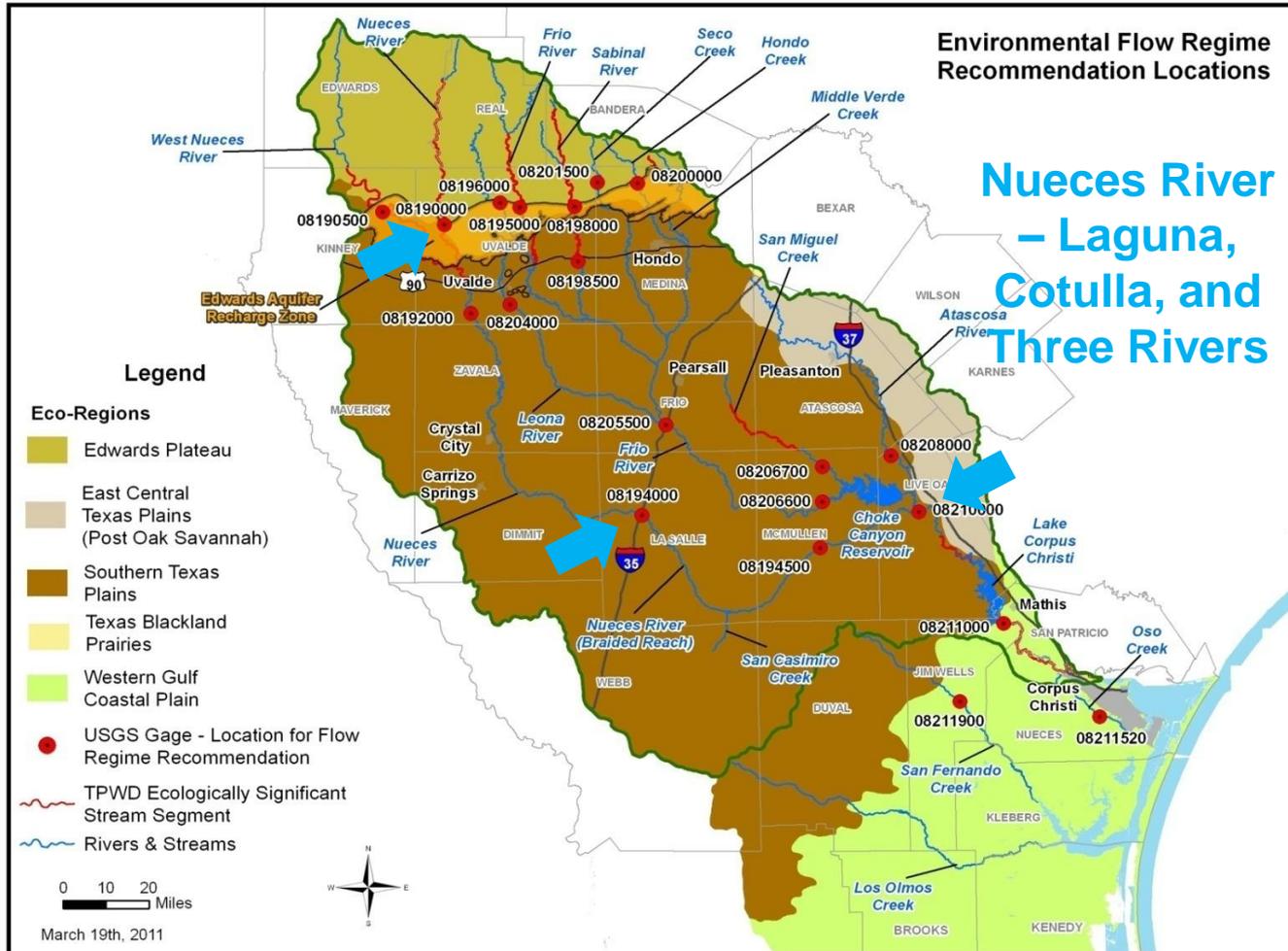


Potential Standard & Strategy Evaluations

- 1) CCWSM (NuBay) simulations to be determined in consultation with BBASC and Modeling Workgroup**
- 2) Rincon Bayou Pipeline strategy simulations for meeting salinity targets to be determined in consultation with BBASC and Modeling Workgroup**
- 3) Evaluate effects of potential instream environmental flow standards:**
 - a) Nueces River @ Laguna**
 - b) Nueces River @ Cotulla**
 - c) Nueces River @ Three Rivers**

Focal Sites for BBASC

Instream Flow Standard Recommendations



Example Applications of Environmental Flow Standard Recommendations

- 1) Laguna = Run-of-River Diversion (up to 400 cfs) w/ Off-Channel Storage Reservoir (44,000 acft).**
- 2) Cotulla = On-Channel Reservoir (527,600 acft).**
- 3) Cotulla = Run-of-River Diversion (up to 400 cfs) w/ Off-Channel Storage Reservoir**
- 4) Three Rivers = Run-of-River Diversion (up to 400 cfs)**
- 5) These are theoretical projects for illustrative purposes only. No such projects are recommended in any current regional or state water plan.**

BBEST Flow Regime Recommendation

Overbank Events	Qp: 15,600 cfs with Average Frequency 1 per 5 years Regressed Volume is 124,000 Duration Bound is 107											
High Flow Pulses	Qp: 4,750 cfs with Average Frequency 1 per 2 years Regressed Volume is 38,600 Duration Bound is 64											
	Qp: 2,220 cfs with Average Frequency 1 per year Regressed Volume is 18,400 Duration Bound is 46											
	Qp: 590 cfs with Average Frequency 2 per year Volume Bound is 11,300 Duration Bound is 26											
	Qp: 48 cfs with Average Frequency 1 per season Volume Bound is 1,000 Duration Bound is 7			Qp: 390 cfs with Average Frequency 1 per season Volume Bound is 6,070 Duration Bound is 17			Qp: 170 cfs with Average Frequency 1 per season Volume Bound is 3,100 Duration Bound is 14			Qp: 50 cfs with Average Frequency 1 per season Volume Bound is 800 Duration Bound is 5		
				Qp: 99 cfs with Average Frequency 2 per season Volume Bound is 1,560 Duration Bound is 9								
Base Flows (cfs)	92			76			92			92		
	65			48			65			65		
Subsistence Flows (cfs)	51			44			32			41		
	14			18			16			14		
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
	Winter			Spring			Summer			Fall		
Flow Levels	High (75th %ile)											
	Medium (50th %ile)											
	Low (25th %ile)											
	Subsistence											

Wet
 Avg
 Dry

Pulse volumes are in units of acre-feet and durations are in days.
 Period of Record used : 1/1/1924 to 12/31/2009.

Nueces River @ Laguna (NRL)

BBASC May Consider Simpler Environmental Flow Standard Recommendations

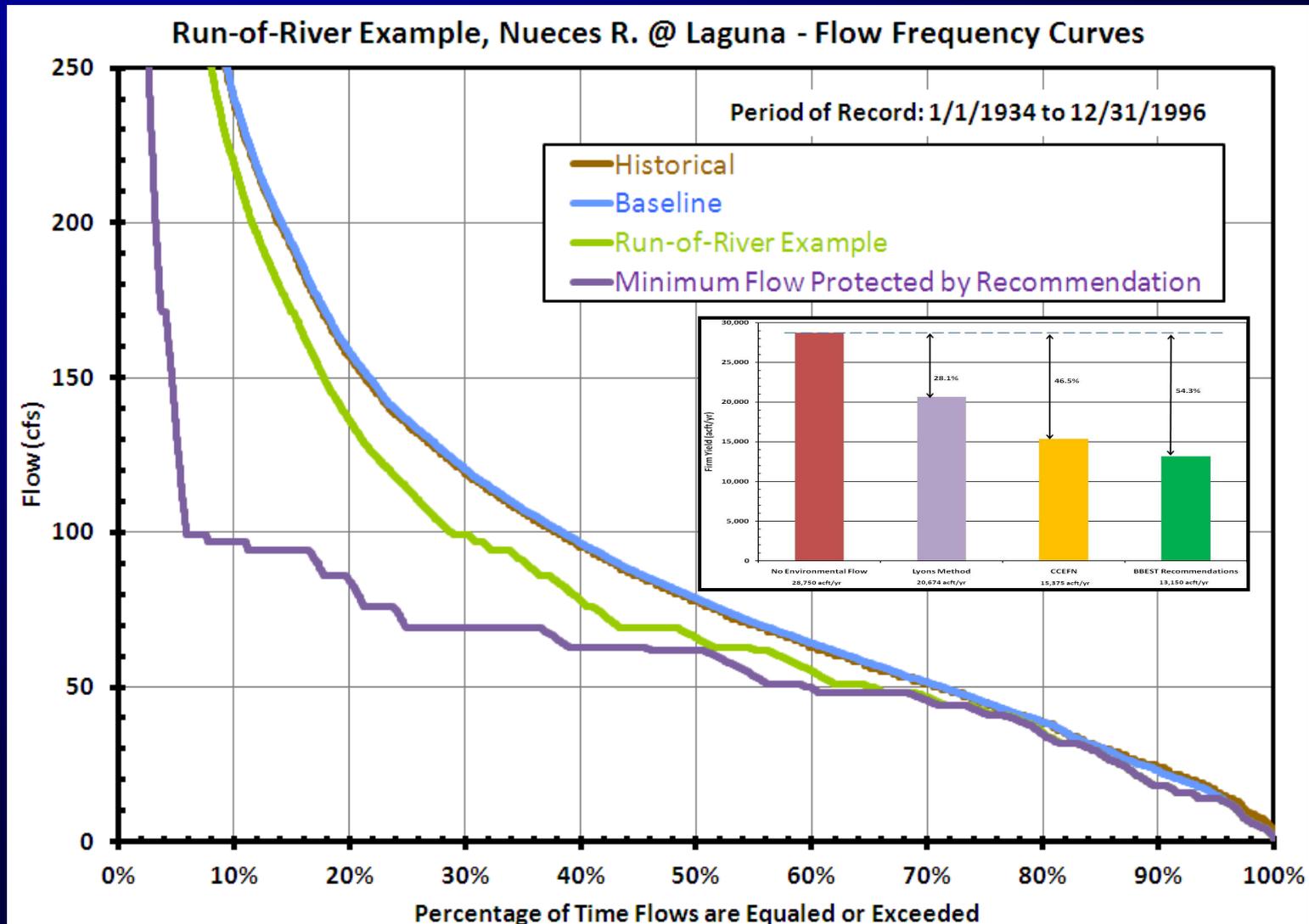
- 1) Eliminate tier(s) of seasonal Base flows?**
- 2) Eliminate Hydrologic Conditions w/ only one tier of seasonal Base flows?**
- 3) “50% Rule” between Base and Subsistence flows?**
- 4) Eliminate tier(s) of seasonal Pulse flows (“Pulse Exemption Rule”)?**
- 5) Eliminate Overbank flows?**

***The Flow Regime Application Tool
(FRAT) May be Used to Perform
Example Applications of Potential
Instream Flow Regime
Recommendations***

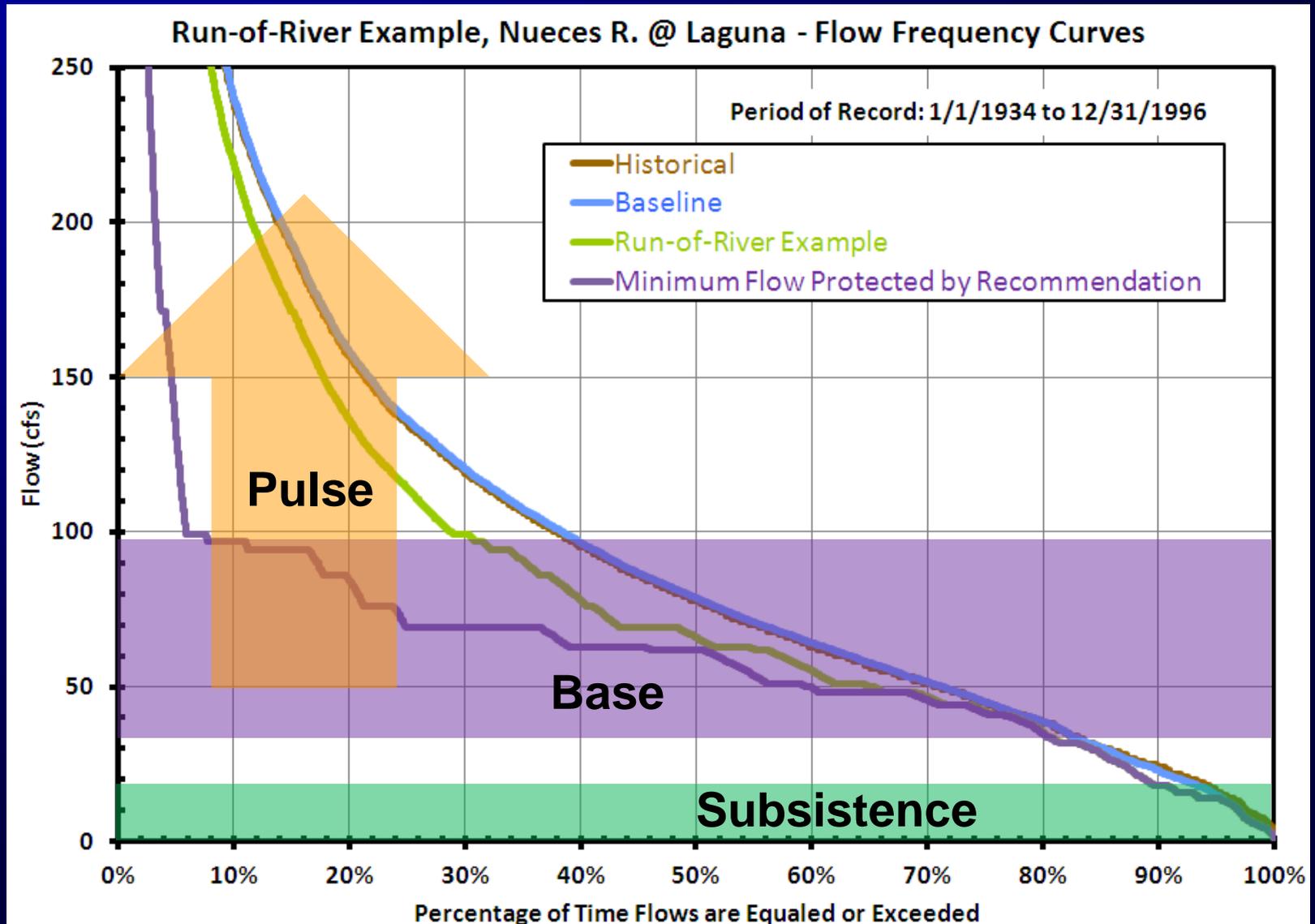


***The BBASC Considers Water Supply
(e.g., Availability, Firm Yield) and
Resulting Flows to Balance BBEST
Environmental Recommendations***

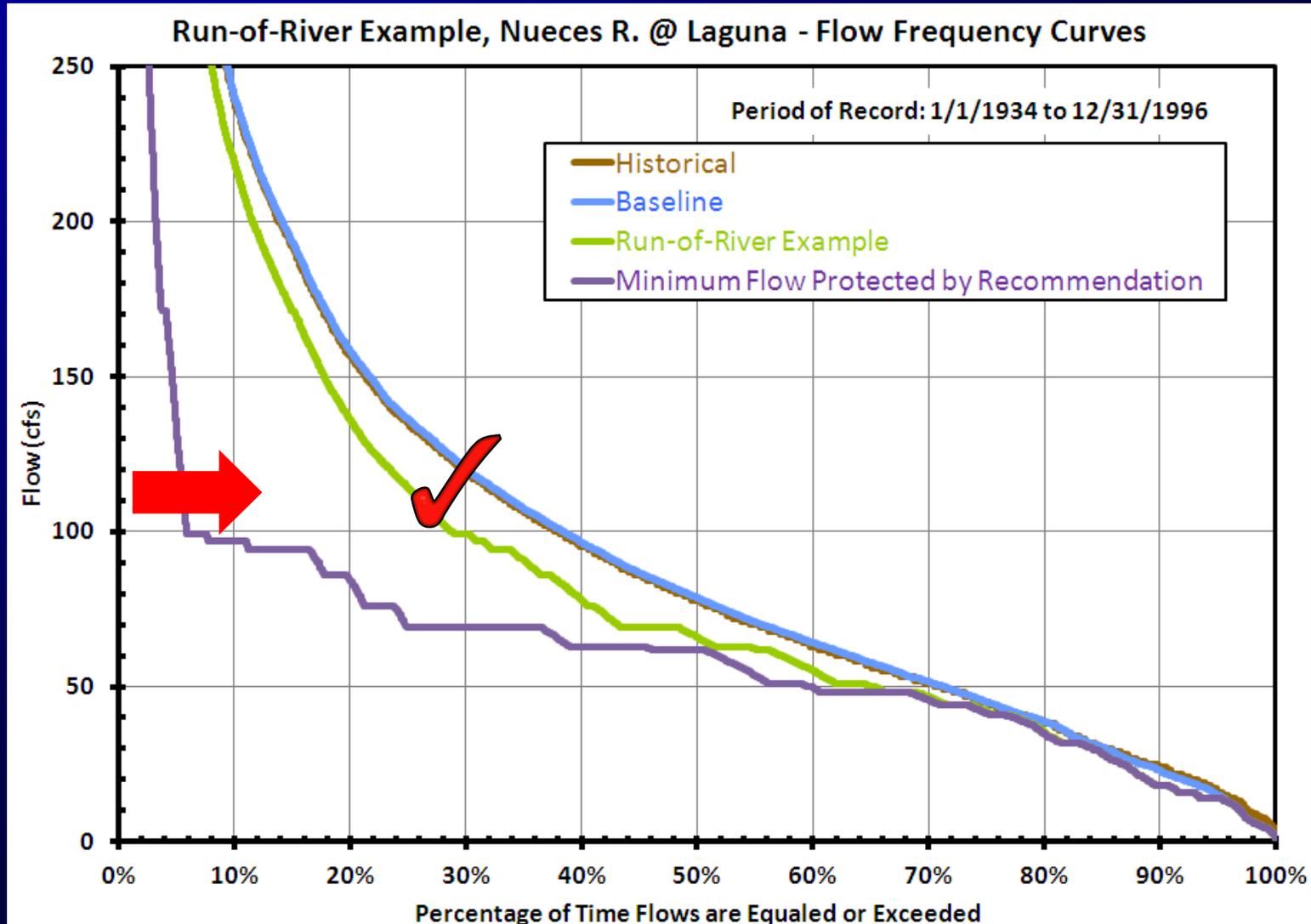
Example Application of Instream Flow Regime Recommendations



Flow Regime Components



Example Application of Instream Flow Regime Recommendations



Questions, Comments, & Discussion

