Surface Water Management Strategies and Conditions

RBC Discussion and Decision Points

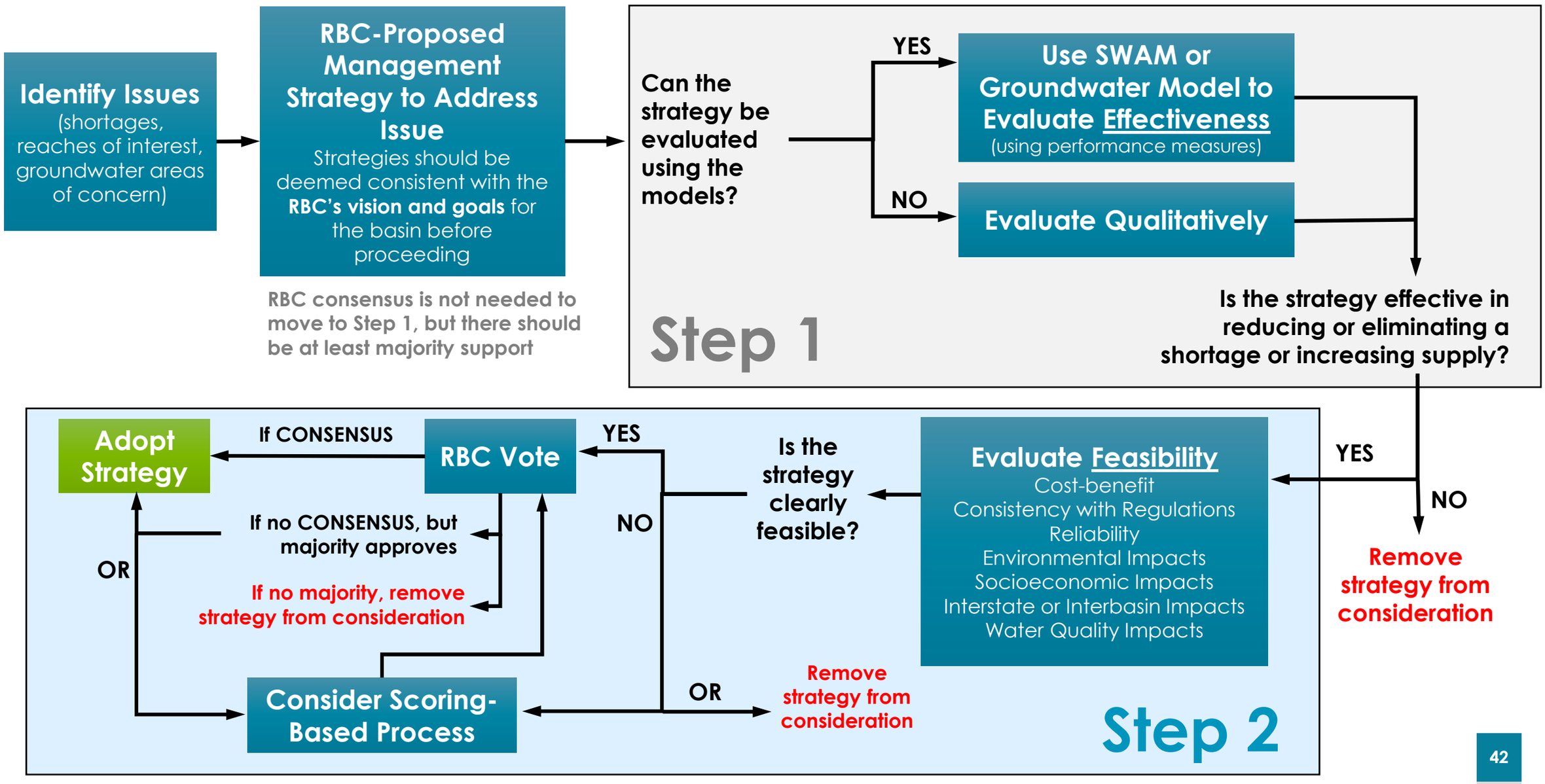
1. Feasibility of Surface Water Management Strategies

RBC Action: Review the Feasibility of Surface Water Management Strategies memorandum and be prepared to discuss and vote on the portfolio of demand and supply side strategies at the May meeting.

2. Consideration of Surface Water Condition(s) and Proposed Low Flow Management Strategy

Today's Objective: Review, discuss, and vote on the proposed low flow management strategy and proposed surface water condition(s).

Decision-Making Process for Selecting Water Management Strategies



Portfolios of Water Conservation and Efficiency Strategies

Agricultural Portfolio of Water Efficiency Strategies
Water Audits and Nozzle Retrofits
Irrigation Scheduling
Soil Management
Crop Variety, Crop Type, and Crop Conversions
Irrigation Equipment Changes

Municipal Portfolio of Water Conservation and Efficiency Strategies	
Conservation Pricing Structures	Public Education of Water Conservation
Toilet Rebate Program	Residential Water Audits
Landscape Irrigation Program and Codes	Water Efficiency Standards for New Construction
Leak Detection and Water Loss Control Program	Reclaimed Water Programs
Car Wash Recycling Ordinances	Time-of-Day Watering Limits
Water Waste Ordinance	

RBC Discussion and Decision Points

1. Feasibility of Surface Water Management Strategies

RBC Action: Review the Feasibility of Surface Water Management Strategies memorandum and be prepared to discuss and vote on the portfolio of demand and supply side strategies at the May meeting.

2. Consideration of Surface Water Condition(s) and Proposed Low Flow Management Strategy

Today's Objective: Review, discuss, and vote on the proposed low flow management strategy and proposed surface water condition(s).

Proposed Low Flow Management Strategy and Surface Condition

- **Purpose –** Address identified shortage at CWS Intake during High Demand Scenario and allow for some water to remain in river (environmental flow)
- **Approach –** Trigger incremental shifts to other sources for upstream surface withdrawers able to do so and/or temporarily reduce demand where possible
- Some may shift more than others based off their ability to do so and the condition of the other water source
- Includes establishment of a Surface Condition of 332 cfs at Givhans Ferry (20% of median flow)

Proposed Low Flow Management Strategy

20% Increments Percent Below MIF	River Flow Range (cfs) Lower	Upper	Basin-wide % Reduction in SW Withdrawals
0 - 20%	266	332	20%
20 - 40%	199	266	40%
40 - 60%	133	199	60%
60 - 80%	66	133	80%
80 - 100%	0	66	100%

Here, MIF is set at 20% of the median daily flow, which is 332 cfs at Givhans Ferry

Proposed Low Flow Management Strategy

20% Increments

20% Increments	River Flow Range (cfs)		Basin % Shift	CWS % Shift off Edisto			CWS Not to Exceed	
Percent Below MIF	Bottom	Top	or Reduction	Flow Trigger	Permitted	Peak Demand	cfs	MGD
0-20%	266	332	20%	312	72%	20%	124	80
20-40%	199	266	40%	260	79%	40%	93	60
40-60%	133	199	60%	174	86%	60%	62	40
60-80%	66	133	80%	87	91%	75%	39	25
80-100%	0	66	100%					
**Shift to conjunctive use, another source or curtailment.*				**CWS shifts demand to Bushy Park Res. or Goose Creek Res. sources.*				

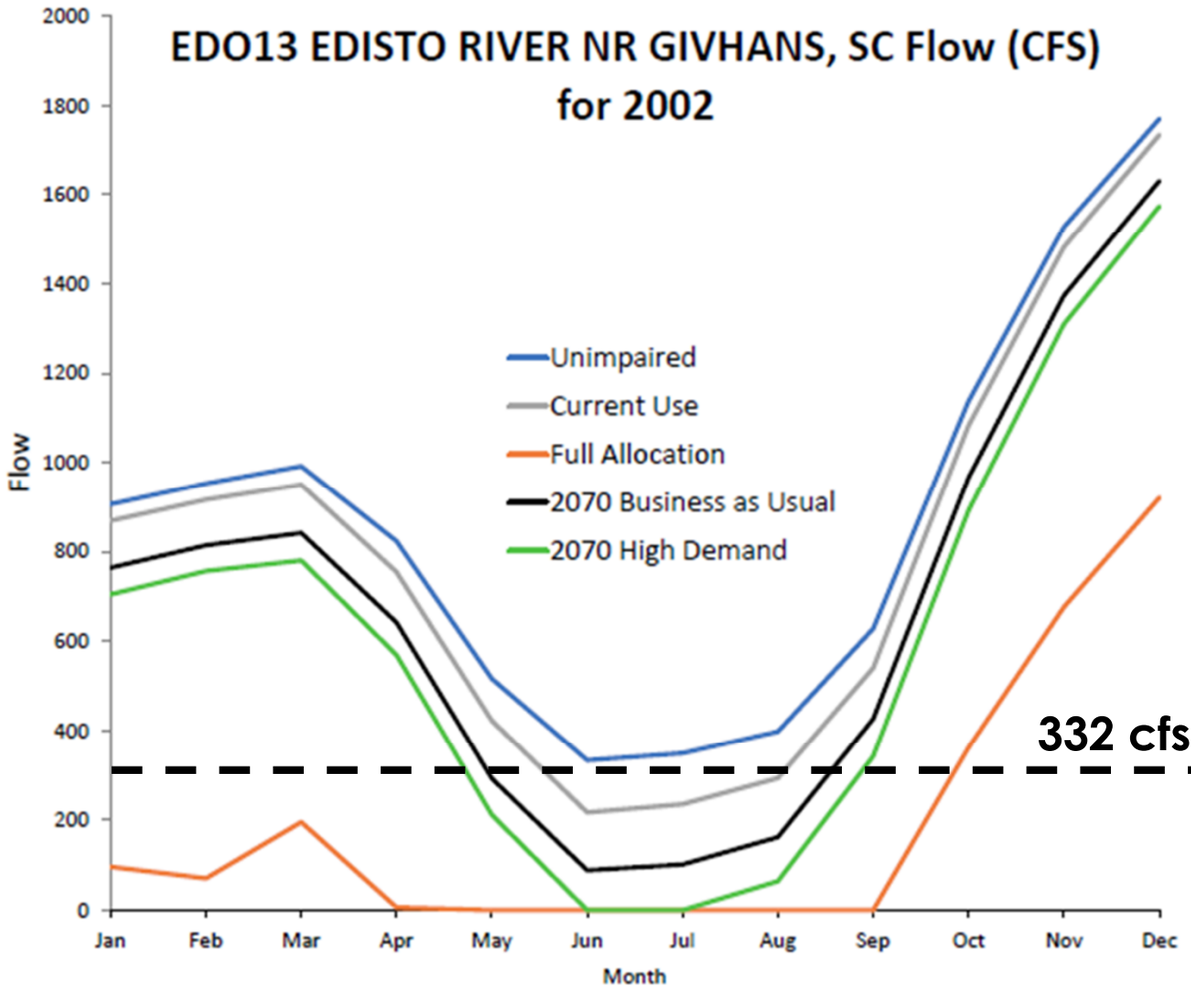
**The 40%+ curtailment may be borne more by some than others depending on each operations capabilities and the condition of the other conjunctive sources!*

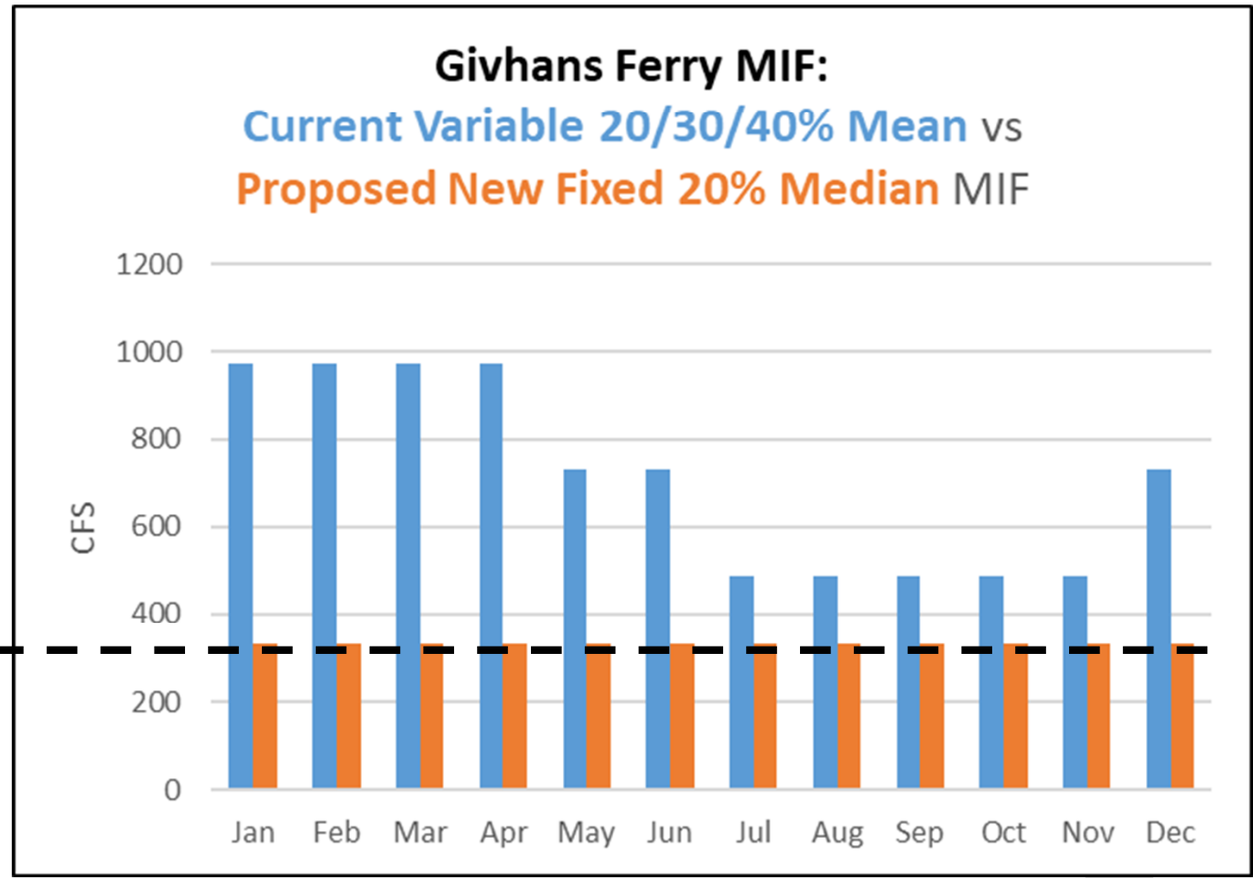
Proposed Low Flow Management Strategy

- Rather than triggering full curtailment as is the position of the law for Minimum Instream Flow (MIF) on new users, this low flow management strategy would trigger incremental shifts to other sources for all **upstream surface withdrawers able to do so** equal to the amount the surface condition at the bottom of the basin has been exceeded.
- **Some may shift more than others** based off their ability to do so and the condition of the other source.
- The goal of all the **resource stretching management strategies** is to reduce the times the surface condition will be exceeded and conversely, the number of times such a low flow management strategy would need to be triggered.

Proposed Surface Condition of 332 cfs at Givhans Ferry

20% median at Givhans Ferry represents a value between the unimpaired and current use monthly minimum (i.e., point at which management strategies involving withdrawals could minimize further drops in river flow during a drought)





How Effective is the Low Flow Management Strategy?

Frequency of Days Below **332 cfs** (**20% of Median Daily Flow)** at EDO13 (Givhans Ferry) for **UIF** and **Current Use scenarios**.

No Low Flow Strategy

Strategic Node	Scenario	Frequency (%) of Days below 20% of Median Daily Flow												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
EDO13 (Givhans Ferry)	Unimpaired Flow (UIF)	0	0	0	0	0	0.7	0.6	0.9	0.2	0.4	0	0	0.2
	Current Use	0	0	0	0	0.8	4.0	7	5	3.7	1.4	0.1	0	1.9
	Business as Usual (2070)													
	High Demand (2070)													
	Full Allocation													

With the Proposed Low Flow Strategy

Strategic Node	Scenario	Frequency (%) of Days below 20% of Median Daily Flow												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
EDO13 (Givhans Ferry)	Unimpaired Flow (UIF)	0	0	0	0	0	0.7	0.6	0.9	0.2	0.4	0	0	0.2
	Current Use	0	0	0	0	0.3	2.9	2.8	3.4	2.6	0.8	0	0	1.1
	Business as Usual (2070)													
	High Demand (2070)													
	Full Allocation													

Does the RBC want to establish a Surface Water Condition and/or Low Flow Management Strategy?