

2029 COASTAL MASTER PLAN
COMMITTED TO OUR COAST

DECISION FRAMEWORK AND PLANNING TOOL

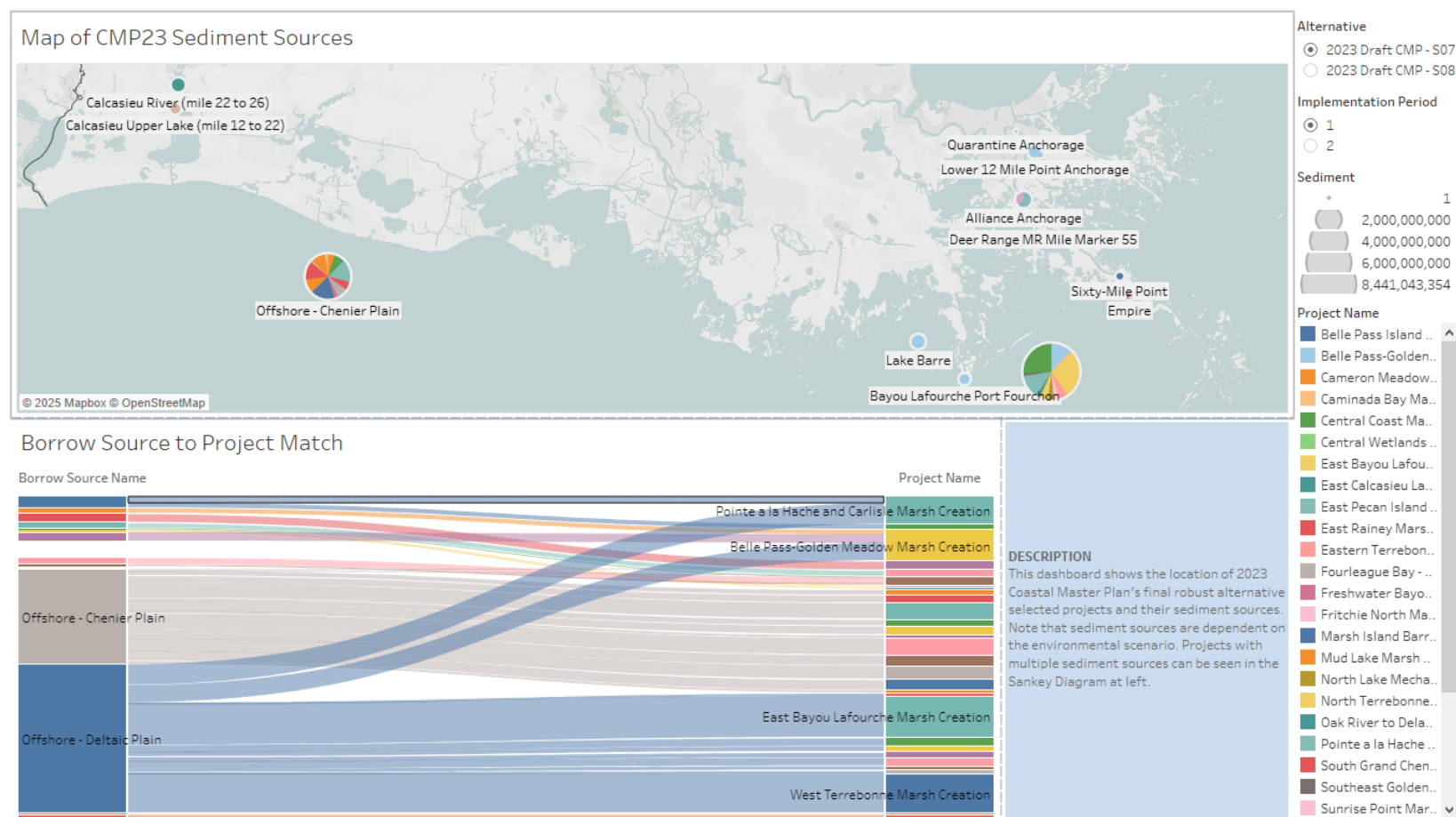
MICHAEL T WILSON
CHRISTINA PANIS



MAY 21, 2025

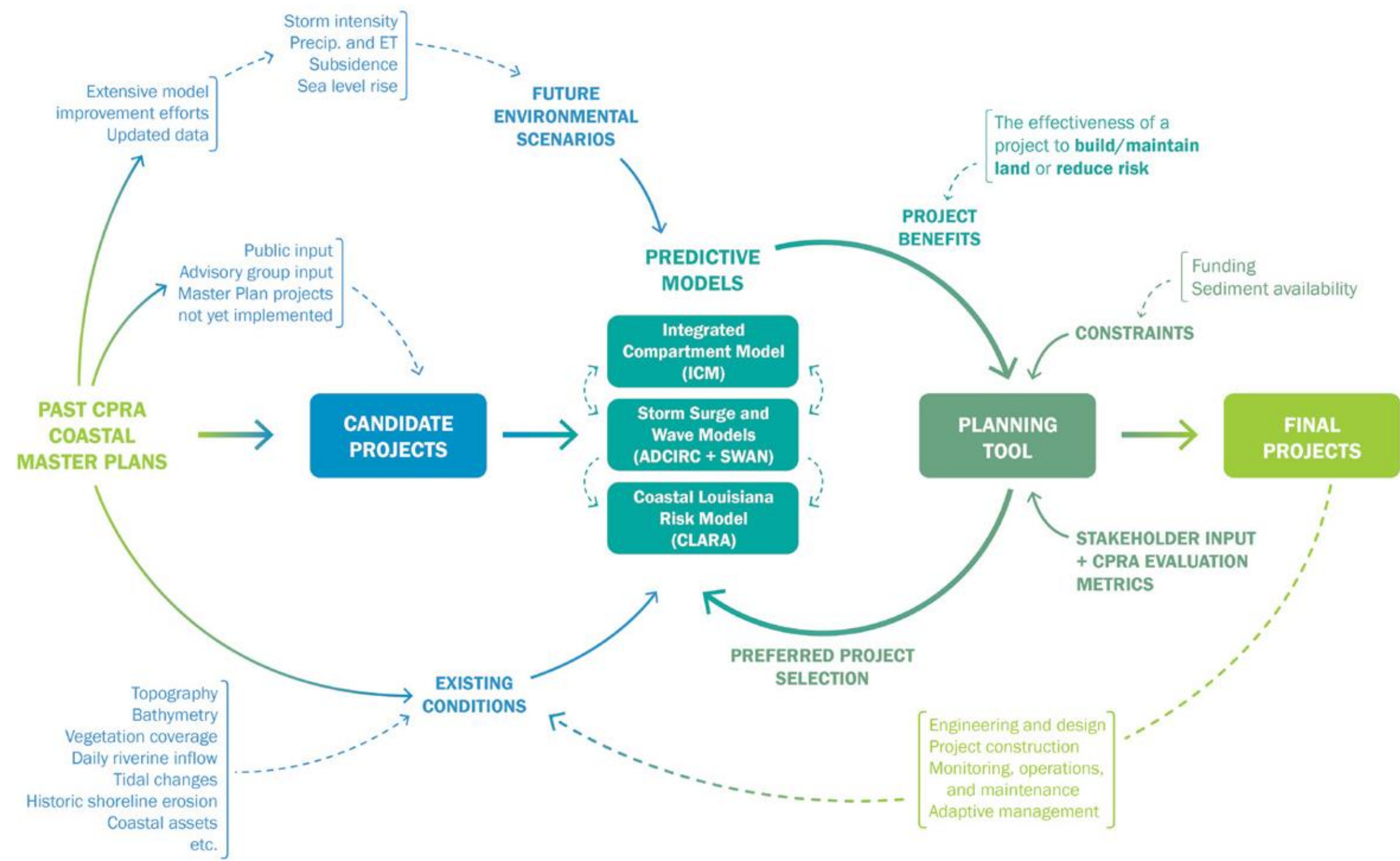
MEETING THE GOALS OF THE MP29 PROCESS

- Building on successes of previous master plans
- Improving usefulness and accessibility of master plan modeling
- Communicating the potential futures of our coast for coastal communities
- Aligning master plan decision-making with how CPRA implements projects



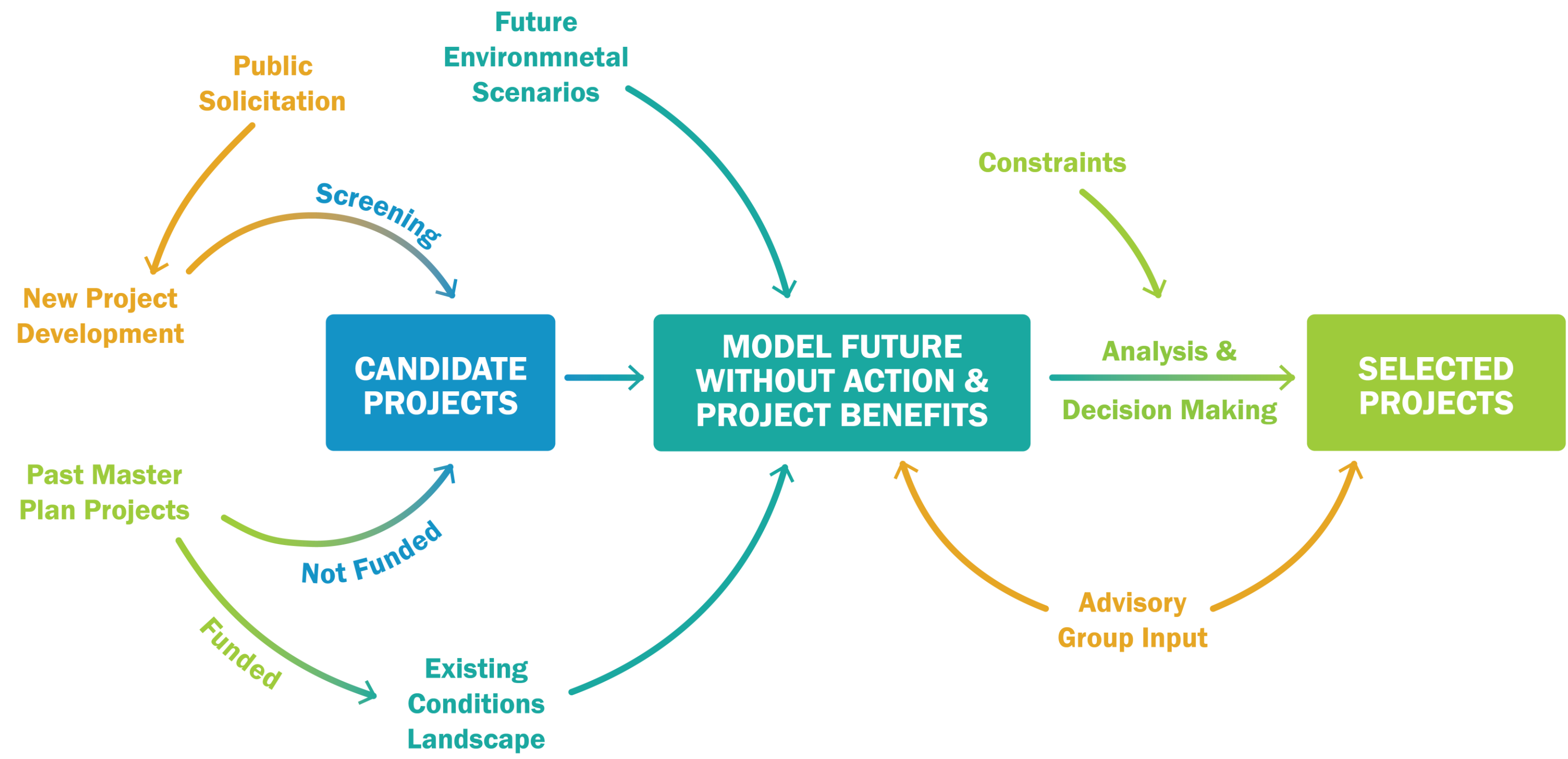
For example, we started by taking a deeper look at MP23 sediment sources. Were some sources constraining? Were river sources being maximized?

RELATIONSHIP AND ROLE OF THE PLANNING TOOL

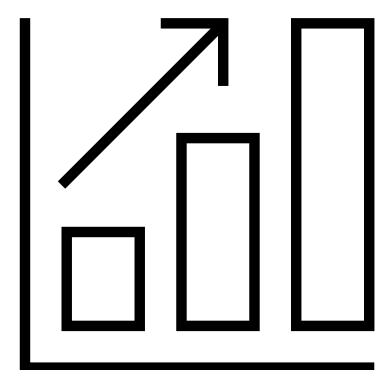


The Planning Tool is a key opportunity to incorporate feedback into the decisionmaking process.

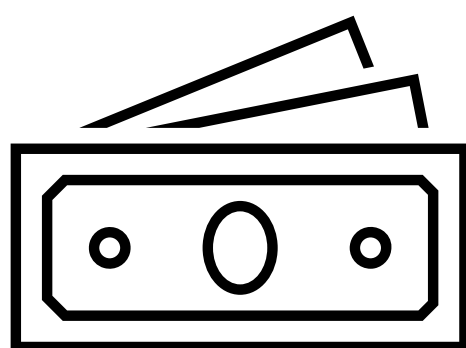
ZOOMING IN ON THE PLANNING TOOL PROCESS...



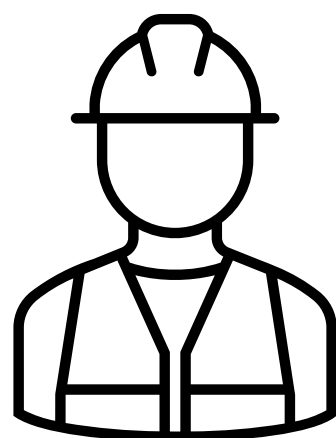
WHAT MIGHT CONSTRAIN PROJECT SELECTION?



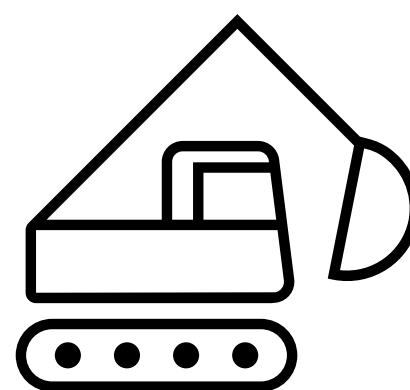
Benefits
over Time



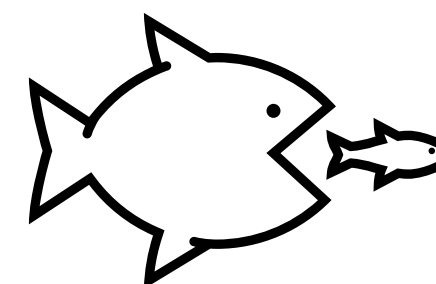
Budget
Size and Type



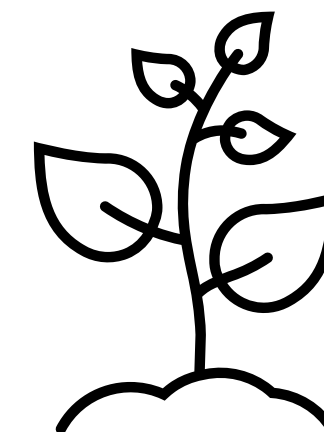
Construction
Feasibility



Available Sediment
and Location



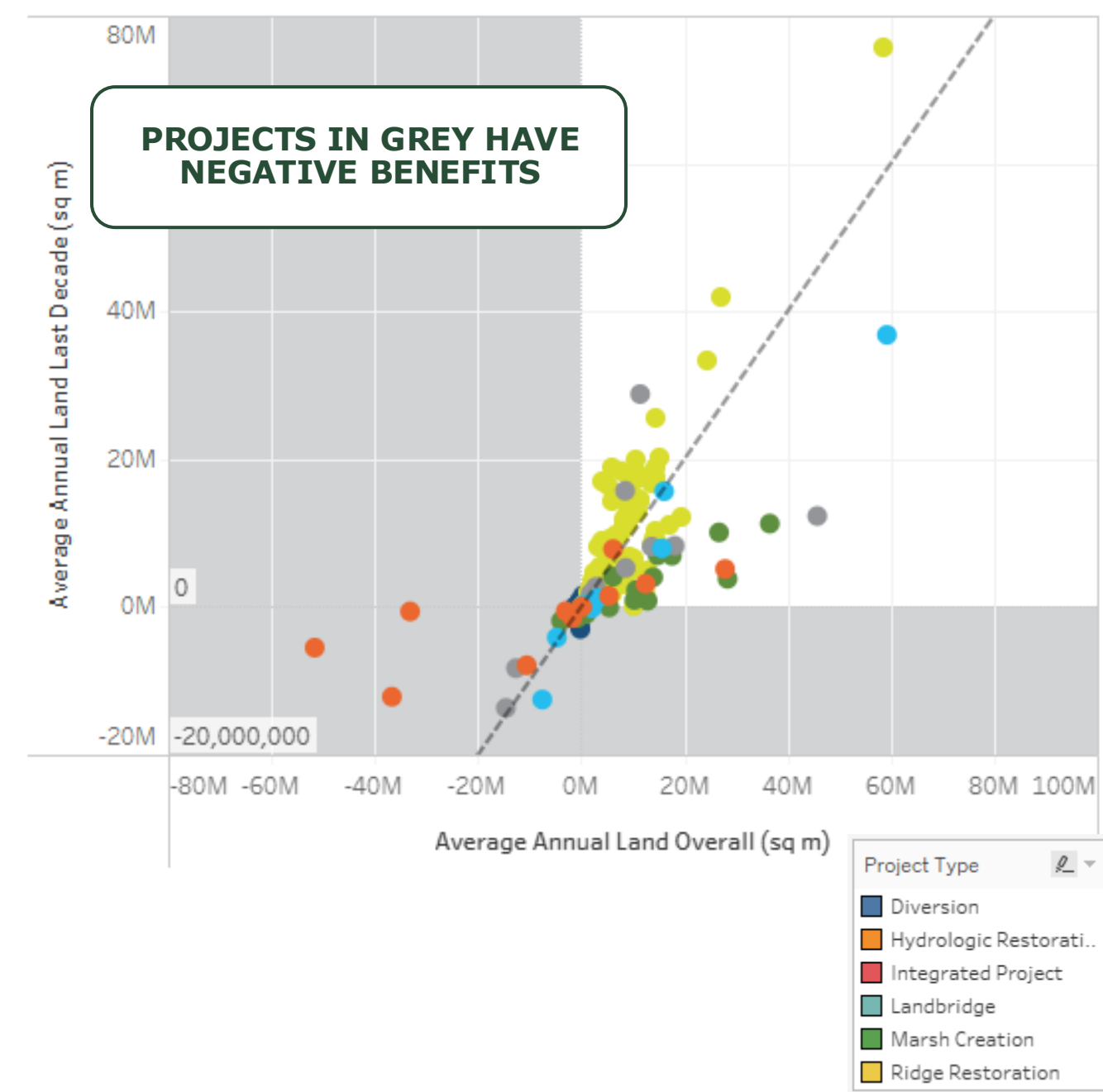
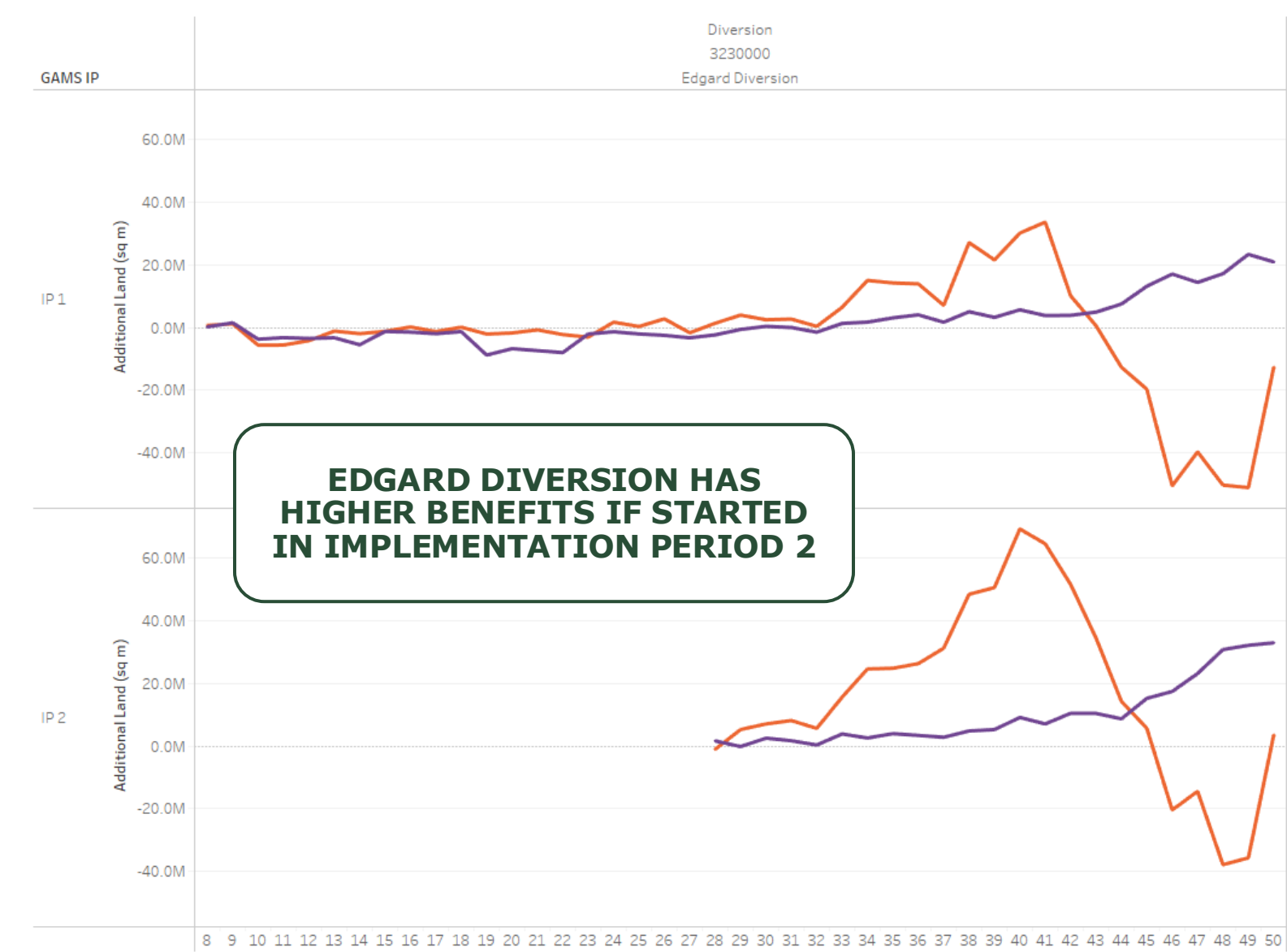
Relative
Competitiveness



Environmental
Scenarios

BENEFITS OVER TIME

Analysis from MP23 included Robustness and Land Sustainability

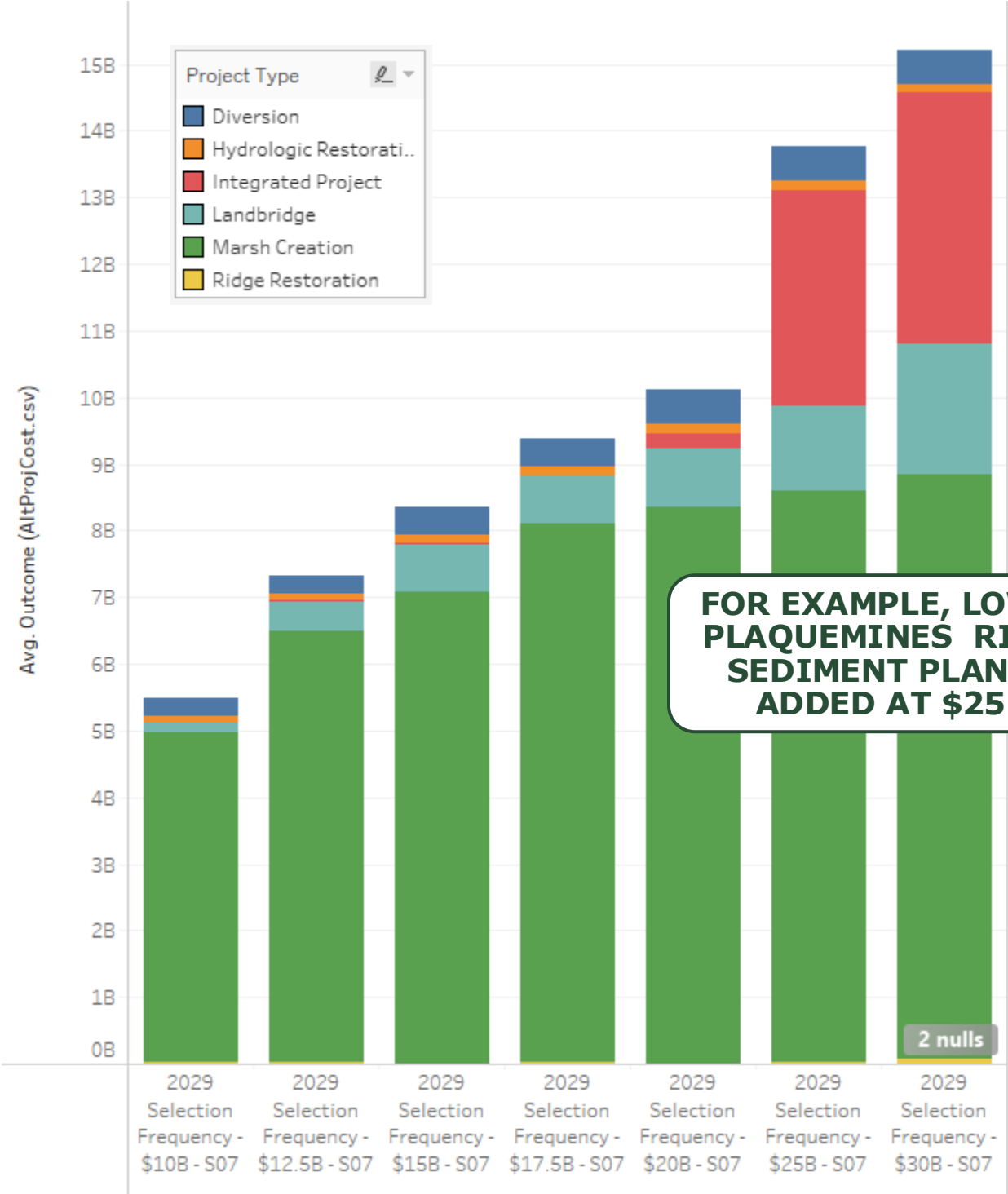


BUDGET SIZE

Project Selection Unlimited by Sediment

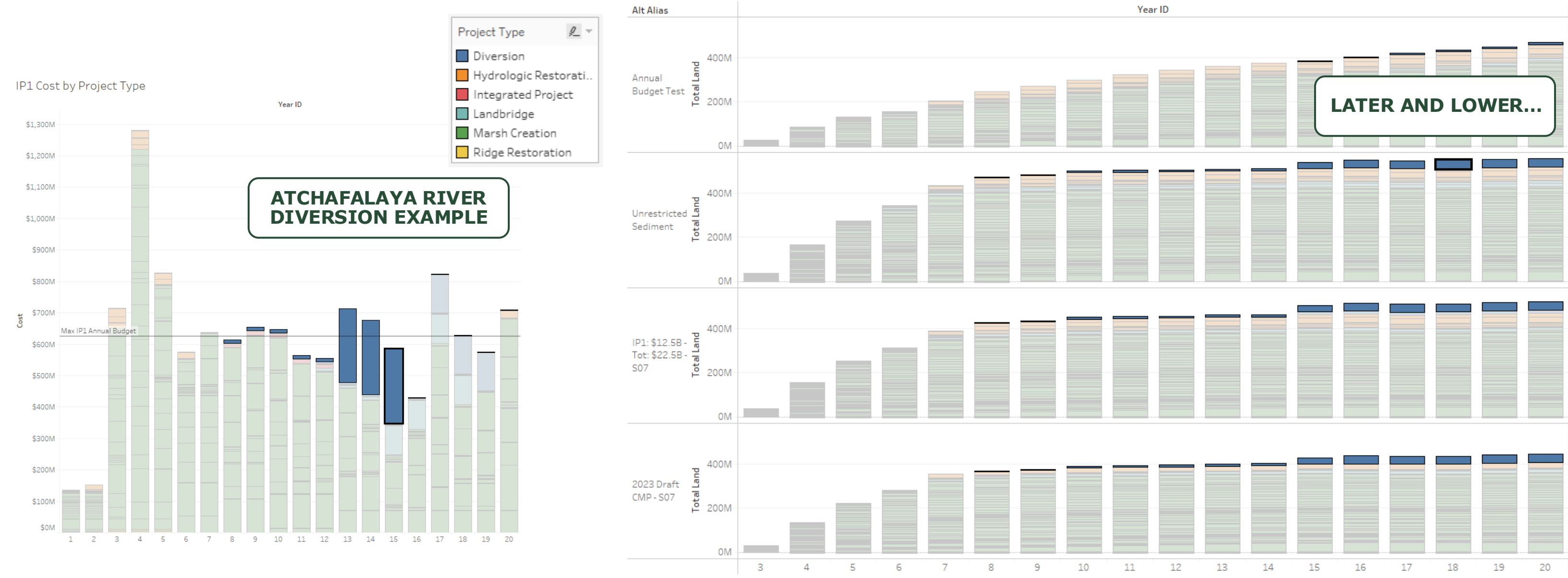
Project ID	Project Name	Project Type	Min IP1 Cost	Avg. Annual Land	'000 sq m AAL per \$1M	2029 Selection Frequency - \$10B - S07	2029 Selection Frequency - \$12.5B - S07	2029 Selection Frequency - \$15B - S07	2029 Selection Frequency - \$17.5B - S07	2029 Selection Frequency - \$20B - S07	2029 Selection Frequency - \$25B - S07	2029 Selection Frequency - \$30B - S07	Grand Total
1300000	Mauvais Bois Ridge Resto...	Ridge Restora...	\$12M	1.01M	82.14								7
1270000	Bayou Decade Ridge Rest...	Ridge Restora...	\$12M	0.74M	59.61								7
1130000	Central Terrebonne Hydro...	Hydrologic Re...	\$15M	1.05M	70.91								7
1080000	Atchafalaya River Diversi...	Diversi...	\$771M	3.63M	4.71								7
33700013370000	Fourleague Bay - Blue Ha...	Marsh Creation	\$320M	4.98M	15.06								6
30000033000000	West Sabine Refuge Mars...	Marsh Creation	\$227M	6.72M	19.09								6
29600012960000	Little Chenier Marsh Crea...	Marsh Creation	\$65M	1.91M	19.09								6
29300032930000	Freshwater Bayou North ...	Marsh Creation	\$113M	1.78M	16.08								6
28600022860000	North Lake Mechant Mars...	Marsh Creation	\$235M	3.99M	16.95								6
25400012540000	Guste Island Marsh Creati...	Marsh Creation	\$66M	2.04M	30.77								6
25000012500000	Oak River to Delacroix Ma...	Marsh Creation	\$148M	4.89M	33.16								6
22400032240000	East Calcasieu Lake Mars...	Marsh Creation	\$261M	8.71M	33.38								6
21300022130000	West Rainey Marsh Creati...	Marsh Creation	\$164M	2.90M	17.68								6
21300012130000	West Rainey Marsh Creati...	Marsh Creation	\$187M	3.01M	16.06								6
370004370000	New Orleans East Marsh ...	Marsh Creation	\$263M	3.19M	12.14								6
3350200	Eastern Terrebonne Land...	Landbridge	\$354M	6.29M	17.78								6
3290000	Caminada Bay Marsh Crea...	Integrated Pro...	\$73M	2.82M	38.77								6
30000043000000	West Sabine Refuge Mars...	Marsh Creation	\$83M	1.98M	23.87								6
30000023000000	West Sabine Refuge Mars...	Marsh Creation	\$195M	4.97M	25.55								6
28600032860000	North Lake Mechant Mars...	Marsh Creation	\$278M	4.01M	14.42								6
28600012860000	North Lake Mechant Mars...	Marsh Creation	\$279M	3.87M	13.88								6
28500042850000	South Terrebonne Marsh ...	Marsh Creation	\$396M	11.20M	28.27								6
21600012160000	Southeast Calcasieu Lake...	Marsh Creation	\$239M	6.84M	29.62								6
15700031570000	East Rainey Marsh Creati...	Marsh Creation	\$142M	4.02M	28.37								6
370002370000	New Orleans East Marsh ...	Marsh Creation	\$263M	3.19M	12.14								6
3470000	Mermentau Basin Hydrolo...	Hydrologic Re...											6
3400000	Lower Bayou Petit Caillou...	Ridge Restora...											6
3350100	Eastern Terrebonne Land...	Landbridge											6
1390000	Increase Atchafalaya Flo...	Diversi...											6
31500013150000	North and East Lake Lery ...	Marsh Creation											6
30000013000000	West Sabine Refuge Mars...	Marsh Creation											6
29700022970000	Calcasieu Lake West Bank...	Marsh Creation											6
28500022850000	South Terrebonne Marsh ...	Marsh Creation											6
26700022670000	North Barataria Bay Mars...	Marsh Creation											6
900102900100	Large-Scale Barataria Ma...	Marsh Creation	\$168M	4.11M	24.47								6
450001450000	Golden Triangle Marsh Cr...	Marsh Creation	\$263M	7.06M	26.86								6
380103380100	Breton Marsh Creation	Marsh Creation	\$296M	7.14M	24.08								6
380102380100	Breton Marsh Creation	Marsh Creation	\$296M	7.14M	24.08								6
3340000	Bayou L'Ours Ridge Resto...	Ridge Restora...	\$9M	1.84M	197.36								6
3180000	Tchefuncte River Restora...	Ridge Restora...	\$2M	0.03M	17.39								6
1280000	Bayou Dularge Ridge Rest...	Ridge Restora...	\$10M	0.08M	7.80								6
28500032850000	South Terrebonne Marsh ...	Marsh Creation	\$416M	8.82M	21.19								6
15700021570000	East Rainey Marsh Creati...	Marsh Creation	\$134M	2.98M	22.22								6
900103900100	Large-Scale Barataria Ma...	Marsh Creation	\$197M	3.32M	16.78								6
890103890100	Lower Barataria Marsh Cr...	Marsh Creation	\$337M	3.33M	9.90								6
380101380100	Breton Marsh Creation	Marsh Creation	\$292M	5.81M	19.89								6
370001370000	New Orleans East Marsh ...	Marsh Creation	\$147M	1.32M	9.99								6
3100000	Three Mile Pass Marsh Cr...	Integrated Pro...	\$390M	4.49M	11.53								6
2320000	Pecan Island Ridge Restor...	Ridge Restora...	\$20M	0.21M	10.46								6
140000	Central Wetlands Diversi...	Diversi...	\$263M	0.49M	1.85								6
35200013520000	Wildhorse Marsh Creation	Marsh Creation	\$60M	1.21M	20.14								6
29400012940000	Freshwater Bayou South ...	Marsh Creation	\$130M	0.77M	5.92								6
24800032480000	Pointe a la Hache and Carl...	Marsh Creation	\$140M	2.83M	20.22								6
890101890100	Lower Barataria Marsh Cr...	Marsh Creation	\$663M	6.80M	10.26								6
3280000	Bayou Barataria Ridge an...	Integrated Pro...	\$794M	5.43M	6.83								6
3270000	Lower Plaquemines River ...	Integrated Pro...	\$2,521M	10.77M	4.27								6
3250000	Lower Barataria Landbrid...	Landbridge	\$979M	4.11M	4.20								6
31600013160000	Chandealeur Sound Island...	Marsh Creation	\$56M	0.90M	16.18								6
29700012970000	Calcasieu Lake West Bank...	Marsh Creation	\$71M	0.58M	8.20								6

EXAMINING THE FREQUENCY OF PROJECT SELECTION BY AN INCREASING BUDGET






































































































































































































































































































































BUDGET TYPE

Foresight Improves Use of River Sediment and Shifts Benefits in Time

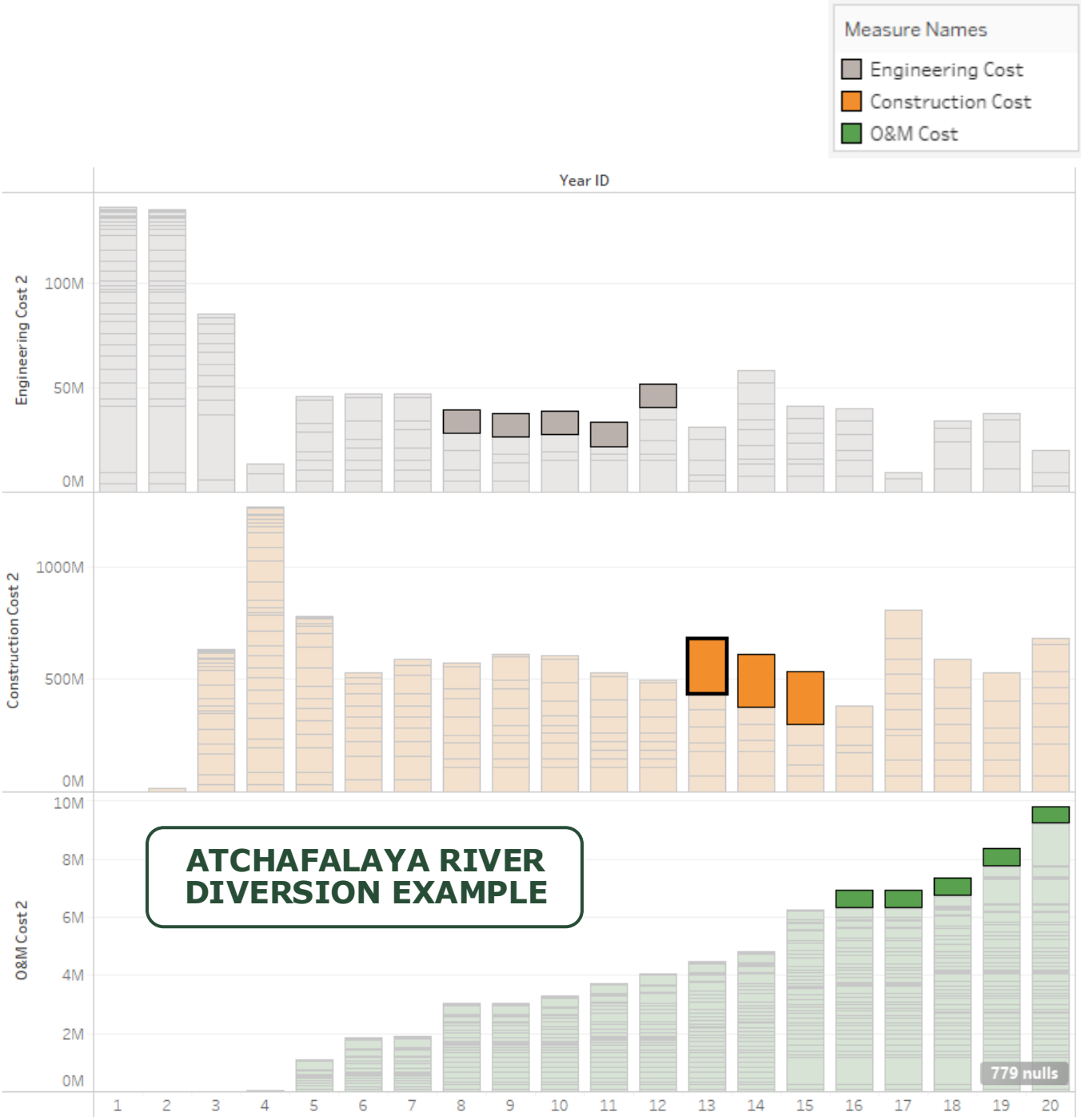


CONSTRUCTION FEASIBILITY

Annualized Phasing Offers a New Understanding of Projects

Project ID	Project Na..	Description (Attribute..	Min IP1 Cost	Avg. Annual..	'000 sq m A..	Sta... 	Year ID / MaxBox																			
							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
33900013390000	West Terre...	Marsh Creation	\$1,285M	51.70M	40.23	1																				
34400043440100	Central Coa...	Marsh Creation	\$229M	6.66M	29.13	1																				
34500013450000	Avoca Islan...	Marsh Creation	\$111M	3.86M	34.72	1																				
12300041230000	Belle Pass...	Marsh Creation	\$132M	4.14M	31.25	3																				
20700012070000	South Gran...	Marsh Creation	\$362M	15.06M	41.54	4																				
3290000	Caminada B...	Integrated Project	\$73M	2.82M	38.77	5																				
12300011230000	Belle Pass...	Marsh Creation	\$303M	9.07M	29.87	5																				
22100032210000	East Pecan ...	Marsh Creation	\$174M	3.28M	18.90	5																				
24800042480000	Pointe a la ...	Marsh Creation	\$186M	7.42M	39.87	5																				
28600022860000	North Lake ...	Marsh Creation	\$235M	3.99M	16.95	5																				
29800022980000	West Brow...	Marsh Creation	\$194M	8.03M	41.43	5																				
24800022480000	Pointe a la ...	Marsh Creation	\$226M	8.11M	35.82	6																				
24800012480000	Pointe a la ...	Marsh Creation	\$316M	13.86M	43.88	7																				
1080000	Atchafalay...	Diversion	\$771M	3.63M	4.71	8																				
12300031230000	Belle Pass...	Marsh Creation	\$201M	6.86M	34.09	8																				
25300012530000	Tiger Ridge...	Marsh Creation	\$138M	4.67M	33.79	8																				
21300022130000	West Raine...	Marsh Creation	\$164M	2.90M	17.68	9																				
34600013460000	Marsh Islan...	Marsh Creation	\$619M	21.69M	35.04	10																				
29300032930000	Freshwater...	Marsh Creation	\$113M	1.78M	15.80	11																				
1390000	Increase At...	Diversion	\$414M	1.62M	3.92	12																				
3350300	Eastern Ter...	Landbridge	\$282M	8.19M	29.01	12																				
28600032860000	North Lake ...	Marsh Creation	\$278M	4.01M	14.42	12																				
30000033000000	West Sabin...	Marsh Creation	\$227M	6.72M	29.58	13																				
21000012100000	Mud Lake M...	Marsh Creation	\$234M	9.36M	39.98	14																				
21300012130000	West Raine...	Marsh Creation	\$187M	3.01M	16.06	14																				
22400012240000	East Calcas...	Marsh Creation	\$230M	10.13M	44.08	14																				
29600012960000	Little Cheni...	Marsh Creation	\$65M	1.91M	29.19	14																				

SORTED BY
START DATE

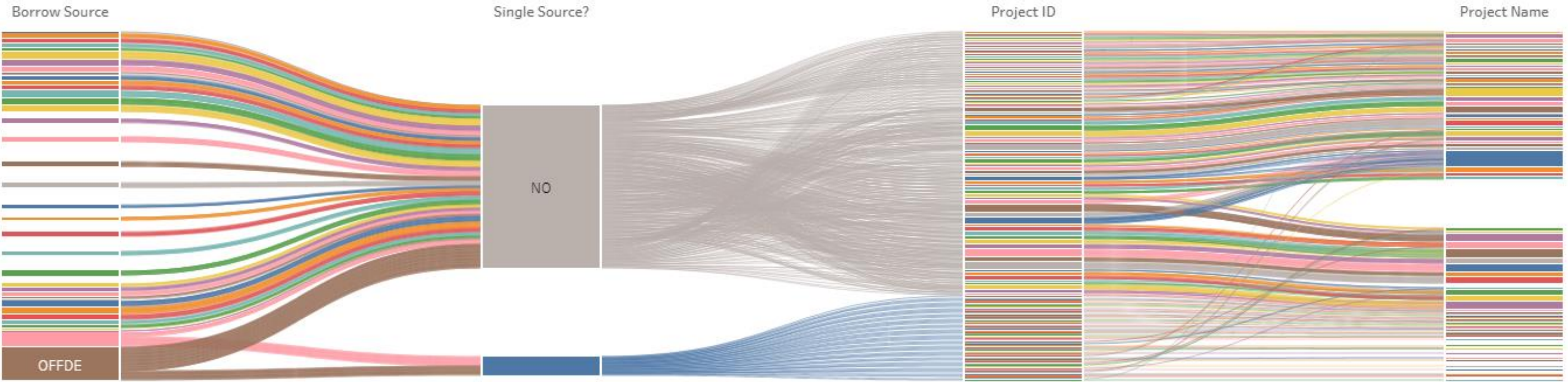


SEDIMENT LOCATION

Understanding Project-Level Borrow Source Choices

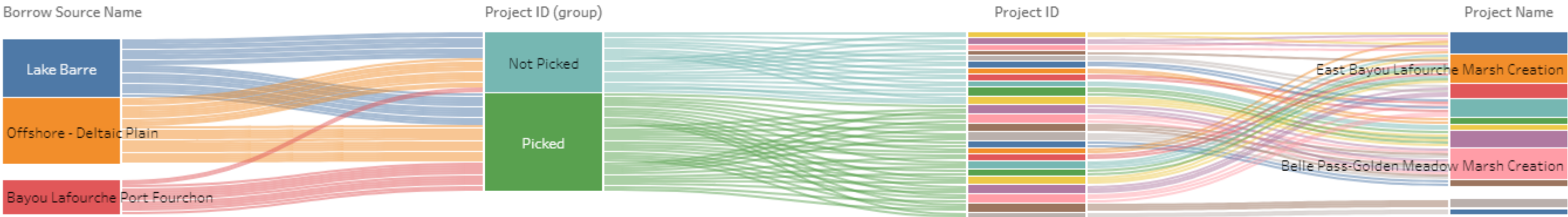


Sediment Source Type by Project



SEDIMENT AVAILABILITY

Lake Barre Sediment Source Projects Comparison



Projects Selected in IP1 under S07 for \$12.5B Budget

Sediment Source Characteristic	Project Name	Project ID	Optimal Source?	
			Not Optimal Sediment	Optimal Sediment
Picked Optimal Sediment	Belle Pass-Golden Meadow Marsh Creation	12300011230000		■
		12300021230000		■
		12300031230000	■	
		12300041230000	■	
	North Terrebonne Bay Ma..	12500011250000		■
Not Enough of Optima..	Eastern Terrebonne Land..	33500013350000	■	
Picked Not Optimal Sediment	East Bayou Lafourche Marsh Creation	33000013300000	■	
		33000033300000	■	
		33000043300000	■	
		33000053300000	■	
	Eastern Terrebonne Fring..	33800013380000	■	

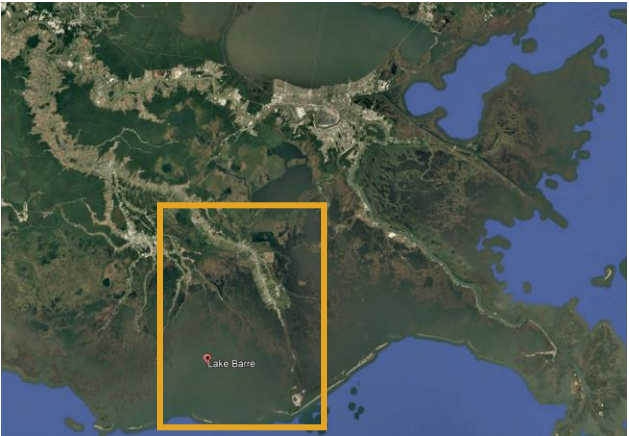
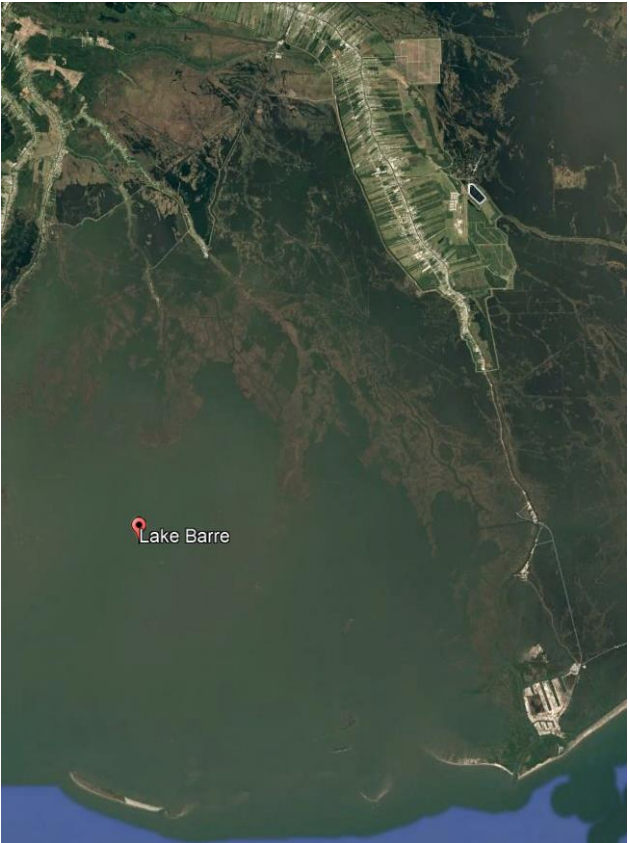
DESCRIPTION
The above table examines the characteristics of sediment sources selected:
Picked Optimal Sediment - was available and competed favorably
Not Enough of Optimal Sediment Source - some elements competitive for optimal sediment, but others were able to be effective using another source (landbridge and integrated projects)
Picked Not Optimal Sediment - was wholly outcompeted by other projects selected in MP23, but even when using sources other than the most optimal, it was still an effective project
Picked IP/Landbridge - part of a broader project

Projects Not Selected in IP1 under S07 for \$12.5B Budget

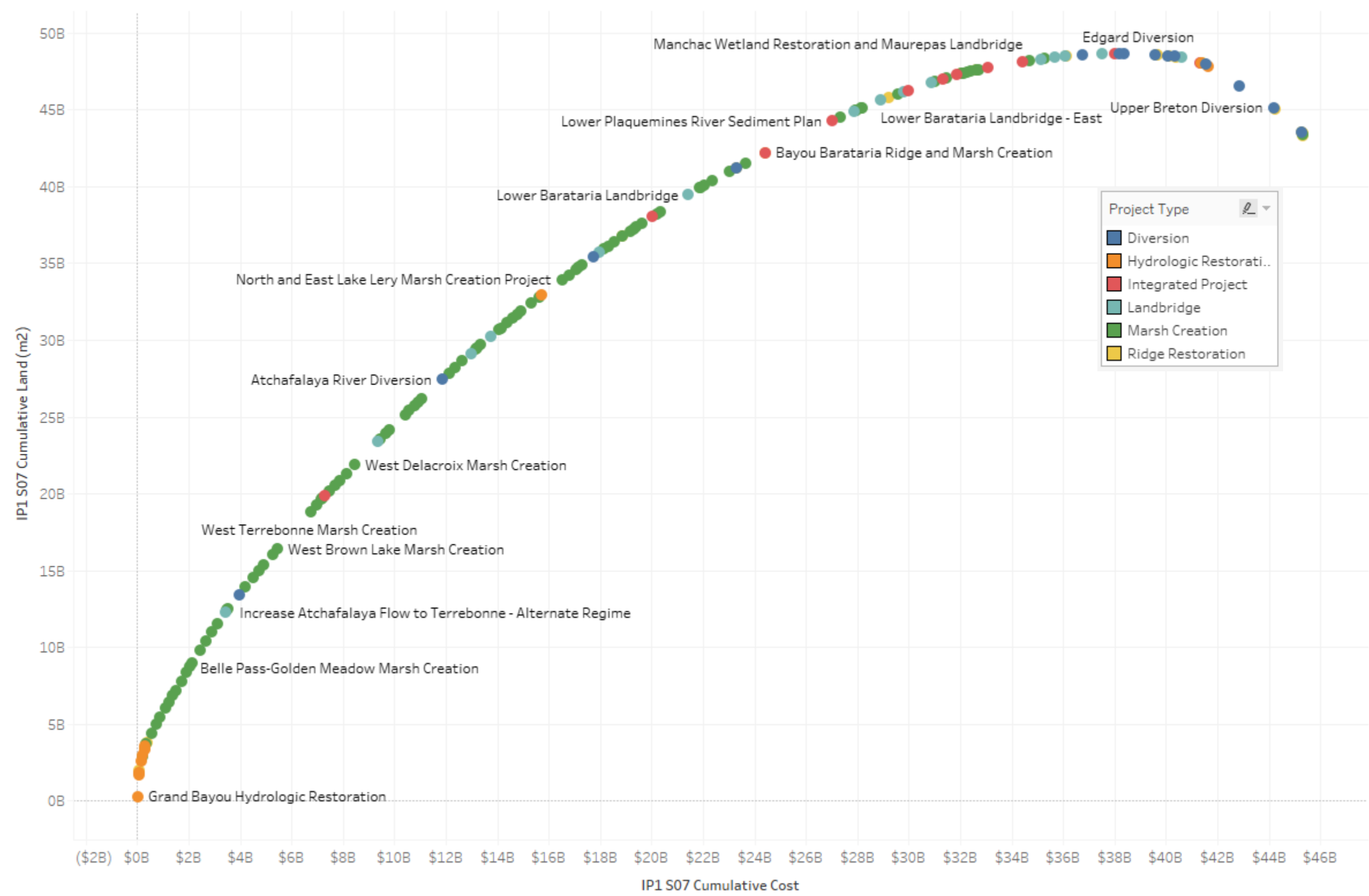
Sediment Source Characteristic	Project Name	Project ID	Not Optimal Source?	
			Not Optimal Sediment	Optimal Sediment
Not Enough of Optimal Sediment Source	Eastern Terrebonne Landbridge	33500023350000	■	
		33500033350000	■	
	Eastern Terrebonne Landbrid..	33500023350200	■	
	Eastern Terrebonne Landbrid..	33500033350100	■	
	Greater Terrebonne Bay Rim Ridge Restoration with Marsh..	33600063360000		■
	South Terrebonne Marsh Creation	28500022850000	■	
Less Cost Effecti..		28500032850000		■
	South Terrebonne Marsh Crea..	28500042850000		■

DESCRIPTION
The Sankey Diagram at top explores one source of sediment, Lake Barre, to understand how projects accessed one of the more competitive borrows. Selecting whether elements were picked or not points back to the sources or the projects.

The above table examines the characteristics of sediment sources for projects not selected:
Not Enough of Optimal Sediment Source - was partially outcompeted, and was not effective using another source (landbridge and integrated projects)
Less Cost Effective than Average Project - even if another low-cost source was available, would not be effective

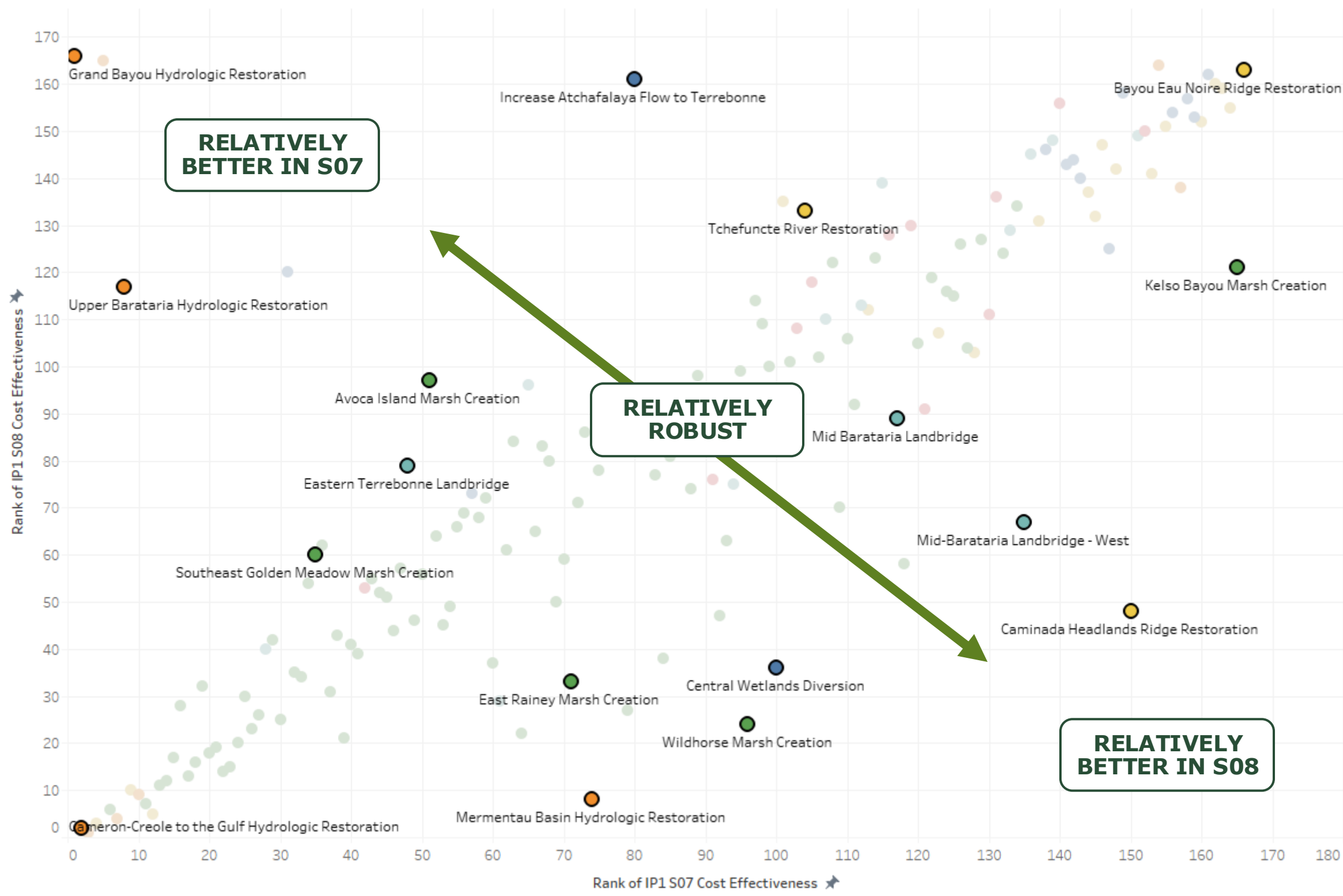


RELATIVE COMPETITIVENESS



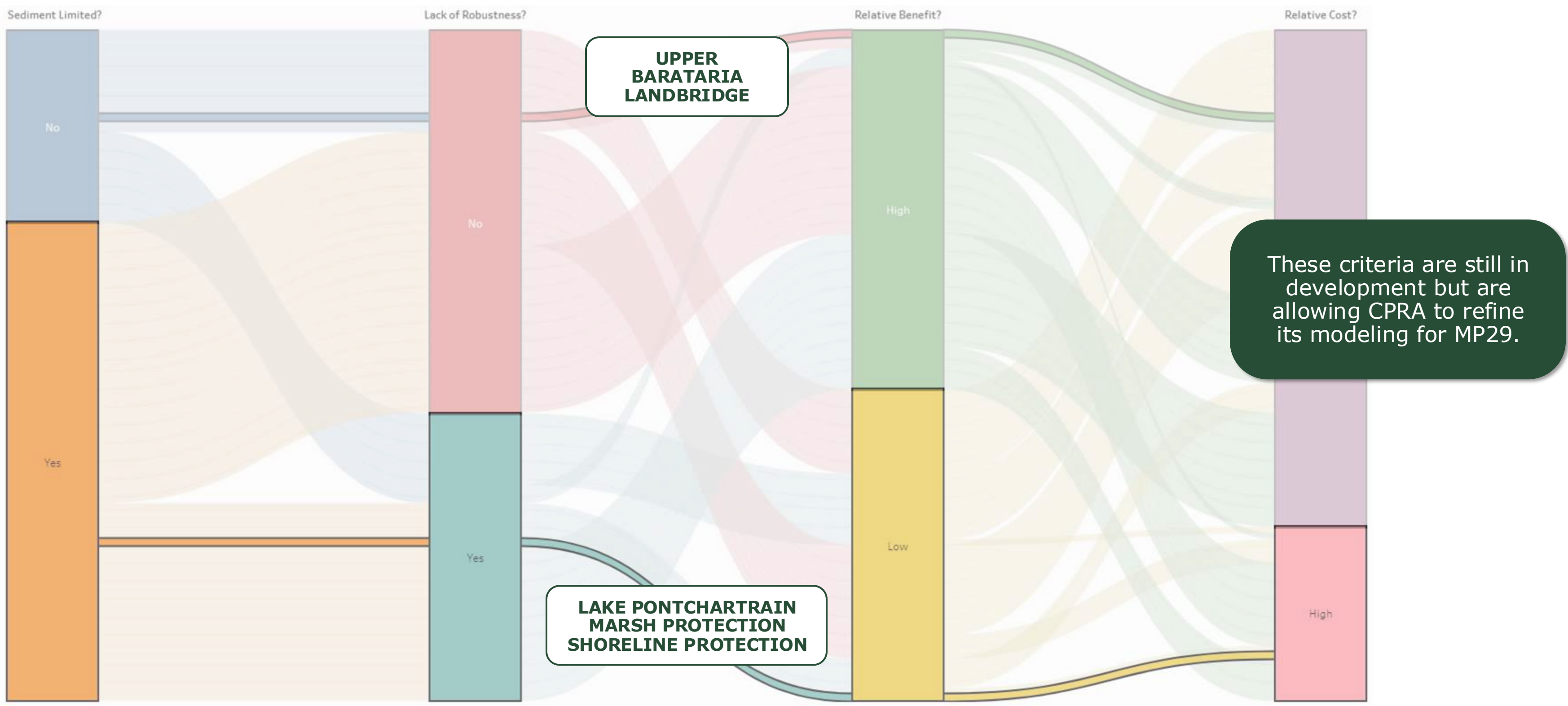
Ordering cumulative cost and benefit by rank gives a sense of the marginal next best project, with an inflection point for IP1 S07 around the Edgard Diversion example seen earlier.

ROBUSTNESS TO ENVIRONMENTAL SCENARIO



Comparing the S07 vs S08 rank orders for IP1 highlights the importance of robustness decision framework to the MP23 Planning Tool.

LESSONS LEARNED ABOUT PROJECTS TO CARRY FORWARD?



THANK YOU!

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