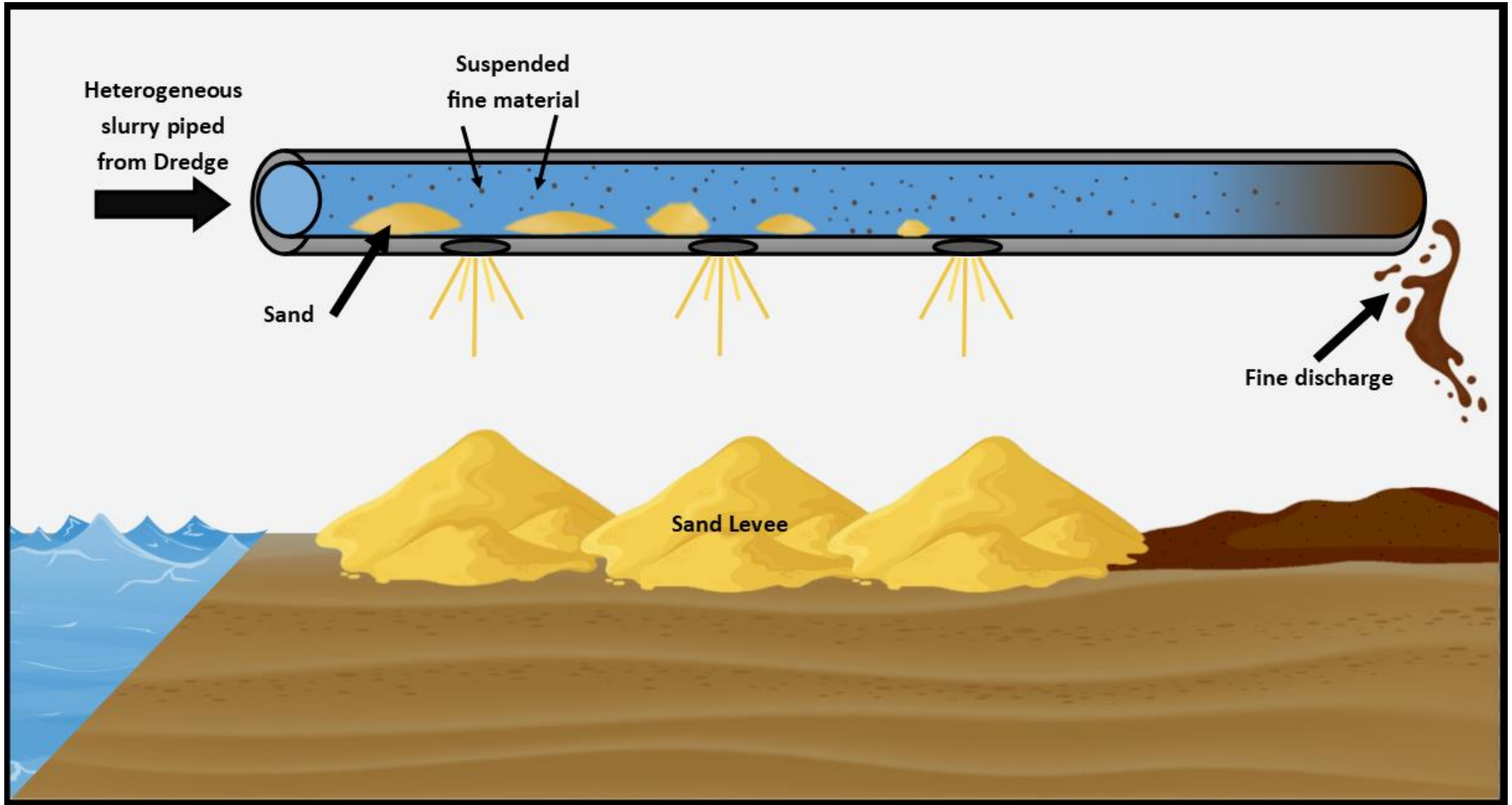


Investigation of an Innovative Dredged Sediment Placement Technology - The Sediment Distribution Pipe

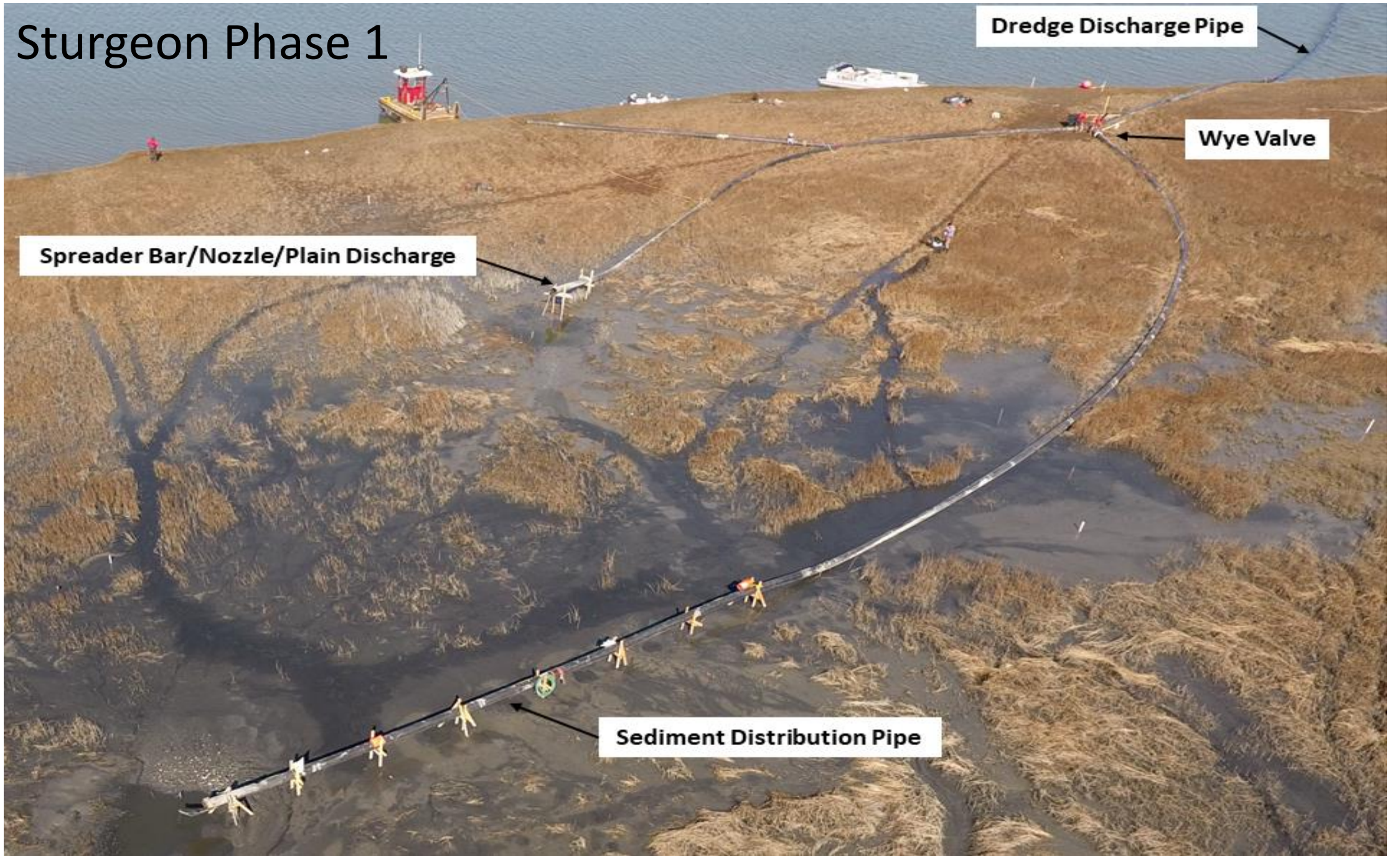
Tim Welp

Brian McFall

Brian Harris



Sturgeon Phase 1





March 16-19, 2020

Drilled 3 different sized holes to
test separation efficiency:

2 inch x 2 inch

4 inch x 4 inch

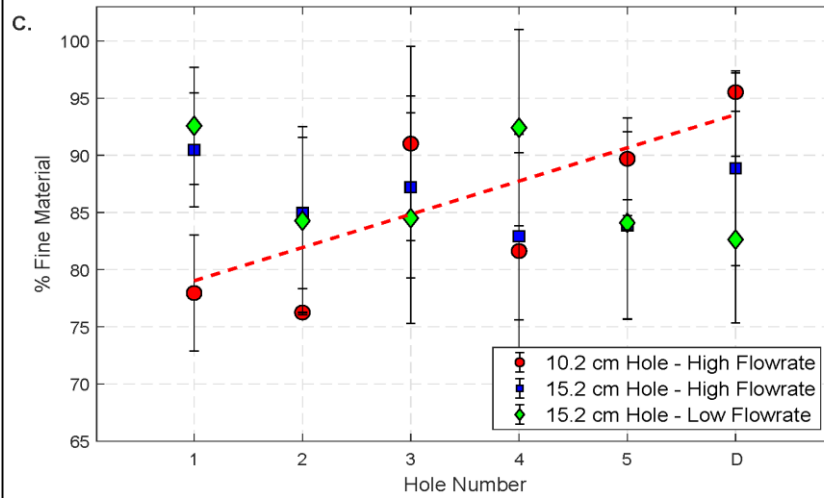
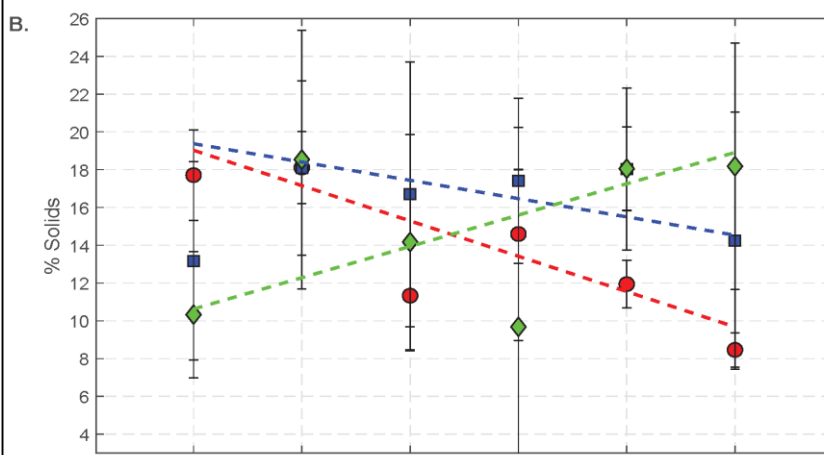
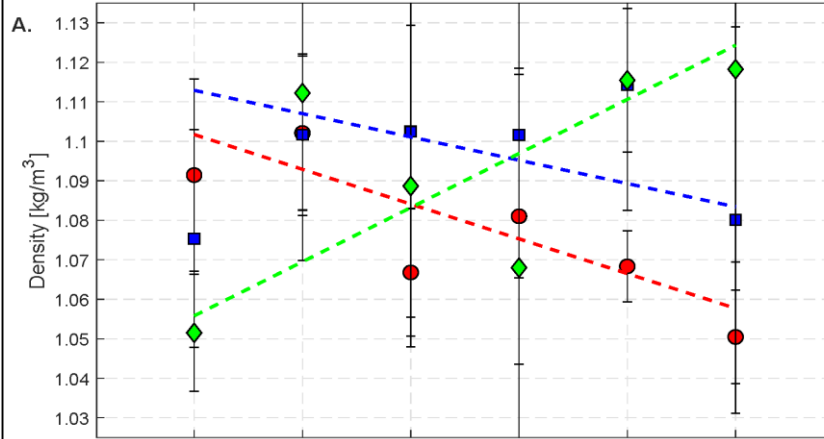
6 inch x 6 inch





Slurry sediment analysis from each distribution hole and the end of pipe discharge for two hole sizes and two flowrates.

Hole Number	Hole Size [cm]	Flowrate	Num. of Samples	Mean Density	Std. Dev.	Mean % Solids	Std. Dev.	Mean % Fines	Std. Dev.
1	10.2	High	5	1.09	0.02	17.7	2.4	78.0	5.1
2	10.2	High	5	1.10	0.02	18.1	1.9	76.3	3.8
3	10.2	High	5	1.07	0.02	11.3	2.9	91.0	8.5
4	10.2	High	5	1.08	0.04	14.6	5.6	81.6	10.2
5	10.2	High	5	1.07	0.01	11.9	1.3	89.7	3.6
D	10.2	High	5	1.05	0.01	8.5	0.9	95.5	1.7
1	15.2	High	10	1.10	0.03	13.2	5.3	90.5	5.0
2	15.2	High	15	1.10	0.02	18.5	4.5	58.82	6.8
3	15.2	High	10	1.10	0.05	16.7	7.0	87.2	8.0
4	15.2	High	10	1.10	0.04	17.4	4.4	82.9	7.3
5	15.2	High	10	1.10	0.04	15.2	5.5	85.9	7.8
D	15.2	High	10	1.10	0.05	14.2	6.8	88.9	8.5
1	15.2	Low	5	1.05	0.01	10.3	3.3	92.6	5.1
2	15.2	Low	5	1.11	0.04	18.5	6.8	84.3	8.2
3	15.2	Low	5	1.09	0.04	14.2	5.7	84.5	9.2
4	15.2	Low	5	1.07	0.05	9.7	8.3	92.4	8.6
5	15.2	Low	5	1.12	0.02	18.1	2.2	84.1	0.6
D	15.2	Low	5	1.12	0.05	18.2	6.5	82.6	7.3





Sturgeon Phase 2 Sept 8 - 28, 2020



