

# Geomorphic (Sediment Transport) Analysis for Nueces BBASC

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# Study Locations

- Nueces River at Laguna
- Nueces River at Cotulla
- Nueces River at Three Rivers

# Time Period

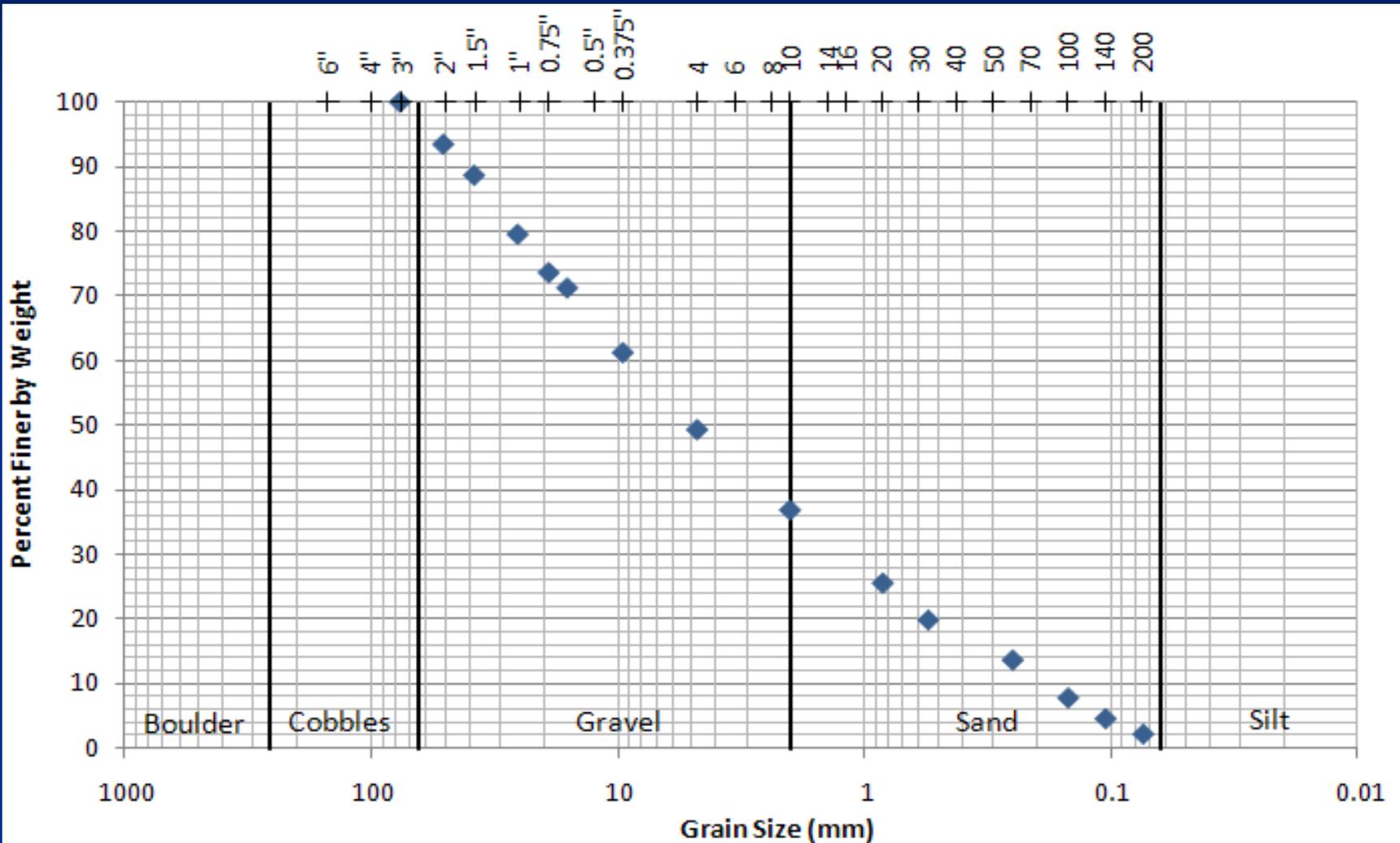
- 1934-1996

# Flow Scenarios

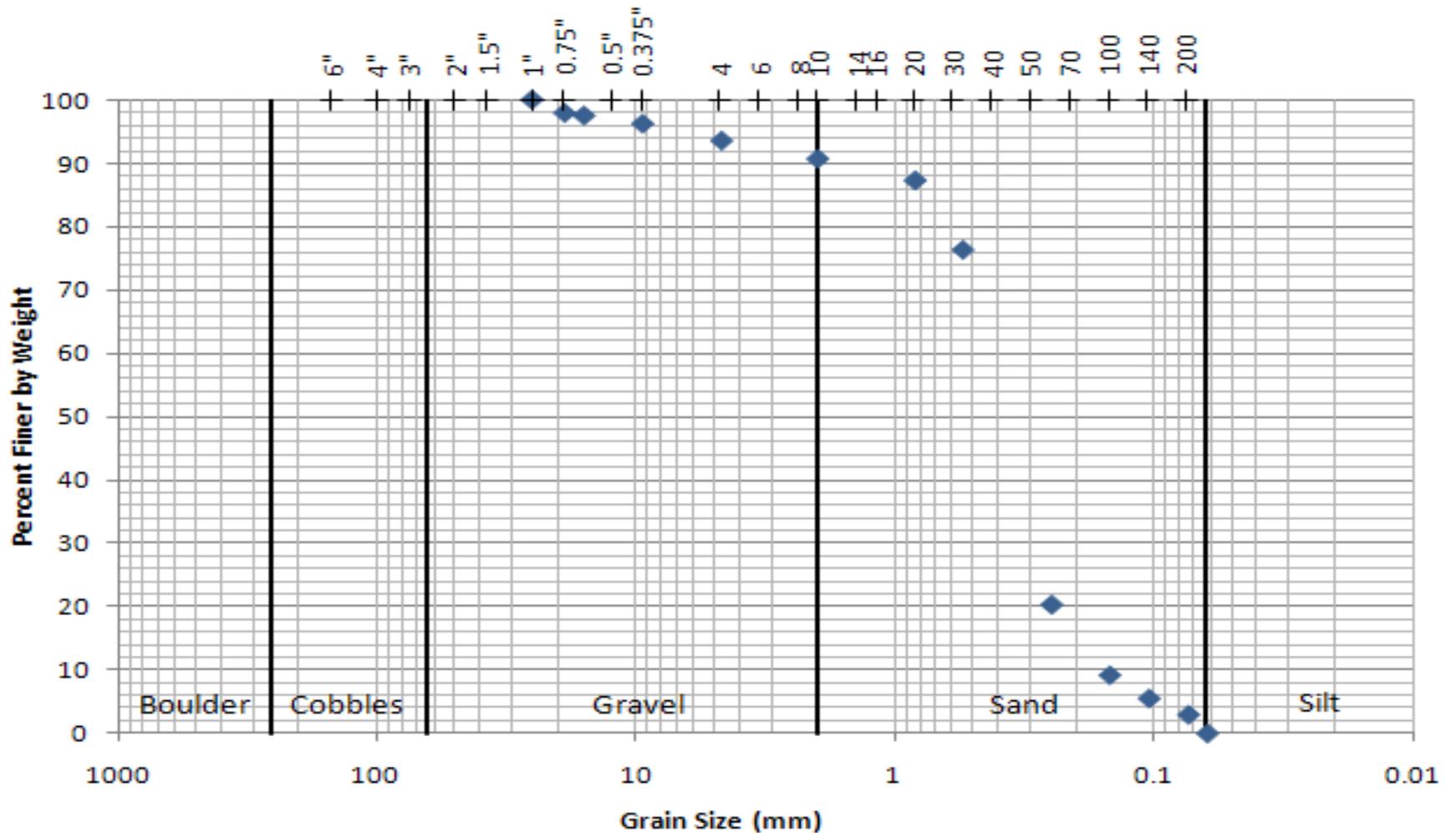
- On/off-channel reservoirs w/ differing EFC



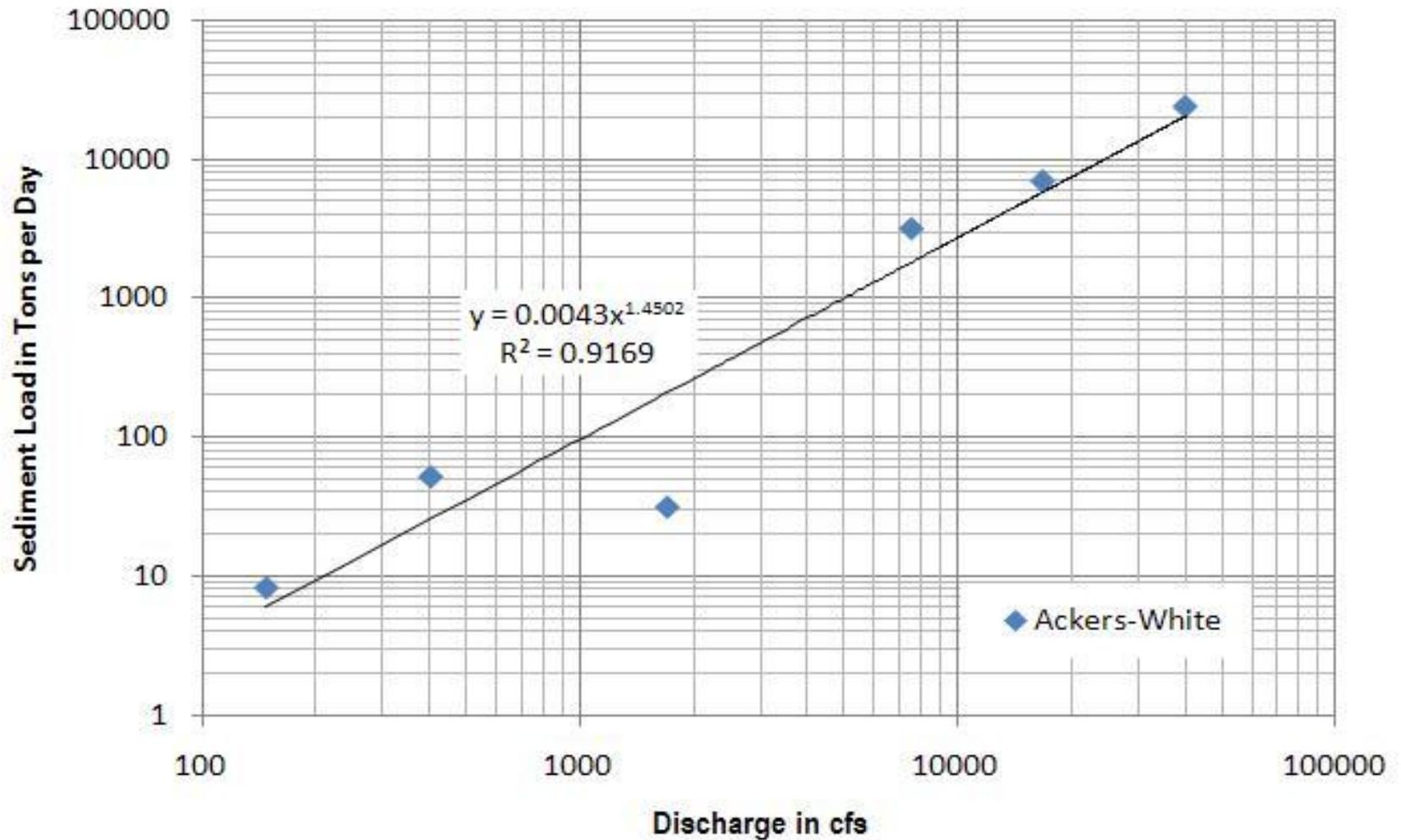
# Size distribution of sediment particles from the Nueces River at Cotulla



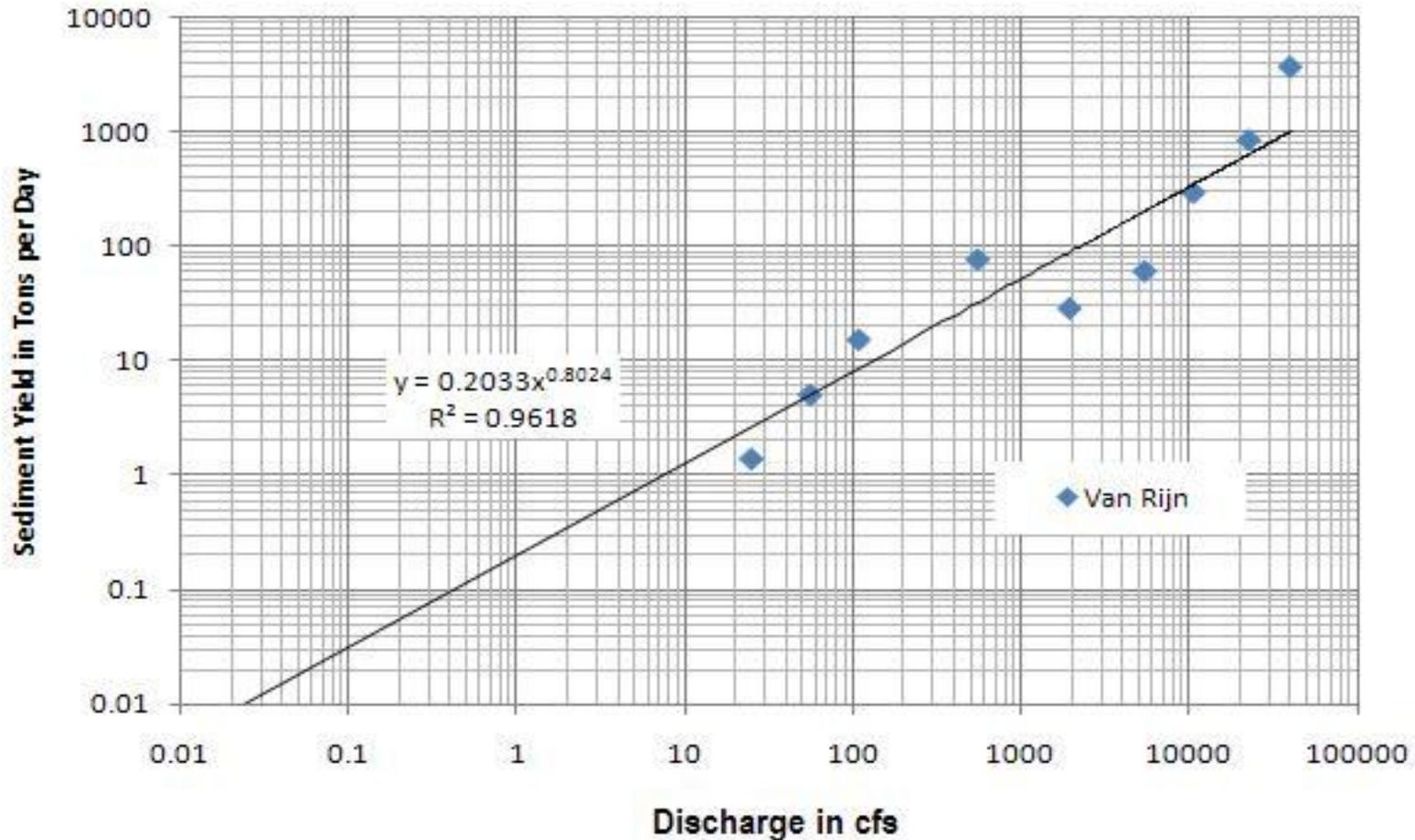
# Size distribution of sediment particles from the Nueces River at Three Rivers



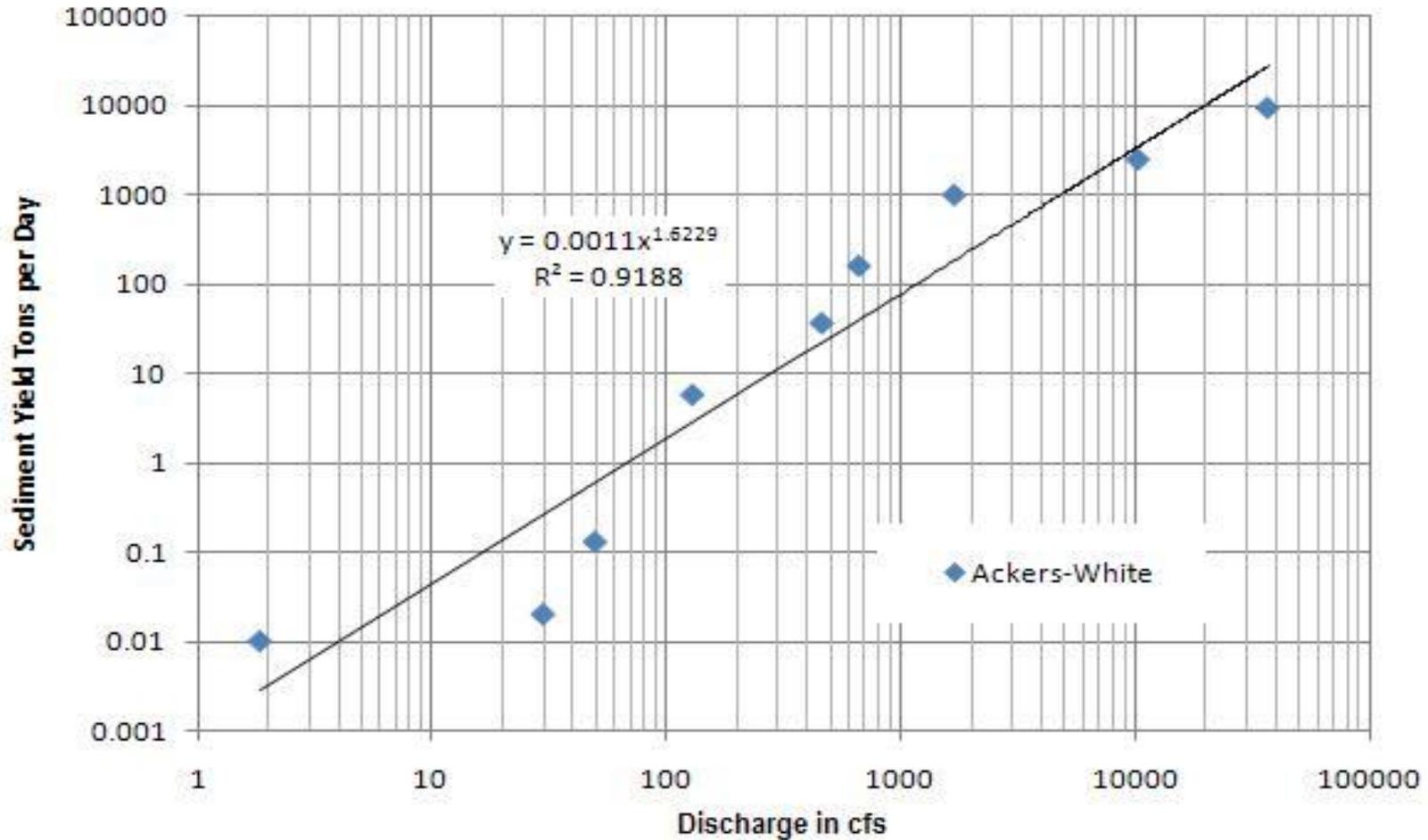
# Sediment rating curve for the Nueces River at Laguna



# Sediment rating curve for the Nueces River at Catulla



# Sediment rating curve for the Nueces River at Three Rivers



## Results: Nueces River at Laguna (with an off-channel reservoir)

<b>Flow Scenario</b>	<b>Average Annual Water Remaining in the River (acre-feet)</b>	<b>Average Annual Sediment Moved by the River (tons)</b>
Historical (baseline)	115,000 (100%)	7,413 (100%)
Full BBEST	104,000 (90%)	6,964 (93%)
Modified BBEST A	102,000 (89%)	6,930 (93%)
Modified BBEST W	102,000 (89%)	6,998 (94%)
No E-Flows	84,000 (73%)	6,708 (90%)

## Results: Nueces River at Cotulla (with an on-channel reservoir)

<b>Flow Scenario</b>	<b>Average Annual Water Remaining in the River (acre-feet)</b>	<b>Average Annual Sediment Moved by the River (tons)</b>
Historical (baseline)	178,600 (100%)	4,160 (100%)
Full BBEST	94,900 (53%)	2,203 (53%)
Modified BBEST A	63,900 (36%)	1,569 (38%)
Modified BBEST W	66,500 (37%)	1,754 (42%)
No E-Flows	52,000 (29%)	1,002 (24%)

## Results: Nueces River at Cotulla (with an off-channel reservoir)

<b>Flow Scenario</b>	<b>Average Annual Water Remaining in the River (acre-feet)</b>	<b>Average Annual Sediment Moved by the River (tons)</b>
Historical (baseline)	178,600 (100%)	4,160 (100%)
Full BBEST	161,200 (90%)	3629 (87%)
Modified BBEST A	160,200 (90%)	3604 (87%)
Modified BBEST W	161,200 (90%)	3677 (88%)
No E-Flows	156,700 (88%)	3397 (81%)

## Results: Nueces River at Three Rivers (with an on-channel reservoir at Cotulla)

Flow Scenario	Average Annual Water Remaining in the River (acre-feet)	Average Annual Sediment Moved by the River (tons)
Baseline No Project	666,100 (100%)	92,500 (100%)
Full BBEST	626,200 (94%)	86,000 (93%)
Modified BBEST A	613,000 (92%)	84,000 (91%)
Modified BBEST W	614,400 (92%)	84,400 (91%)
No E-Flows	609,500 (92%)	83,700 (90%)

## Results: Nueces River at Three Rivers (with an off-channel reservoir at Cotulla)

Flow Scenario	Average Annual Water Remaining in the River (acre-feet)	Average Annual Sediment Moved by the River (tons)
Baseline No Project	666,100 (100%)	92,500 (100%)
Full BBEST	657,600 (99%)	91,500 (99%)
Modified BBEST A	656,300 (90%)	91,300 (99%)
Modified BBEST W	656,700 (99%)	91,300 (99%)
No E-Flows	655,600 (98%)	91,600 (99%)

