

Silt calculations for effluent of Intercostal Waterway into St. Joe Bay at 20 ft. River Reading

Ave width of ICW Canal 270 ft of which 20 ft on either side is gradient conservative width 230 ft.

Ave depth of canal is 10 ft Average Depth is actually greater at river reading 20 ft

1 ft width of column

$230 \times 10 \times 1 = 2300 \text{ cu ft}$

Ave speed of current right now on Jan 1st 2019 at high tide is 2.5 mph according to my GPS

$5280 \text{ ft} \times 2.5 = 13200 \text{ ft per hour}$

$1 \text{ hr} = 3600 \text{ sec}$

$13200/3600 = 3.66$

Current speed is 3.66 ft/sec

So every second (2300cu ft x3.66 ft/sec) deposits 8418 cu ft of water

Every hour deposits $8418 \text{ cu ft} \times 3600 \text{ sec} = 30,304,800.00 \text{ cu ft}$ of water into the Bays

There are 7.48 gallons of water in one cubic foot of water.

Each hour deposits 226,679,904 gallons of freshwater into St. Joe Bay

Each 24 hour period is depositing FIVE BILLION FOUR HUNDRED AND FORTY MILLION THREE HUNDRED AND SEVENTEEN THOUSAND GALLONS OF FRESHWATER into St. Joe Bay at a 20 ft river reading.

This water carries with it MILLIONS of TONS of silt and sediment that Do NOT belong in St. Joe Bay, but are much needed in Apalachicola Bay.