

## Freshwater Inflow Regimes

### Lavaca Bay:

Onset Month	Subsistence	Base Low	Base Medium	Base High
Spring Feb-May Long-term ave of 43% of total annual flow	13,500 for 3 consecutive months 13,000-	55,080 for 3 consecutive months 53,000-	127,980 for three consecutive months 122,000-	223,560 for three consecutive months 210,000-
Fall Aug-Oct Long-term ave of 32% of total annual flow	9,600 for 3 consecutive months 9,100-	39,168 for 3 consecutive months 37,000-	91,080 for 3 consecutive months 86,000-	158,976 for 3 consecutive months 152,000-
Intervening 6 months	6,900 6,600-	28,152 27,000-	65,412 62,000-	114,264 105,000-
% Frequency of occurrence (1940- 2009) <sup>1</sup>	97 92-	86 82-	56 53-	37 35-
450,000 acre-feet in 30 days in any season, once at least every 10 years				

### Matagorda Bay:

Onset Month	MBHE 1	MBHE 2	MBHE 3	MBHE 4
Spring Jan-July	114,000 for 3 consecutive months 105,000-	168,700 for 3 consecutive months 162,000-	246,200 for three consecutive months 240,000-	433,200 for three consecutive months 410,000-
Fall Aug-Dec	81,000 for 3 consecutive months 77,000-	119,900 for 3 consecutive months 110,000-	175,000 for 3 consecutive months 170,000-	307,800 for 3 consecutive months 300,000-
Intervening 6 months	105,000 100,000-	155,400 150,000-	226,800 220,000-	399,000 380,000-
% Achievement Guideline <sup>1</sup>	90 86-	75 71-	60 57-	35 33-
Threshold: minimum of 15,000 acre-feet per month (100% of months)				
Long-term Volume and Variability: Average at least 1.4 to 1.5 million acre-feet per year as a long-term average (100%)				

<sup>1</sup> % Frequency of occurrence and % Achievement guidelines are similar but not exactly the same. % frequency of occurrence is based strictly on how frequently these combinations of values occurred. Achievement guidelines are also based primarily on how frequently these combination of values occurred however there were additional considerations involved in determining achievement guidelines.

## Lavaca Bay

Hydrologic Condition: Lake Texana storage for Lavaca Bay

New diversion:

- Is the stream meeting instream flow regime requirements after the downstream-most diversion?
  - If yes, freshwater inflow requirements to the estuary are not applied to the diversion

Thoughts:

- Lake Texana environmental flow pass-through is 346,000 ac-ft. If Lake Texana passes through 346,000 ac-ft in a year, the long-term estimated flow to the bay would be 680,000 ac-ft since Lake Texana releases have been about 51% of the average inflow to the bay.
- Subsistence bay inflow recommendation:
  - 30,000 ac-ft. The long-term average freshwater inflow if just instream base flows are met is 93,000 ac-ft.
- Base low bay recommendation: 120,000 ac-ft:
- Base medium bay recommendation:
  - 280,000 ac-ft. The long-term bay inflow if just instream base flows and seasonal pulse flows are met with one per season pulses counting for a one per season pulse and one two per season pulse is 328,457 ac-ft.
- Base high bay recommendation: 500,000 ac-ft: The long-term bay inflow if instream base flows, seasonal pulse flows, and the annual pulse flow are met. With the annual pulse flow replacing one, one-per-season pulse and one, two-per-season pulse, and one per season pulses counting for a one per season pulse and one two per season pulse. Is 526,000 ac-ft.