

Flexing The X2 Standard

SWRCB Workshop on X2

January 17

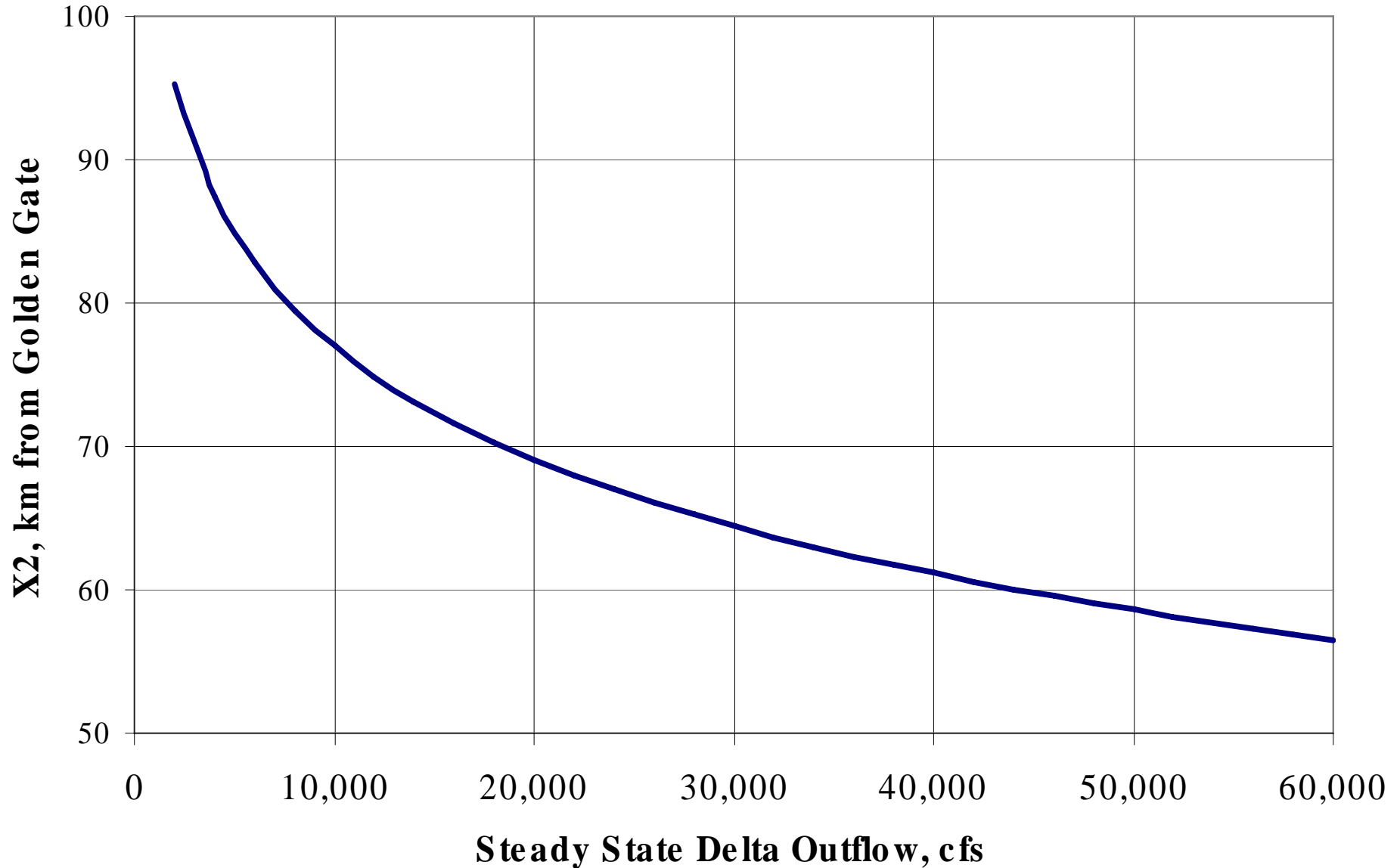
Outline of Presentation

- The Sensitivity of the biology to flow at Port Chicago
- An Example
- Suggested Approach to Flexing X2

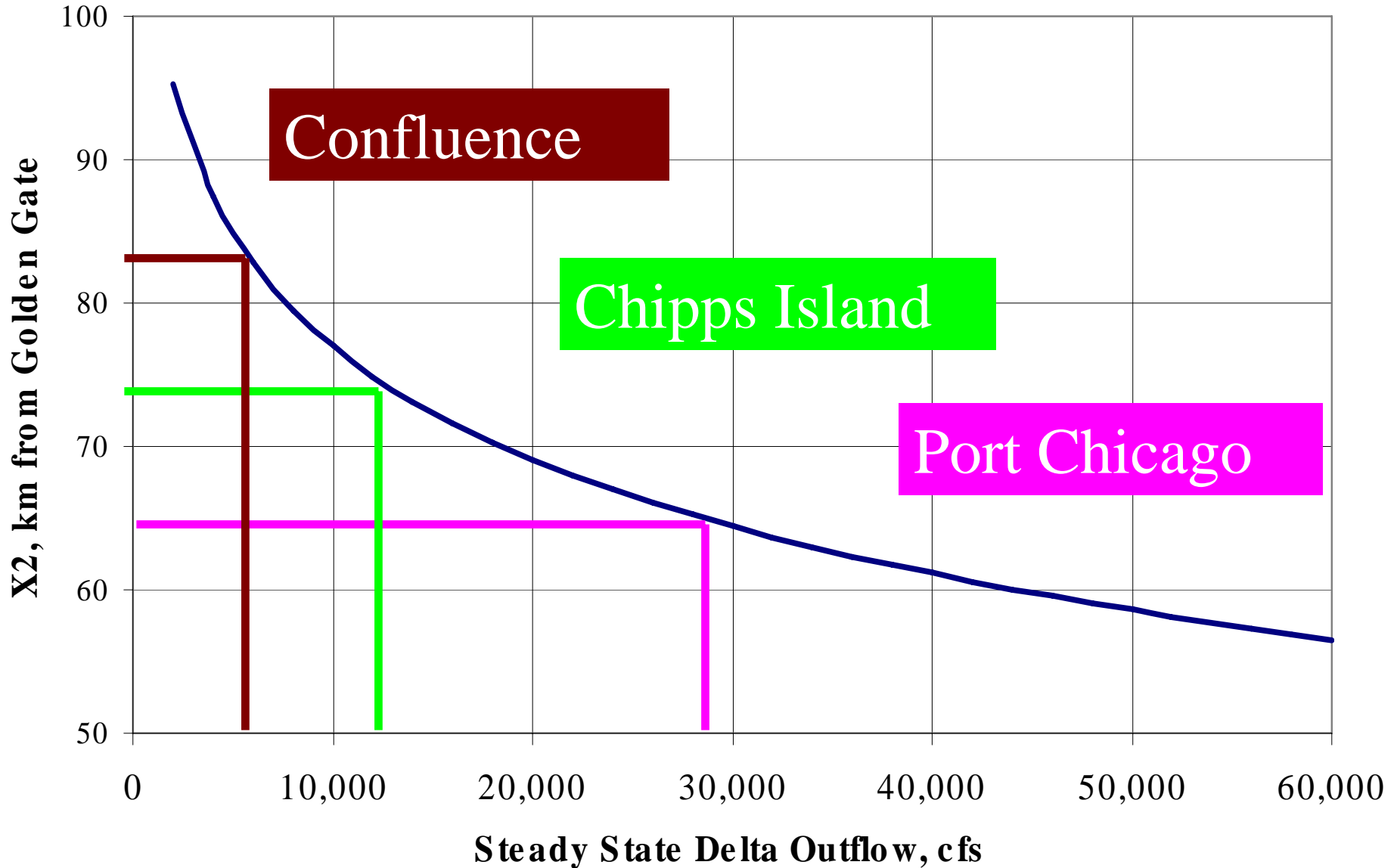
From Flex to Biological Response: How Sensitive?

- At high flows, X2 is relatively insensitive to flow.
- The species-X2 correlations use multi-month averages of X2. They are relatively insensitive to short term changes in X2.
- The species-X2 correlations are statistically significant, but the species improvement is relatively insensitive to small X2 changes

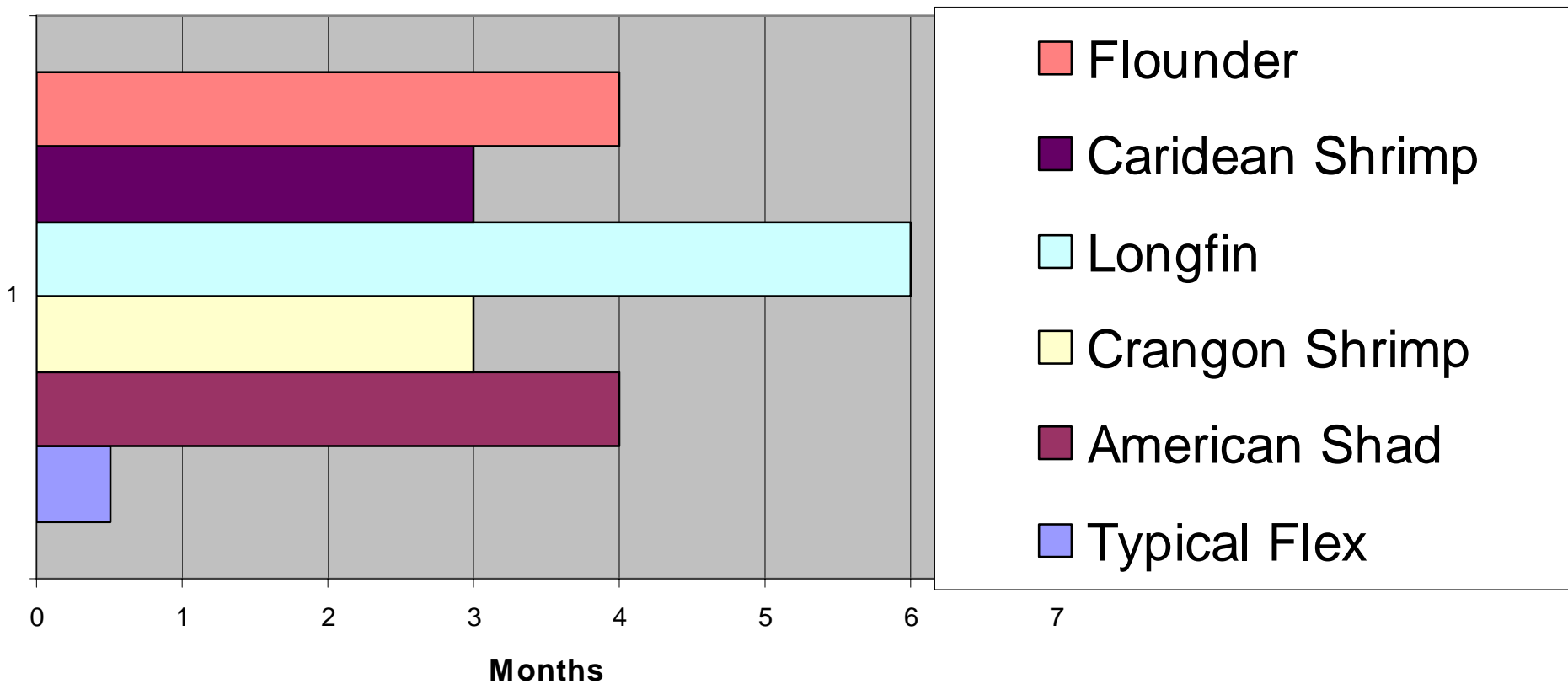
X2 vs. Steady State Delta Outflow



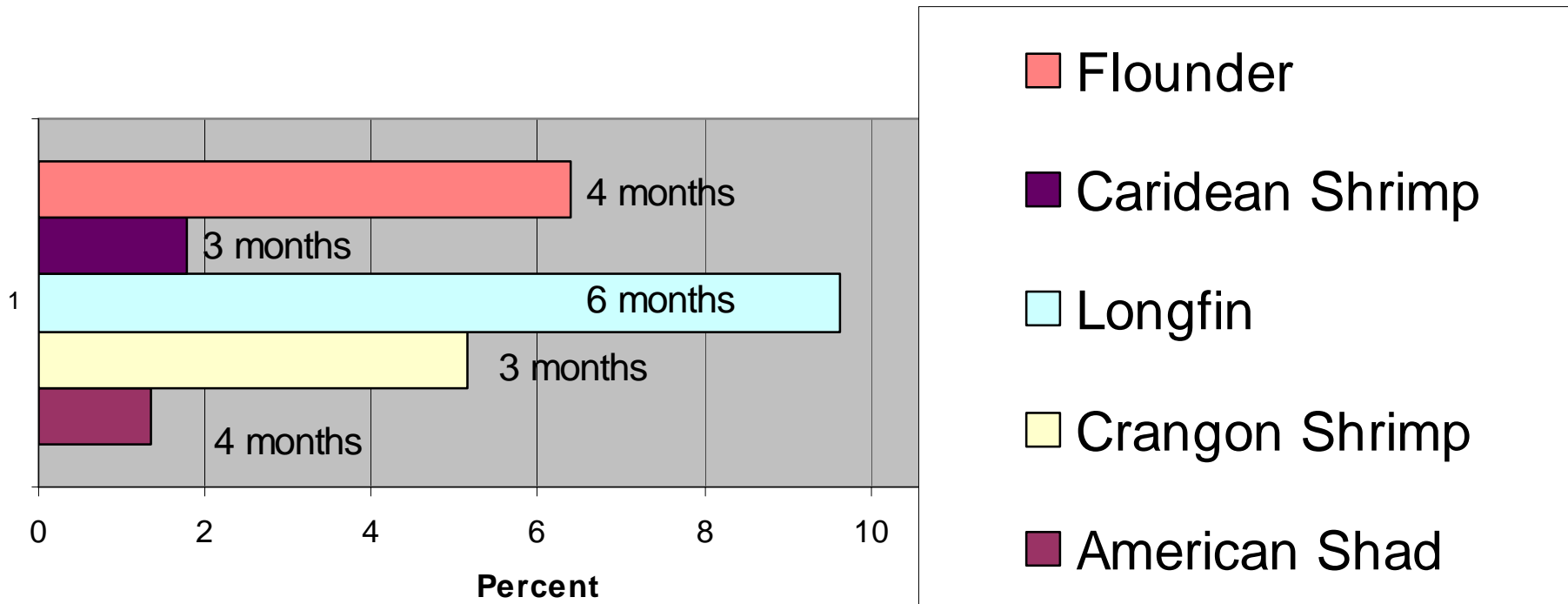
X2 vs. Steady State Delta Outflow



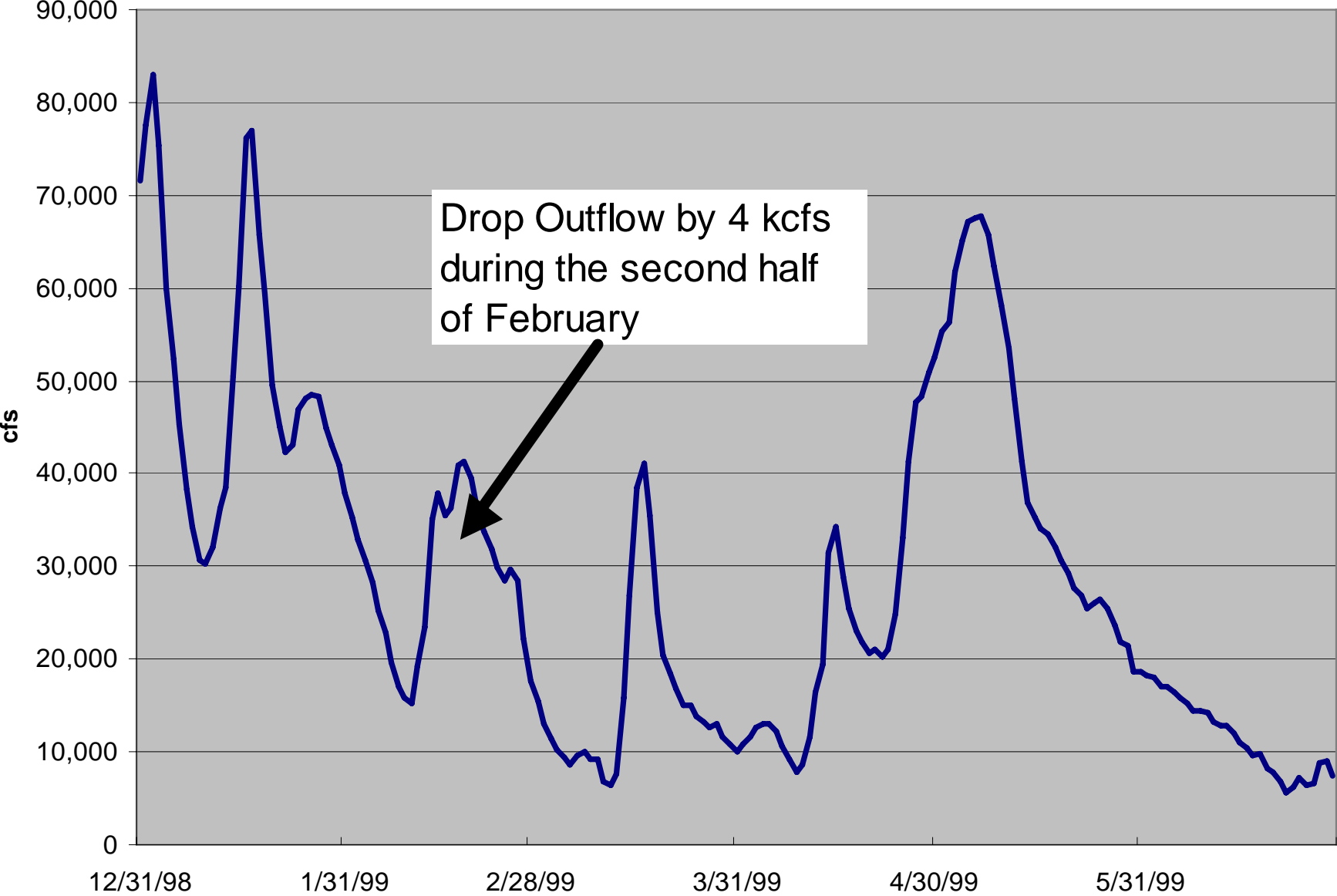
X2 Correlation Periods vs Typical Flex Period



Change in Population Index per km change in Average X2 over the Entire Period



Example: 2003



Effects of February 2003 Flex on Longfin and Shad

	Longfin	American
	Smelt	Shad
Averaging Period	Jan - June	Feb - May
Base Average X2	66.3	62.3
Change in X2	0.11	0.16
Final Average X2	66.2	62.1
% Change in Abundance	1.0	0.3

120 Yards

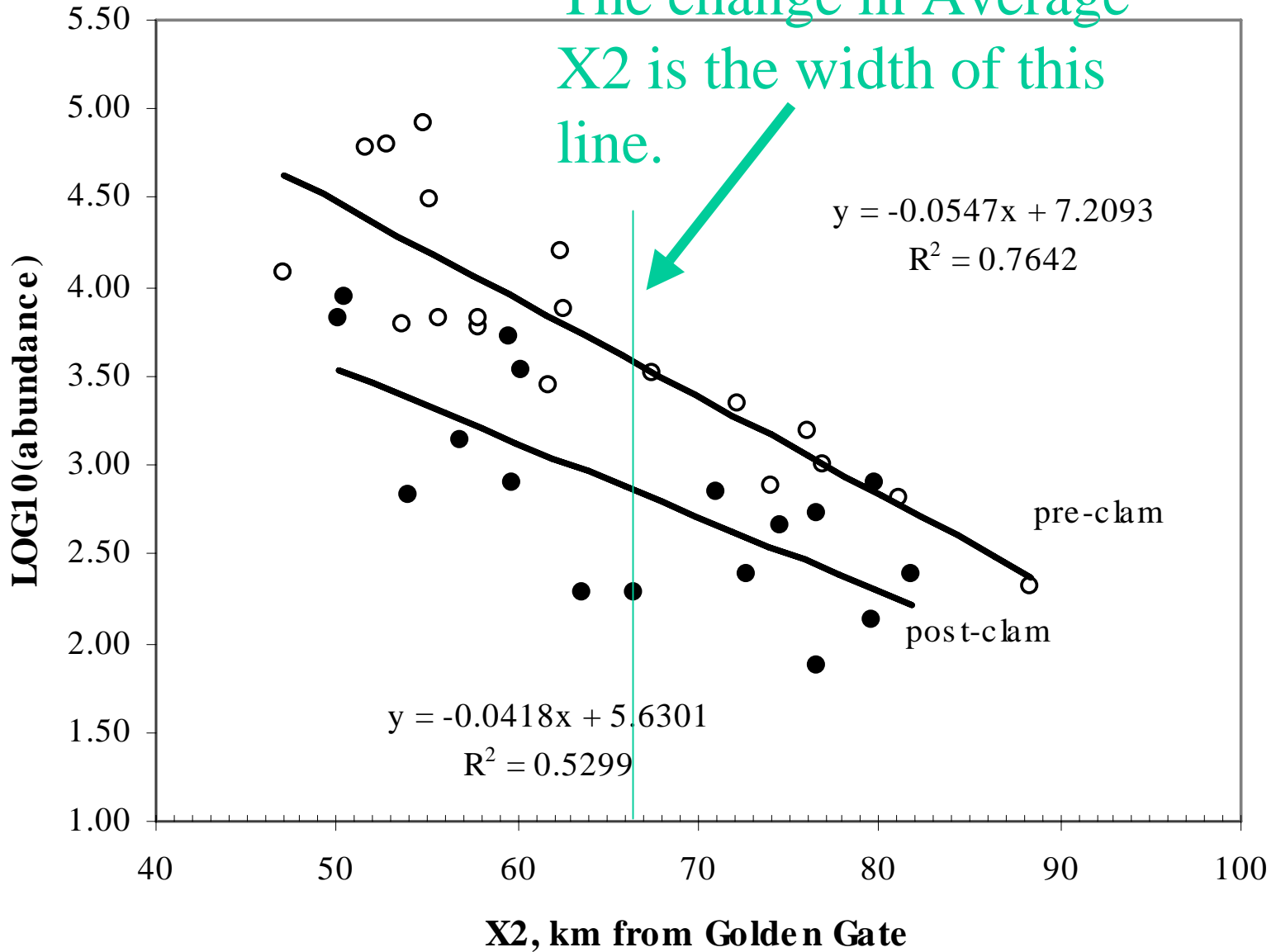


180 Yards



long fin smelt

The change in Average X2 is the width of this line.



american shad

The change in Average
X2 is the width of this
line.

