Fall X2

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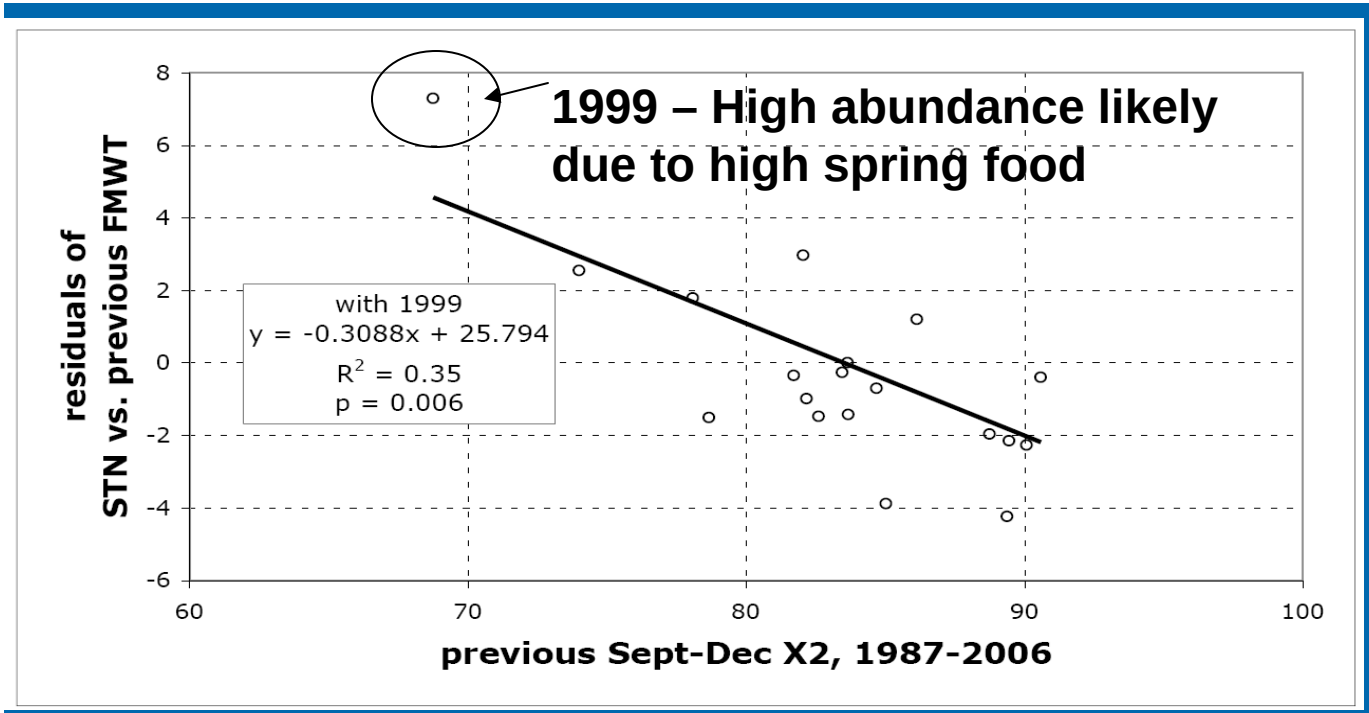
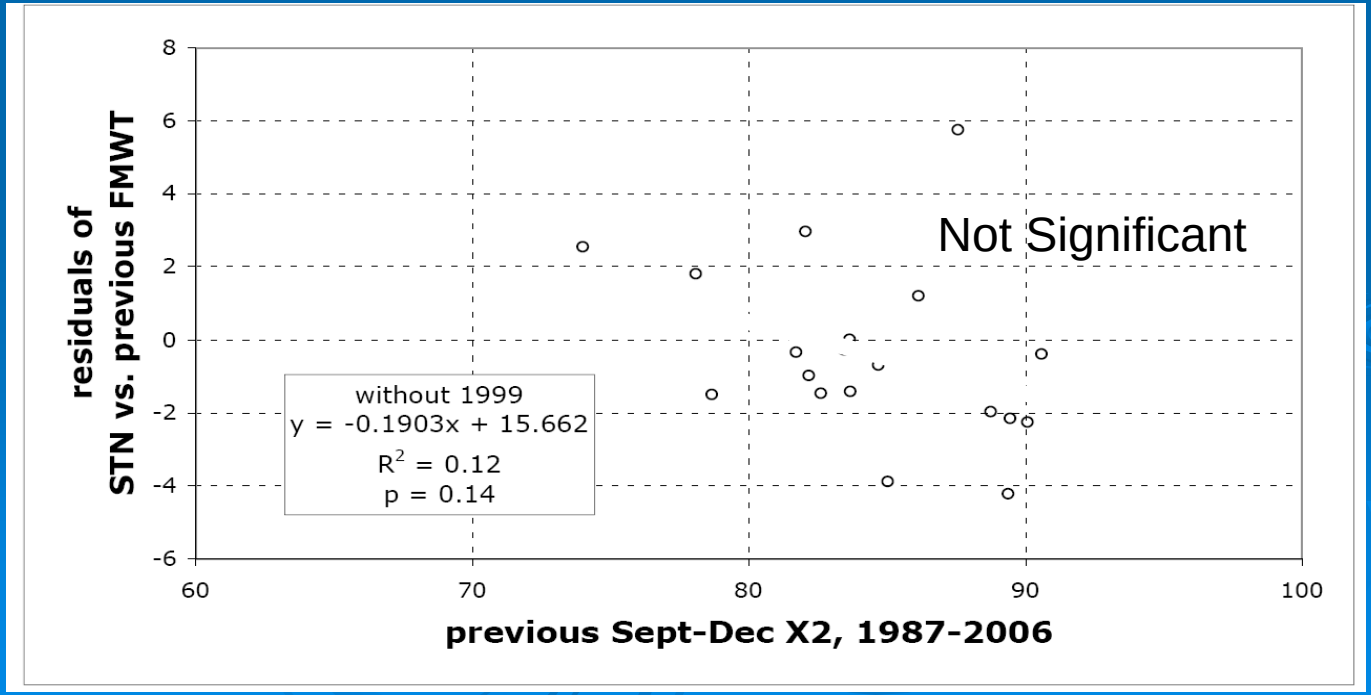
USFWS Fall X2 for Delta Smelt

- Summary of rationale for the fall X2 standard
  - Based on the presents and absence of smelt in certain “salinity habitat” areas
  - Salinity habitat areas have decreased
  - Salinity habitat may limit smelt recovery
  - Actually is a prescriptive standard for 10 years
  - Set up to test it effectiveness
  - Relationship with abundance
    - PFMWT + PF X2 = STN

Concerns with Fall X2

- While salinity has changed linkage to abundance driven by one data point of questionable reliance - 1999
- In 2007 Delta Smelt were in abnormally high saline water (likely due to Microcystis) – no effect on abundance
- Salinity habitat unlikely controlling abundance
- Food and temperature most likely controlling abundance


1999 – High abundance likely due to high spring food
with 1999
y = -0.3088x + 25.794
R2 = 0.35
p = 0.006
residuals of STN vs. previous FMWT
previous Sept-Dec X2, 1987-2006
8
6
4
2
0
-2
-4
-6
60
70
80
90
100


Not Significant
without 1999
y = -0.1903x + 15.662
R2 = 0.12
p = 0.14
residuals of STN vs. previous FMWT
previous Sept-Dec X2, 1987-2006
8
6
4
2
0
-2
-4
-6
60
70
80
90
100

Water Supply Impacts of Fall X2

- Greatest impacts in below-normal and drier years following Fall X2 action
- Can be 100's TAF/yr
- Impacts fall disproportionately on the SWP
- Conflicts with cold water pool needs for salmon

Proposed Alternative

- Focus on food production not salinity
- Creation of New Tidal Habitat
  - Liberty Island experience
- More effective use of limited resources
- BDCP current target
  - 65,000 Acres tidal and related sub-tidal habitat
- NH3 and N effects on food web becoming clearer and need to be addressed before any Fall X2 action is considered
- Food before flows