

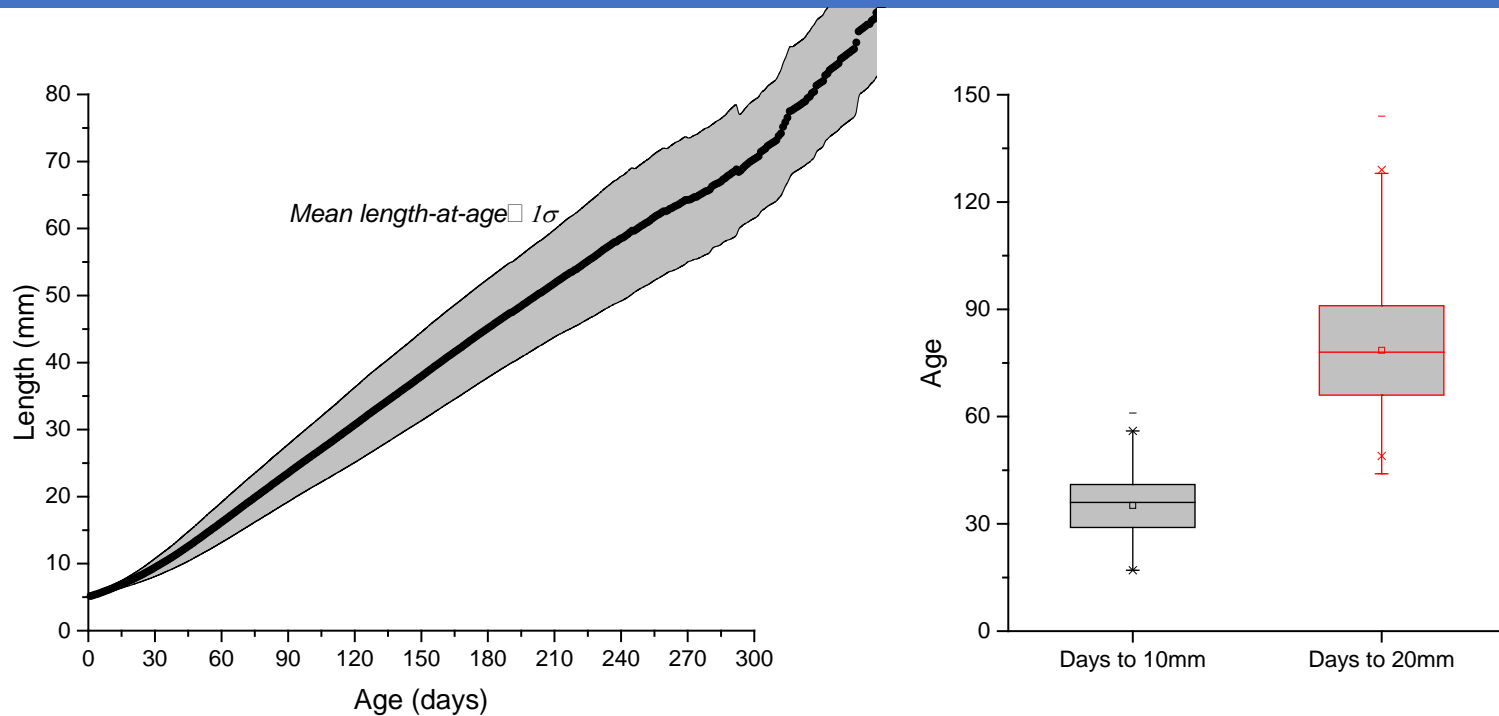
# Longfin Smelt MAST Synthesis Meeting

October 21, 2016

UCD Data and Corresponding CDFW Data

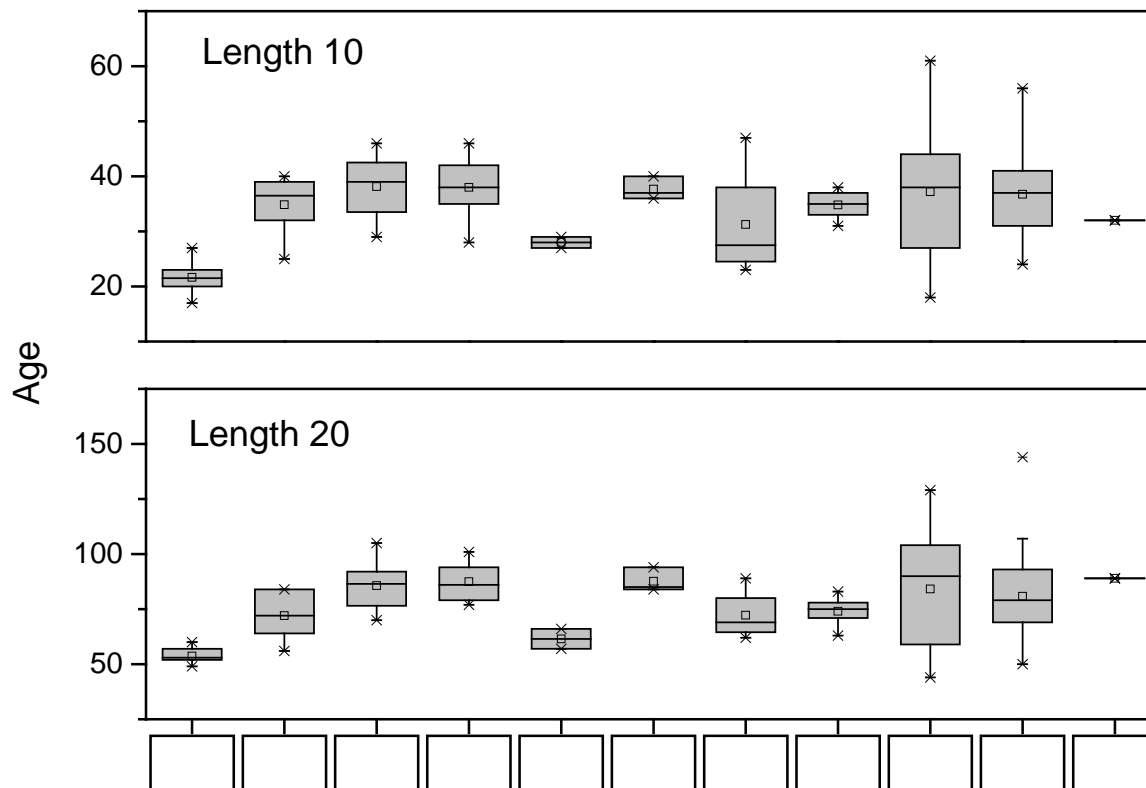
# Early Life History Growth

Q1. How long does it take to reach 10mm, 20mm?

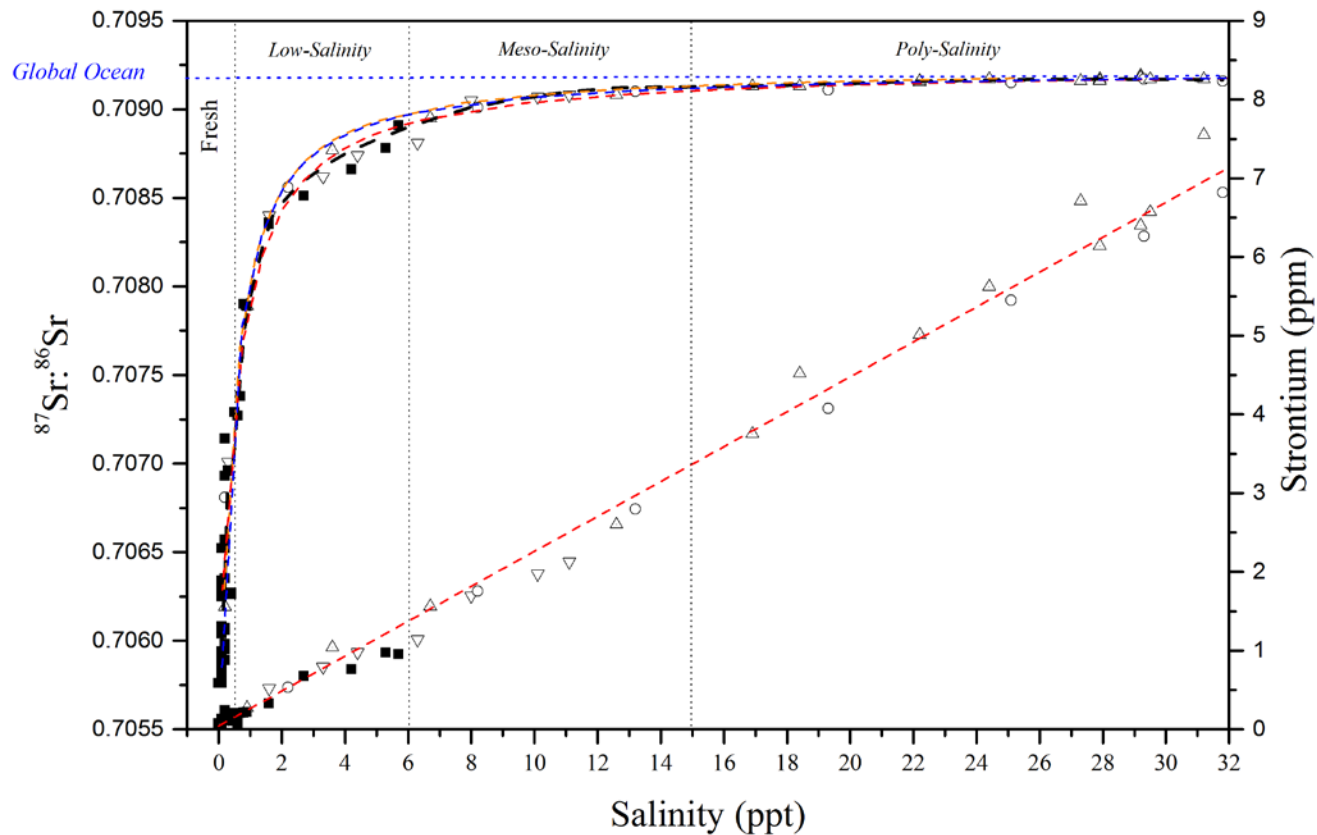


# Early Life History Growth

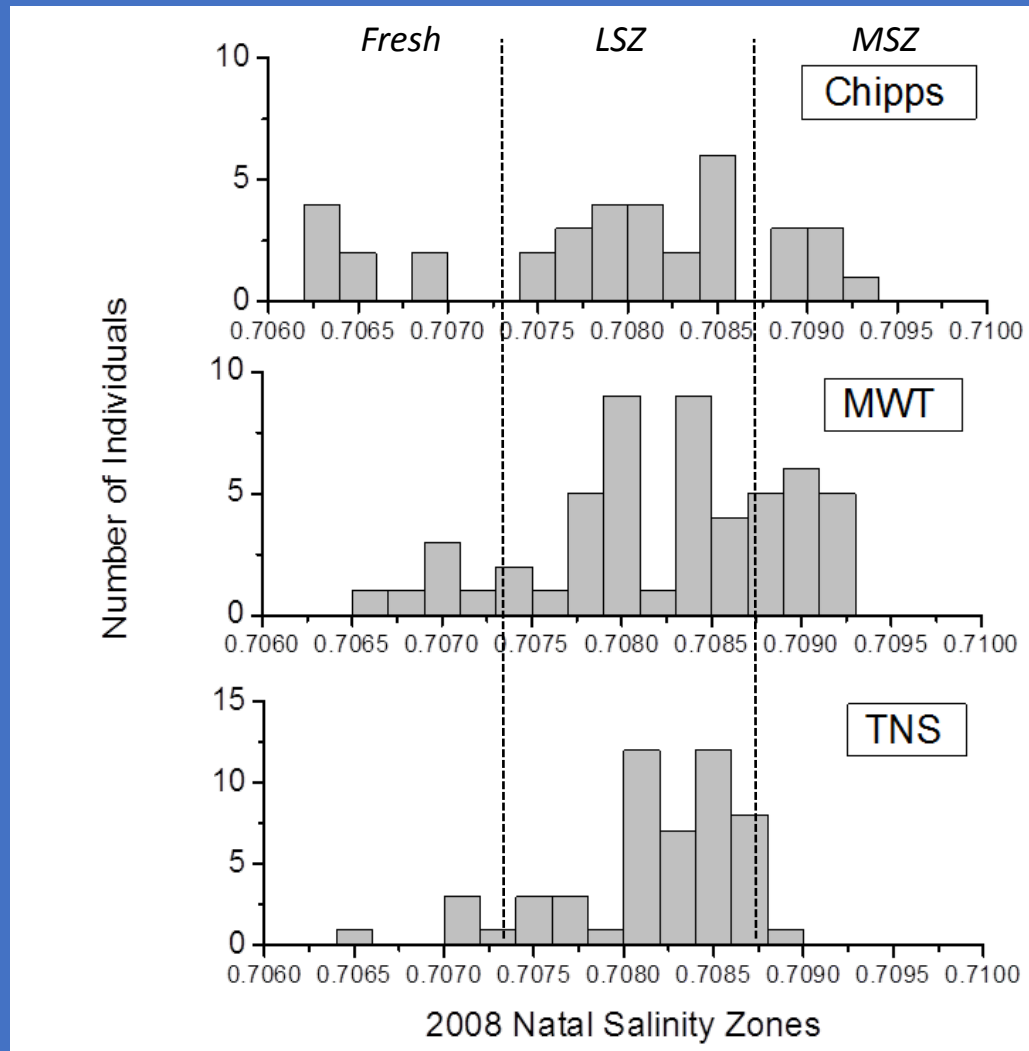
Q2. Is there evidence of a trend through time?



# Natal Origins-Salinity History

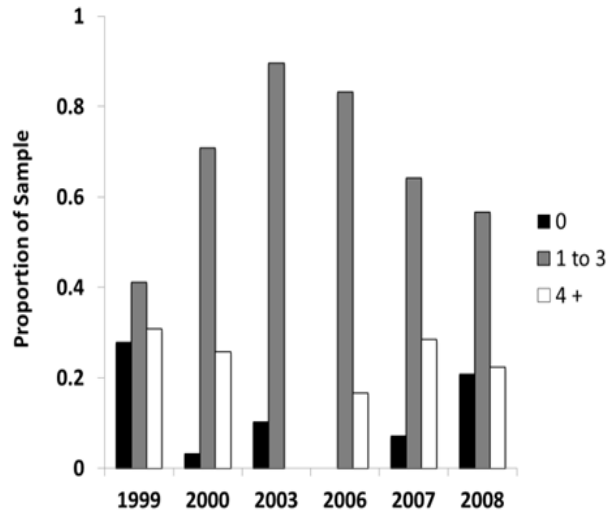


# Natal Origins -2008

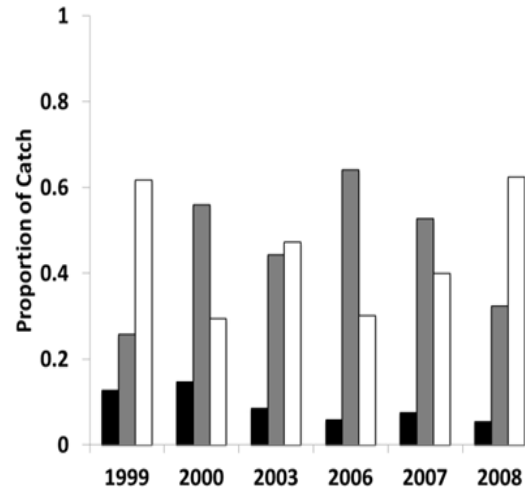


# Longfin Recruit from LSZ <4ppt

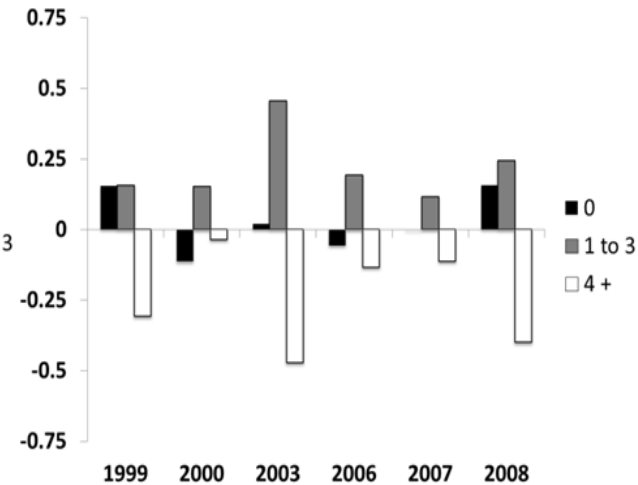
Natal  $^{87}\text{Sr}:\text{Sr}$



Catch in 20mm Survey



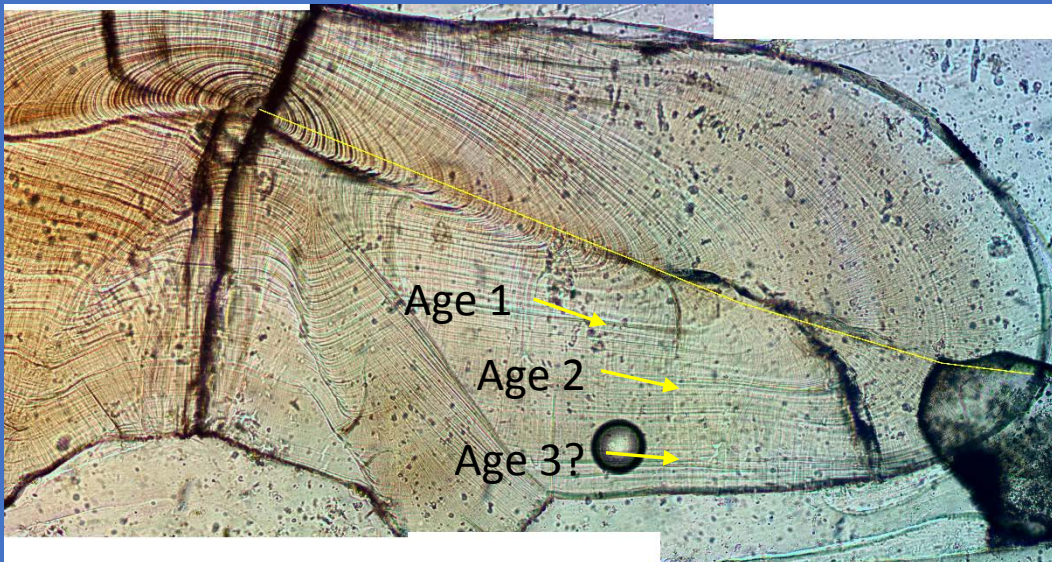
Survival Index



# Longevity

Q2. Can they live to reproduce 2-3 years?

*Chipp's Isl. 12/19/2008 122 mm SL, 13.63g*



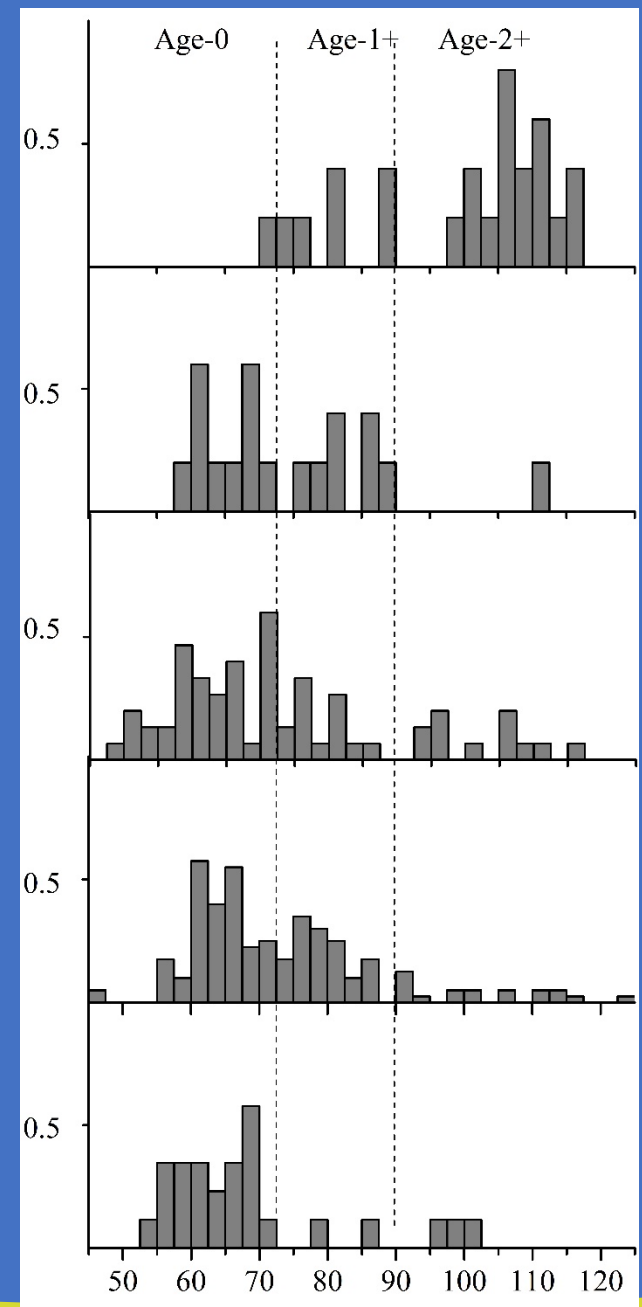
2014

2013

2012

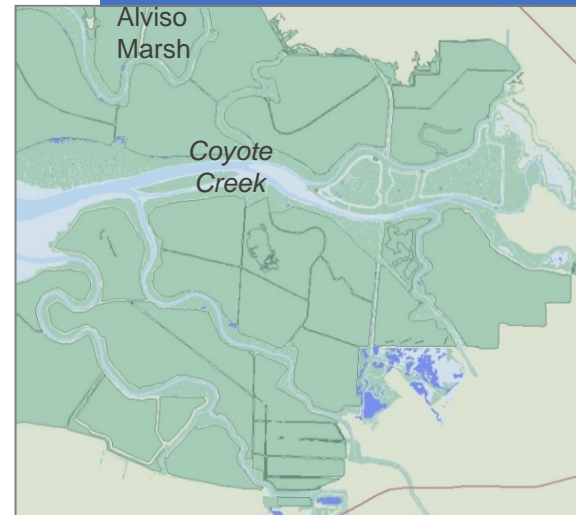
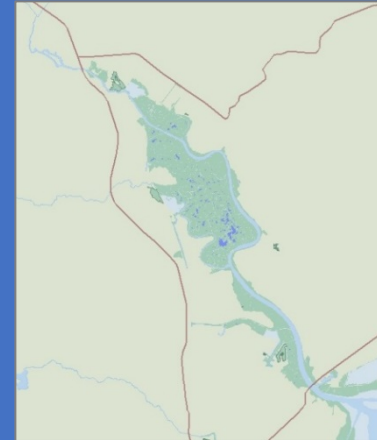
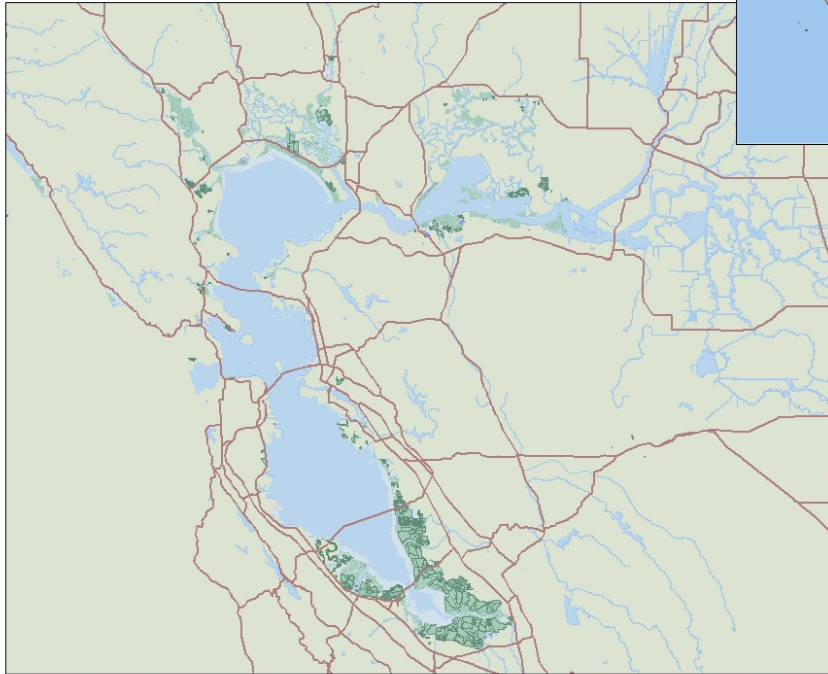
2011

2010



# Longfin Smelt Bay Tributaries

San Francisco Bay Estuary





## Species sum and percentage of catch for UCD SLS and 20mm nets

Species	Catch Sum	%of Catch
Pacific herring	138545	68.37%
yellowfin goby	50658	25.00%
Northern anchovy	5968	2.94%
prickly sculpin	4152	2.05%
unidentified Larval Fish	2457	1.21%
longjaw mudsucker	382	0.19%
threespine stickleback	279	0.14%
jacksmelt	86	0.04%
longfin smelt	54	0.03%
splittail	25	0.01%
arrow goby	20	0.01%
shimofuri goby	2	0.00%
topsmelt	6	0.00%
Sacramento sucker	4	0.00%
white croaker	3	0.00%
bay pipefish	2	0.00%
delta smelt	2	0.00%
Pacific staghorn sculpin	2	0.00%
longfin smelt/delta smelt hybrid	1	0.00%
Centrarchidae spp.	1	0.00%
Total:	202649	100.00%

Note: Not all catch from SLS and 20mm are larval. This includes some juvenile and adult sizes of fish caught in the SLS and 20mm net.

3/1-4/2016

Note: UCD tows 1 time per location compared to CDFW's 3 tows. CPUE values are per location.

Fish Per 10,000 Cubic Meters

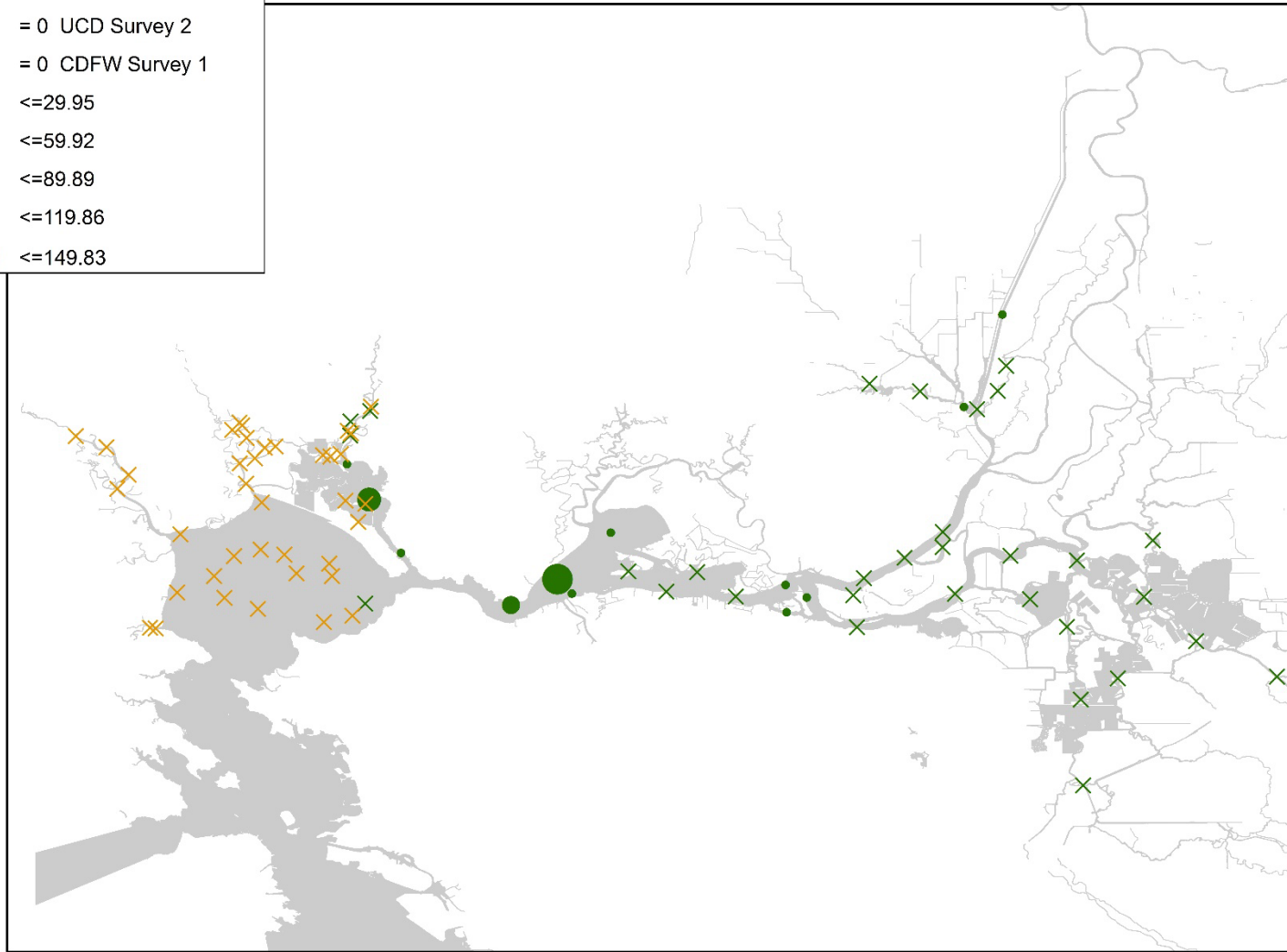
× = 0 UCD Survey 1



3/14-17/2016

**Fish Per 10,000 Cubic Meters**

- ✕ = 0 UCD Survey 2
- ✕ = 0 CDFW Survey 1
- ≤ 29.95
- ≤ 59.92
- ≤ 89.89
- ≤ 119.86
- ≤ 149.83



3/28-4/1/2016

**Fish Per 10,000 Cubic Meters**

■ = .25 UCD OT Survey

× = 0 UCD Survey 3

● ≤ 9.65

× = 0 CDFW Survey 2

● ≤ 3.49

● ≤ 9.65

● ≤ 30.77

● ≤ 61.55

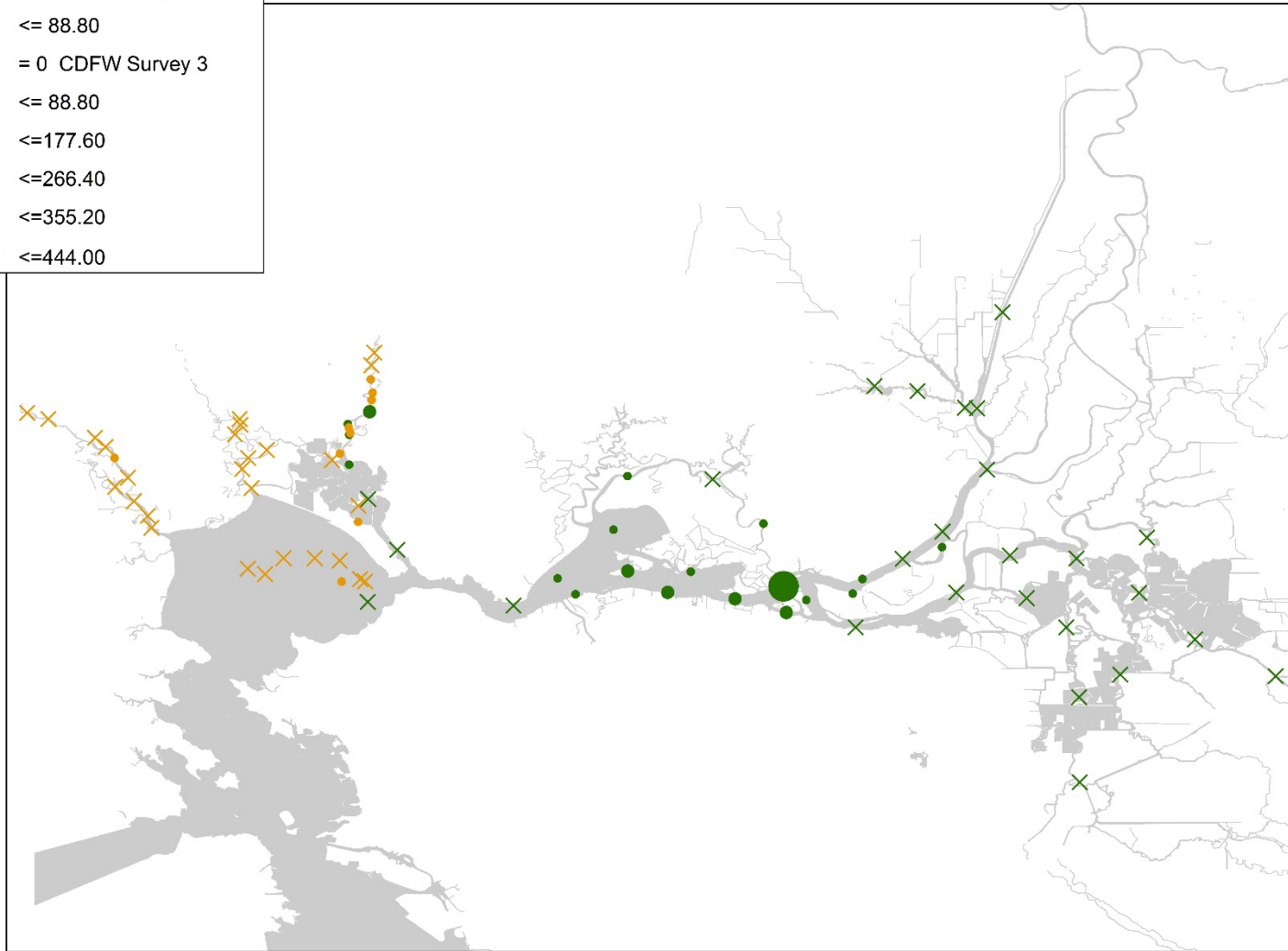
● ≤ 76.94



4/11-15/2016

Fish Per 10,000 Cubic Meters

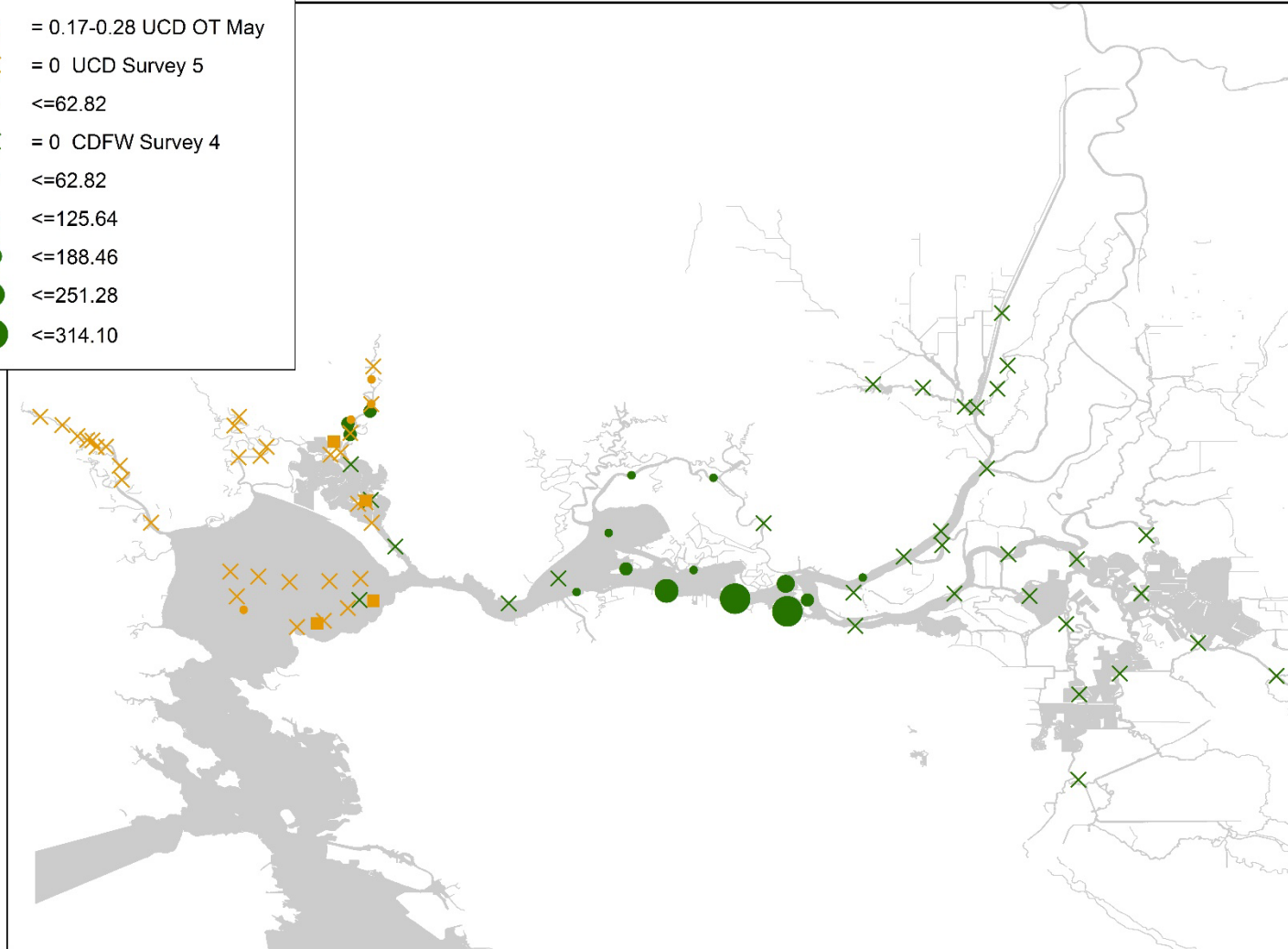
- × = 0 UCD Survey 4
- ≤ 88.80
- × = 0 CDFW Survey 3
- ≤ 88.80
- ≤ 177.60
- ≤ 266.40
- ≤ 355.20
- ≤ 444.00



4/25-5/2/2016

**Fish Per 10,000 Cubic Meters**

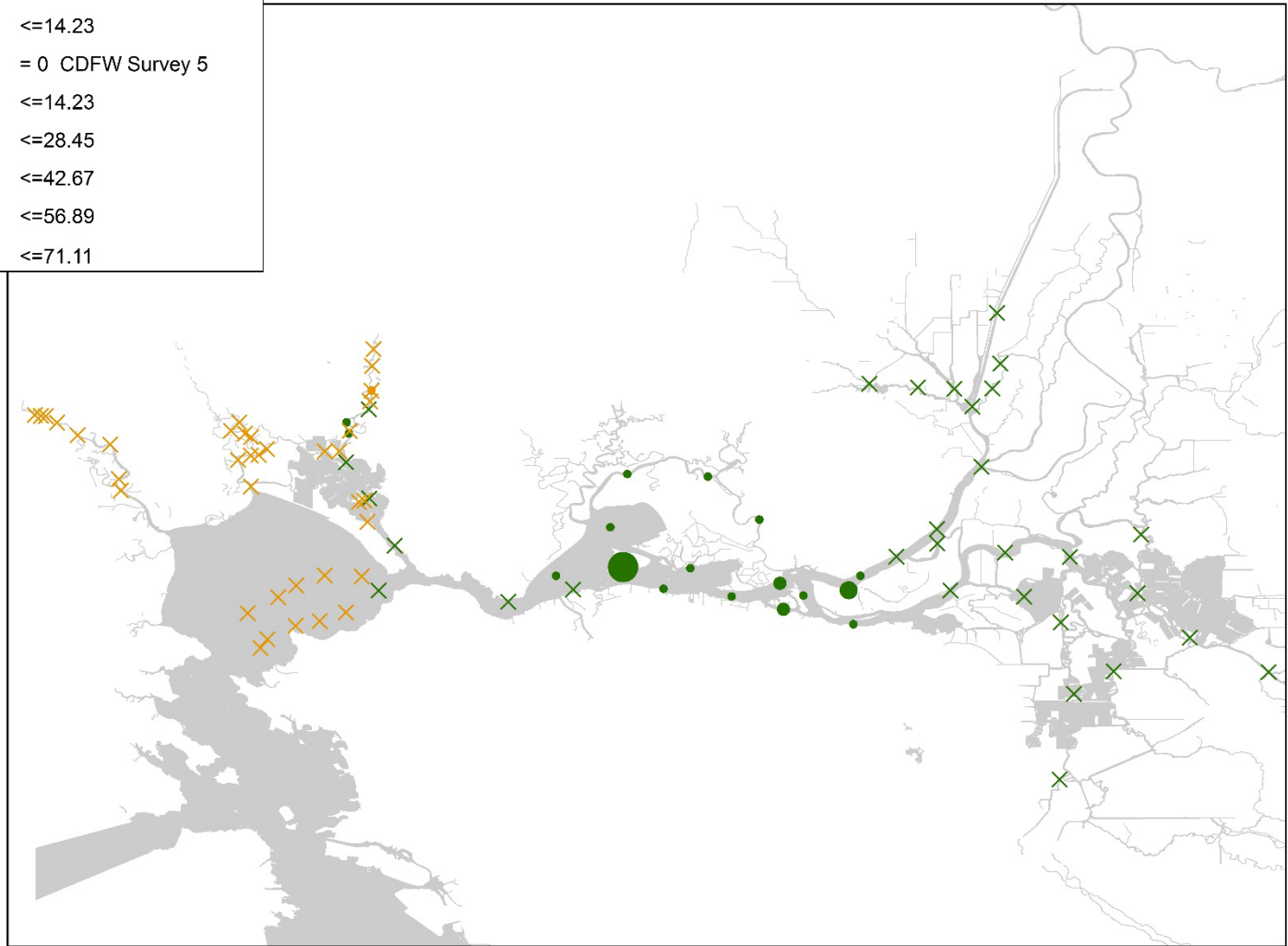
- = 0.17-0.28 UCD OT May
- × = 0 UCD Survey 5
- ≤ 62.82
- × = 0 CDFW Survey 4
- ≤ 62.82
- ≤ 125.64
- ≤ 188.46
- ≤ 251.28
- ≤ 314.10



5/9-13/2016

Fish Per 10,000 Cubic Meters

- ✕ = 0 UCD Survey 6
- ≤14.23
- ✕ = 0 CDFW Survey 5
- ≤14.23
- ≤28.45
- ≤42.67
- ≤56.89
- ≤71.11



5/23-27/2016

**Fish Per 10,000 Cubic Meters**

✕ = 0 UCD Survey 7

• ≤9.05

✕ = 0 CDFW Survey 6

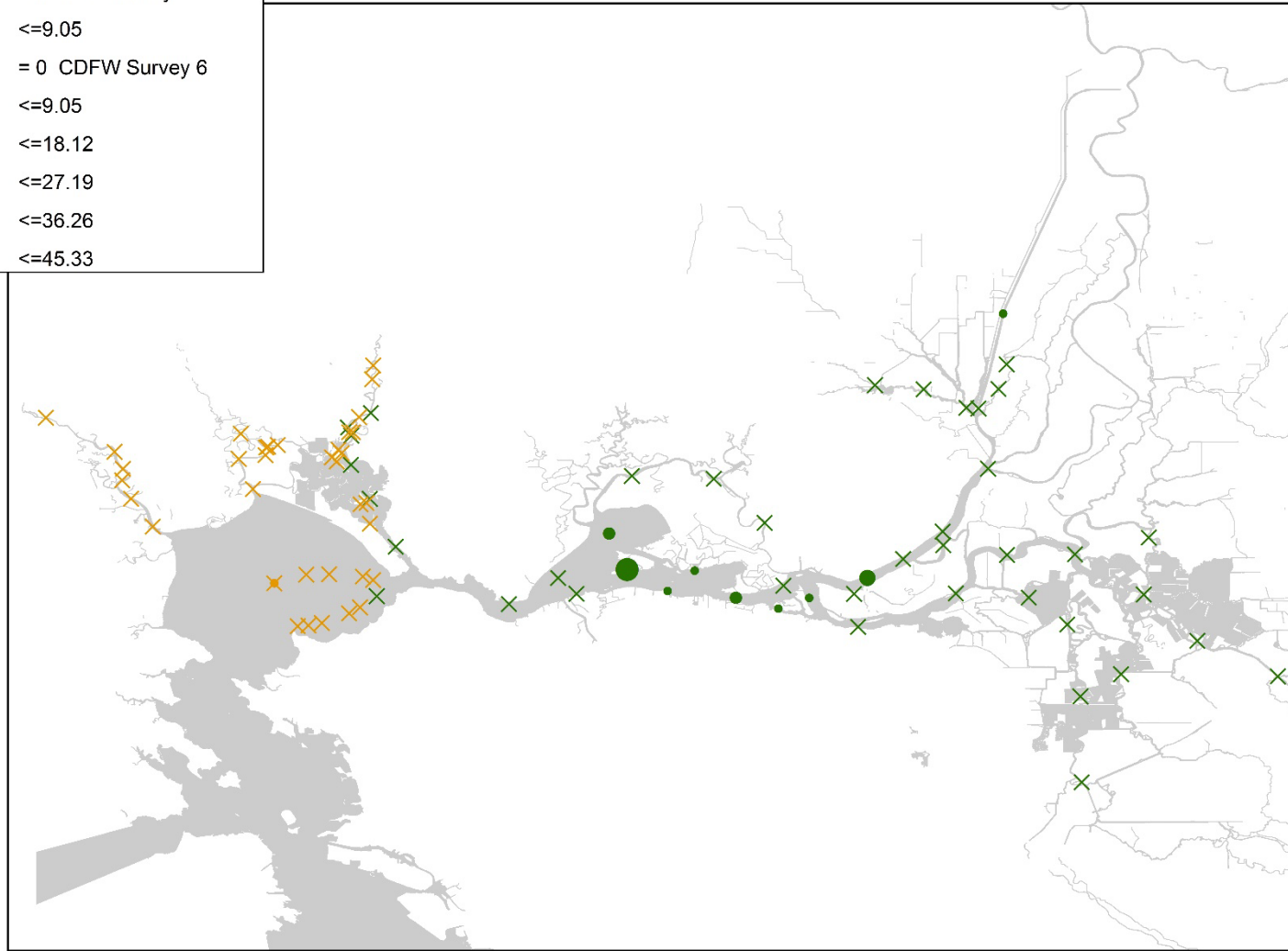
• ≤9.05

• ≤18.12

• ≤27.19

• ≤36.26

• ≤45.33

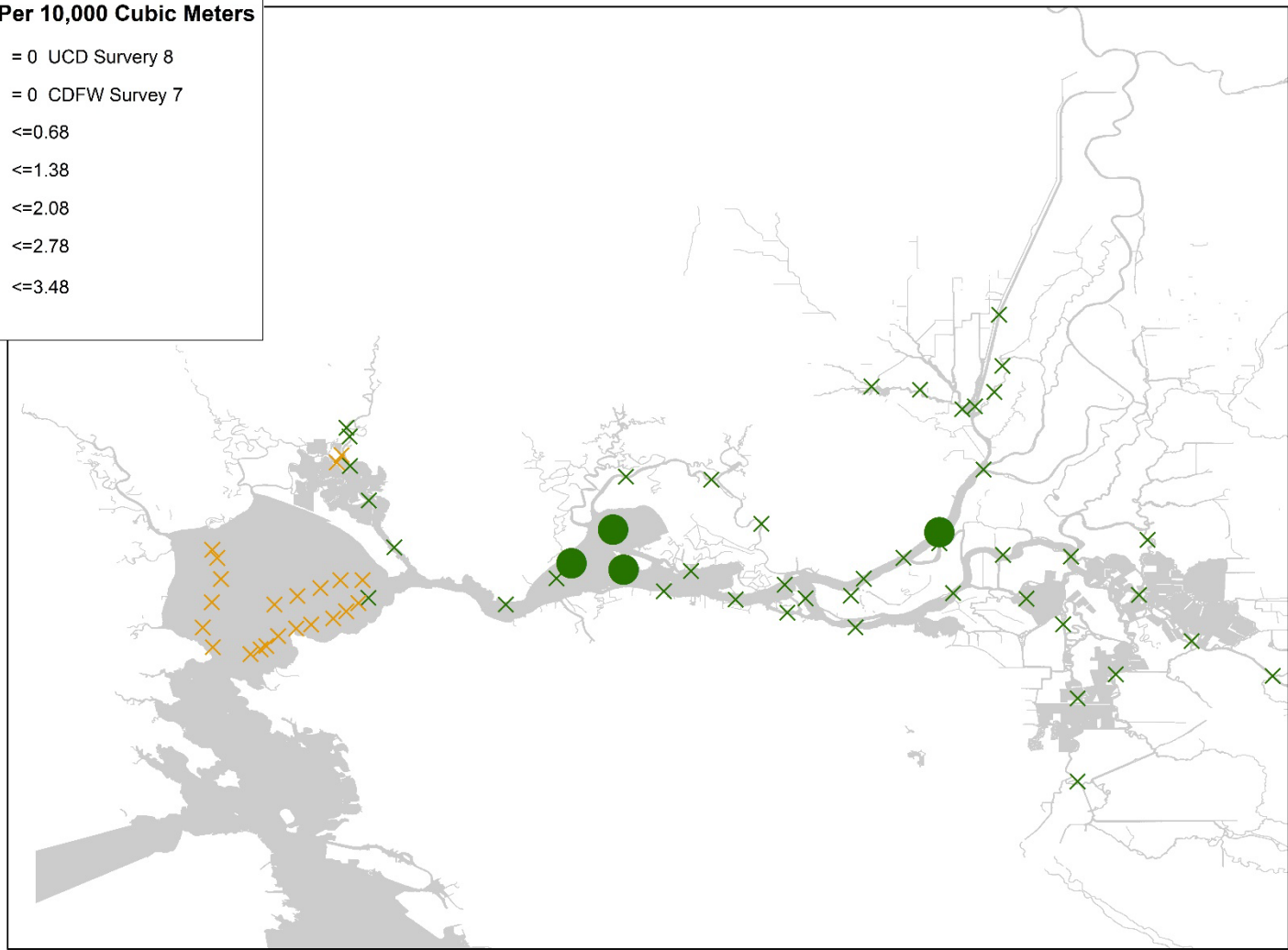




6/6-9/2016

**Fish Per 10,000 Cubic Meters**

- × = 0 UCD Survey 8
- × = 0 CDFW Survey 7
- ≤ 0.68
- ≤ 1.38
- ≤ 2.08
- ≤ 2.78
- ≤ 3.48



6/20-23/2016

**Fish Per 10,000 Cubic Meters**

- × = 0 CDFW Survey 8
- ≤1.32
- ≤2.65
- ≤3.98
- ≤5.31
- ≤6.64

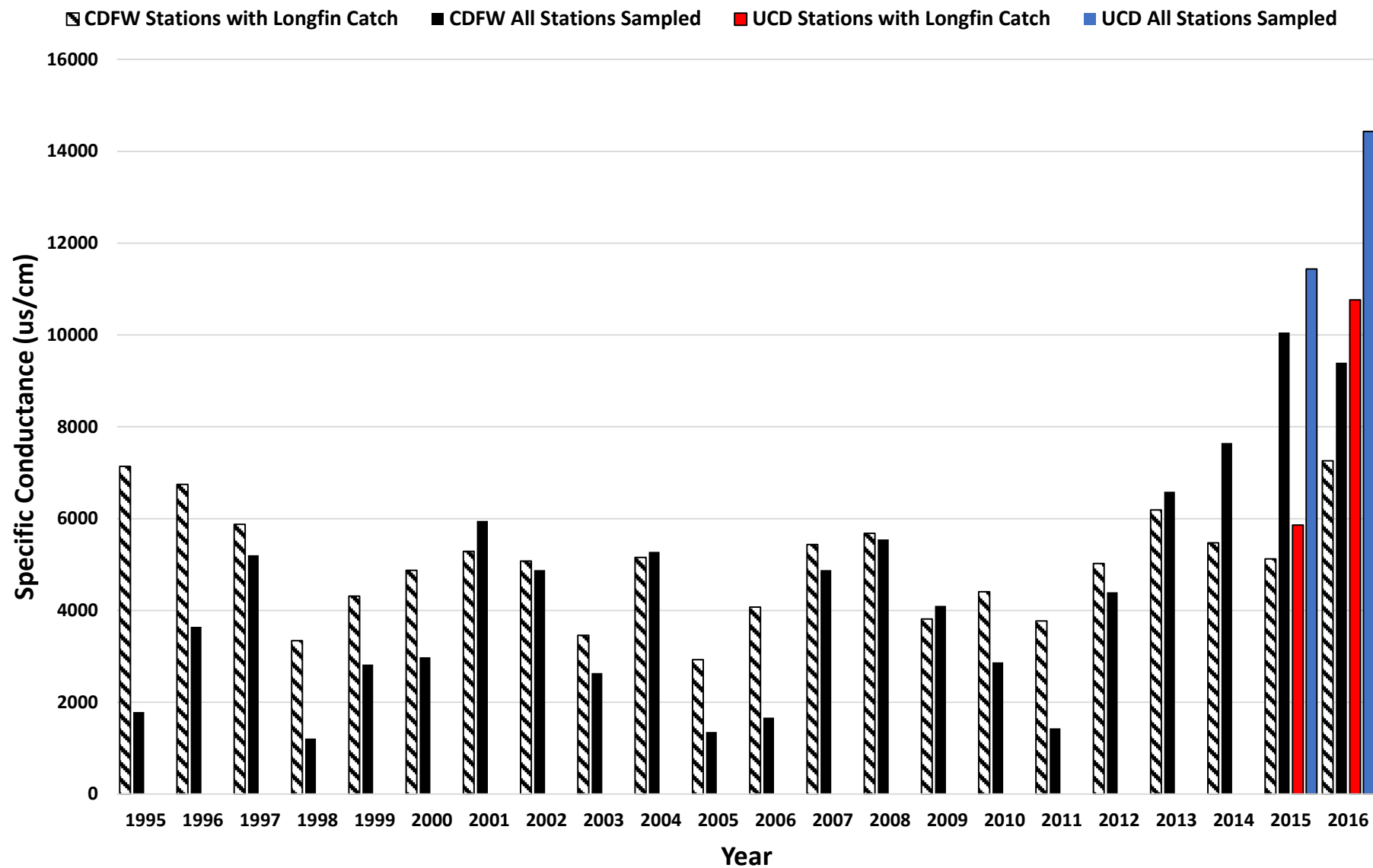


7/5-7/2016

Fish Per 10,000 Cubic Meters

× = 0 CDFW Survey 9

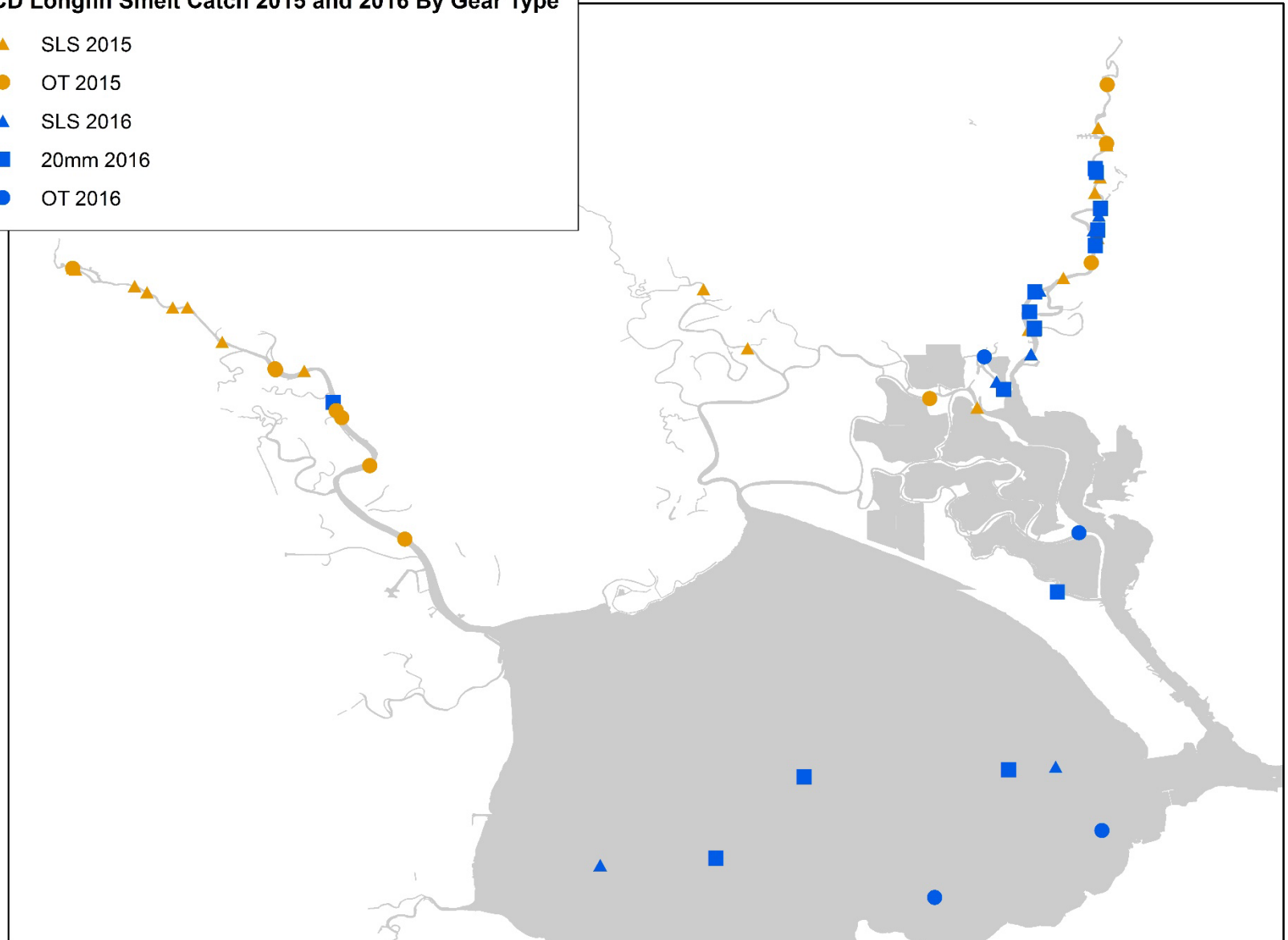




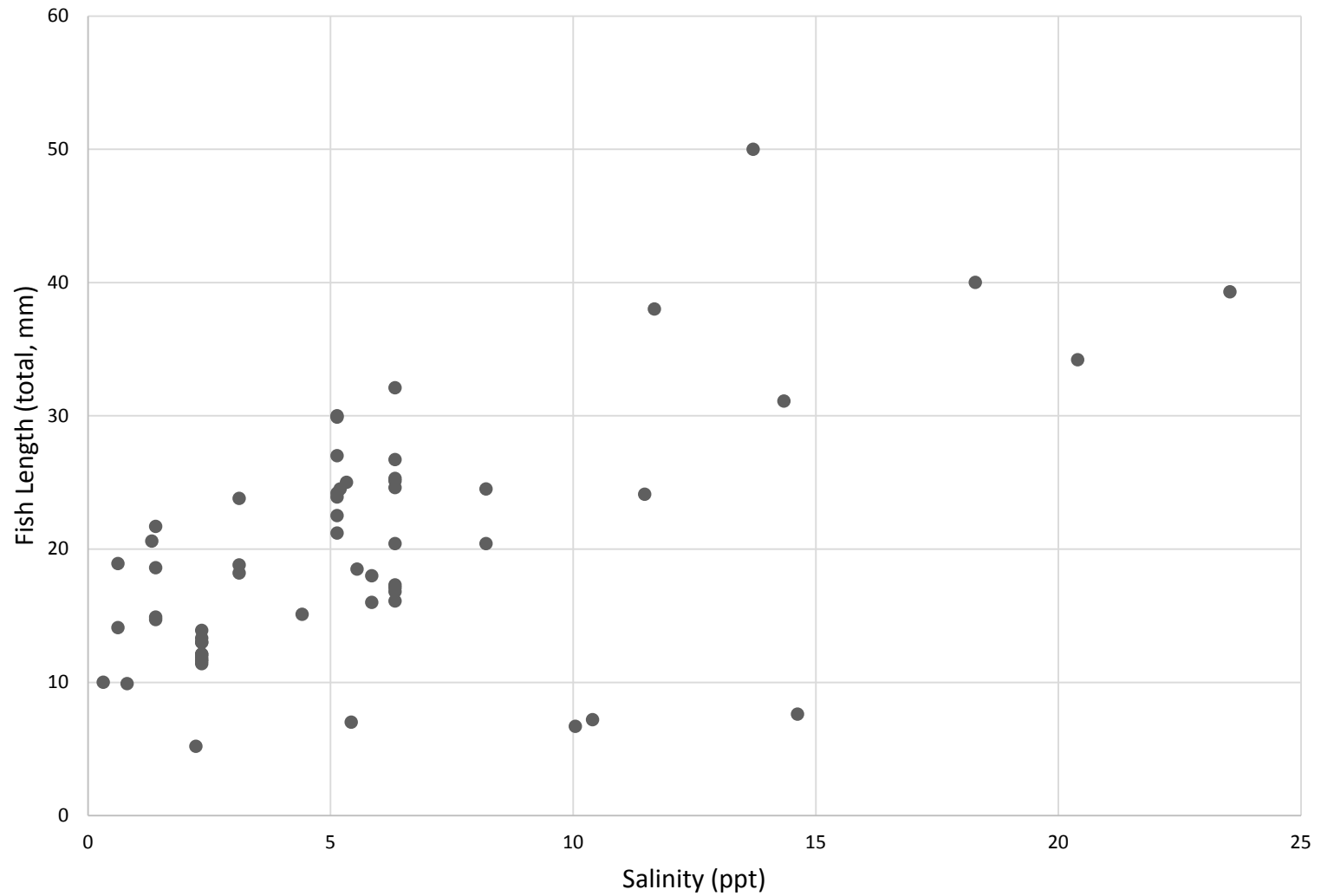
# UCD Longfin Catch 2015 and 2016

UCD Longfin Smelt Catch 2015 and 2016 By Gear Type

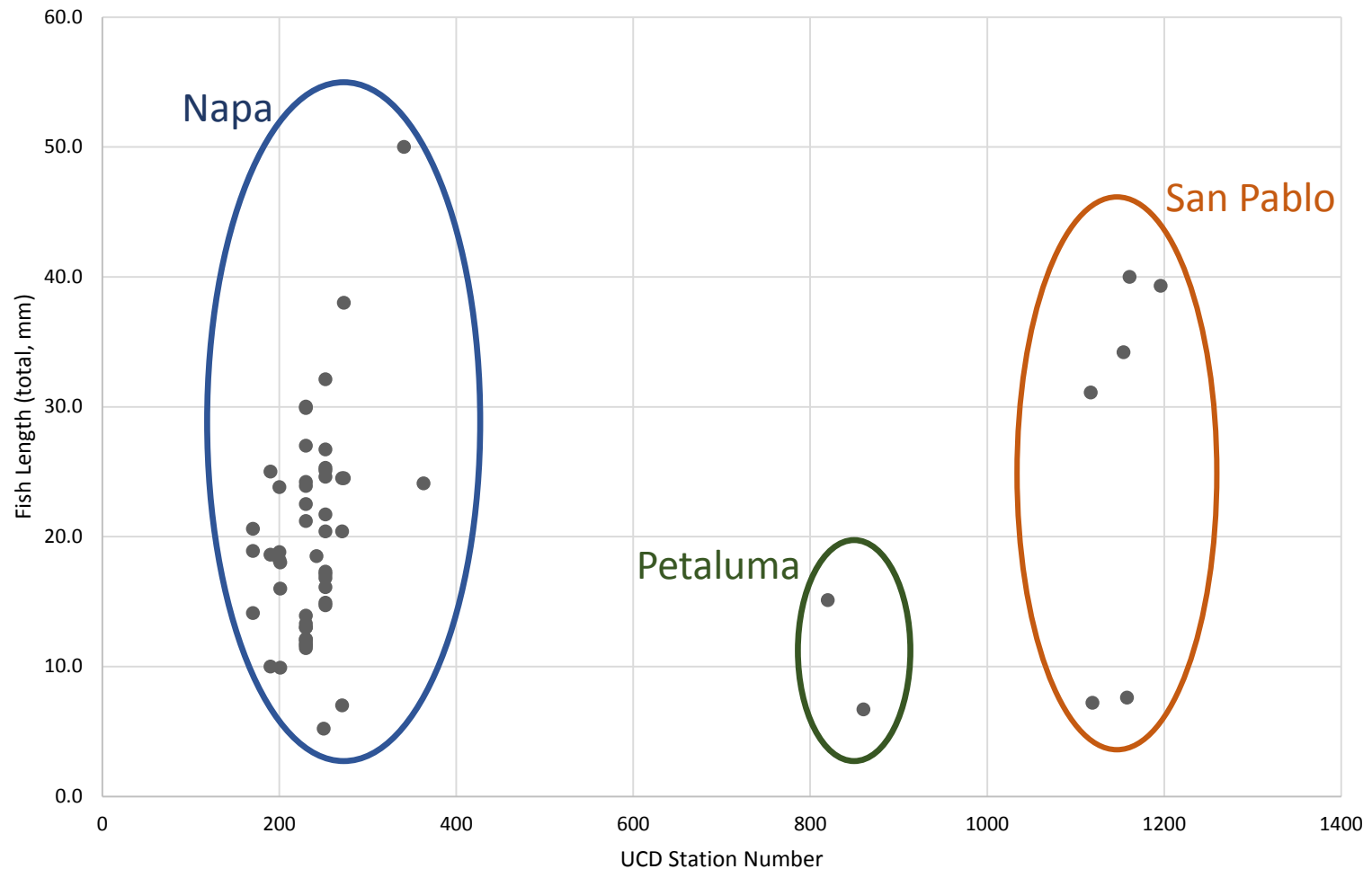
- ▲ SLS 2015
- OT 2015
- ▲ SLS 2016
- 20mm 2016
- OT 2016



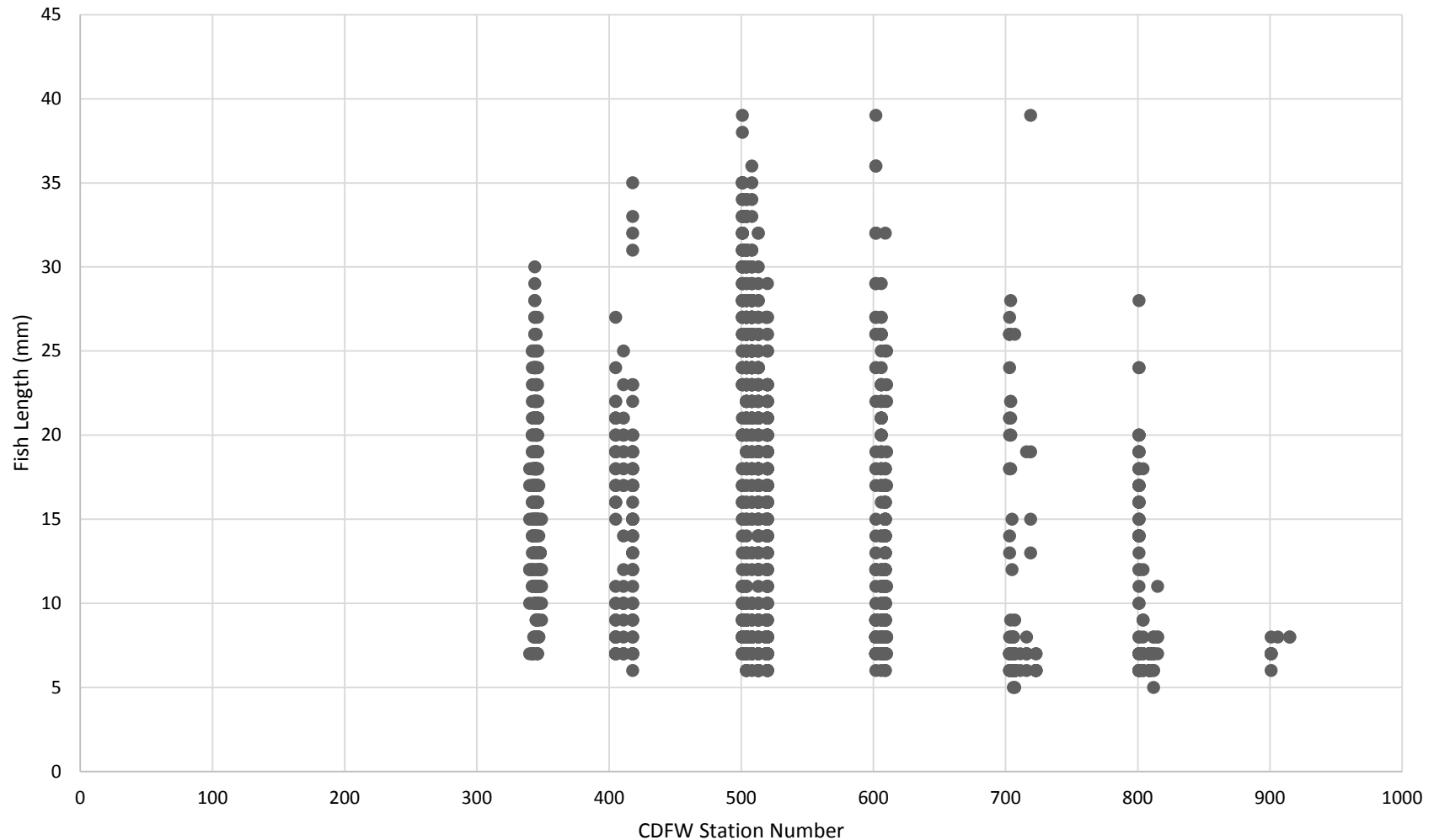
# UCD Fish Length By Salinity Level



# UCD Fish Length By Station (2016 all gear types)



# CDFW Fish Length By Station (2016 SLS and 20mm)





# CDFW Fish Length Over Time (2016 SLS and 20mm)

