Non-Anthropogenic Chemicals and Non-Contaminant Factors that May Influence Amphipod Survival

RMP Stressor Identification Workshop

Non-Anthropogenic Chemicals, Non-Traditional Chemicals and Other Factors

- Unionized Ammonia – Y (Aeration/pH/zeolite)
- Hydrogen Sulfide – Y (Aeration/pH)

- Other Toxins
  - e.g., Phytotoxins?
  - Hg, Mn?

- Non-Traditional Contaminants
  - Anions – Y (SPE)
  - Polar Organics – ? (LC-MS)
  - Oxidants – Y ($Na_2S_2O_3$)

- Test Organism Health
  - Salinity Effects/Acclimation
  - Seasonal Health (Control Chart data indicates no obvious effect)

- Grain Size
  - Percent Fines - ?
  - Percent Clay -? Particle Shape -?

Grain Size Effects on *E. estuarius*

Dewitt

Tay et

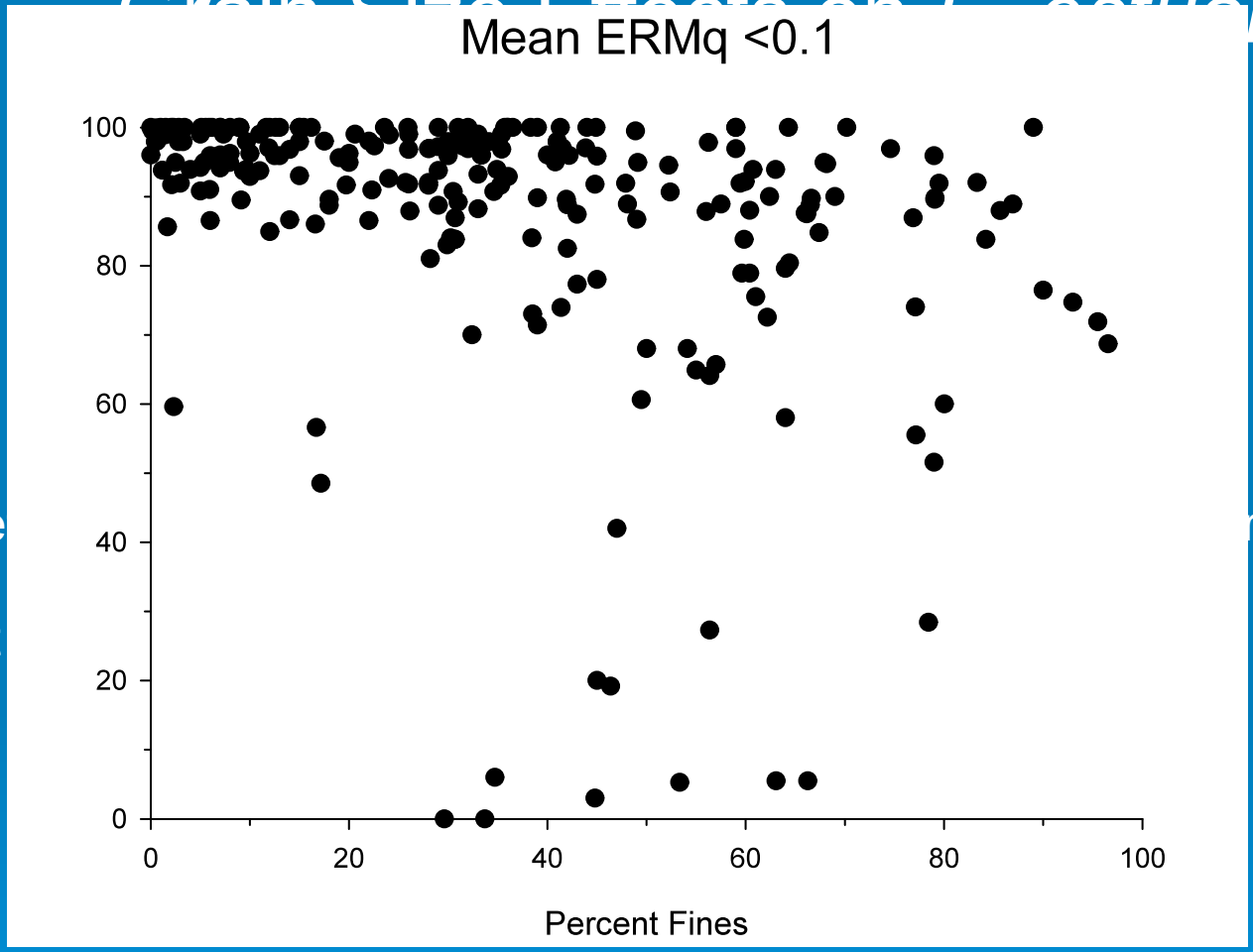
82% survival

74% survival

Hunt e

rcent clay

Bay et



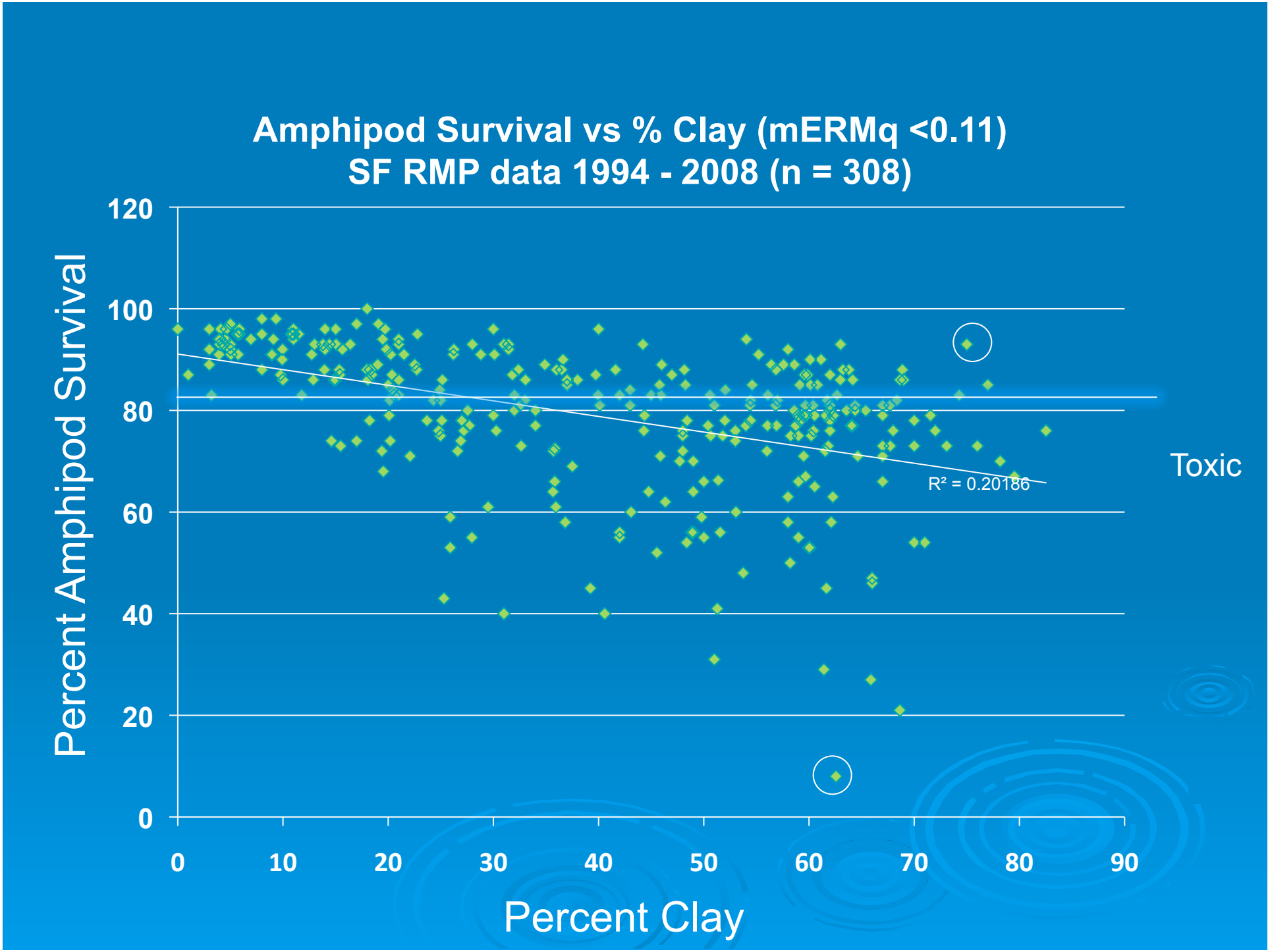

Amphipod Survival vs % Clay (mERMq <0.11)
SF RMP data 1994 - 2008 (n = 308)
Percent Amphipod Survival
120
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
90
Percent Clay
R² = 0.20186
Toxic

Table 2. *E. estuarius* mean 10d survival in mixture of 75 µm-sieved Salinas River reference sediment (= silt+clay) + sand (MPSL unpublished data).

Treatment	Mean	(SD)
10% Fines	92%	(11)
30% Fines	100%	(0)
50% Fines	84%	(22)
70% Fines	92%	(11)
90% Fines	56%	(17)

37% of Total RMP Samples 1993-2008