


CEP/RMP Sediment Coring Study Update

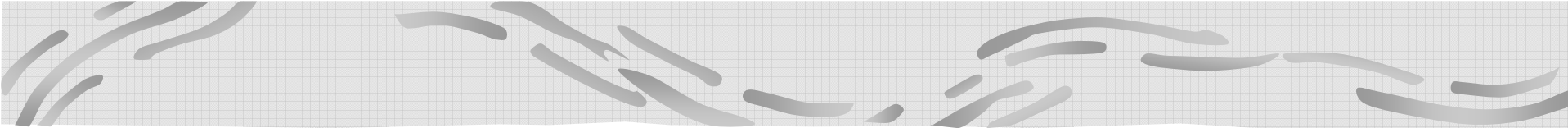
RMP TRC, October 2006






Objectives (CEP & RMP)

- Build understanding of ecosystem characteristics and processes...
 - To provide sufficient (better) basis for deciding among possible management alternatives
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Objectives (this Study)

- Better constrain future loads from eroding buried contaminants
 - Estimate historic loadings of contaminants (especially recent decades)
 - Characterize contamination with depth to assess current status and likely future changes
 - Provide data for parameterization and evaluation of the multi-box model
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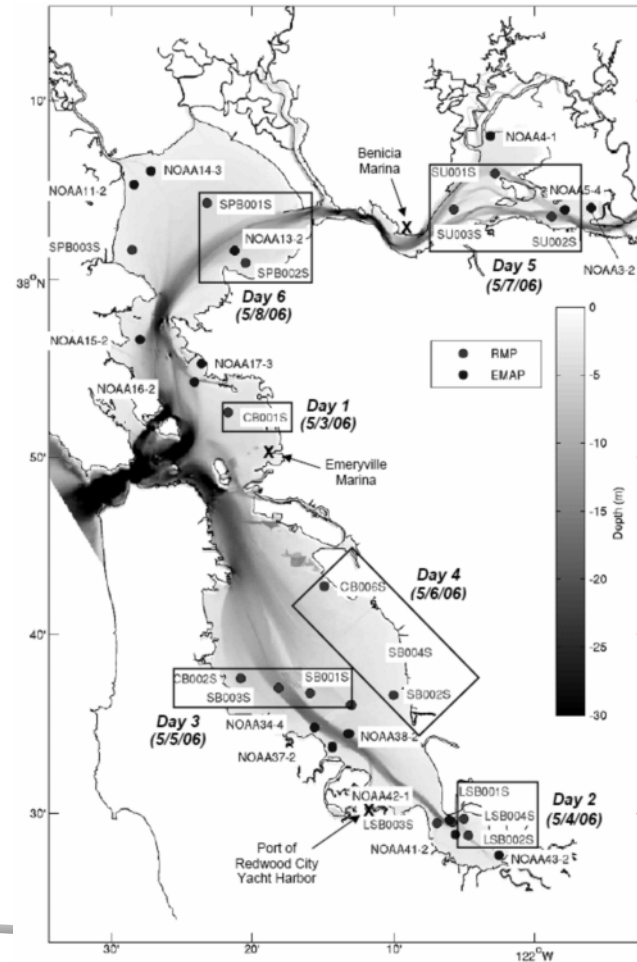


Sediment Core Sampling Strategy

- ☞ 17 Cores budgeted
 - ☞ Hybrid (random + deterministic)
 - 6 samples specifically to understand loading history (wetland deposition zones)
 - 11 sites to begin representative characterization of Bay sediments
 - ☞ Bay sites vibracore + manual push core, wetlands manually cored (Livingstone)
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Distribution of Sites

- 3 sites Central Bay, 2 sites each other segments
- Preference to RMP repeat stations
 - CB001S, CB002S, CB006S,
 - LSB001S, LSB002S,
 - SB001S, SB002S,
 - SPB001S, SPB002S,
 - SU001S, SU002S






Sampling To Date

- ☞ Originally one Bay cruise scheduled
 - Relatively few stations spaced widely apart
 - Not enough samples (e.g. 10 in yr 1) for info to change stratification midstream
 - ☞ Two Bay cruises
 - May 2006- equipment issues, contractor (Weston Systems) scheduling = only 3 stations
 - July 2006- remaining 8 stations
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Planned Sampling

☛ Wetland coring

- Potential Clapper Rail usage = no sampling until Sept 2006
 - Coordination with SB Salt Pond project coring in Alviso (Beth Watson UCB & Josh Collins)
 - AMS may subcontract remaining sites to Beth Oct 2006
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Potential Sampling Issues

- ☞ Possible core compression
 - External mud line on core sometimes ~7ft vs core liner ~6ft
 - ☞ Sediment resuspension in Vibracore
 - Thick layer of floc resuspended in water
 - Manual push core had cleaner interface
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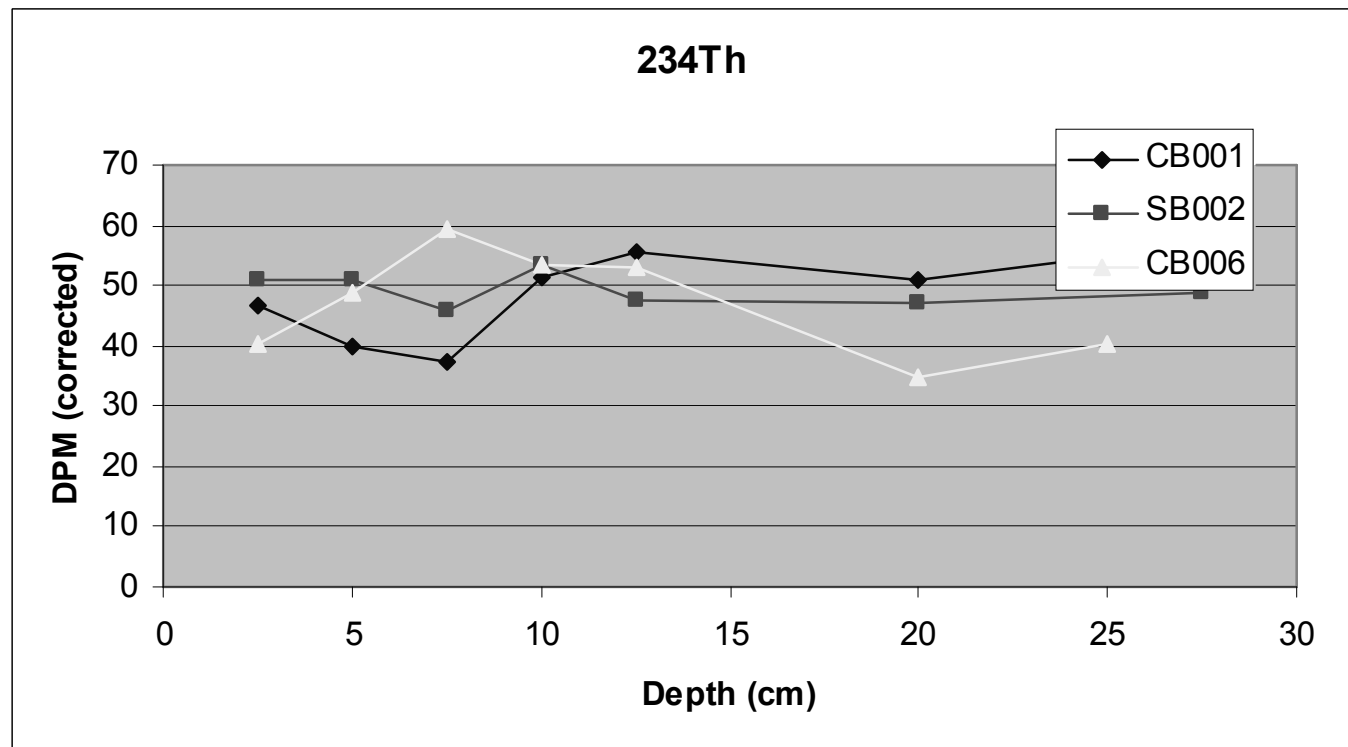


Analyses to date

- ☞ May 2006 Bay Cores
 - Sectioned at 2.5cm intervals
 - Sent to Doug Hammond UCSC for Th/Cs/Pb dating
 - ☞ July 2006 Bay Cores
 - Samples in prep to send to Hammond
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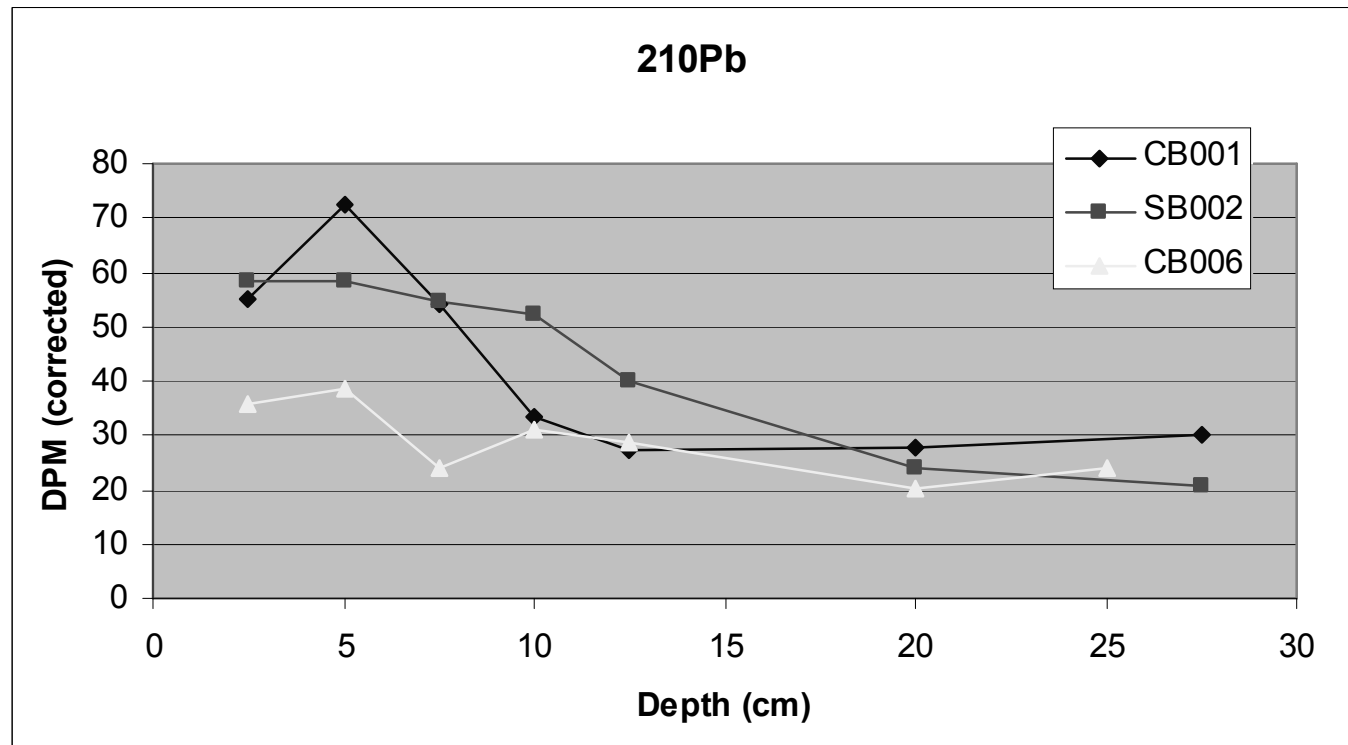
^{234}Th Results to Date

- Diluted to ~baseline (half-life 24 days)



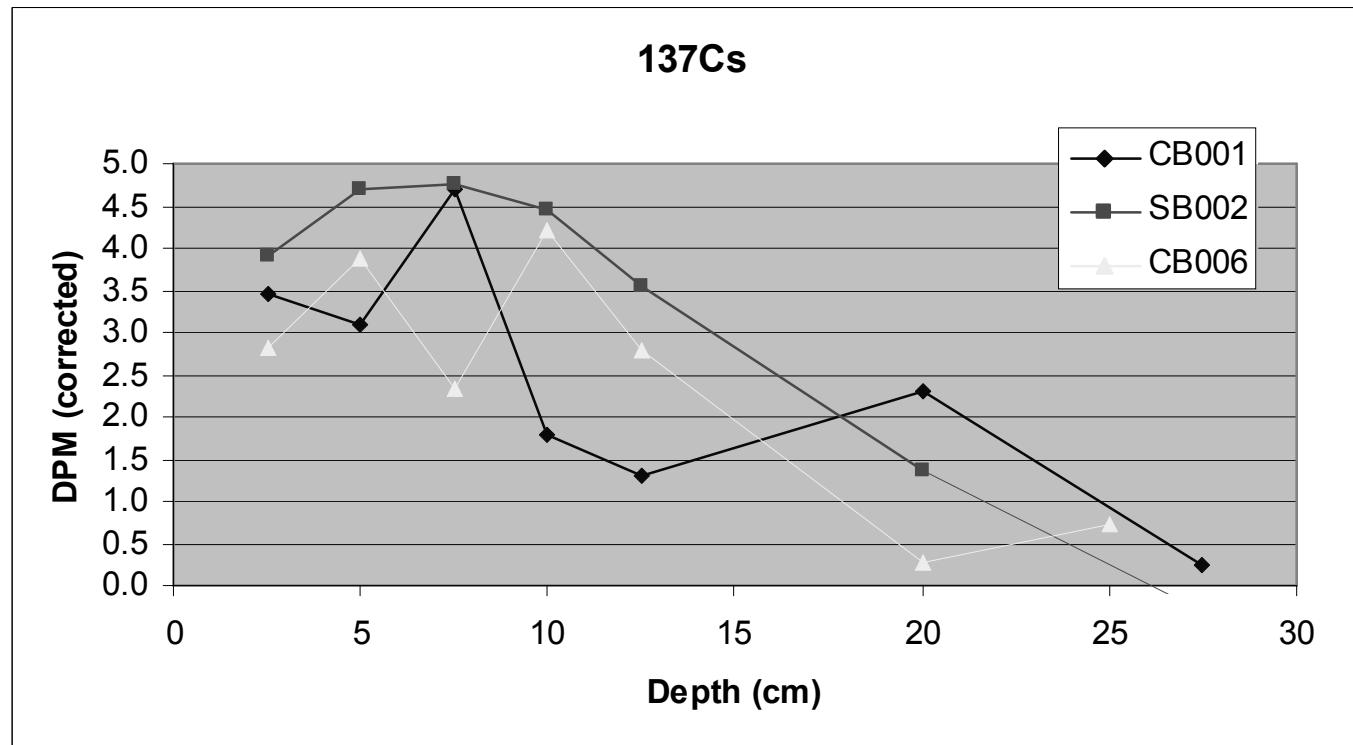
^{210}Pb Results to Date

~Constant top 10cm, half (23 yrs) by 20cm



^{137}Cs Results to Date

☛ To (pre A-bomb) background $\sim 20\text{-}30\text{cm}$





Summary

- ☞ Thorium signal in summer may not be sufficient, net erosion, or mixed and diluted out
 - ☞ Lead and cesium signals more or less agree for Central and South Bay sites so far
 - 60 years = 30 cm horizon at deepest
 - ☞ Top layers highest in Cs
 - Expect 1960s highest, surface max = static or eroded Bay surface
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