The RMP Mercury Strategy: Approaching a Crossroads

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RMP Mercury Meeting
January 2010
Reduced Mercury Exposure
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The RMP Mercury Strategy

**Goal:** Collect data to support management decisions

**Priority Questions**
1. Where and when is mercury entering the food web?
2. What are the high leverage processes, sources, and pathways?
3. What are the best opportunities for management intervention?
4. What are the effects of management actions?
5. Will total mercury reductions result in reduced food web accumulation?
Q1: Patterns in Uptake - Studies

- RMP Small Fish
  - 2005-2007 Pilot
  - 2008-2010 Expanded
  - $150K per year
  - Report due Dec 2010
Q1: Patterns in Uptake - Studies

- RMP Small Fish
- Fish Mercury Project Small Fish
Q1: Patterns in Uptake - Studies

- RMP Small Fish
- Fish Mercury Project Small Fish
- USGS Small Fish
Q1: Patterns in Uptake - Studies

- RMP Small Fish
- Fish Mercury Project Small Fish
- USGS Small Fish
- South Baylands

![Graph showing patterns in uptake of total mercury in Longjaw mudsuckers from marshes and ponds.](image)
Q1: Patterns in Uptake – What We’ve Learned

- Association with periodically inundated habitats
- High in South Bay region
- Low near POTW outfalls
- No clear wetland signal
- Higher spatial variability on margins
- Strong seasonal variation
- Significant interannual variation
Q2: High Leverage Pathways – Studies

- RMP Small Fish
Q2: High Leverage Pathways – Studies

- RMP Small Fish
- RMP Isotope Study
  - $115K, 2009-2010
  - Unveiling today
  - Report due in May 2010
Q2: High Leverage Pathways – Studies

- RMP Small Fish
- RMP Isotope Study
- RMP DGT Study
  - $80K, 2009-2010
  - Update today
  - Report due in May 2010
Q2: High Leverage Pathways – Studies

- RMP Small Fish
- RMP Isotope Study
- RMP DGT Study
- SWAMP Lakes
Q2: High Leverage Pathways – What We’ve Learned

- Association with periodically inundated habitats
- No clear wetland signal
- Low near POTW outfalls?
- Legacy mercury in the sediments?
- Atmospheric deposition?
- Other ??
Q3: Opportunities for Intervention - Studies

- RMP MeHg Mass Budget

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<tr>
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<th>Mass in Water</th>
<th>kg</th>
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<tr>
<td>Ext. Load</td>
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<tr>
<td>Sed to Water*</td>
<td>0.021</td>
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<tr>
<td>Water Degrade</td>
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<td>GG Outflow</td>
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<tr>
<td>Bio-uptake</td>
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<tr>
<td>Volatilize</td>
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<table>
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<th>Mass in Sediment</th>
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Q3: Opportunities for Intervention - Studies

- RMP MeHg Mass Budget
- SCVWD Reservoir Aeration Studies
Q3: Opportunities for Intervention - Studies

- RMP MeHg Mass Budget
- SCVWD Reservoir Aeration Studies
- Gill et al Studies
Q3: Opportunities for Intervention – What We’ve Learned

- In-Bay production in sediment dominates
- Manipulating circulation is promising in lakes
- Photodegradation may provide management opportunities
Q4: Effects of Management Actions - Studies

- RMP Status and Trends Monitoring
Q4: Effects of Management Actions - Studies

- RMP Status and Trends Monitoring
- SCVWD Reservoir Aeration Studies
Q4: Effects of Management Actions - Studies

- RMP Status and Trends Monitoring
- SCVWD Reservoir Aeration Studies
- South Baylands
Q4: Effects of Management Actions – What We’ve Learned

- Not much so far
Q5: Effect of Total Mercury Reductions

- No specific studies currently planned
## RMP Mercury Strategy Five Year Plan

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Planning Effort Needed in 2010

- Decision point in June – what studies to recommend for 2011?
- Need to evaluate progress
- Strategy update needed
Questions to Ponder Today

- Is the Strategy still sound?
  - Right questions?
  - Right emphasis?
- Are we making progress?
- Are we on the right path with the studies we have selected?
  - More of the same?
  - Different approaches?