Information Needs and RMP Studies to Address Them

BASMAA

High Priority Information Needs

Mercury: Loading from Small Tributaries (Including Methylmercury)	▪ **Small tributaries loading strategy** o Guadalupe River modeling (2009) o Zone 4 Line A monitoring (2009) o Guadalupe compliance monitoring (SCVWD funding) o Develop Multi-year Watershed Loading Sampling Plan (2009) o Monitoring of Representative Watersheds (2010- [proposed]) o Land Use Sites: Scoping of Needs and Monitoring (2010- [proposed]) o Dynamic Modeling of a Representative Watershed (2012 [proposed]) o Sampling to Observe Trends in a Subset of Representative Watersheds (2014- [proposed])
Mercury: Fate, Transport and Biological Uptake in the Bay and Tidal Areas	▪ Methylmercury o **Mercury strategy** ▪ Small fish monitoring (Annual S&T) ▪ Mercury isotopes (2008 & 2009) ▪ DGTs (2008 & 2009) ▪ Methylmercury mass budget (2009) ▪ Methylmercury model development (2011 [proposed]) ▪ Total mercury o **Modeling strategy** ▪ Margins conceptual model (2009) ▪ Flexible grid model of the Bay and margins (2010-2014+)

Mercury: Contributions from Local Air Sources to Bay Area Watersheds	▪ Monitoring and Modeling Contributions of Atmospheric Deposition to Watershed Mercury Loads (2010 [proposed])
Mercury: Bay Contaminant Status and Trends (e.g., Progress towards TMDL targets)	▪ Methylmercury o Water (Annual S&T) o Sediment (Annual S&T) o Small fish (select years) o Sport fish (Triennial S&T) o Bird eggs (Triennial S&T) ▪ Total mercury o Water (Annual S&T) o Sediment (Annual S&T)
PCBs: Loading from Small Tributaries	▪ **Small tributaries loading strategy** o Guadalupe River modeling (2009) o Zone 4 Line A monitoring (2009) o Guadalupe piggyback (2010 [proposed] o Develop Multi-year Watershed Loading Sampling Plan (2009) o Monitoring of Representative Watersheds (2010- [proposed]) o Land Use Sites: Scoping of Needs and Monitoring (2010- [proposed]) o Dynamic Modeling of a Representative Watershed (2012 [proposed]) o Sampling to Observe Trends in a Subset of Representative Watersheds (2014- [proposed])
PCBs: Natural Attenuation of PCBs in Bay Area Watersheds	▪ **PCB Strategy** o PCB Conceptual Model 1.5 (2010 [proposed]) – would include a literature review on degradation rates
PCBs: Bay Contaminant Status and Trends	▪ Water (Biennial S&T) ▪ Sediment (Annual S&T) ▪ Bivalves (Biennial S&T) ▪ Sport fish (Triennial S&T) ▪ Bird eggs (Triennial S&T)

	▪ **PCB Strategy** o Small fish (2010 [proposed])

Low Priority Information Needs

Legacy Pesticides: Loading from Small Tributaries	▪ **Small tributaries loading strategy xx not sure if LPs are included in any of these studies** o Guadalupe River modeling (2009) o Zone 4 Line A monitoring (2009) o Develop Multi-year Watershed Loading Sampling Plan (2009) o Monitoring of Representative Watersheds (2010- [proposed]) o Land Use Sites: Scoping of Needs and Monitoring (2010- [proposed]) o Dynamic Modeling of a Representative Watershed (2012 [proposed]) o Sampling to Observe Trends in a Subset of Representative Watersheds (2014- [proposed])
Legacy Pesticides: Bay Contaminant Status and Trends	▪ Water ▪ Sediment ▪ Sport fish ▪ Bird eggs
Selenium: Loading from Small Tributaries	▪ **Small tributaries loading strategy** o Zone 4 Line A monitoring (2008, 2009) o Develop Multi-year Watershed Loading Sampling Plan (2009) o Monitoring of Representative Watersheds (2010- [proposed]) o Land Use Sites: Scoping of Needs and Monitoring (2010- [proposed]) o Dynamic Modeling of a Representative Watershed (2012 [proposed]) o Sampling to Observe Trends in a Subset of Representative

	Watersheds (2014- [proposed])
Selenium: Bay Contaminant Status and Trends (Total concentrations, not speciated)	▪ Water (Annual S&T) ▪ Sediment (Annual S&T) ▪ Sport fish (Triennial S&T) ▪ Bird eggs (Triennial S&T)
Copper: Loading from Small Tributaries	▪ **Small tributaries loading strategy** o Zone 4 Line A monitoring (2009) o Develop Multi-year Watershed Loading Sampling Plan (2009) o Monitoring of Representative Watersheds (2010- [proposed]) o Land Use Sites: Scoping of Needs and Monitoring (2010- [proposed]) o Dynamic Modeling of a Representative Watershed (2012 [proposed]) o Sampling to Observe Trends in a Subset of Representative Watersheds (2014- [proposed])
Copper: Bay Contaminant Status and Trends	▪ Water (Annual S&T) ▪ Sediment (Annual S&T)
Dioxins: Bay Contaminant Status and Trends	▪ **Dioxin strategy** o Sport fish (2009 and 2012) o Surface sediment (2008 [on hold pending funding], 2009, 2012 [proposed]) o Water (2009, 2011 [proposed]) o Bird eggs (2012 [proposed])
PBDEs: Loading from Small Tributaries	▪ **Small tributaries loading strategy xx not sure if PBDEs are included in any of these studies** o Zone 4 Line A monitoring (2009) XX?? o Develop Multi-year Watershed Loading Sampling Plan (2009) o Monitoring of Representative Watersheds (2010- [proposed]) o Land Use Sites: Scoping of Needs and Monitoring (2010- [proposed])

	○ Dynamic Modeling of a Representative Watershed (2012 [proposed]) ○ Sampling to Observe Trends in a Subset of Representative Watersheds (2014- [proposed])
PBDEs: Bay Contaminant Status and Trends	▪ Water (Annual S&T) ▪ Sediment (Annual S&T) ▪ Bivalves (Biennial S&T) ▪ Sport fish (Triennial S&T) ▪ Bird eggs (Triennial S&T)
Nutrients: Loading from Small Tributaries	▪ **Small tributaries loading strategy xx not sure if nutrients are included in any of these studies** ○ Develop Multi-year Watershed Loading Sampling Plan (2009) ○ Monitoring of Representative Watersheds (2010- [proposed]) ○ Land Use Sites: Scoping of Needs and Monitoring (2010- [proposed]) ○ Dynamic Modeling of a Representative Watershed (2012 [proposed]) ○ Sampling to Observe Trends in a Subset of Representative Watersheds (2014- [proposed])
PAHs: Loading from Small Tributaries	▪ **Small tributaries loading strategy xx not sure if PAHs are included in any of these studies** ○ Develop Multi-year Watershed Loading Sampling Plan (2009) ○ Monitoring of Representative Watersheds (2010- [proposed]) ○ Land Use Sites: Scoping of Needs and Monitoring (2010- [proposed]) ○ Dynamic Modeling of a Representative Watershed (2012 [proposed]) ○ Sampling to Observe Trends in a Subset of Representative Watersheds (2014- [proposed])
PAHs: Bay Contaminant Status and Trends	▪ Water (Biennial S&T) ▪ Sediment (Annual S&T)

	▪ Bivalves (Biennial S&T)
Emerging Contaminants (e.g., PFCs, nonylphenols, endocrine disruptors): Bay Contaminant Status and Trends	▪ **Emerging Contaminant Strategy** o PFCs: seals (2007 and 2008), sport fish (2009), bird eggs (2009), small fish (2009), sediment and water xx Meg fill this in o Nonylphenols: small (2009) from three locations in the Bay – arrowgobies – probono work with CalPoly o *Endocrine disruptors not being measured* o Screening of biological matrices for anthropogenic pollutants (2010 [proposed])