

Agenda Item #10

Small Tributaries Loading Strategy Multi-Year Plan

Sources Pathways Loadings

Work Group

May 13, 2011

Agenda

- Multi-Year Plan overview
 - Management Questions & Regulatory drivers
 - Strategy Elements
 - Watershed Monitoring: Tentative Agreements
- Feedback & Discussion: MYP + / Δ
- Proposed next steps:
 - Finalize WY12 plans - “no regrets” startup
 - Workplan for 2012 (propose) and beyond (outline)

Overview - MYP Document

- “V.2” of 2009 Small Tribes Loading Strategy
- Integrates recent planning/exploratory work
- Projects longer-term planning horizon
 - Short-term 3-5 years
 - Long-term 10-15+ years, in less detail
- Incorporates RMP Master Planning Priorities
- Recommends implementation actions- both RMP and RMC’s alternative POC Loads Mon.

General Organization

- Elements of STLS:
 - Work together to answer 4 Management Questions
- Adaptive Updates
 - Outline milestones, drivers, triggers for future activities
 - Evolving SPLWG and STLS Team roles – (and how relate to RMC?)
- Detailed Tasks & 5 year Workplan
 - near term workplans for both RMP and BASMAA
 - Outline of future tasks/budgets for planning purposes

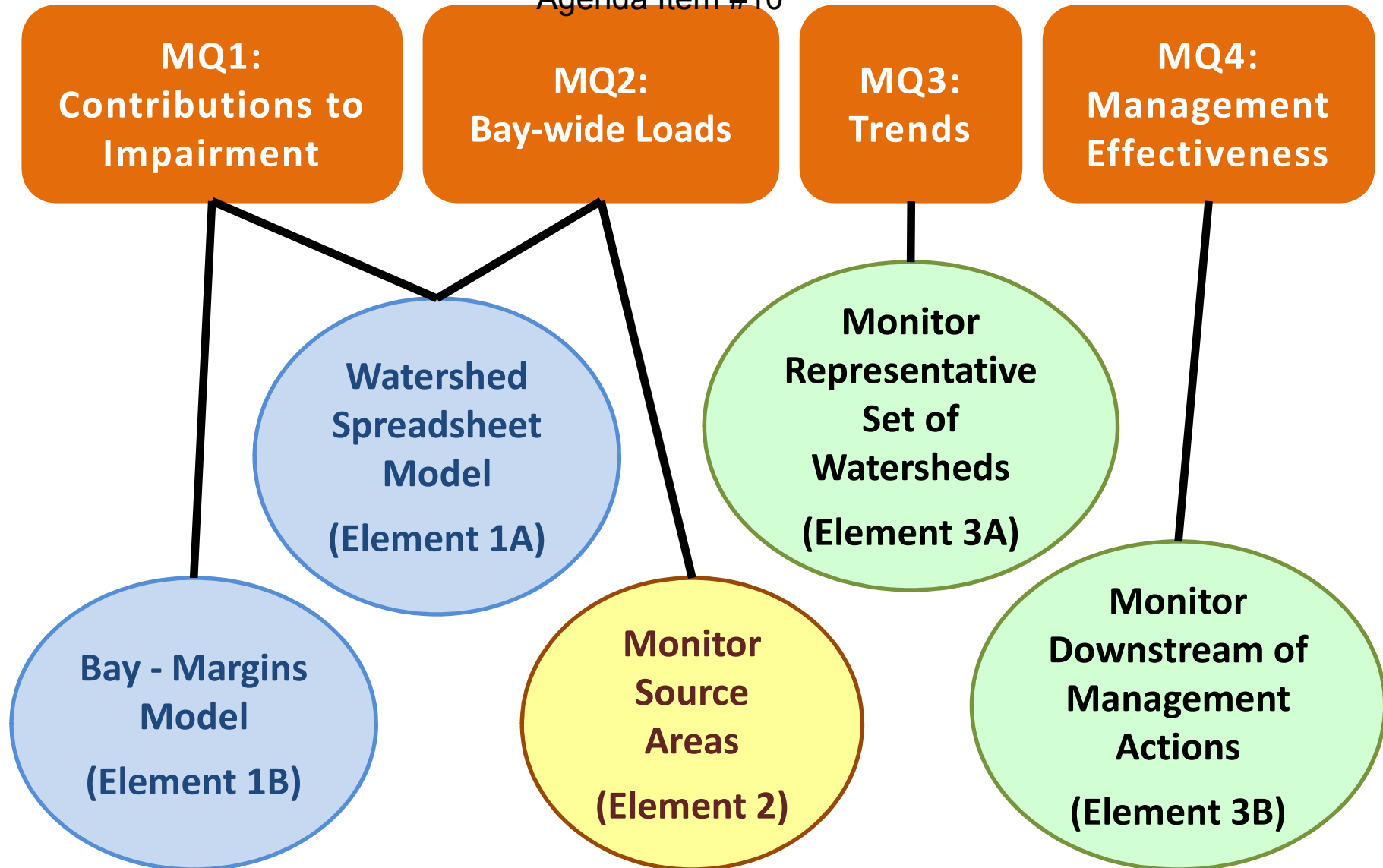
STLS Elements

Element	RMP	Stormwater Programs
1. Watershed and associated Bay Modeling		
A. Regional Watershed Spreadsheet Model	X	
B. Coordination with Bay Margins Modeling	X	
C. Dynamic WS Modeling (potential)	(X)	
2. Source Area Runoff Monitoring	X	
3. Small Tributaries Monitoring		
A. Monitor Representative Small Tributaries	X	X
B. Monitor Downstream of Management Actions		X

Management Questions

- Which Bay tributaries contribute most to Bay impairment from Pollutants of Concern?
- Annual loads of POCs to Bay
- Trends of POCs from small tributaries
 - decadal-scale
 - Loading to Bay, or concentration
- Management actions in tributary watersheds
 - what effects?
 - where to implement for greatest benefit?

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Regulatory Drivers

- TMDLs: reduce Pollutants of Concern loads
 - PCBs and mercury: Adaptive Implementation
 - Strategize when/how to implement controls
 - Inform future TMDLS or regulatory actions
e.g. data on sources, loadings of other POCs
- Municipal Regional Stormwater Permit (MRP)
 - POC Loads Monitoring (C.8.e)
 - Pilot studies on management options (C.11/12)
 - Tracking load reductions of PCBs, Hg (C.11/12g)

POC Loads Monitoring (C.8.e)

- Sites & methods
 - Prescribed: flow-weighted composites, 4x /year
 - “alternative approach” may be pursued to answer Management Questions, coordinate w/ RMP
- Analytes/parameters
 - Category 1: TMDL e.g. PCB, Hg, MeHg (Cu), toxicity
 - Category 2 : Se, PBDE, PAH, pesticides
- Studies/data on sediment loads, some Cat. 2

Load Estimation Element

- Regional Watershed Spreadsheet Model
 - Central tool for present and future POCs
 - improve estimates of current loading
 - “What-if” scenarios for management actions
- Coordination with Monitoring data ?
 - Need articulation of needs & timeline
- Other Modeling linkage (placeholders):
 - HSPF dynamic model – when/if needed
 - Bay Modeling - ID high leverage watersheds - eventually

Watershed Monitoring Element

- Exploratory studies 2009-2011
 - Method optimization for precision/accuracy
 - Classification of Bay Area watersheds
 - Characterization of runoff WY 11 (16 sites)
- Watershed selection criteria
 - Representative - several types
 - Management Actions – planned or potential
 - Permit requirements: MRP and others
 - Feasibility: safety, access, security

Tentative Agreements - Methods

- Turbidity Surrogate Method at all sites
 - Continuous data from boom-mounted sensor
 - Use regression of sample concentrations to estimate Hg-PCB loads at each station
 - Can be used to hindcast loads of other sediment-associated POCs when enough data is compiled
 - Can be supported by either autosampler or manual methods, depending on site attributes
- Select same lab contractors to meet DQO's
 - Simpler alternative to codifying QA requirements

Lab Analysis Targets

- Preliminary review of Zone 4 Line A data
- SWAMP (default) target Reporting Limits
 - ok for Cu, Hg, MeHg, SSC, TOC, N, Hardness
 - Selenium? what are data needs, DQO's?
- Higher precision required for more detects:
 - PCB, PBDE, PAH – higher cost, limited vendors
 - OC pesticides? what are data needs, DQO's?
- Other: Pyrethroids, carbaryl, fipronil
 - No SWAMP RLs - check UP3 recommendations

Tentative Agreements – Effort

- 10-16 samples/season/site
 - Recommended for reasonable accuracy/precision of Hg, PCB, SSC seasonal load estimates
- STLS Watershed Monitoring effort limited
 - “MRP baseline” defines required minimum effort
 - Try for 6 sites total
- Contain lab costs by adjusting timing & intensity of effort for some Category 2?
 - How good do load estimates have to be?
 - When do we want them?

MRP Baseline Effort

- Equivalent effort for **comparison** benchmark
 - Alternative labor rates: “real world” ranges
 - \$800k-\$1M / year for setup, field & lab only
- “Annualized” startup costs spread over 3 years
 - SFEI estimates for stage-discharge measurements
 - Assumes 2 of 8 stations have USGS gauges already
 - Does not consider existing station installations
- Contingency for missed storms \$25% of field

Additional method issues

- Methylmercury, toxicity sampling don't vary
- Autosampler or depth-integrated manual grab
 - Either or both may be appropriate – depends on site and watershed
 - Other factors: convenience vs. flexibility, start-up costs vs. ongoing, security/safety
 - QA issues with autosampler equipment?
 - Required volumes, sample handling (up to 4 ISCOs)

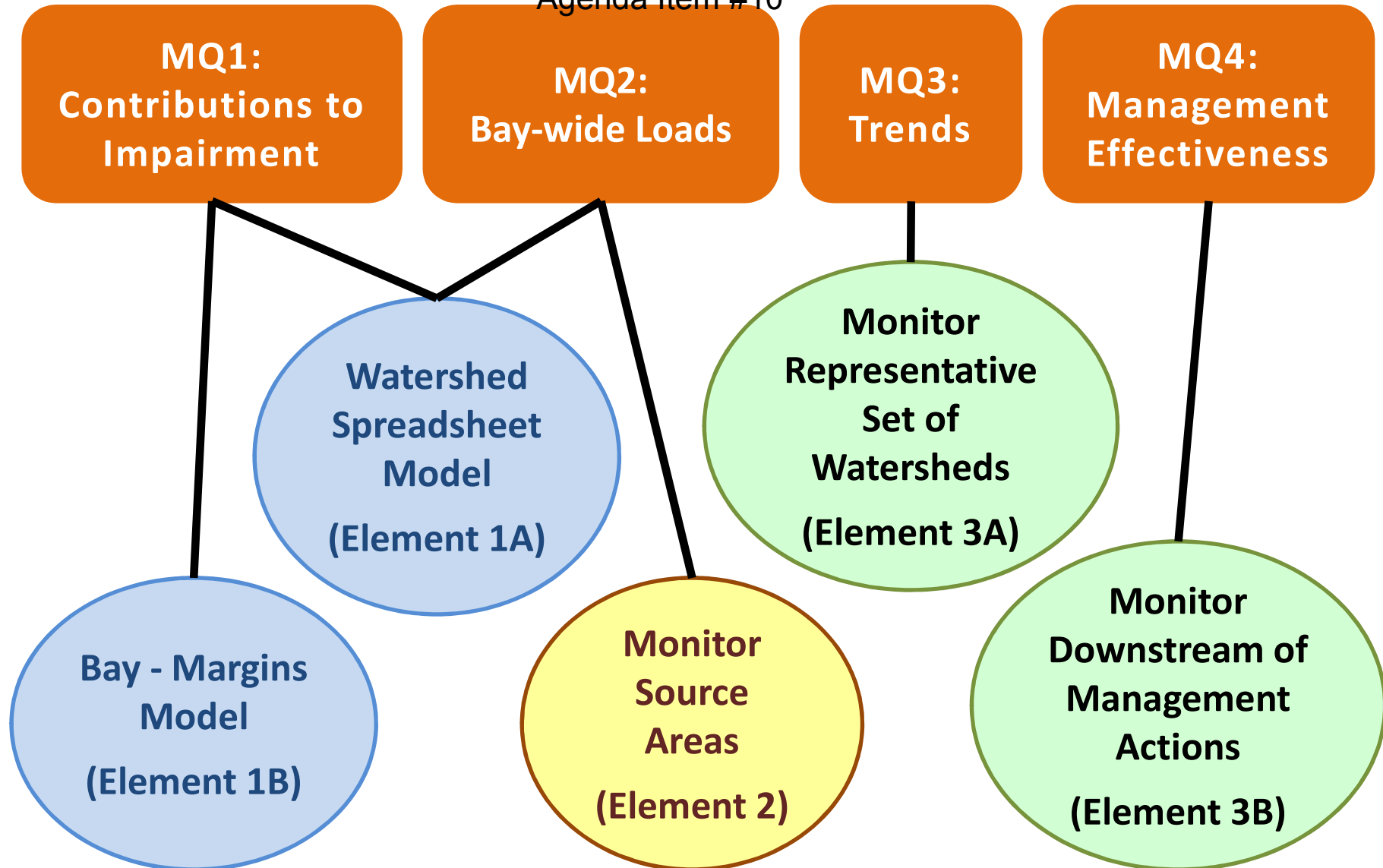
Watershed Selection – proposed concept

Watershed	Representative	Managemnt	Permit
Lower Marsh Crk	X PCB	X mercury	X
Guadalupe River	X PCB	X mercury	X
Ws 3 TBD	X		
Ws 4 TBD	X		
Phase 2 Ws 5,6 TBD	X Mercury	X PCB	

Feedback: MYP + / Δ

- Multi-Year Plan overall
 - Objectives: clear, doable? timeframes?
 - Elements: definition & (projected) backup?
 - Workplan: what level of detail, how far ahead?
- Coordination/balance issues
 - RWSM and Source Area Monitoring workplans
 - Timeline for load estimates, power analyses, etc.
- Implementation: RMP & BASMAA

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Feedback: issues

- RWSM as management tool
 - Coordinate with CW4CB outcomes
 - Develop capabilities for management scenarios
 - Ongoing maintenance, upgrades, oversight?
- Reporting: limited Year 1, vs. full Year 2 or 3?
- Future RMP & BASMAA functions
 - Updates
 - Reporting

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Feedback: Other

Next Steps – STLS and RMP

- WY10-11 characterization results
 - Complete data with QA – end of May?
- Modeling Reports?
 - RWSM Development
 - Bay Margins Conceptual Model – eventually pending Modeling Strategy/Tactical Plan
- Source Area Monitoring 2012
 - Lit review, priorities
 - Begin screening and recon of catchments

Next Steps: Watershed Monitoring

- Watershed selection: June 2011
 - Phase 1 working list (Phase 2 tentative)
 - ID uncertainties & reconnaissance needs for RMP
 - RMC begin set-up for 2 known stations
- Load estimation goals & timelines
 - May-June: Prioritize individual POC info needs against scenarios of sampling & analysis costs
- Monitoring Methods & Data Management
 - June: matrix of sampling approach for all sites
 - July?: finalize QAPP, SOPs and IMS

Meetings & Process

- RMP
 - mid June STLS WG: Review WY11 data, Select WY12 watersheds, design, methods
 - Fall-winter: finalize MYP including WY13 workplan
- BASMAA (with SFEI, WB input)
 - June: Begin developing QAPP/SOPs, Information Management System & procedures
 - July : Draft Status Report describes alternative approach, provide to Water Board by Sep
 - Jul-Aug: Develop BASMAA lab contracts
 - October: Begin WY12 monitoring

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Next Steps: Other