

Table 1: Summary of Phase 1 Mercury Studies for the South San Francisco Bay Salt Pond Restoration Project

Study	Principal Investigator	Data type	Matrix/species	Sample events/year	Locations	# of Locations	Notes
RFP - Topic 2 Mercury Bioavailability							
Cost = \$519,712	Collin Eagles-Smith, USGS	Hg analysis	eggs/Forrester's tern	15 eggs/colony x 4 colonies for 2 years	TBD	4 colonies	fish-eating birds
		Hg analysis	eggs/American avocet	15 eggs/colony x 4 colonies for 2 years	TBD	4 colonies	invert-eating bird
		Hg analysis	Hg in Threespine stickleback (whole body)	10 samples each 3x/year for 2 years	Pond A5, A7, A8, A16, A3N	3 ponds	linked to water column prey; can be samples across habitats
		Hg analysis	whole body/Threespine stickleback	10 samples each 3x/year for 2 years; first year will have 2 additional sample events before and after breach	Mallard Slough (negative control) and 4 locations in Alviso Slough	5 in sloughs	sample upstream and downstream of A8 nothch; linked to water column prey
		Hg analysis	whole body/ Mississippi silverside	3 sites with 6 replicate composites per site, 3x/year for 2 years; first year will have 2 additional sample events before and after breach	Mallard Slough (negative control) and 4 locations in Alviso Slough	5 in sloughs	upstream and downstream of A8 nothch; food-web-linkage from sloughs to the Bay; can compare to other locations around Bay
		Hg analysis	Sediment	9 locations 3x/year for 2 years	same as water locations	9 locations	per peer review comments
		Hg analysis	water - dissolved	1 sample 10x/year for 2 years	3 sites on Alviso slough, 3 sites on Pond A8, Mallard Slough, Pond A16, Pond A3N	9 locations	
		Hg analysis	water - particulate	1 sample 10x/year for 2 years	3 sites on Alviso slough, 3 sites on Pond A8, Mallard Slough, Pond A16, Pond A3N	9 locations	
		Stable isotopes	whole body/ Three spine stickleback	1 sample 10x/year for 2 years	3 sites on Alviso slough, 3 sites on Pond A8, Mallard Slough, Pond A16, Pond A3N	9 locations	SI added per peer review comments and need for interpreting trophic relationships
		Stable isotopes	whole body/ Mississippi silverside	1 sample 10x/year for 2 years	3 sites on Alviso slough, 3 sites on Pond A8, Mallard Slough, Pond A16, Pond A3N	9 locations	"
		Stable isotopes	whole body/ benthic invertebrates	small number	Mallard Slough (negative control) and 4 locations in Alviso Slough	5 in sloughs	"
USGS Research Studies							
Cost - \$219,000	Takekawa et al., USGS (Hg study by Ackerman)	Hg Analysis	whole body/longjawed mudsucker	every 6 weeks from April - August	SF2 Shoal, Alviso Shoals; Alviso Slough (2 locations)	4 locations	shoals will be depositional for Alviso Slough; will supplement the RFP study
		Hg analysis	various waterbird eggs	up to 15 eggs/colony	Pond A8, A2W, AB1, A16, New Chicago Marsh, SF2	6 locations	will supplement the RFP study
Cost - \$51,941	Ackerman	Hg analysis	California clapper rail (CLRA) blood, head feathers, breasts feathers and failed-to-hatch eggs	Over 300 archived samples from 125 individual CLRA inhabiting 4 marshes in South SF Bay during 2007 - 2010.	Laumeister Marsh, Arrowhead Marsh, Cogswell Marsh, and Colma Crkee marsh in South SF Bay	4 locations	will provide a non-invasive technique for monitoring Hg in an endangered marsh bird