Attachment B(iii), Table B-9: Monitoring Summary and Schedule for Sampling, Measurements, and Analysis for the SBSP Restoration Project.

MONITORING ELEMENT	METHODS	LANDSCAPE SCALE	PHASE 1 ACTION PONDS[1,2]						ISLAND[8] PONDS	OTHER[8] PONDS
WATER QUALITY	**METHODS**	**LANDSCAPE SCALE**	**A6**	**A5/A7/A8/A8S**	**A16**	**E8A/E9/ E8X**	**E12/E13**	**SF2**	**A19/A20/A21**	**OTHER PONDS**
Salinity	Methods per Takekawa and others (2005)	N/A	N/A	Monthly[3] Continuous[4]	Monthly [3] Continuous[4] In-Pond[5]	N/A	Continuous[4] In-Pond[5]	Continuous[4] In-Pond[5]	N/A	In conjunction with biological surveys
PH	Methods per Takekawa and others (2005)	N/A	N/A	Monthly[3] Continuous[4]	Monthly [3] Continuous[4] In-Pond[5]	N/A	Continuous[4] In-Pond[5]	Continuous[4] In-Pond[5]	N/A	In conjunction with biological surveys
Temperature	Methods per Takekawa and others (2005)	N/A	N/A	Monthly[3] Continuous[4]	Monthly [3] Continuous[4] In-Pond[5]	N/A	Continuous[4] In-Pond[5]	Continuous[4] In-Pond[5]	N/A	In conjunction with biological surveys
Dissolved oxygen	Methods per Takekawa and others (2005)	N/A	N/A	Monthly[3] Continuous[4]	Monthly [3] Continuous[4] In-Pond[5]	N/A	Continuous[4] In-Pond[5]	Continuous[4] In-Pond[5]	N/A	In conjunction with biological surveys
Mercury Suite: MeHg, HgT, Salinity, Temperature, DO, DOC, TOC, SSC, Sulfate, Sulfide, Nutrients, and pH	Water Sampling based on methods described in the South Baylands Mercury Project (SBMP)	N/A	Proposal to be submitted by September 1, 2009[6]	Proposal to be submitted by September 1, 2009[6]	N/A	N/A	N/A	N/A	N/A	N/A
SEDIMENT QUALITY	**METHODS**	**LANDSCAPE SCALE**	**A6**	**A5/A7/A8/A8S**	**A16**	**E8A/E9/ E8X**	**E12/E13**	**SF2**	**A19/A20/A21**	**OTHER PONDS**
Mercury Suite: HgT, MeHg, Sulfate, Sulfide	Sediment core sampling based on methods described in SBMP	N/A	N/A	Proposal to be submitted by September 1, 2009[6]	N/A	N/A	N/A	N/A	N/A	N/A
GEOMORPHIC EVOLUTION	**METHODS**	**LANDSCAPE SCALE**	**A6**	**A5/A7/A8/A8S**	**A16**	**E8A/E9/ E8X**	**E12/E13**	**SF2**	**A19/A20/A21**	**OTHER PONDS**
Mudflats and Channels	Remote sensing/aerial photography/mudflat and channel mapping[4]	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly
Habitat Development	Remote sensing/aerial photography/ habitat mapping[7]	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly	Baseline; then yearly

MONITORING ELEMENT	METHODS	LANDSCAPE SCALE	PHASE 1 ACTION PONDS[1,2]						ISLAND[8] PONDS	OTHER[8] PONDS
BIOTA	**METHODS**	**LANDSCAPE SCALE**	**A6**	**A5/A7/A8/A8S**	**A16**	**E8A/E9/ E8X**	**E12/E13**	**SF2**	**A19/A20/A21**	**OTHER PONDS**
Sentinel Species	Monitoring to determine Mercury uptake as described by the SBMP	N/A	N/A	Proposal to be submitted by September 1, 2009[6]	N/A	N/A	N/A	N/A	N/A	N/A
Invasive *Spartina* & hybrids and other invasive plants	Field observations and vegetation mapping / coordination with the Invasive *Spartina* Project	Yearly	Yearly	Yearly; outboard marsh	Yearly; outboard marsh	Yearly; outboard marsh	Yearly	Yearly; outboard marsh	Yearly; outboard marsh	Yearly; outboard marsh
Fish	Pelagic and demersal fish sampling using appropriate gear for fish type[9]	Quarterly; before and after construction	N/A	Quarterly; before and after construction	Quarterly; before and after construction	N/A	Quarterly; before and after construction	Quarterly; before and after construction	N/A	N/A
ENDANGERED SPECIES	**METHODS**	**LANDSCAPE SCALE**	**A6**	**A5/A7/A8/A8S**	**A16**	**E8A/E9/ E8X**	**E12/E13**	**SF2**	**A19/A20/A21**	**OTHER PONDS**
CA Least Tern	Counts of foraging birds and breeding pairs as outlined in the EIS/R and Biological Opinions	Yearly	N/A	N/A	Yearly	N/A	Yearly	Yearly	N/A	N/A
CA Clapper Rail	Habitat based, see Habitat Development above; also as outlined in the EIS/R and Biological Opinions	Yearly evaluation of habitat development	Baseline, then yearly; site specific surveys begin 5-10 years after marsh vegetation establishment	N/A	N/A	Baseline, then yearly; site specific surveys begin 5-10 years after marsh vegetation establishment	N/A	N/A	Baseline, then yearly; site specific surveys begin 5-10 years after marsh vegetation establishment	N/A
Western snowy plover	Counts of nesting birds and chicks as outlined in the EIS/R and Biological Opinions	Yearly	N/A	N/A	Monthly during nesting season	N/A	Monthly during nesting season	Monthly during nesting season	N/A	N/A
Salt Marsh Harvest Mice	Habitat based, see Habitat Development above; also as outlined in the EIS/R	Yearly evaluation of habitat development	Baseline, then yearly; trapping to take place 5-10 yrs after 300 acres of pickleweed establishment per unit	N/A	N/A	Baseline, then yearly; trapping to take place 5-10 yrs after 300 acres of pickleweed establishment per unit	N/A	N/A	Baseline, then yearly; no trapping proposed	N/A

NOTES:

Monthly: in Summer (May through October) for the first year of operation, then review data along with in-pond study results (see Footnote 4) to help determine future adaptive management actions and/or modification of monitoring program.
Continuous: in Summer (May through October) for the first year of operation, then review data along with in-pond study results (see Footnote 4) to help determine future adaptive management actions and/or modification of monitoring program.

[1] Consistent with the SBSP Restoration Project Adaptive Management Plan, the monitoring data generated from this program will be evaluated, together with results of Applied Studies and other monitoring, by review panels convened by the Project's Lead Scientist. All of the results and scientific evaluations will be presented to the Project Management Team and the regulatory agencies for consideration of adaptive management actions and/or monitoring program changes. In addition, the Project will convene at least one public meeting per year to present results of the prior year's actions and plans for the following year.

[2] Monitoring to begin when each Phase 1 Action is initiated.

[3] Receiving Water.

[4] Discharge.

[5] In-pond special studies are being performed in Ponds A3W, A14, and A16 during the summer of 2008 by the USGS. A proposal for Phase 1 studies will be submitted by May 1, 2009 after analysis of the 2008 in-pond study data is complete.

[6] Mercury bioavailability and mercury uptake in sentinel species are the topics of a special study associated with the Pond A8 restoration, titled the South Baylands Mercury Project (SBMP). Sampling of pre-project conditions has occurred in 2006 and 2007 and is continuing in 2008. A proposal for additional monitoring will be submitted by September 1, 2009, after analysis of the SBMP data is complete.

[7] **Satellite Imagery:** IKONOS images (or equivalent) for the entire Study Area are proposed to be captured in early summer at the lowest tide possible. The time and date of the images will be provided for use in determining the tidal datum for subsequent years' comparison. The 1-meter Multispectral (4-bands) Color Infrared & True Color satellite imagery will be projected in UTM NAD83 (meters) Zone 10 North. All habitat mapping will be based upon the imagery obtained and completed at a 1:2400 (1" = 200') scale. **Habitat Mapping:** The Project proposes to map all intertidal mudflat and subtidal habitats south of the San Bruno Shoal area. Marsh habitat mapping will be limited to SBSP Project ponds and tidal marsh areas from Steinberger Slough on the west side of the Bay (including Bair Island), to the Hayward Shoreline area on the east side of the Bay that corresponds to the USFWS Endangered Species Recovery Units. Proposed vegetation mapping units will include those alliances most likely to occur within the project site and will be assigned using the California Manual of Vegetation (Sawyer and Keeler-Wolf 1995) naming system.

[8] Ponds not part of Phase 1, but are included in order to illustrate the complete monitoring program.

[9] Pelagic fish sampling gear may include (fyke nets, beach seines, throw nets or pop nets). Demersal fish sampling may be performed using beam trawls modified to two in soft mud by hand or by winch from shore. Additional monitoring protocols may be added per ongoing discussions with the National Marine Fisheries Service (NMFS).