

Cruise Plan
2000 Regional Monitoring Program
Bivalve Deployment Cruise
June 5, 19-22, 26-29, 2000

Objectives

The objectives of this cruise are:

- 1) Collect *Mytilus californianus* from Bodega Head and deploy them at twelve sites.
- 2) Obtain *Crassostrea gigas* from Tomales Bay and deploy them at eight sites¹.
- 3) Obtain *Mytilus edulis* from Tomales Bay and deploy them at twelve sites.
- 4) Remove old moorings and install new bivalve mooring equipment at sites that have been degraded.
- 5) Install the thermosalinograph at Napa River.
- 6) Continue testing of bivalve cages at selected locations.

Personnel

The personnel and work assignments for this cruise are as follows:

<i>Name</i>	<i>Affiliation</i>	<i>Duties</i>	<i>Contact</i>
David Bell	AMS	Cruise Manager, Dive Master	bell@amarine.com
Jordan Gold	AMS	Diver, Vessel Skipper 6/20-6/22	gold@amarine.com
Dave Morgan	Romberg Tiburon Centers	Vessel Skipper 6/26-6/30	cptdavid@aol.com
Paul Salop	AMS	Diver	salop@amarine.com
Ron Walder	AMS	Diver	

Mr. Bell will be responsible for all scientific diving operations and dive safety. Mr. Morgan will be responsible for vessel operation and safety on 6/26-30. Mr. Gold will be responsible for vessel operation and safety on 6/20-22. Messrs. Bell, Gold, Salop and Walder will alternate diver responsibilities.

Cruise Schedule

This cruise schedule assumes that approximately 60 minutes will be required for operations at each site and that the vessel will proceed between stations at approximately 15 knots.

¹ No bivalves will be deployed at the Sacramento River, San Joaquin River and Grizzly bay sites during 2000.

Table 1. Cruise schedule for RMP Summer 2000 Bivalve Deployment.

<i>Date</i>	<i>Time</i>	<i>Activity</i>
Day 1 6/5/00	0700-0900	Bell, Gold, and Salop collect <i>Mytilus californianus</i> at low tide from Bodega Head, Sonoma County. <i>Crassostrea gigas</i> are purchased from Tomales Bay Oyster Company. Bivalves are transferred into plastic mesh bags and placed into filtered seawater tanks at Bodega Marine Laboratory (BML).
Day 2 6/7/00	0900-1400	BML employees collect <i>Mytilus edulis</i> from Tomales Bay, Marin County. Bivalves are transferred into plastic mesh bags and placed into filtered seawater tanks at BML.
Day 3 6/19/00	1200	Gold picks up bivalves for first three days of deployment from BML.
Day 4 6/20/00	1130-1200	Mobilize gear, load bivalves aboard M.E. II, Vallejo Marina. Depart for Davis Point site (BD41).
	1200-1400	Check mooring integrity and deploy bivalves at Davis Point. Slack current near Davis Point is at 1313 (Figure 1).
Day 5 6/21/00	1030-1100	Mobilize gear, load bivalves aboard M.E. II, Vallejo Marina. Depart for Napa River site (BD50).
	1100-1300	Install new mooring and deploy bivalves and salinograph at Napa River. Slack current near Napa River is at 1220 (Figure 2).
Day 6 6/22/00	1100-1130	Mobilize gear, load bivalves aboard M.E. II, Black Point Public Launch Ramp. Depart for Petaluma River site (BD15).
	1130-1300	Install new mooring and deploy bivalves at Petaluma River. Slack current near Petaluma River is at 1224 (Figure 3).
Day 7 6/25/00	1200	Gold picks up remaining bivalves from BML.
Day 8 6/26/00	0700-0730	Mobilize gear, load bivalves aboard Questuary, Emeryville Marina. Depart for Coyote Creek site (BA10).
	0730-1000	Install new mooring and deploy bivalves at Coyote Creek. Slack current near Coyote Creek is at 0926 (Figure 4). Depart for Dumbarton Bridge site (BA30).
	1000-1230	Install new mooring and deploy bivalves at Dumbarton Bridge. Return to Emeryville and demobilize vessel.
Day 9 6/27/00	0700-0730	Mobilize gear, load bivalves aboard Questuary, Emeryville Marina. Depart for Redwood Creek site (BA40).
	0730-0930	Check mooring integrity and deploy bivalves at Redwood Creek. Depart for Alameda site (BB71).
	0930-1030	Check mooring integrity and deploy bivalves at Alameda. Slack current near Alameda is at 0948 (Figure 5). Depart for Yerba Buena Island site (BC10).

<i>Date</i>	<i>Time</i>	<i>Activity</i>
6/27/00 (cont.)	1030-1200	Check mooring integrity and deploy bivalves at Yerba Buena Island. Return to Emeryville, demobilize vessel.
Day 10 6/28/00		Mobilize gear, load bivalves aboard Questuary, Emeryville Marina. Depart for Horseshoe Bay site (BC21). Check mooring integrity and deploy bivalves at Horseshoe Bay. Depart for Red Rock site (BC60). Check mooring integrity and deploy bivalves at Red Rock. Slack current near Red Rock is at 1209 (Figure 6). Return to Emeryville, demobilize vessel.
Day 11 6/29/00	1000-1030	Mobilize gear, load bivalves aboard Questuary, Emeryville Marina. Depart for Pinole Point site (BD30).
	1030-1230	Check mooring integrity and deploy bivalves at Pinole Point. Slack current near Pinole Point is at 1257 (Figure 7). Depart for San Pablo Bay site (BD20).
	1230-1500	Check mooring integrity and deploy bivalves at San Pablo Bay. Return to Emeryville, demobilize vessel.

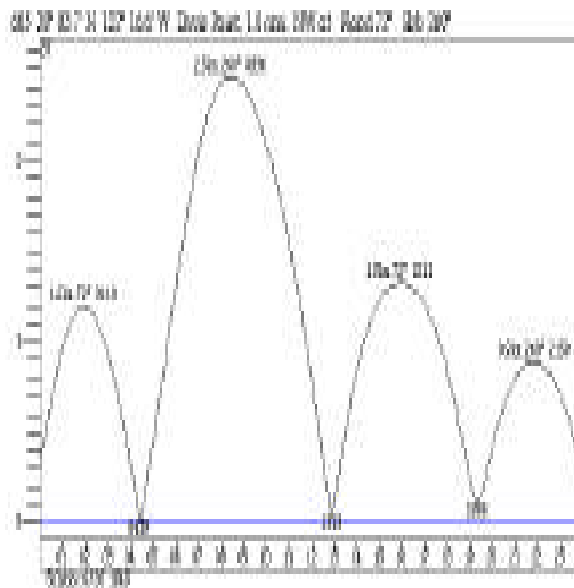


Figure 1. Currents near Davis Point on June 20, 2000.

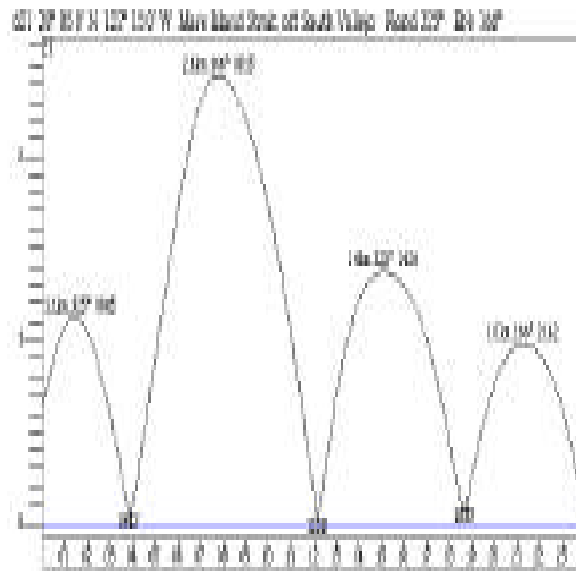


Figure 2. Currents near Napa River on June 21, 2000.

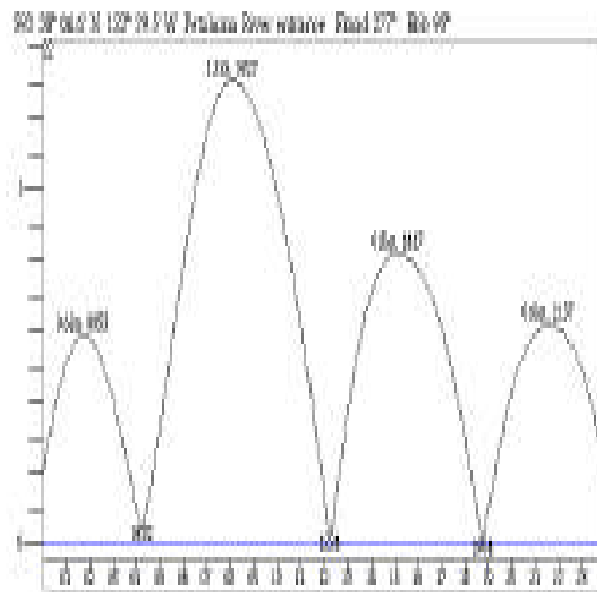


Figure 3. Currents near Petaluma River on June 22, 2000.

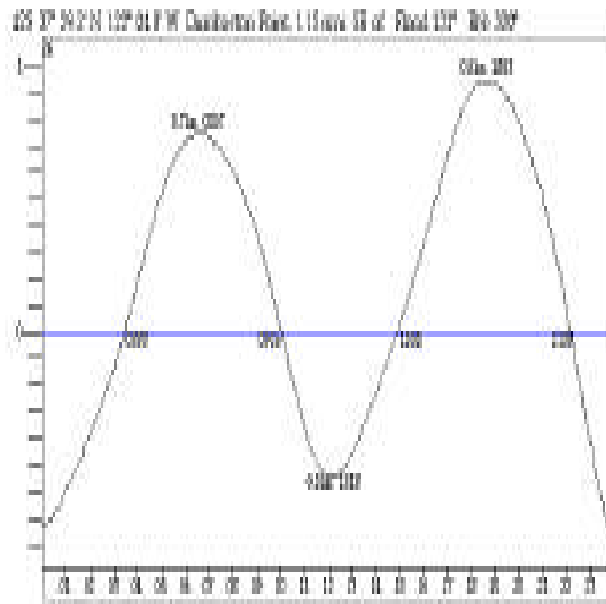


Figure 4. Currents near Dumbarton Bridge on June 26, 2000.

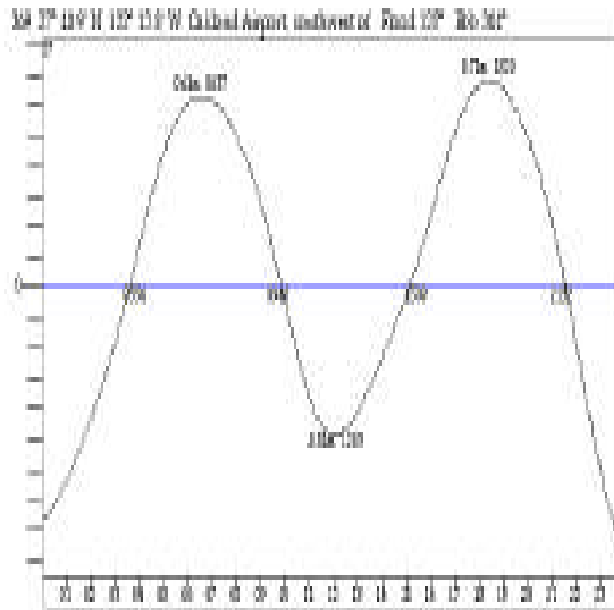


Figure 5. Currents near Alameda on June 27, 2000.

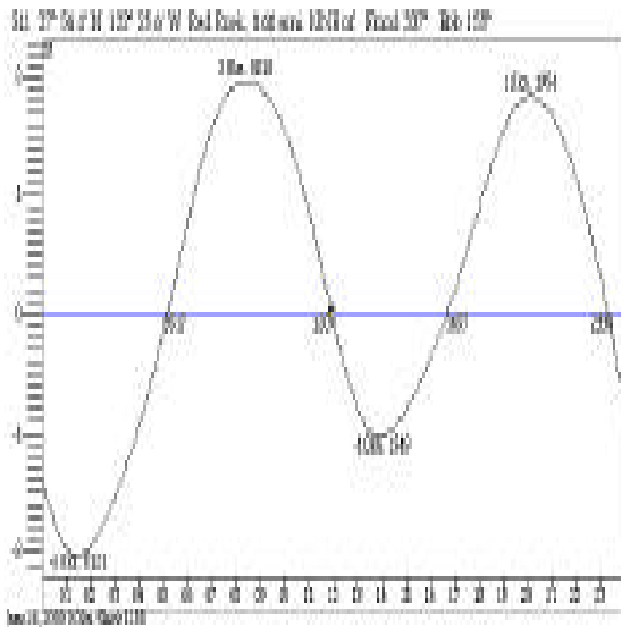


Figure 6. Currents near Red Rock on June 28, 2000.

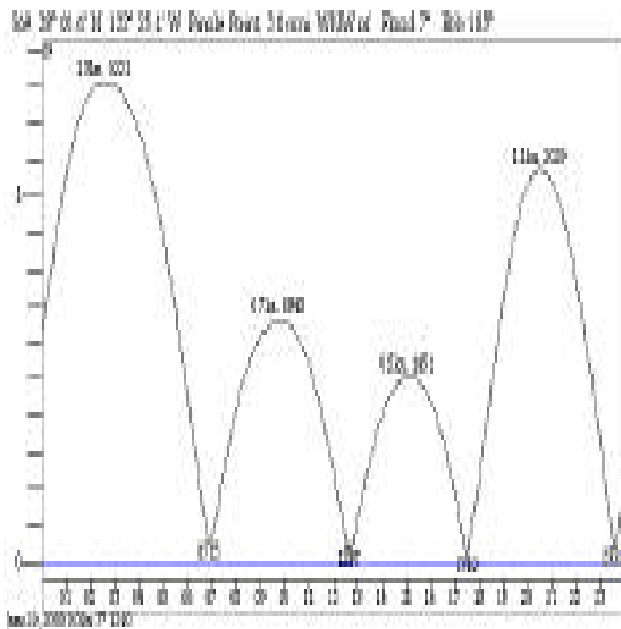


Figure 7. Currents near Pinole Point on June 29, 2000.

Site Locations

The coordinates for all bivalve deployments are listed in Table 2:

<i>Site Name/Code</i>	<i>Latitude (N)</i>	<i>Longitude (W)</i>	<i>Comments</i>
Coyote Creek BA10	37° 28.19'	122° 03.83'	Channel marker "18"
Dumbarton Bridge BA30	37° 30.80'	122° 08.08'	Channel marker "14"
Redwood Creek BA40	37° 32.82'	122° 11.70'	Channel marker "4"
Alameda BB71	37° 41.73'	122° 20.38'	Channel marker "1" 1.65 nmi. SE of Hunters Point
Yerba Buena Island BC10	37° 49.12'	122° 20.81'	Dolphin 0.2 nmi. SW of Bay Bridge
Horseshoe Bay BC21	37° 49.87'	122° 28.65'	Dolphin 100 ft W of fishing pier
Red Rock BC60	37° 55.70'	122° 28.13'	Channel marker "2" for Larkspur ferry terminal
Point Pinole BD30	38° 01.00'	122° 22.05'	Channel marker "P"
San Pablo Bay BD20	38° 02.72'	122° 25.71'	Channel marker "1"
Petaluma River BD15	38° 06.77'	122° 30.05'	NE end of railroad bridge
Davis Point BD40	38° 03.26'	122° 15'.63	E side of UNOCAL loading dock
Napa River BD50	38° 04.84'	122° 14.82'	Mare Island Strait adjacent to General Foods facility, 0.7 nmi. from channel marker "2"
Grizzly Bay BF20	38° 06.49'	122° 03.37'	Channel marker "9" 1.0 nmi. NW of Garnet Point
Sacramento River BG20	38° 03'.58	121° 47.50'	Channel marker "8" N of Sherman Island
San Joaquin River BG30	38° 01.27'	121° 48.32'	Channel marker "8" 0.75 nmi. E of Antioch Marina