

**Cruise Plan**  
**1998 Regional Monitoring Program**  
**Bivalve Deployment Cruise #16**  
**January 20-23, 1998**

**Objectives**

The objectives of this cruise are:

1) Collect *Mytilus californianus* from Bodega Head and deploy them at seven sites, obtain *Crassostrea gigas* from Tomales Bay and deploy them at five sites, collect *Corbicula fluminea* from Lake Chabot and deploy them at three sites.

**Personnel**

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

<u>Name</u>	<u>Affiliation</u>	<u>Duties</u>	<u>Contact</u>
David Bell	AMS	Cruise Manager, Dive Master	H(510)833-8670
Jordan Gold	AMS	Diver	H(510)533-3475
Jay Johnson	AMS	Bivalve collections	H(510)447-7643
Dave Morgan	Romberg Tiburon Centers	Vessel Skipper	W(415)435-7123 F(510)229-4194
Paul Salop	AMS	Back-up Diver Dive Tender	H(510)465-6907

Mr. Bell will be responsible for all scientific diving operations and dive safety. Mr. Gold will perform duties as diver. Mr. Morgan will be responsible for vessel operation and vessel safety. Mr. Salop will assist divers in and out of the water, prepare bivalves for deployment and record dive logs.

**Cruise Schedule**

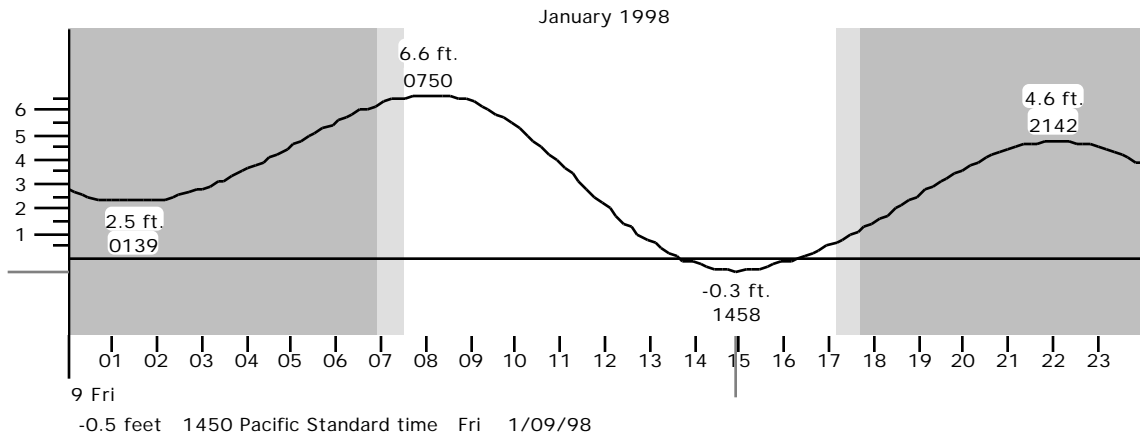
This cruise schedule assumes that approximately 45 minutes will be required for operations at each site.

<u>Date</u>	<u>Time</u>	<u>Activity</u>
1/13-1/14/98	0900-1400	Bell, Gold and Salop collect <i>Corbicula fluminea</i> from Lake Chabot. <i>C. fluminea</i> to be bagged and held in Lake Chabot until deployment.

<u>Date</u>	<u>Time</u>	<u>Activity</u>
1/9/98	0900-1700	Bell, Johnson and Salop obtain <i>C. gigas</i> from Hog Island Oyster Company. Bivalves are transferred into mesh bags and placed into holding tanks at Bodega Marine Lab (BML). <i>M. californianus</i> are collected near low tide (Figure 1) from Bodega Head. Bivalves are transferred into mesh bags and placed into holding tanks at BML.
1/19/98	1000	Gold picks up <i>C. fluminea</i> from AMS and <i>C. gigas</i> and <i>M. californianus</i> from BML.
1/20/98	0700-0800	Mobilize gear on vessel <i>M.E. II</i> , conduct safety briefing at Martinez Marina. Depart for Davis Point site (BD40).
	0800-0830	Deploy bivalves at Davis Point. Slack current at 0830 (Figure 2). Depart for Napa River site (BD50).
	0830-0915	Deploy bivalves at Napa River, depart for Martinez Marina.
	0915-1000	Demobilize gear at Martinez Marina.
1/21/98	0600-0630	Mobilize gear on vessel <i>R/V Questuary</i> , conduct safety briefing at Emeryville Marina. Depart for Yerba Buena Island site (BC11). Slack tide at 0630 (Figure 3).
	0630-0845	Deploy bivalves at Yerba Buena Island, depart for Coyote Creek site (BA10).
	0845-0930	Deploy bivalves at Coyote Creek, depart for Dumbarton Bridge site (BA30).
	0930-1015	Deploy bivalves at Dumbarton Bridge, depart for Redwood Creek site (BA40).
	1015-1115	Deploy bivalves at Redwood Creek, depart for Alameda site (BB71).
	1115-1200	Deploy bivalves at Alameda, depart for Emeryville Marina.
	1200-1230	Demobilize gear at Emeryville Marina, refill SCUBA tanks as necessary.

<u>Date</u>	<u>Time</u>	<u>Activity</u>
1/22/98	0630-0730	Mobilize gear on vessel <i>R/V Questuary</i> , conduct safety briefing at Emeryville Marina. Depart for Horseshoe Bay site (BC21).
	0730-0830	Deploy bivalves at Horseshoe Bay, depart for Red Rock site (BC60).
	0830-0930	Deploy bivalves at Red Rock, depart for Pinole Point site (BD30)
1/22/98	0930-1030	Deploy bivalves at Pinole Point, slack tide at 0950 (Figure 4). Depart for Petaluma River site (BD15).
	1030-1130	Deploy bivalves at Petaluma River, depart for San Pablo Bay site (BD20)
	1130-1300	Deploy bivalves at San Pablo Bay, depart for Martinez Marina.
	1300-1400	Demobilize gear at Martinez Marina, refill SCUBA tanks as necessary. Lodging for Bell, Gold, and Salop at the John Muir Inn, Martinez.
1/23/98	0900-1030	Mobilize gear on vessel <i>R/V Questuary</i> , conduct safety briefing at Martinez Marina. Depart for Grizzly Bay site (BF20).
	1030-1145	Deploy bivalves at Grizzly Bay, depart for Sacramento River site (BG20).
	1145-1245	Deploy bivalves at Sacramento River, slack tide at 1230. Depart for San Joaquin River site (BG30).
	1245-1445	Deploy bivalves at San Joaquin River, depart for Emeryville Marina.
	1445-1515	Arrive Emeryville Marina, demobilize gear.

Bodega Harbor entrance, Outer Coast, CALIFORNIA Latitude: 38° 18' N Longitude: 123° 03' W

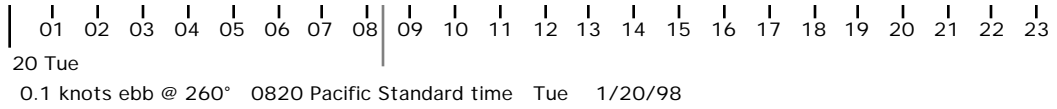


Davis Point, 1.0 nmi. NW of, SAN PABLO BAY Latitude: 38° 04' N Longitude: 122° 17' W

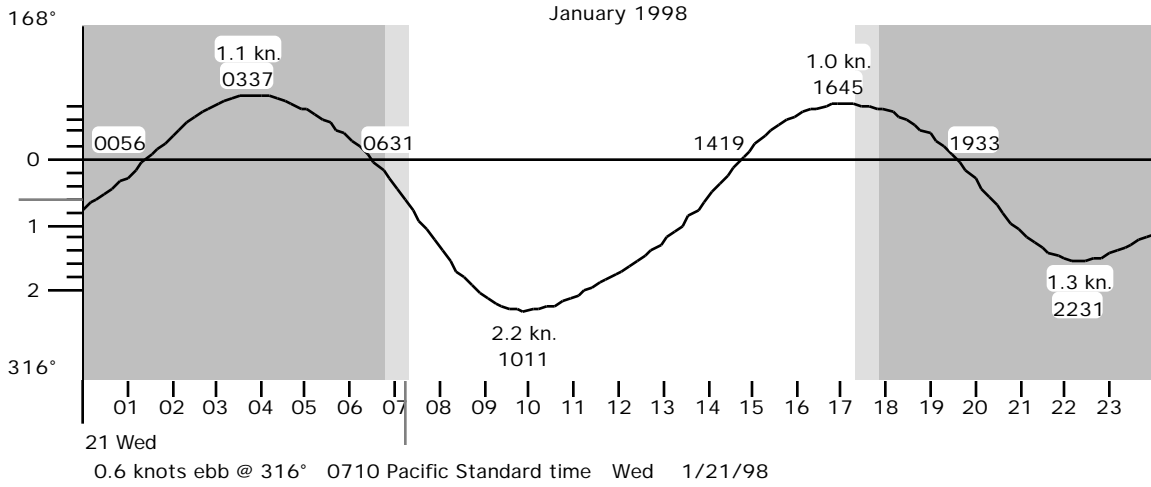
72°



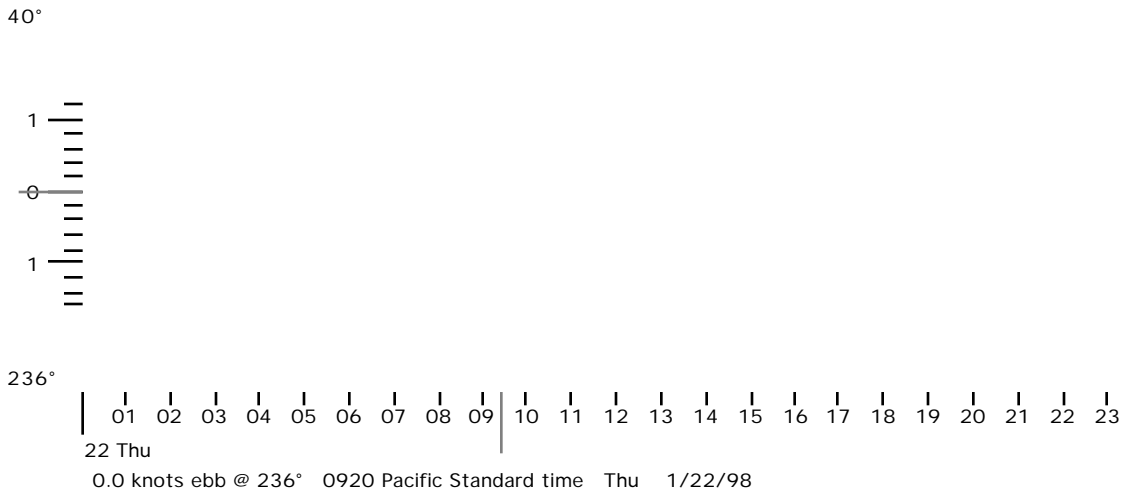
260°

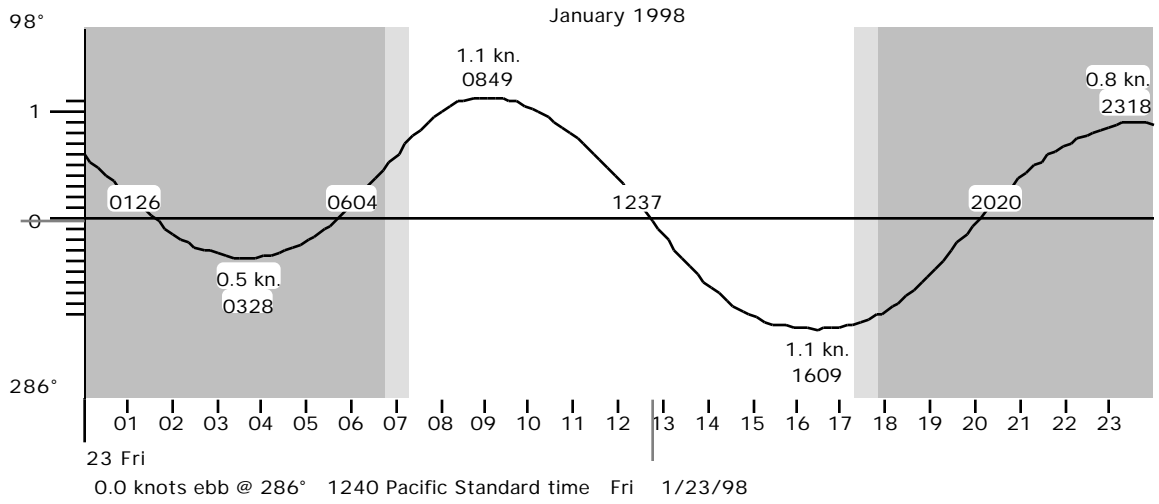


Yerba Buena Island, W of (midchannel), South SAN FRANCISCO BAY Latitude: 37° 49' N Longitude: 122°



Pinole Point, 1.2 miles off, SAN PABLO BAY Latitude: 38° 02' N Longitude: 122° 23' W





<u>Site Name/Code</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>	<u>Comments</u>
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

*Bivalve Species at Each Site*

Bivalve species will be deployed at each site according to the following table:

<u>Site Name/Code</u>	<u>Number per Species</u>
Coyote Creek BA10	144 <i>Crassostrea</i>
Dumbarton Bridge BA30	160 <i>M. californianus</i>
Redwood Creek BA40	160 <i>M. californianus</i>
Alameda BB71	160 <i>M. californianus</i>
Yerba Buena Island BC10	160 <i>M. californianus</i>
Horseshoe Bay BC21	160 <i>M. californianus</i>
Red Rock BC60	160 <i>M. californianus</i>
Point Pinole BD30	160 <i>M. californianus</i>
San Pablo Bay BD20	144 <i>Crassostrea</i>
Petaluma River BD15	144 <i>Crassostrea</i>
Davis Point BD40	144 <i>Crassostrea</i>
Napa River BD50	144 <i>Crassostrea</i>
Grizzly Bay BF20	120 <i>Corbicula</i>
Sacramento River BG20	120 <i>Corbicula</i>
San Joaquin River BG30	120 <i>Corbicula</i>