

**Cruise Plan**  
**1998 Regional Monitoring Program**  
**Bivalve Deployment Cruise #18**  
**June 2-5, 1998**

**Objectives**

The objectives of this cruise are:

- 1) Collect *Mytilus californianus* from Bodega Head and deploy them at seven sites and obtain *Crassostrea gigas* from Tomales Bay and deploy them at eight sites.
- 2) Install bivalve mooring at new Yerba Buena Island site (exact location to be determined). Re-install mooring and deploy bivalves at Davis Point site.

**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 Dive Tender	H(510)533-3475
Dave Morgan	Romberg Tiburon Centers	Vessel Skipper (6/5) Vessel Skipper (6/2-4)	W(415)435-7123 F(510)229-4194
Paul Salop	AMS	Diver Dive Tender	H(510-465-6907)

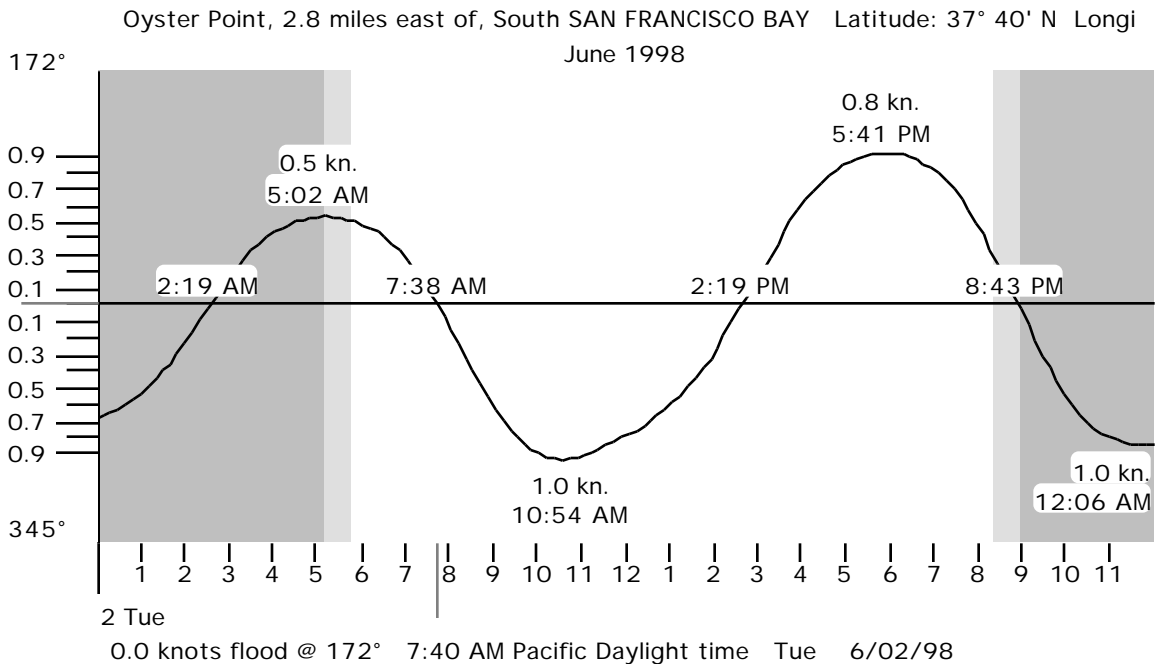
Mr. Bell will be responsible for all scientific operations and safety. Mr. Morgan will be responsible for vessel operation and safety on June 2-4. Messrs. Gold and Salop will alternate duties of diver and dive tender. Mr. Gold will be responsible for vessel operation and safety on June 5.

**Cruise Schedule**

This cruise schedule assumes that approximately 0.5 hour will be required for operations at each site, except for Yerba Buena Island and Davis Point.

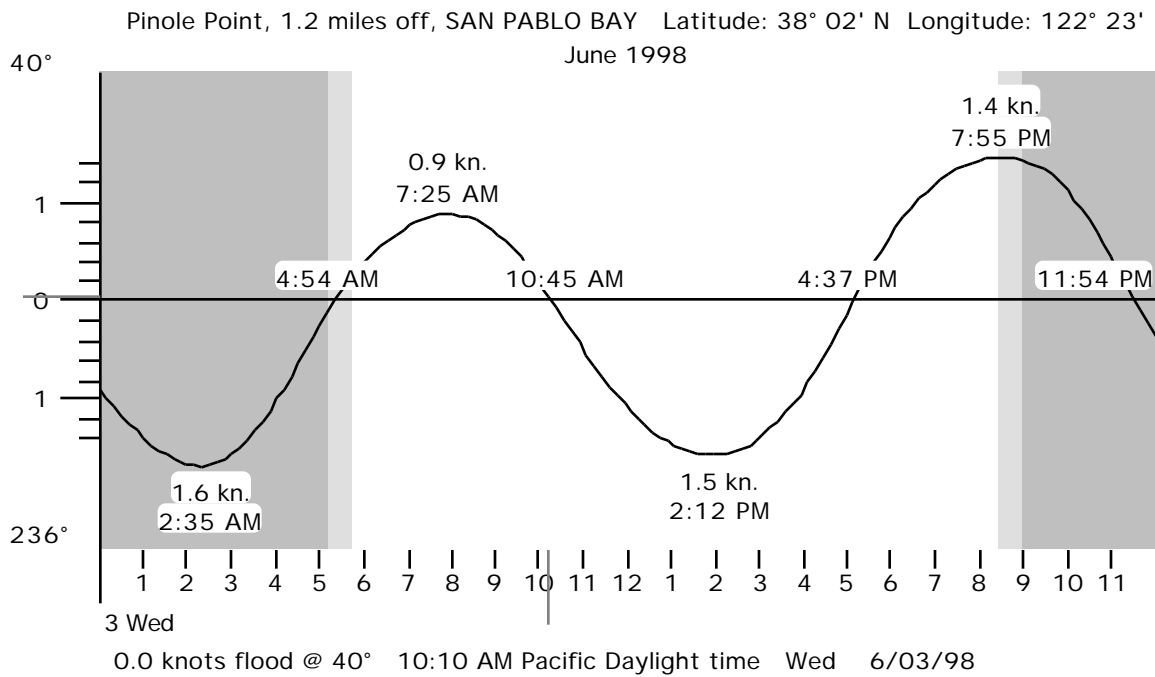
<u>Date</u>	<u>Time</u>	<u>Activity</u>
May 25, 1998	1200-1500	Gold obtains <i>C. Gigas</i> from Tomales Bay Oyster Company. Bivalves are transferred into mesh bags and placed into holding tanks at BML.
May 26, 1998	0630-1200	Bell, Gold and Salop collect <i>M. californianus</i> at Bodega Head. Bivalves are transferred into mesh bags and placed into holding tanks at BML.

<u>Date</u>	<u>Time</u>	<u>Activity</u>
June 1, 1998	1200-1700	Gold picks up bivalves from BML.
June 2, 1998	0630-0700	Mobilize gear and conduct safety briefing on <i>R/V Questuary</i> , Emeryville Marina. Depart for Yerba Buena Island Site (BC10).
	0700-0800	Install mooring and deploy bivalves at new Yerba Buena Island site (Figure 1), depart for Alameda site (BB71).
	0830-0900	Deploy bivalves at Alameda, depart for Redwood Creek site (BA40).
	0940-1010	Deploy bivalves at Redwood Creek, depart for Dumbarton Bridge site (BA30).
	1040-1110	Deploy bivalves at Dumbarton Bridge, depart for Coyote Creek site (BA10).
	1140-1210	Deploy bivalves at Coyote Creek. Return to Emeryville Marina.
	1400	Demobilize vessel, refill SCUBA tanks.



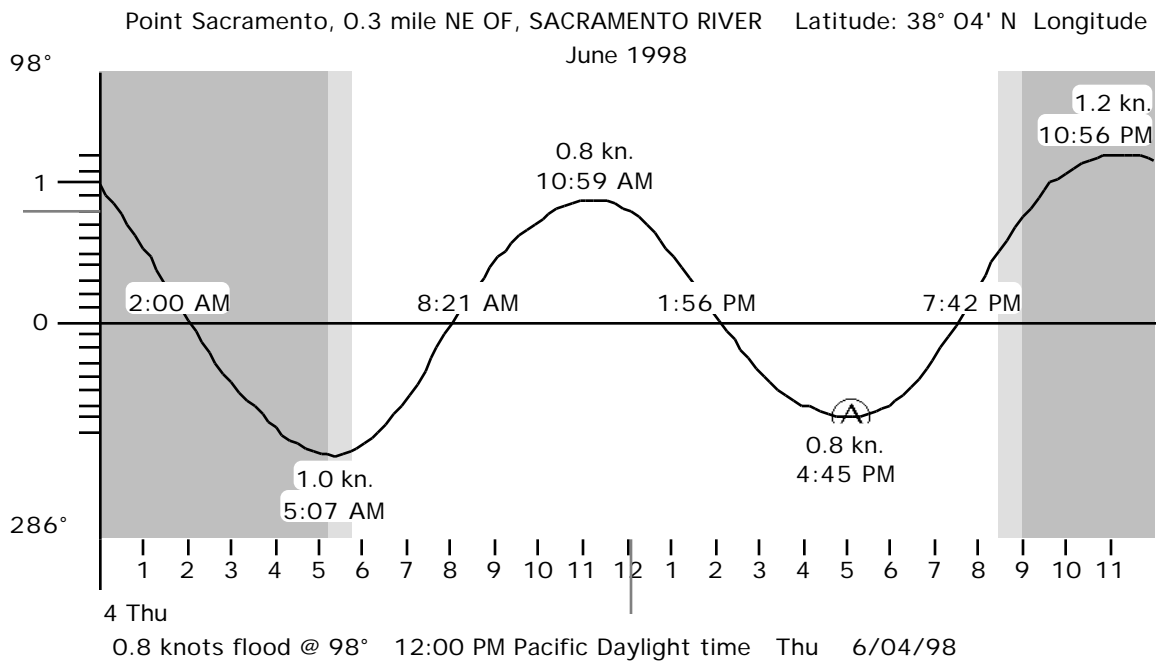
**Figure 1. Currents near Oyster Point on June 2, 1998.**

<u>Date</u>	<u>Time</u>	<u>Activity</u>
June 3, 1998	0700-0730	Mobilize gear and conduct safety briefing on <i>R/V Questuary</i> , Emeryville Marina. Depart for Horseshoe Bay site (BC21).
	0800-0830	Deploy bivalves at Horseshoe Bay, depart for Red Rock site (BC60).
	0900-0930	Deploy bivalves at Red Rock, depart for San Pablo Bay site (BD20).
	1000-1030	Deploy bivalves at San Pablo Bay, depart for Petaluma River site (BD15).
	1100-1130	Deploy bivalves at Petaluma River, depart for Point Pinole site (BD30).
	1200-1230	Deploy bivalves at Point Pinole (Figure 2), depart for Napa River site (BD50).
	1315-1345	Deploy bivalves at Napa River, depart for Martinez Marina.
	1430	Demobilize gear at Martinez Marina. Lodging for Bell, Gold and Salop at the John Muir Inn, Martinez.
June 4, 1998	0800-0830	Mobilize gear and conduct safety briefing on <i>R/V Questuary</i> , Martinez Marina. Depart for Grizzly Bay site (BF20).
	0930-1000	Deploy bivalves at Grizzly Bay, depart for Emeryville Marina.
	1300	Arrive Emeryville Marina, demobilize gear.

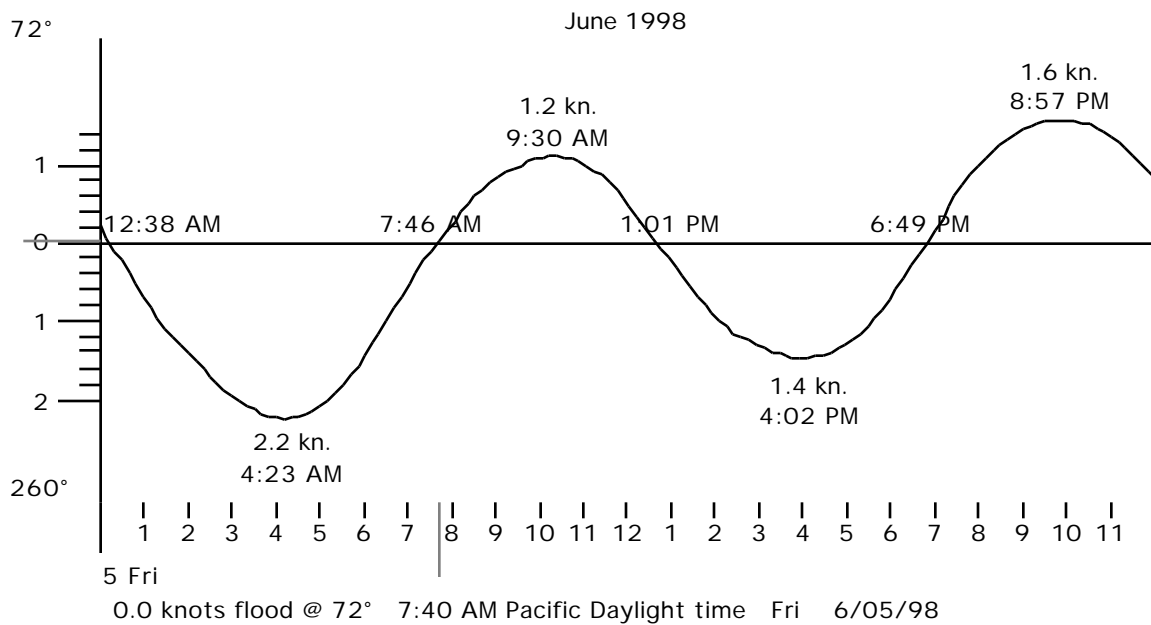


**Figure 2. Currents near Pinole Point on June 3, 1998.**

Date	Time	Activity
June 5, 1998	0700-0730	Mobilize gear and conduct safety briefing on <i>R/V M.E. II</i> , Vallejo Marina. Depart for Davis Point site (BD40).
	0745-0845	Install mooring and deploy bivalves at Davis Point. Depart for Vallejo Marina.
	0930	Arrive Vallejo Marina, demobilize gear.



**Figure 3. Currents near Point Sacramento, June 4, 1998.**



## Discussion

### *Site Locations*

The coordinates for all bivalve moorings are listed in the following table:

<u>Site Name/Code</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>	<u>Comments</u>
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	-	-	New site to be determined
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

*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>Mytilus</i> 144 <i>Crassostrea</i>
Redwood Creek BA40	160 <i>Mytilus</i>
Alameda BB71	160 <i>Mytilus</i>
Yerba Buena Island BC10	160 <i>Mytilus</i>
Horseshoe Bay BC21	160 <i>Mytilus</i>
Red Rock BC60	160 <i>Mytilus</i>
Point Pinole BD30	160 <i>Mytilus</i> 144 <i>Crassostrea</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	144 <i>Crassostrea</i>
Sacramento River BG20	No deployment. Collect from local population on retrieval cruise.
San Joaquin River BG30	No deployment. Collect from local population on retrieval cruise.