

Orange County CoastKeeper Harbor Pumpout Survey



Orange County CoastKeeper

OC Pumpout Survey

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EXECUTIVE SUMMARY

INTRODUCTION

Orange counties three harbors contain an estimated 17,000 boats; with all these boats concentrated in relatively small areas the potential for pollution from improper or illegal disposal of waste from waste holding tanks is great. All three Orange County harbors are designated as federal no discharge harbors and pumpout stations are necessary to properly dispose of boater-generated sewage. Many problems arise when vessel sewage is not properly disposed of, including: life-threatening diseases, contamination of shellfish and decreased oxygen levels that stress or kill marine life. Sewage dumping also results in a less attractive destination for tourism and boaters. The 1992 Clean Vessel Act identifies vessel sewage discharge as “A substantial contributor to localized degradation of water quality in the United States.” There are over 30 pumpout stations in Orange County harbors officially listed by city and state regulatory agencies. All three O.C harbors are designated as federal no discharge harbors.

OBJECTIVE

The purpose of this survey is to assure that pumpout stations in Orange County harbors exist as listed, are operational, sufficiently distributed, accessible, visible, well maintained, and pose no health hazard to the public and the surrounding environment. From June 2002 to September 16, 2002, O.C. CoastKeeper has completed surveys in Newport Harbor, Huntington Harbor, and Dana Point Harbor testing the above criteria.

METHODOLOGY

Scope of Project: The project surveyed the public and private pumpout stations listed by public agencies in Newport, Huntington and Dana Point Harbors during the summer boating season. This time period was chosen because this is when the greatest need exists for pumpout stations.

Project Design: The project was designed to survey pumpout stations on multiple dates throughout the summer boating season to determine their level of operability and whether they were accessible enough for the boating population to safely dispose of their sewage. Bacterial testing was used to determine water quality around each pumpout station in order to detect possible leakage, or faulty use of the pumpout station. The project also takes into consideration that some pumpout stations are for private use and are not accessible by the public.

PROCEDURES

The survey procedure went as follows:

1. Using standard sample collection methods a 100ml bacteria sample was collected from the area immediately adjacent to the pumpout station.
2. The visual appearance of the pumpout station was assessed and photos were taken.
3. The station was operated using a five-gallon bucket filled with water to make sure that the pump was operational, and that suction was sufficient.
4. A survey form for recording temperature, date, time, and accessibility was completed. (A copy of the Survey form is in the data section)
5. The bacteria samples were processed at the CoastKeeper lab in Newport Beach and readings were taken for Total Coliform and *E. Coli* bacteria.

BACTERIAL TESTING

Water samples were taken at each pumpout station available to the public in order to determine water quality. A B 411 bacteriological standards for Total Coliform, and the EPA recreational water quality standard for *E. coli* were used as the criteria for determining water quality in a pumpout station area. Total Coliform is a measure of the overall bacteria level in the sample while *E.coli* is an indicator of fecal material in the sample. Details of these standards are presented at the beginning of the data section of this report.

Coast Keeper Findings on Bacteria Data

Over eighty Bacteria samples were collected and tested for Total Coliform and *E. coli* bacteria to produce the data for this project. The results of the tests were used as an indicator of potential pumpout station problems and will help us target pumpouts that could be discharging waste because of faulty use, leaky hoses, or pipes. Our data is useable for the single sample standard only for both tests since we were unable to collect samples often enough to create a thirty day running average. However sites with multiple readings over thirty day running average standards should be looked at in more detail.

Newport Harbor: For total coliform The Lido Village test site measured above the single sample standard in AB411, a boater had just finished using the facility, and mentioned that he may have spilled sewage in the water when he saw us collecting a sample. The De Anza, Newport Dunes (both the marina and launch ramp), Harbor Club Marina, and Fernando St. stations exceeded the 30-day running average for Total Coliform on multiple dates. For *E.coli* all stations except the American legion Yacht Club exceeded the single sample standard during our 7/29/2002 survey. On our 8/12/2002 survey

Newport Dunes, De Anza, Newport Bay Club and American Legion Yacht Club exceeded the standard and on 9/16/2002 all stations except the Newport Bay Club Marina and the Harbour Patrol exceeded the standard. Most stations also exceeded the EPA geometric mean standard for *E.coli* on multiple dates

Huntington Harbour: For Total Coliform none of the stations exceeded the single sample standard. All of the stations exceeded the 30-day running average standard on all samples. For *E.coli* the Lifeguard Dock and Huntington Harbour Marina stations exceeded the single sample standard on our 8/12/2002 sampling.

Dana Point Harbor: All pumpout station samples were within standards for Total Coliform and *E.coli*.

Classification of Pumpout Ownership

There are currently two classifications of pumpout ownership and usage.

1. Private- purchased with private funds, used only by owner and clients .
2. Public- state, or city funded, used by anyone.

The classifications for pumpout station ownership should be changed in order to take into account privately owned pumpout stations that can and can not be used by the public. Currently, the list of pumpout stations make it look like there are a lot more pumpout stations available to the public, due to the large amount of private non-public use pumpout stations. A third classification for pumpout station ownership and use is imperative in order to make apparent the total amount of public use pumpout station.

Suggested new classification:

1. Public-Publicly owned, public use
2. Private/Public-Privately owned, public use
3. Private/Private-Privately owned, private use only

Huntington Harbor Survey Results

Public/Public	Operating Status	% sample dates operational	Bacteria results
1.Lifeguard Dock.....	inoperable 7/3 and 7/29/02.....	50%.....	TC/passed,EC/failed 08/12

Private/Public

1.Peter's Landing.....	inoperable 8/6/02.....	75%.....	TC/passed,EC/passed
2.Huntington Marina.....	inoperable 7/29, 9/4/02.....	50%.....	TC/passed, EC/failed 08/12
3.Sunset Aquatic Marina.....	under construction.....	0.....	

***Huntington Harbor Pumpout Statistics**

3 out of 4 pumpout stations were operable at least once this summer.

All 3 of these pumpout stations were accessible and could be used by the public when they were operational.

The average percentage of operational and accessible pumpout stations in Huntington Harbor during sampling events was 44%.

Dana Point Harbor Survey Results

Public/Public

1.Harbor Patrol.....	operable.....	100%.....	TC/passed,EC/passed
2.Guest Dock.....	operable.....	100%.....	TC/passed,EC/passed

Private/Public

1.Side Tie "A" dock.....nonoperable 8/6,8/20,9/10/02.....	25%	TC/passed,EC/passed
2.End of "F" dock.....operable.....	100%	TC/passed,EC/passed
3.Texaco Gas Station.....permanently removed.....		

***Dana Point Pumpout Station Statistics**

3 out of 4 pumpouts were operable every sampling event. Dock "A" side tie was only operable once. All 4 had public access. The average percent of all pumpouts in Dana Point Harbor that were accessible and operational this summer was 81.25%.

Newport Harbor Survey Results

Public	Operating Status	% sample dates operable	Bacteria results
1.Harbor Patrol (2)	inoperable 9/16/02	75%	TC/passed, EC/failed
2a.Newport Dunes Marina	inoperable 7/1/02	75%	TC/passed, EC/failed
2b.Newport Dunes Launch	operable	100%	TC/passed, EC/failed
3.Bahia Corinthian	inoperable all summer	0%	TC/passed, EC/failed
4.Balboa Yacht Basin	inoperable 9/16/02	75%	TC/passed, EC/failed
5.Balboa Bay Club	operable	100%	TC/passed, EC/failed
6.Arches Marina	operable	100%	TC/passed, EC/failed
7.American Legion	inoperable 7/1/02	75%	TC/passed, EC/failed
8.Balboa Fun Zone	inoperable all summer	0%	TC/passed, EC/failed
9.Fernando Street	operable	100%	TC/passed, EC/failed

Private/Public

1.De Anza Marina	inoperable 7/29/02	75%	TC/passed, EC/failed
2.Newport Dunes Marina	does not exist	no results	TC/passed, EC/failed
3.Lido Village	inoperable, no access 7/29 and 8/12	50%	TC/failed, EC/failed

Private/Private (No Public Access)

1.Pilgrim Yacht Charters	now called Larsen's Shipyard		
2.Hornblower yacht Charters	removed permanently		
3.Crow's Nest Marina			
4.Orca Yacht Charters			
5.Lancer's Shipyard	now called Adventures at Sea		
6.Icon Yacht Charters	removed permanently		

- 7.Lido Sailing Club.....
- 8.Blue Water Grill Marina.....
- 9.Newport Landing.....removed permanently.....
- 10.Balboa Pavillion.....removed permanently.....
- 11.Lido Peninsula Marina.....

Note:

Though the harbor patrol has two pumpout stations on its dock, only one will be counted because only one boat can moor at the dock, making it impossible for two boats to use both pumpout sttions at the same time. The Dunes Marina must be counted twice because it has two pumpout stations located at the launch ramp and the marina.

***Pumpout Station Statistics**

18 of the 23 total pumpout stations listed by the city of Newport Beach actually exist. (22% of listed pumpout stations do not exist).

Out of these 18, 12 can be used by the public.

Out of these 12 the average percentage of public-use pumpout stations that were operable and available to the public this summer was 69%.

Conclusion

Orange County Harbors are lacking the ability to inspect and maintain pumpout stations, and enforce docking time limits. Also, the stations working are available to the public are far less than listed. Bacteria Counts are a problem at some stations.

Newport Harbor

The Stations in Newport Harbor have many problems that all stem from a lack of enforcement and maintenance. These problems include the mooring of boats to broken pumpout stations and the illegal parking of boats at pumpout stations for hours at a time. Stations need to be inspected and maintained on a regular schedule that insures they are working and not leaking. Also better signage needs to be developed to identify the location of the stations and how to use them. Nine public pumpout stations working an average of 69% of the time is not enough for all the boats in this harbor.

Recommendations: The biggest problem by far is the maintenance of pumpout stations in Newport harbor. An employee from the harbor should be trained to do repairs on pumpout stations, and major replacement parts should be kept on-site for quick replacement.

Management of public pumpout stations needs to be improved in Newport Harbor. If a boat is moored at a pumpout station for hours at a time, or in the case of Lido Marina for days at a time, then no one can use the pumpout station.

Huntington Harbor

Pumpout stations in Huntington Harbor (when they actually work) are run down by comparison to other harbors, have inadequate instructions for boater use, and are not visibly marked. On 7/29/02 there wasn't a single operational pumpout stations in all of Huntington Harbor. Even when construction of the fourth station (Sunset Aquatic Marina) is completed, that is too few for the number of boats in the harbor. Also, the bacteria count around these stations warrants further investigation to see if leaks exist.

Recommendations: Recommendations for Huntington Harbor are to implement better maintenance and management program for pumpout stations to ensure that boaters have a place to safely dump their waste. Most problems with public pumpout stations could be solved if pumpout station parts and trained staff were available for quick repairs.

Dana Point Harbor

Dana Point Harbors number one problem is the maintenance of the pumpout stations located at the side tie on Dock A, which was not operable on August 6th, August 20th, and September 10th. The pumpout station at the gas dock looks as though it has not

operated for some years, and should be permanently taken off the list of pumpout stations.

Recommendations: The pumpout station at the side tie dock “A” needs to be promptly repaired. Another pumpout station should be installed in the harbor to take the place of the permanently removed pumpout station on the gas dock. Other than this, Dana Point’s pumpout stations are in good operating condition.

RECOMMENDATIONS FOR ALL HARBORS

1. A required time frame for repair time on pumpout needs to be enforced. 72 hours

Data Section

AB 411 Bacteriological Standards

(a) The minimum protective bacteriological standards for waters adjacent to public beaches and public water-contact sports areas shall be as follows:

(1) Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed:

(A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or

(B) 10,000 total coliform bacteria per 100 milliliters; or

(C) 400 fecal coliform bacteria per 100 milliliters; or

(D) 104 enterococcus bacteria per 100 milliliters.

(2) Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:

(A) 1,000 total coliform bacteria per 100 milliliters; or

(B) 200 fecal coliform bacteria per 100 milliliters; or

(C) 35 enterococcus bacteria per 100 milliliters.

EPA WATER QUALITY STANDARD FOR *E. COLI*

Escherichia coli (*E. coli*) is the most reliable indicator of fecal bacterial contamination of surface waters in the U.S. according to water quality standards set by the EPA. Although *E. coli* bacteria are not typically pathogenic in and of themselves, an extensive epidemiological study (Dufour 1984) demonstrated that *E. coli* concentrations are the best predictor of swimming-associated gastrointestinal illness. EPA bacterial water quality standards are thus based on a threshold concentration of *E. coli* in water above which the health risk from waterborne illness is unacceptably high.

The EPA recommended recreational water quality standard for *E. coli* is based on two criteria: 1) a geometric mean of 126 organisms/100 ml based on several samples collected during dry weather conditions or 2) 235 organisms/100 ml for any single water sample (EPA 1986). The geometric mean is calculated by the equation: geometric mean of $y = n^{\text{th}}$ root of $y_1 * y_2 * y_3 \dots y_n$. If either criterion is exceeded, the site is not in compliance with water quality standards and not recommended for swimming. The current EPA water quality standard for *E. coli* corresponds to approximately 8 gastrointestinal illnesses per 1000 swimmers (Dufour 1984).

System Used for bacteria testing

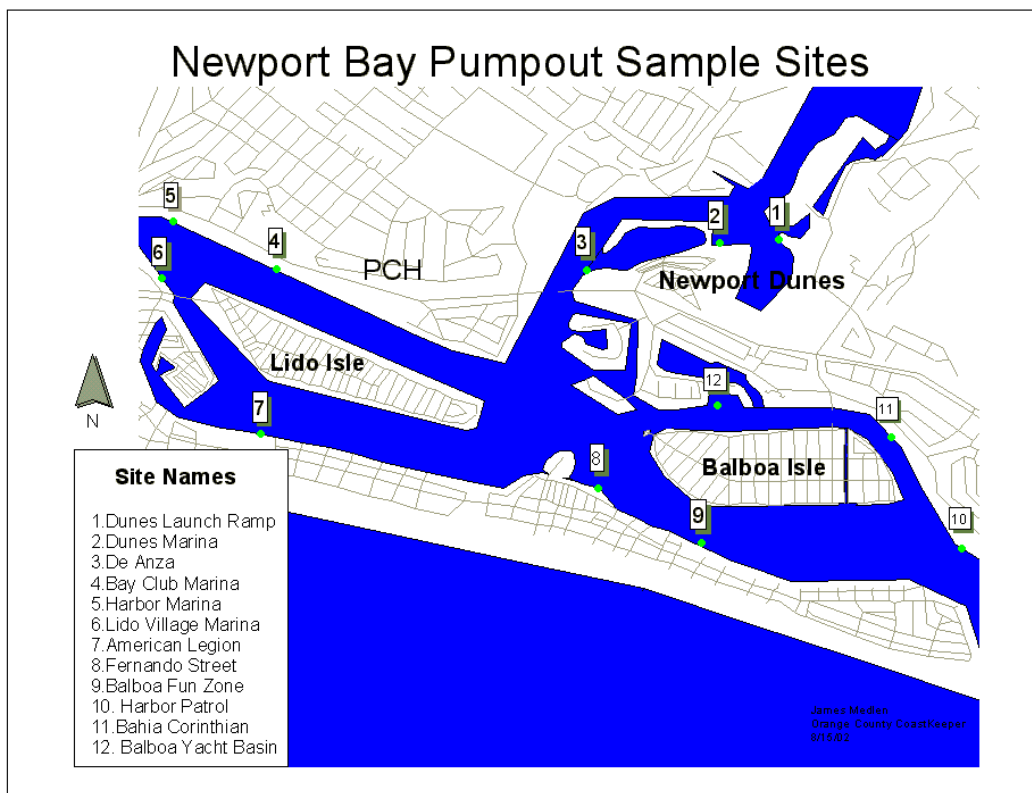
The Idexx system was used for all of the bacteria testing conducted during the study. The Idexx system uses the MPN per 100ml, or “most probable number of bacterial organisms per 100ml of water.” The test used was Idexx’s Colilert 18 hour and 24 hour, which tests for total coliform and e-coli. All bacterial tests for this study were done in the Orange County CoastKeeper’s laboratory.

Form used to Survey Pumpouts

Orange County CoastKeeper Pumpout Water Sample Form		
Sampled by: _____		
City, Harbor (site #) _____		
Relative Location of pumpout station (streets, landmarks) _____ _____		
Site GPS Coordinates (latitude and longitude) _____		
Date _____	Time of Day _____	Tide: low high ebb
Water Temperature _____	Air Temperature _____	Water Depth _____
Wind intensity _____		
Distances at which samples were taken from pumpout station _____		
Posted notice information (who maintains pump?) _____ _____		
Is pump operational? _____ Is pump metered? _____ Is pump accessible by public? _____		
Observations, or comments _____ _____ _____		

Newport Harbor Sampling

Map of study area, and sites being sampled:



Dunes Launch Ramp Pumpout



The Newport Dunes launch ramp pumpout vessel. Photo taken July 1, 2002

Data:

Date	Time	e-coli	Total Coliform	operational	visible	instructions
7/1/02	8:15	no result	no result	yes	yes	yes
7/29/02	10:15	738	1904	yes	yes	yes
8/12/02	9:25	52	547	yes	yes	yes
9/16/02	10:38	546	3130	yes	yes	yes

Problems: On July 29th, a boat for over 3 hours, from 10:15 to 1:15, was moored at the pumpout dock, making it impossible for other boats to use the pumpout. This boat was not using the pumpout, and appeared to be a customer of the restaurant on shore.



Photo of boat blocking Newport Dunes launch ramp pumpout vessel. Date- July 29, 2002. Time- 10:15
Boat CF # 4760 PV, Make: Bayliner.



7/29/02. Boat still blocking pumpout at 1:15pm.

Bacteria test results met AB-411 standards, though bacteria levels were high and wouldn't pass a 30-day running average. *E.coli* above EPA standard on two dates

Recommendations for site: Stricter patrol and enforcement of rules regarding the pumpout need to be put into play.

Dunes Marina



Dunes Marina. Photo taken 7/1/02.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	8:25	no result	no result	no	no	no	fair
7/29/02	10:25	504	1246	yes	yes	no	fair
8/12/02	9:30	305	907	yes	yes	no	fair
9/16/02	10:42	554	3076	yes	yes	no	fair

Problems: The Dunes Marina pumpout station does not have any directions on how to operate it, nor any visible signs that mark its location in the Marina. The pumpout station was not operable on 7/1/02, as indicated by the yellow sign posted on the pump.



Dunes Marina, inoperable pumpout station. 7/1/02

Bacteria test Total Coliform results indicate that this site meets single sample standards, all readings exceed 30-day running average standard. *E.Coli* exceed EPA standards on all dates

Recommendations: A new marker for this pumpout station, along with instructions on how to operate it are necessary to ensure that boaters can use the pumpout station with ease. Frequent maintenance of the pumpout station should also be implemented to ensure that the pumpout station is operable, especially at times so near the fourth of July in the middle of summer when the harbor sees heavier traffic.

De Anza



DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	8:15	no result	no result	yes	no	yes	fair
7/29/02	10:15	700	1287	no	no	yes	fair
8/12/02	9:25	355	2187	yes	no	yes	fair
9/16/02	10:50	354	1354	yes	yes	yes	fair

Problems: The De Anza pumpout station has no visible signs marking its location. The pumpout station had no suction on July 29th, deeming it useless to boaters.

Bacteria test: The samples passed the single day Total Coliform standard but exceeded the 30 day running average standard. E.coli exceeded the EPA standard on all dates

Recommendations: none at this time

Bay Club Marina



DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	8:15	no result	no result	yes	yes	yes	fair
7/29/02	10:15	272	384	yes	yes	yes	fair
8/12/02	9:25	243	907	yes	yes	yes	fair
9/16/02	11:10	243	547	yes	yes	yes	fair

Problems: This sample site does not have any problems currently.

Bacteria tests The samples passed the single day Total Coliform standard but exceeded the 30-day running average standard. E.coli exceeded the EPA standard on all dates

Recommendations: no recommendations at this time.

Harbor Club Marina



Harbor Club Marina. 7/1/02

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	9:35	no result	no result	yes	yes	yes	fair
7/29/02	11:35	504	1250	yes	yes	yes	fair
8/12/02	10:00	173	1211	yes	yes	yes	fair
9/16/02	11:20	368	801	yes	yes	yes	fair

Problems: This pumpout station does not have any problems currently, and is in good operating condition.

Bacteria tests The samples passed the single day Total Coliform standard, but exceeded the 30-day running average standard. *E.coli* exceeded the EPA standard on all dates.

Recommendations: none

Lido Village Marina



Lido Village Marina. Photo taken 7/1/02 9:45 am.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	9:45	no result	no result	yes	yes	yes	fair
7/29/02	11:20	723	723	yes	yes	yes	no
8/12/02	10:08			no	yes	yes	no
9/16/02	12:40	5,492	11,199	yes	yes	yes	fair

Problems: Lido Village Marina pumpout station was inoperable on August 12th, and the pumpout station dock was being used as a mooring for a sailboat. On July 29th, the pumpout station was operable, but was blocked by a 32' Chris Craft that remained there for the day.



Photo taken July 29th. 32' Chris Craft blocking operable pumpout vessel. Lido Village Marina



Photo taken 8/12/02. Lido Village Marina pumpout vessel. Sailboat moored blocked pumpout.

Bacteria test results indicate that bacteria counts in the water on 9/16/02 were higher than anywhere in the harbor at any given time. The sampling was done after a boater had used the pumpout station; the boater told the sampler that he had spilled some of the sewage into the water as he was taking the nozzle out of the boat. Total coliform counts were measured at 11,199, exceeding the single sample standard while e-coli counts were measured at 5,492.

Recommendations: The major problem of this pumpout station is access. This pumpout station seems to double as a mooring.

American Legion Yacht Club



Photo taken 7/1/02. Pumpout vessel American Legion Yacht Club.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	10:05	no result	no result	no	yes	no	fair
7/29/02	11:35	195	884	yes	yes	no	fair
8/12/02	10:20	388	933	yes	yes	no	fair
9/16/02	12:00	512	2142	yes	yes	no	fair

Problems: This pumpout station has no directions on how to operate it. The pumpout station's nozzle when tested on 7/1/02, leaked waste on the dock due to improper usage by the last user.

Bacteria test The samples passed the single day Total Coliform standard but exceeded the 30-day running average standard. *E.coli* exceeded the EPA standard on two dates

Recommendations: Most importantly, this pumpout station needs instructions on how to properly operate it; this could have been the reason why on 7/1/02 waste leaked out of the tip when the hose was lifted for testing.

Fernando Street



Photo taken 7/29/02. Fernando Street pumpout.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible instructions	access	
7/1/02	10:25	no result	no result	yes	yes	yes	fair
7/29/02	11:40	723	1067	yes	yes	yes	fair
8/12/02	10:35	21.1	676	yes	yes	yes	fair
9/16/02	12:05	285	1334	yes	yes	yes	fair

Problems: This pumpout station has no directions on how to operate it. On 7/29/02 water surrounding the pumpout station contained brown foam (shown on next page). On 9/16/02 the pumpout stations dock was littered with trash, someone had put their cigarette out on the end of the pumpout station's nozzle, and had used the top of the pumpout station to cut their fishing bait. On the same date (9/16/02) the total coliform bacteria counts around the pumpout station was at 1,334.



Photo taken 7/29/02 11:40. Brown foam surrounding pumpout.

Bacteria test The samples passed the single day Total Coliform standard but exceeded the 30 day running average standard. *E.coli* exceeded the EPA standard on two dates

Recommendations: The high level of bacteria found on 7/29/02 could also be from misuse of the pumpout station due to the lack of instructions on how to properly operate it. Better patrol of the site needs to take place to insure that the pumpout station's dock is not being misused.

Balboa Fun Zone



Photo taken 8/19/02. Balboa Fun Zone pumpout vessel.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	10:40	no result	no result	yes	yes	yes	poor
7/29/02	12:00	759	748	no	no	no	poor
8/12/02		no result	no result	no	no	no	poor
9/16/02	12:00	no result	no result	no	no	no	poor

Problems: The Balboa Fun Zone was not operable on July 29th, and August 12th. The pumpout had plastic wrapped around it, and the hose had been removed. When the pumpout station was operable, access was bad due to the slips narrow width. As seen in the photo above, the pumpout station dock is narrow, and boats tied up around the dock created a difficult entry for anything larger than a dinghy.



Photo taken 7/29/02. Balboa Fun Zone pumpout inoperable.

Bacteria tests The samples passed the single day Total Coliform standard but exceeded the 30-day running average standard. *E.coli* exceeded the EPA standard.

Recommendations: Most importantly, this site needs to be operational again.

Harbor Patrol



Photo taken 7/1/02. Harbor Patrol pumpout.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	11:00	no result	no result	yes	yes	yes	fair
7/29/02	12:10	256	842	yes	yes	yes	fair
8/12/02	10:54	31	262	yes	yes	yes	blocked
9/16/02	12:25	63	439	no	yes	yes	fair

Problems: On 8/12/02, there was a boat moored on the Harbor Patrol pumpout station dock for over an hour, causing the pumpout station to be inaccessible. On 9/11/02, and 9/16/02 one of the pumpouts was inoperable, and had a black trash bag over it. The other pumpout station had a broken clamp on the nozzle on 9/16/02, frustrating one boater who tried for over an hour to pump out his tank.



Photo: boat blocking harbor patrol pumpout station for over an hour. Boat was not using pumpout.8/12/02

Bacteria tests The samples passed the single day Total Coliform standard. *E.coli* exceeded the EPA standard on one date.

Recommendations: Thorough patrol of the pumpout station is necessary in order to ensure that they are not misused as a place to temporarily moor a boat. Parts for the pumpout station should be kept in back stock so that if something does go wrong, the pumpout station can be fixed promptly.

Bahia Corinthian



DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	11:10	no result	no result	no	yes	no	fair
7/29/02	12:25	359	785	no	yes	no	fair
8/12/02	11:00	no result	no result	no	yes	no	fair
9/16/02	12:50	no result	no result	no	yes	no	fair

Problems: The Bahia Corinthian Pumpout station did not work on all four sampling dates. The pumpout station is in poor condition.



Photo taken 7/29/02. Bahia Corinthian. Where's the nozzle at the end of the hose?

Bacteria:Recommendations: The samples passed the single day Total Coliform standard. *E.coli* exceeded the EPA standard. This pumpout station has not worked all summer long, and needs to be fixed promptly.

Balboa Yacht Basin



Photo taken 7/1/02. Balboa Yacht Basin.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	11:00	no result	no result	yes	yes	yes	fair
7/29/02	12:10	256	842	yes	yes	yes	fair
8/12/02	10:54	31	262	yes	yes	yes	blocked
9/16/02	12:25	231	605	no	yes	yes	fair

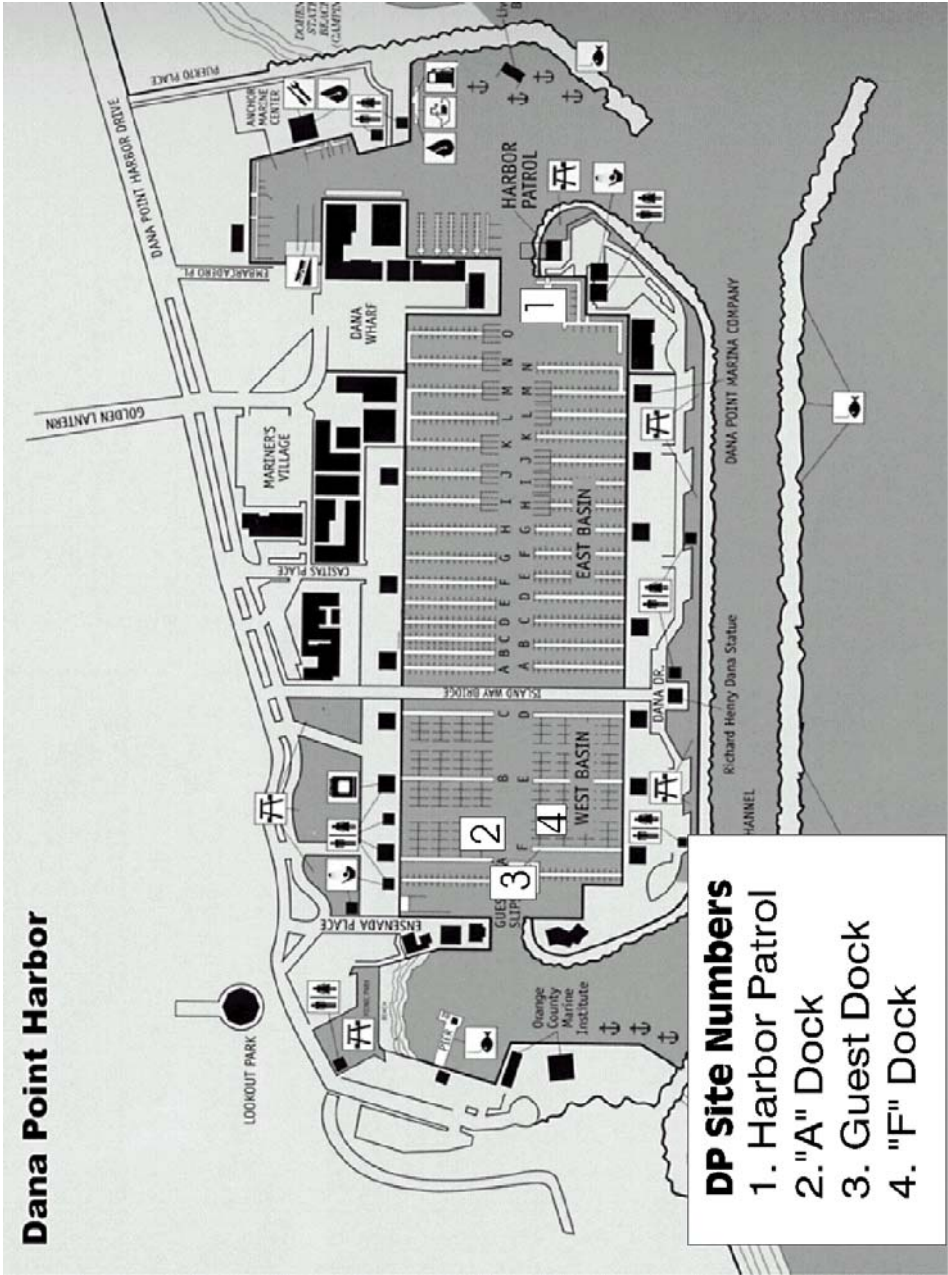
Problem: The pumpout station is not visibly marked for usage.

Bacteria tests The samples passed the single day Total Coliform standard but exceeded the 30-day running average standard on two dates. *E.coli* exceeded the EPA standard on two dates

Recommendations: This site needs to have a better marker so that boaters can see it from the water.

Dana Point Harbor Pumpout Station Sampling

Map of sites being sampled



Harbor Patrol Emergency Dock



Photo taken July 15th . Harbor Patrol Emergency Dock.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/15/02	11:45	41	72	yes	yes	no	fair
8/6/02	3:15	41	41	yes	yes	no	fair
8/20/02	10:10	120	581	yes	yes	no	fair
9/10/02	3:20	20	86	yes	yes	no	fair

Problems: The only problem at this pumpout station is that there are no directions on how to operate it.

Bacteria results indicate that this site is within standards.

Recommendations: This site needs directions on how to operate the pumpout station.

“A” Dock Side Tie



Photo taken 8/22/02. “A” dock side tie.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/15/02	11:55	31	122	yes	no	yes	fair
8/6/02	3:00	20	10	no	no	yes	fair
8/20/02	9:37	10	332	no	no	yes	fair
9/10/02	2:50	10	20	no	no	yes	fair

Problems: Besides being poorly marked, and hard to access, this pumpout station was not operational August 6th, and August 20th. On August 6th there was a dinghy moored at the inoperable pump.

Bacteria results indicate that this site meets standards.

Recommendations: This pumpout needs to be made operational again. This pumpout station didn't work $\frac{3}{4}$ of the summer.

Harbor Department Guest Docks



Photo taken 7/15/02. Harbor department guest docks.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/15/02	11:45	20	97	yes	yes	yes	fair
8/6/02	2:35	20	121	yes	yes	yes	fair
8/20/02	9:45	62	408	yes	yes	yes	fair
9/10/02	2:57	52	<100	yes	yes	yes	fair

Problems: none at this time 9/10/02

Bacteria results indicate that the bacteria results meet standards.

Recommendations: none at this time.

“F” Dock



Photo Taken 7/15/02. Dana Point Harbor End of “F” Dock pumpout station.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/15/02	11:45	20	97	yes	yes	yes	fair
8/6/02	2:35	20	121	yes	yes	yes	fair
8/20/02	9:45	62	408	yes	yes	yes	fair
9/10/02	2:57	52	<100	yes	yes	yes	fair

Problems: none at this time

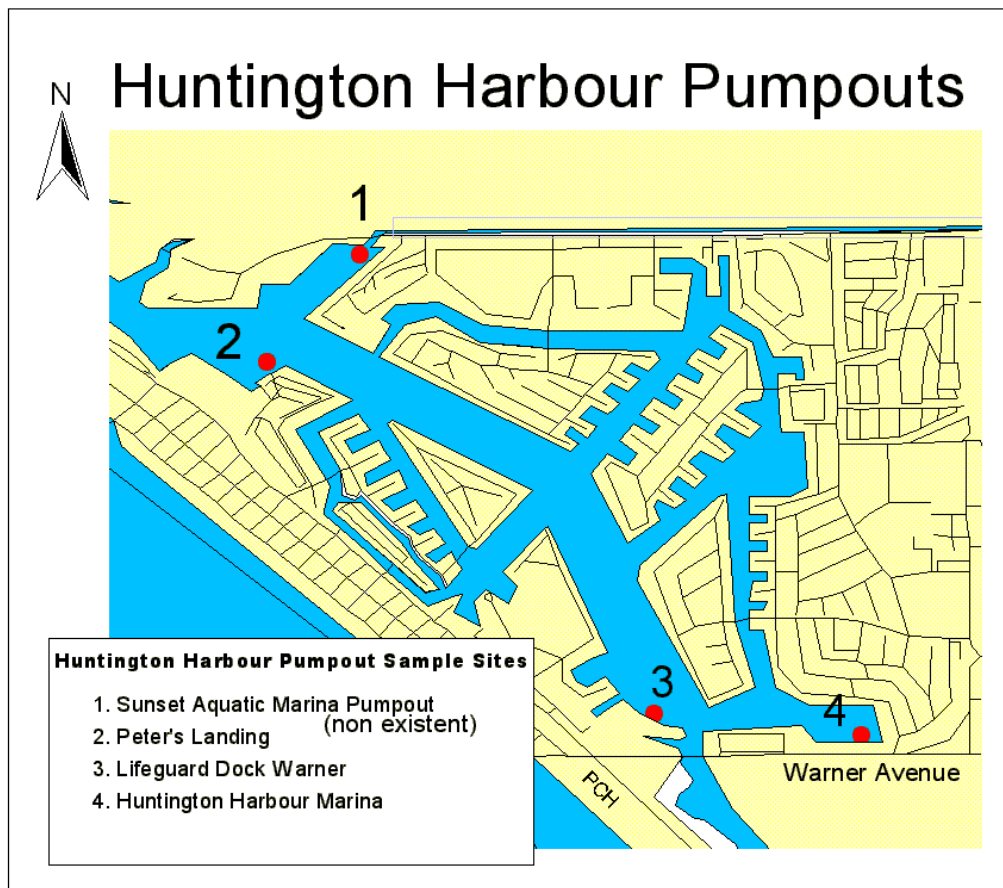
Bacteria results show this site is within standards

Recommendations: none

Texaco Gas Dock

This pumpout station is inoperable, and looks as though it has been for many years. This pumpout station should be taken off the list of pumpout stations.

Huntington Harbour



Site 1 Huntington Harbour

Sunset Aquatic Marina Pumpout

This Pumpout, and marina are under construction, and have been for a few months.

Site 2 Huntington Harbour

Peter's Landing



DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/15/02	8:30	no result	no result	yes	no	no	fair
8/6/02	5:00	146	809	no	no	no	fair
8/20/02	12:47	20	275	yes	no	no	fair
9/10/02	8:30	63	1354	yes	no	no	fair

Problems: The Peter's Landing pumpout station is in very poor condition. Besides having no directions on how to operate the vessel properly, and no visible markers to mark its location, this pumpout station was not operating on July 29th.



Photo taken 9/10/02. Nozzle duct taped together.

Bacteria tests indicate that this site meets standards. 30 day running average standard for Total Coliform was exceeded on two dates.

Recommendations: directions on how to properly operate the pumpout station, a visible sign to mark the pumpout station's location, repairs to the duct taped nozzle, and a new on and off switch.

Lifeguard Dock



Photo taken 7/3/02. Lifeguard dock Huntington Harbour.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/3/02	9:00	no result	no result	no	yes	yes	fair
7/29/02	5:20	120	2851	no	yes	no	fair
8/12/02	1:03	281	488	yes	yes	yes	fair
9/4/02	8:47	119	1067	yes	yes	yes	fair

Problems: The Lifeguard Dock Pumpout station had an out of order sign on it July 3rd, and July 29th. On August 12th, the pumpout station was finally working again.

Bacteria test The samples passed the single day Total Coliform standard but exceeded the 30 day running average standard. *E.coli* exceeded the EPA standard on one date.

Recommendations: This pumpout station needs to be better maintained.

Huntington Harbour Marina

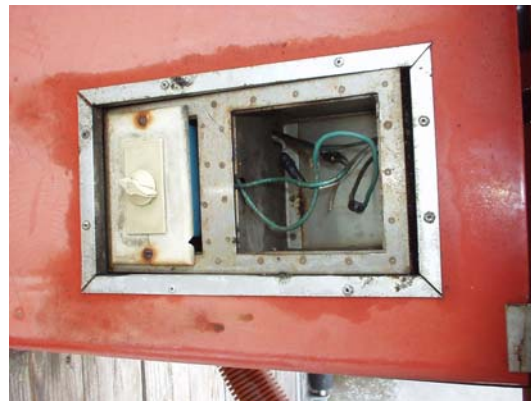
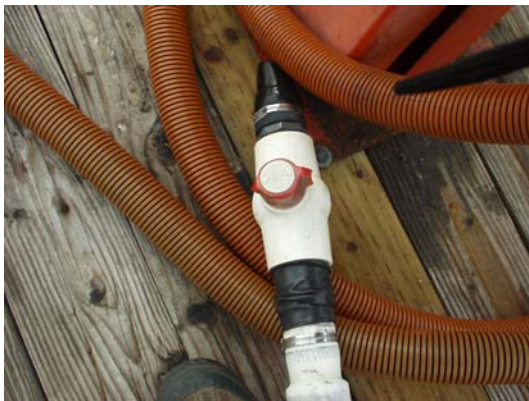


Photo taken July 3rd. Huntington Harbour Marina.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/3/02	9:10	no result	no result	yes	yes	poor	fair
7/29/02	6:45	29.4	799	no	yes	poor	fair
8/12/02	1:10	317	472	yes	yes	poor	fair
9/4/02	8:55	86	538	no	yes	poor	fair

Problems: The pumpout station's toggle switch (on and off switch) is hanging from a group of wires near the bottom of the pumpout station. There are handwritten faded directions duct taped on the pumpout station, but there are no signs that clearly mark the pumpout station's location. On July 29th, the pumpout station was not operable.



Photos taken on 9/4/02. Left, valve lever handle broken. Right exposed electrical and on and off switch hanging from pumpout. Below left, photo of directions, and duct taped maintenance contact.



Bacteria test The samples passed the single day Total Coliform standard but exceeded the 30 day running average standard. *E.coli* exceeded the EPA standard on one date.

Recommendations: A new on and off switch needs to be installed in the pumpout station, new directions need to be posted on the pumpout, and a new valve handle needs to be replaced for proper usage.

