

**FINAL REPORT
MARINA TRASH SKIMMER MONITORING
PORT OF SAN DIEGO**

**Submitted to:
Eileen Maher
Port of San Diego
Environmental Services
3165 Pacific Highway
San Diego, California 92101-1128**

**Submitted by:
AMEC Earth & Environmental, Inc.
9210 Sky Park Court, Suite 200
San Diego, California 92123**

February 2011

AMEC Project No. 9151000900

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION.....	1-1
1.1 Background	1-1
2.0 INSTALLATION.....	2-1
2.1 Trash Skimmer Locations.....	2-1
3.0 WATER QUALITY	3-1
3.1 Sampling	3-1
3.1.1 Results.....	3-1
3.2 Trash Skimmer Log Data	3-1
3.2.1 Half Moon Marina	3-1
3.2.2 Pier 32 Marina	3-1
3.2.3 Point Loma Marina	3-4
3.2.4 Cabrillo Isle Marina.....	3-4
3.3 Qualitative Observations	3-4
4.0 CONCLUSION	4-1

LIST OF TABLES

Table 1.	Monthly Trash Log Summary	3-3
----------	---------------------------------	-----

LIST OF FIGURES

Figure 1.	Marine Debris Throughout the Marinas.....	1-2
Figure 2.	Marina Trash Skimmer Locations.....	2-2
Figure 3.	Harbor Island West Marina.....	2-3
Figure 4.	Point Loma Marina	2-5
Figure 5.	Half Moon Marina	2-6
Figure 6.	Half Moon Marina Skimmer Signage.....	2-7
Figure 7.	Pier 32 Marina	2-8

LIST OF APPENDICES

APPENDIX A TRASH SKIMMER INSTALLATION HALF MOON MARINA
APPENDIX A
APPENDIX B HALF MOON MARINA TRASH SKIMMER LOG
APPENDIX C PIER 32 MARINA TRASH SKIMMER LOG
APPENDIX D POINT LOMA MARINA TRASH SKIMMER LOG
APPENDIX E CABRILLO ISLE MARINA TRASH SKIMMER LOG

This page intentionally left blank

ACRONYMS AND ABBREVIATIONS

AMEC	AMEC Earth & Environmental
BMP	Best Management Practice
MTS	marine trash skimming devices
lbs	pounds

This page intentionally left blank

1.0 INTRODUCTION

Without question the Port of San Diego and its tenants strive to maintain the highest possible water quality in San Diego Bay. One of the most visible and unsightly pollutants in the Bay is floating marine debris. It is a continual nuisance in almost any water body in a well populated area such as San Diego. Not only is it unsightly but marine debris can impair water quality and degrade valuable wildlife habitat (Figure 1). One way to reduce the amount of marine debris in a water body is by the strategic placement of collection devices in affected areas such as marinas. At the present time, however, there are no legislative drivers to mandate the placement of trash collection equipment at marinas, only the encouragement to do so as a voluntary clean marina Best Management Practice (BMP). Due to the general construction of marinas and prevailing winds there is usually an area within each marina where floating trash and debris naturally collects. These areas also tend to experience low flushing rates and, in addition to trash, often accumulate other floating organic material (e.g. scum) that may further degrade water quality. Marina employees often spend many hours a week with the laborious task of scooping trash out of the water with a swimming pool net or similar device. The installation of marine trash skimming devices (MTS) is one way in which to intercept and remove trash and debris once it has made its way into Bay waters.

In May 2009, AMEC Earth & Environmental, Inc. (AMEC) requested Port of San Diego Environmental Committee funding to install a MTS at four San Diego Bay marinas. The proposed installation locations were Pier 32 in National City, The Wharf (eventually renamed Point Loma Marina) in America's Cup Harbor, Harbor Island West Marina in Harbor Island, and Half Moon Marina on Shelter Island. The funds for all four MTS were granted in October 2009. Eventually, the skimmer at Harbor Island West Marina was moved to Cabrillo Isle Marine, also on Harbor Island. With funds provided from the Port of San Diego's Environmental Committee Fund and matching funds from each participating marina, AMEC procured the four trash skimmers, oversaw installation, and conducted a year-long study to assess the benefits of these devices at each of the four marinas. The individual marinas were responsible for providing matching funds for the installation, operation, and maintenance of the systems. The following report documents the installation of the four marine trash skimming devices within San Diego Bay and an evaluation of their effectiveness in trash and debris for an 8 month period.

1.1 Background

As of early 2009, there were no marine trash skimming devices permanently installed in San Diego Bay marinas. Consequently, trash and marine debris would frequently accumulate in the low-flow areas of marinas especially in the south-east corners of marinas due to prevailing North West winds. The debris was particularly noticeable during the winter months when rains would wash debris into stormdrains and winter storm winds would blow debris into the Bay. An MTS was operating at Pier 32 on a temporary 90-day trial basis. The trial seemed to indicate a noticeable improvement in water clarity and a very noticeable decrease in floating debris throughout the marina. After numerous discussions with the dockmaster at Pier 32 and other interested marina managers in San Diego Bay it was decided that additional skimmers in specific low flow areas of certain marinas would be beneficial.



FIGURE

1

The MTS works quietly 24 hours a day to contain unsightly floating debris, plastic and organic matter, but also aids in improving the water quality throughout the marina by providing a continuous mixing of the normally low flowing water. An absorbent bilge pad can also be installed to absorb oil sheen waste further improving marina water quality. Once installed the only maintenance needed is the removal of the flotsam and jetsam that has accumulated in the device and installing a new bilge pad if necessary. The frequency of the removal is dependent on the rate of accumulation.

This page intentionally left blank

2.0 INSTALLATION

Installation included three of the four trash skimmers. The contract indicates the purchase of four skimmers however the trash skimmer for Pier 32 was installed previously on April 9, 2009 on a trial basis. When Marina Accessories, the company that produces the skimmers, learned that Pier 32 was applying for a grant to purchase the unit they kindly allowed the marina to keep the skimmer in place until it was determined if the grant would be awarded to the marina. Therefore, since Pier 32 already had a skimmer, only three skimmers were installed at three marinas; Harbor Island West Marina, Half Moon Marina, and Point Loma Marina (formerly known as The Wharf). The skimmers were installed by Marina Accessories staff and marina staff on 2 December 2009. A map depicting the location of all four skimmers can be found in Figure 2. A sample of the installation process at Half Moon Marina is documented in Appendix A.

On 25 March 2010, the trash skimmer that was located at Harbor Island West Marina was transferred to the Cabrillo Isle Marina. This transfer occurred due to the consistent lack of trash observed and collected at the Harbor Island West Marina location. Data collection from the trash skimmer's new location at Cabrillo Isle Marina began on 15 April 2010. Figure 2 shows the location of this trash skimmers new location at the Cabrillo Isle Marina. The remaining three trash skimmers have all remained in their original locations.

2.1 Trash Skimmer Locations

Each skimmer was positioned in an area of low flowing current where floating marine debris tends to collect. These areas unintentionally act as catch basins for floating debris because of the low flushing design of the marinas and because of the prevailing North West winds that frequent San Diego Bay in the afternoon. Ironically, these areas are often correlated with high public visibility areas. The strategic placement of the skimmers is not only beneficial for improved water quality but it also keeps the debris out of the public eye. All skimmers are placed in secured areas that are only accessible to marina staff.

1) Harbor Island West Marina (Figure 3)

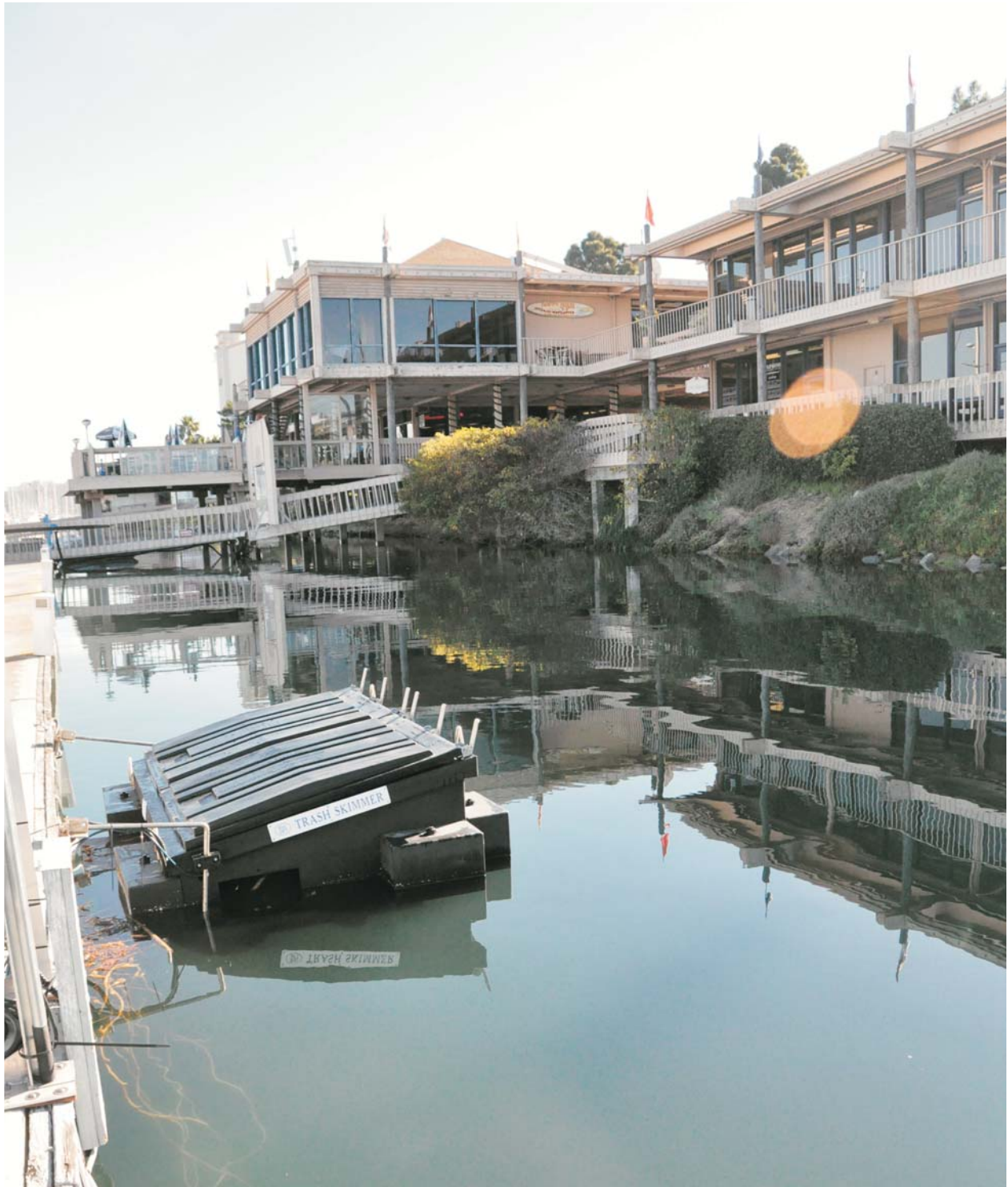
This skimmer was located along a channel that leads to the low flush area of Harbor Island basin. Much of the debris that ends up in the back of the basin must pass the skimmer as the tide floods in during high tide. Similarly, debris that is in the back of the basin may travel out of this channel as the tide goes out. The skimmer was also located directly downstream (east) of a fueling station so there was an added benefit of the skimmer being used to pickup floating petroleum in the area as there is also a bilge pad in the unit. The skimmer is within view of the businesses and pedestrian walkway that parallels the dock.



Marina Trash Skimmer Locations
February 2011

FIGURE

2



Harbor Island West Trash Skimmer

FIGURE

3

In March 2010 the skimmer was removed from this marina after it was determined that the majority of the debris was by-passing the skimmer and flowing downstream towards Cabrillo Isle Marina. After a discussion between the marina managers and Port staff, it was decided to move the skimmer downstream from Harbor Island West to Cabrillo Isle where the skimmer would be more effective.

2) Point Loma Marina (Figure 4)

The skimmer is located along the east side of the main dock. Since this marina is located in the north east end of the America's Cup Harbor the prevailing winds blow debris directly to this area. A high traffic public walkway with shops, restaurants and businesses overlooks this area.

3) Half Moon Marina (Figure 5)

The skimmer at Half Moon Marina is located in the eastern end of the Shelter Island Basin. The location, where the most debris accumulates, is immediately adjacent to the Humphrey's By the Bay concert venue. The venue overlooks the marina and thus is not only a great location to collect debris but the signage for the skimmer, recognizing the Port's funding, is seen by many who visit the venue or watch from the water next to the skimmer. (Figure 6)

4) Pier 32 Marina (Figure 7)

This skimmer is located in the low flush area of the marina, the north east corner. This is also a fairly visible area of the marina and is protected from winds by the rip rap that extends approximately 20 feet (ft) above the water level. The skimmer can be seen from the landside walkway above the riprap. That area houses the marina's BBQ/picnic area and public area known as "The Beach."

5) Cabrillo Isle Marina (Figure 2)

On 25 March 2010, the trash skimmer located at Harbor Island West Marina was transferred to the Cabrillo Isle Marina. Cabrillo Isle Marina is situated in the south east corner of the Harbor Island West basin so the majority of the marine debris is blown into this corner by the prevailing winds. The skimmer sits along a corner dock that, from above, is highly visible on a pedestrian pathway and from a large hotel.



Point Loma Marina Trash Skimmer

F I G U R E

4



Half Moon Marina Trash Skimmer

FIGURE

5



Half Moon Marina Skimmer Signage

FIGURE

6



Pier 32 Trash Skimmer

F I G U R E

7

3.0 WATER QUALITY

3.1 Sampling

Unfortunately, due to a catastrophic malfunction in the CTD water quality was not taken after the initial baseline sampling event.

3.1.1 Results

Due to the lack of data from subsequent water quality sampling events it is not possible to compare the results. Upon visual inspection however, there is a noticeable difference in water clarity. The skimmers are in relatively shallow water ranging from 5 ft to 15 ft (tide dependant). Prior to the skimmers installation it was difficult or impossible to see the bottom of the Bay while standing on the dock. Currently, one is able to view the bottom quite easily at each location.

3.2 Trash Skimmer Log Data

Over the course of 8 months, the marinas were asked to keep detailed logs of what was removed from their trash skimmer. Each marina was asked to record approximate volumes of debris and percentages of types of debris. Two of the marinas, Half Moon and Cabrillo Isle, used a 30 gallon garbage can to measure the volumes of debris removed and estimated the percentage of different types of debris. The other two marinas, Pier 32 and Point Loma, used a scale and weighed the debris that was removed. The results are summarized in Table 1.

The detailed daily logs of each marina are in Appendix B – E. It is challenging to compare the data between marinas since two of the marinas measured the debris in pounds while the other two measured the debris in gallons. The data collected provides a general evaluation of the volume of debris removed by each marina. There is also a record of whether or not an oil sheen was observed. Most of the time there was no sheen observed, but the marinas kept a bilge pad in the skimmer as a preventive measure. The pads were exchanged at the discretion of the marina staff and recorded in the log.

3.2.1 Half Moon Marina

Upon review of the data Half Moon Marina collected the most debris with 6,425 gallons over the 8 month evaluation period. There was a variety of types of trash at Half Moon including leaves, plastic, wood, glass bottles, Styrofoam, kelp and cigarette butts. The majority of debris throughout the collection period was leaves and plastic. The volume of marine debris collected was larger in the winter/spring months (January-March/AprilMay) and decreased noticeably in the summer months (June-August).

3.2.2 Pier 32 Marina

Pier 32 collected mostly kelp and material described as “other.” After a discussion with the skimmer operator it was determined that the “other” material was marine scum that grows on the rocks and will detach itself and float around. Kelp and scum were the main components of the debris in the winter months (Jan-Mar), while scum became the main component in the

springtime and kelp dominated in the summer months. The winter months saw the largest amount of debris collected with 1,146 pounds (lbs) collected compared to 658.5 lbs collected during the spring and summer months combined.

Table 1. Monthly Trash Log Summary

Skimmer Location	Units	January	February	March	April	May	June	July	August	Total Trash Collected	Total Sheen Observations
Half Moon Marina	gallons	1215	1150	1125	745	800	580	390	420	6425	34
Cabrillo Isle Marina	gallons	NA	NA	NA	262	214	122	395	530	1522	38
Harbor Island West Marina	gallons	38	2	NA	NA	NA	NA	NA	NA	40	NA
Point Loma Marina	pounds	53	82	58	38	21	43	17	22	334	0
Pier 32 Marina	pounds	270	278	598	77	117	55	192	218	1805	9

NA = not applicable

3.2.3 Point Loma Marina

The Point Loma skimmer saw a variety of debris in the winter months with the majority being leaves. The debris also included kelp, cigarette butts, plastic, wood, and Styrofoam. As seen with the previous skimmers, kelp became the dominant component of the debris in the spring and summer months. The amount of debris collected was the greatest in the winter (193 lbs.) compared to the spring and summer month combined (141 lbs.)

3.2.4 Cabrillo Isle Marina

There were accounting issues with some of the Cabrillo Isle Marina staff in the early months so the items were not properly documented. This was corrected in February but then the skimmer has some challenges with maintenance and excessive growth of vegetation within the skimmer unit. This issue was corrected in March. The marina's skimmer saw a similar combination of kelp, leaves, plastic, wood and glass bottles throughout their collection. Initially glass, plastic and leaves dominated the composition of the debris that was collected but kelp became the dominant component in the spring and summer months. Since the skimmer debris was not properly accounted for and was down for maintenance for most of the winter we are unable to compare the volume of debris to the spring and summer months.

3.3 Qualitative Observations

Aside from the skimmer collection logs, each marina manager was asked to comment on the productivity and value of the skimmer after 8 months of use. Overall the response was extremely favorable. The qualitative observations made note of the clarity of the water and the immediate lack of debris in the water. Brad Oliver, manager at the Half Moon Marina commented:

“...we saw an immediate impact in the area surrounding the skimmer location. We would find a large debris field...after a rain storm. But, the skimmer worked like a charm and due to how efficiently it runs, it had most of the debris gone after a day or two.”

He also commented on the efficiency of the unit and how it has saved them time and money:

“...My maintenance guy will spend maybe 2-3 hours a week cleaning out the skimmer “trash” and we use a diver to keep the skimmer itself clean. I feel the more efficiently it runs, the less cost to us. Prior to the skimmer, we would spend a couple of hours a day, 4-5 times a week, trying to keep the water as clean as possible.”

Greg Boeh, the general manager for Pier 32 (the marina who has had their skimmer unit the longest) and Point Loma marinas also touts the benefits of the skimmers:

“Not only does it provide an effective way to remove surface trash and drifting vegetation, it also serves as a way to collect and remove pollutants like oil and fuel from the water. This has made an impact with the Coast Guard and Harbor Patrol when they have responded to the Marina due to a minor spill. With its ability to efficiently filter hundreds of thousands of gallons daily, it has proven to be the work horse of the Marina.

Also, with the way the unit exhausts into the water, we have found an abundant quantity of marine life flocking to the area.

With little man hours spent cleaning and removing the collected debris it has definitely become part of the Maintenance Team.”

Some of the skimmers had maintenance issues with growth inside the skimmer hoses as well as some issues with the maintenance staff. Elaine Lutz, the manager at the Cabrillo Isle Marina, noted that the warmer summer water caused excessive growth in the hoses which were eventually cleaned and then replaced. She also initially had issues with her staff understanding the details of how to document the debris and clean the unit. Overall, the units worked well and remained functional for the majority of the study.

This page intentionally left blank.

4.0 CONCLUSION

As a result of Port of San Diego Environmental Committee funding obtained by AMEC and matching funds provided by the four participating marinas, Pier 32 Marina, Point Loma Marina, Half Moon Marina and Cabrillo Isle Marina, four marine trash skimmers were purchased and placed at each marina. The skimmers collected organic and inorganic floating marine debris 24 hours a day and was emptied by marina staff on a regular basis. Each marina also kept a bilge pad in the skimmer to absorb any residual petroleum that may be in the area.

Water quality changes were not able to be quantified at the culmination of this monitoring event due to equipment malfunction; however, the collection of large, floating debris was successful and it can be concluded that water quality improved by the removal of larger suspended objects. Each skimmer was successful in collecting many gallons or pounds of debris. There was a noticeable seasonal variation in the types and volumes of debris collected. The winter months of January through March saw more anthropogenic and higher volumes of debris. The spring and summer months of April through August saw mostly kelp and lower volumes of debris. The only discrepancy is that some marina staff did not keep detailed records of the types of debris.

Regardless of the lack of quantitative data this program is deemed a success because of the sheer volume of debris removed from the marina water, the increased observable clarity of the water and the satisfaction of the marinas and their tenants has shown that the marine trash skimmers have been a valuable asset for each marina. Each marina manager has indicated how satisfied they are with their skimmer. Not only do they improve the aesthetics of their marina but the skimmers are easy to use, silent, and save the marina time and money by reducing the marina staff's workload. Several of the marinas have indicated a desire for another skimmer and are perusing other grant opportunities to procure them.

This page intentionally left blank

APPENDIX A

TRASH SKIMMER INSTALLATION
HALF MOON MARINA

This page intentionally left blank

**APPENDIX A
TRASH SKIMMER INSTALLATION
HALF MOON MARINA
DECEMBER 2, 2009
PHOTOGRAPHIC LOG**

Photograph No. 1

Skimmer being prepped for the water



Photograph No. 2

Skimmer being lowered into the water



AMEC Job No.
9151000900.0001



APPENDIX A
TRASH SKIMMER INSTALLATION
HALF MOON MARINA
DECEMBER 2, 2009
PHOTOGRAPHIC LOG



Photograph No. 3

Skimmer placement at dock



Photograph No. 4

Installation of electrical box

AMEC Job No.
9151000900.0001



APPENDIX A
TRASH SKIMMER INSTALLATION
HALF MOON MARINA
DECEMBER 2, 2009
PHOTOGRAPHIC LOG



Photograph No. 5
Installation of skimmer-a

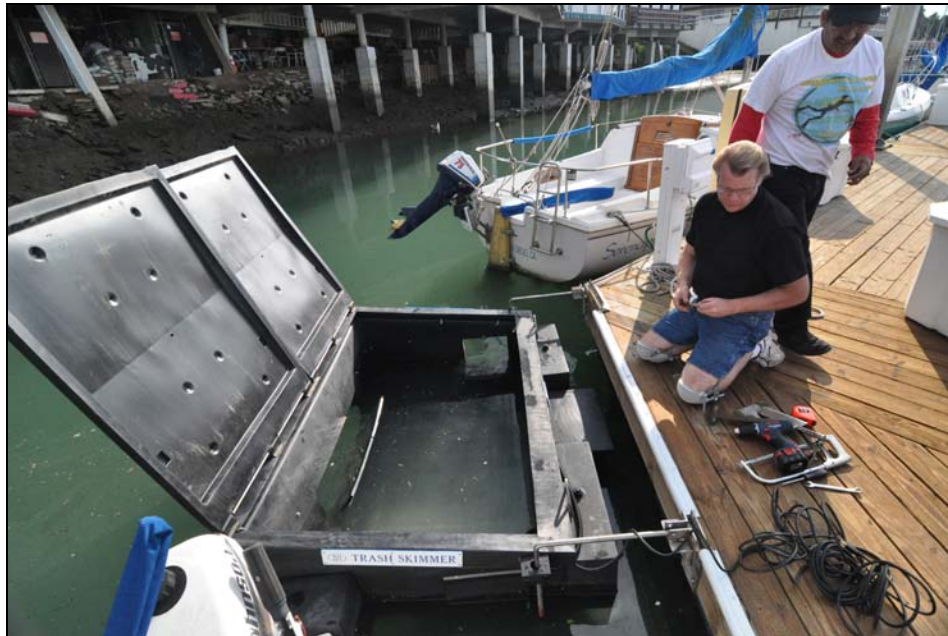


Photograph No. 6
Installation of skimmer-b

AMEC Job No.
9151000900.0001



APPENDIX A
TRASH SKIMMER INSTALLATION
HALF MOON MARINA
DECEMBER 2, 2009
PHOTOGRAPHIC LOG



Photograph No. 7
Installation of skimmer-c



Photograph No. 8
Installation of skimmer-d

AMEC Job No.
9151000900.0001



APPENDIX B

HALF MOON MARINA TRASH SKIMMER LOG

This page intentionally left blank

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
1.4.10	9:00AM	30	LV = 80%, PL = 5%, WD = 5%, AN = 1%, OR = 9%	X	X	X	clear/sunny
1.5.10	9:00AM	25	LV = 90%, GB = 5%, PL = 5%	X	X	X	clear/sunny
1.6.10	12:00PM	40	PL = 15%, LV = 70%, TY = 5%, CB = 3%, OR = 7%		X		clear/sunny
1.7.10	12:00PM	30	LV = 80%, WD = 10%, PL = 5%, SC = 3%, GB = 3%	X	X	X	clear/sunny/windy
1.8.10	2:30PM	30	LV = 70%, PL = 10%, KL = 3%, OR = 7%, WD = 10%		X		clear/sunny/windy
1.11.10	2:30PM	50	LV = 85%, PL = 14%, GB = 1%		X		windy/cloudy
1.12.10	2:30PM	50	PL = 20%, LV = 70%, OR = 5%, WD = 5%		X		windy/cloudy/rain
1.13.10	2:30PM	40	LV = 80%, WD = 1%, PL = 15%, SF = 5%		X		cloudy/windy/rain

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
1.14.10	9:00AM	50	LV = 75%, PL = 5%, GB = 5%, OR = 15%		X		rain/windy
1.15.10	9:00AM	50	LV = 70%, PL = 5%, GB = 5%, OR = 10%, WD = 10%		X		cloudy
1.18.10	9:00AM	200	LV = 80%, PL = 10%, GB = 5%, OR = 5%	X	X	X	cloudy
1.19.10	2:30PM	60	LV = 70%, PL = 15%, GB = 5%, OR = 5%, WD = 5%		X		cloudy
1.20.10	2:30PM	60	LV = 80%, PL = 10%, GB = 5%, OR = 5%	X	X	X	cloudy
1.21.10	2:30PM	80	LV = 80%, PL = 10%, OR = 5%, WD = 5%	X	X	X	cloudy
1.22.09	9:00AM	60	LV = 40%, PL = 10%, OR = 8%, WD = 10%, AN = 2%, SC = 15%, SF = 15%	X		X	cloudy/windy
1.25.09	2:30PM	75	LV = 75%, PL = 10%, WD = 8%, OR = 7%				sunny/clear

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
1.26.10	2:00PM	45	LV = 80%, PL = 5%, WD = 5%, AN = 1%, OR = 7%				sunny/clear
1.27.10	9:00AM	40	LV = 85%, PL = 5%, WD = 5%, OR = 5%				sunny/clear
1.27.10	2:30PM	30	LV = 50%, PL = 15%, GB = 10%, CB = 10%, WD = 15%, TY = 10%			X	cloudy/windy
1.28.10	9:30AM	35	LV = 75%, PL = 10%, WD = 5%, CB = 1%, GB = 2%, OR = 7%	X			sunny/clear
1.28.10	2:30PM	40	LV = 60%, PL = 25%, GB = 10%, CB = 5%	X			cloudy/windy
1.29.10	2:30PM	45	LV = 80%, PL = 15%, OR = 5%			X	sunny/clear/windy
Total Volume	(Jan, gal)	1165					
2.1.10	2:30PM	70	LV = 75%, PL = 8%, WD = 6%, CB = 2%, GB = 3%, OR = 6%	X			sunny/clear

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
2.2.10	2:30PM	50	LV = 75%, PL = 5%, CB = 2%, WD = 5%, TY = 10%, OR = 8%				sunny/clear
2.3.10	9:30AM	75	LV = 80%, PL = 15%, WD = 5%				sunny/cloudy
2.3.10	2:30PM	30	LV = 50%, PL = 20%, WD = 10%, GB = 5%, CB = 5%			X	cloudy
2.4.10	9:30AM	40	LV = 60%, PL = 10%, CB = 2%, WD = 5%, GB = 10%, OR = 8%			X	sunny/cloudy
2.5.10	2:30PM	35	LV = 75%, PL = 15%, WD = 5%, OR = 5%	X			sunny/cloudy
2.8.10	2:30PM	50	LV = 75%, PL = 10%, WD = 5%, CB = 1%, GB = 2%, OR = 7%				sunny/cloudy
2.9.10	2:30PM	40	LV = 70%, PL = 10%, WD = 5%, CB = 5%, OR = 10%	X			sunny/cloudy

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
2.10.10	1:00PM	45	LV = 65%, PL = 10%, WD = 10%, CB = 5%, OR = 10%			X	sunny/clear
2.10.10	2:30PM	55	LV = 50%, PL = 30%, WD = 5%, GB = 5%, TY = 5%, OR = 5%			X	sunny
2.11.10	2:30PM	30	LV = 60%, PL = 15%, WD = 10%, GB = 5%, OR = 10%				sunny/windy
2.12.10	2:30PM	30	LV = 40%, PL = 20%, WD = 10%, GB = 10%, CB = 5%, TY = 5%, OR = 10%				sunny/windy
2.15.10	2:30PM	35	LV = 50%, PL = 30%, WD = 10%, CB = 5%, OR = 5%	X			sunny/windy
2.16.10	2:30PM	40	LV = 60%, PL = 20%, WD = 5%, CB = 5%, GB = 5%, OR = 5%	X			cloudy/sunny

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
2.17.10	2:30PM	40	LV = 40%, PL = 30%, WD = 10%, TY = 5%, CB = 5%, OR = 10%				cloudy/sunny
2.18.10	2:30PM	40	LV = 50%, PL = 20%, WD = 5%, CB = 5%, GB = 5%, OR = 15%				cloudy
2.19.10	2:30PM	40	LV = 40%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, TY = 5%, OR = 5%			X	cloudy
2.22.10	2:30PM	60	LV = 50%, PL = 20%, WD = 10%, TY = 5%, CB = 5%, OR = 10%				sunny
2.23.10	2:30PM	30	LV = 60%, PL = 15%, WD = 5%, CB = 5%, GB = 5%, OR = 10%				sunny/cloudy
2.24.10	2:30PM	50	LV = 40%, PL = 25%, WD = 10%, CB = 5%, GB = 5%, TY = 5%, OR = 10%				sunny/cloudy

Appendix B **Half Moon Marina** **Trash Skimmer Log 2010**

Animal	=	AN	Scum	=	SC
Cigarette Butt	=	CB	Styrofoam	=	SF
Glass Bottle	=	GB	Toys/Balls	=	TY
Kelp	=	KL	Wood	=	WD
Leaves	=	LV	Other	=	OR
Plastic (bottle/container/wrapper)	=	PL			

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
2.25.10	2:30PM	40	LV = 50%, PL = 30%, WD = 10%, CB = 5%, OR = 5%				cloudy/windy
2.26.10	2:30PM	40	LV = 50%, PL = 30% WD = 10%, CB = 5%, OR = 5%	X		X	cloudy/windy
Total Volume	(Feb, gal)	965					
03/01/2010	2:30PM	40	LV = 60%, PL = 20%, WD = 5%, CB = 5%, GB = 5%, OR = 5%				sunny/windy
03/02/2010	2:30PM	30	LV = 50%, PL = 20%, WD = 10%, CB = 5%, TY = 5%, OR = 10%				sunny
03/03/2010	2:30PM	40	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				sunny
03/04/2010	2:45PM	50	LV = 50%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, TY = 5%, OR = 5%				sunny

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
03/05/2010	2:30PM	50	LV = 40%, PL = 30%, WD = 10%, GB = 5%, TY = 5%, KL = 5%, OR = 5%				sunny
03/08/2010	2:30PM	40	LV = 30%, PL = 30%, WD = 10%, GB = 5%, TY = 5%, OR = 15%				
03/09/2010	2:30PM	50	LV = 50%, PL = 20%, WD = 15%, CB = 5%, GB = 5%, OR = 5%				
03/10/2010	2:30PM	80	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				
03/11/2010	2:30PM	60	LV = 70%, PL = 20%, WD = 4%, CB = 5%, TY = 1%				
03/12/2010	2:30PM	80	LV = 60%, PL = 20%, WD = 10%, CB = 5%, GB = 5%				
03/13/2010	2:30PM						
03/14/2010	2:30PM						

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
03/15/2010	2:30PM	80	LV = 60%, PL = 30%, WD = 5%, CB = 5%				
03/16/2010	2:30PM	60	LV = 50%, PL = 20%, WD = 5%, CB = 5%, GB = 5%, TY = 5%, OR = 10%				
03/17/2010	2:30PM	40	LV = 40%, PL = 30% WD = 10%, CB = 5%, TY = 5%, GB = 3%, OR = 7%				
03/18/2010	2:30PM	40	LV = 50%, PL = 20%, WD = 5%, CB = 5%, TY = 5%, SC = 5%, OR = 10%				
03/19/2010	2:30PM	50	LV = 50%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				
03/20/2010	2:30PM						
03/21/2010	2:30PM						

Appendix B **Half Moon Marina** **Trash Skimmer Log 2010**

Animal	=	AN	Scum	=	SC
Cigarette Butt	=	CB	Styrofoam	=	SF
Glass Bottle	=	GB	Toys/Balls	=	TY
Kelp	=	KL	Wood	=	WD
Leaves	=	LV	Other	=	OR
Plastic (bottle/container/wrapper)	=	PL			

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
03/22/2010	2:30PM	50	LV = 40%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, TY = 5%, SC = 5%, OR = 10%				
03/23/2010	2:30PM	70	LV = 60%, PL = 20%, WD = 10%, CB = 5%, OR = 5%				
03/24/2010	2:30PM	40	LV = 50%, PL = 20%, WD = 5%, CB = 5%, GB = 2%, SF = 1%, OR = 10%, SC = 7%				
03/25/2010	2:30PM	40	LV = 40%, PL = 20% WD = 10%, CB = 5%, GB = 5%, TY = 10%, OR = 10%				
03/26/2010	Trash Skimmer Turned Off						
03/27/2010	Trash Skimmer Turned Off						
03/28/2010	Trash Skimmer Turned Off						
03/29/2010	2:30PM	45	LV = 50%, PL = 20%, GB = 5%, CB = 5%, WD = 10%, OR =				sunny/clear

Appendix B **Half Moon Marina** **Trash Skimmer Log 2010**

Animal	=	AN	Scum	=	SC
Cigarette Butt	=	CB	Styrofoam	=	SF
Glass Bottle	=	GB	Toys/Balls	=	TY
Kelp	=	KL	Wood	=	WD
Leaves	=	LV	Other	=	OR
Plastic (bottle/container/wrapper)	=	PL			

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
			10%				
03/30/2010	2:30PM	50	LV = 40%, PL = 30%, CB = 5%, GB = 5%, SC = 5%, SF = 5%, WD = 10%	X			sunny/clear
03/31/2010	2:30PM	40	LV = 40%, PL = 30%, WD = 5%, GB = 5%, CB = 5%, OR = 10%, TY = 5%			X	sunny/clear
Total Volume	(March, gal)	1125					
04/01/2010	2:30PM		off				
04/02/2010	2:30PM		off				
04/05/2010	2:30PM	70	LV = 50%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				cloudy/rain
04/06/2010	2:30PM	80	LV = 60%, PL = 30%, WD = 5%, OR = 5%	X		X	sunny/clear

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
04/07/2010	2:30PM	40	LV = 50%, PL = 30%, WD = 3%, GB = 5%, OR = 12%	X			sunny/clear
04/08/2010	2:30PM	30	LV = 40%, PL = 20%, GB = 5%, WD = 5%, CB = 5%, TY = 10%, OR = 15%	X		X	
04/09/2010	2:30PM	30	LV = 50%, PL = 30%, WD = 5%, CB = 5%, TY = 5%, OR = 5%				
04/12/2010	2:30PM	40	LV = 40%, PL = 20%, WD = 10%, TY = 5%, GB = 5%, CB = 5%, OR = 15%				cloudy/rain
04/13/2010	2:30PM	70	LV = 50%, PL = 30%, WD = 10%, OR = 5%, CB = 5%				cloudy/wind
04/14/2010	2:30PM	50	LV = 40%, PL = 30%, WD = 5%, TY = 10%, GB = 5%, OR = 10%			X	cloudy/wind

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
04/15/2010	2:30PM	30	LV = 50%, PL = 20%, WD = 10%, GB = 5%, CB = 10%, OR = 5%	X			sunny/clear
04/16/2010	2:30PM	40	LV = 40%, PL = 30%, WD = 10%, GB = 5%, CB = 5%, OR = 10%				sunny/clear
04/19/2010	2:30PM	30	LV = 45%, PL = 30%, WD = 5%, GB = 5%, CB = 5%, OR = 10%				sunny/clear
04/20/2010	2:30PM	40	LV = 50%, PL = 20%, WD = 10%, TY = 5%, GB = 5%, OR = 10%		X		sunny/clear
04/21/2010	2:30PM	30	LV = 40%, PL = 30%, WD = 10%, GB = 5%, CB = 5%, OR = 10%				sunny/cloudy
04/22/2010	2:30PM	20	LV = 50%, PL = 40%, WD = 5%, OR = 5%	X			sunny/cloudy
04/23/2010	2:30PM	25	LV = 40%, PL = 30%, WD = 10%, GB = 5%, CB = 5%, OR = 10%				sunny/clear

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
04/26/2010	2:30PM	20	LV = 50%, PL = 30%, WD = 10%, OCB = 5%, OR = 5%				sunny/clear
04/27/2010	2:30PM	20	LV = 60%, PL = 40%	X	X		cloudy/windy
04/28/2010	2:30PM	30	LV = 40%, PL = 40%, WD = 5%, CB = 5%, GB = 5%, OR = 5%				cloudy/windy
04/29/2010	2:30PM	30	LV = 40%, PL = 30%, WD = 10%, GB = 5%, CB = 5%, TY = 5%, OR = 5%	X			sunny/clear
04/30/2010	2:30PM	20	LV = 60%, PL = 20%, WD = 5%, GB = 5%, CB = 5%, OR = 5%				sunny/clear
Total Volume	(April, gal)	745					
05/03/2010	2:30PM	50	LV = 40%, PL = 20%, CB = 5%, GB = 5%, WD = 10%, OR = 20%				sunny/clear

**Appendix B
Half Moon Marina
Trash Skimmer Log 2010**

Animal	=	AN	Scum	=	SC
Cigarette Butt	=	CB	Styrofoam	=	SF
Glass Bottle	=	GB	Toys/Balls	=	TY
Kelp	=	KL	Wood	=	WD
Leaves	=	LV	Other	=	OR
Plastic (bottle/container/wrapper)	=	PL			

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
05/04/2010	2:30PM	30	LV = 50%, PL = 15%, WD = 10%, CB = 5%, GB = 5%, OR = 15%				sunny/clear
05/05/2010	2:30PM	50	LV = 60%, PL = 15%, WD = 10%, CB = 5%, GB = 5%, OR = 5%	X		X	sunny/clear
05/06/2010	2:30PM	40	LV = 40%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, TY = 5%, OR = 15%				sunny/clear
05/07/2010	2:30PM	80	LV = 50%, PL = 20%, WD = 10%, GB = 5%, TY = 5%, OR = 10%				sunny/clear
05/10/2010	2:30PM	40	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				sunny/clear
05/12/2010	2:30PM	20	LV = 30%, PL = 20%, WD = 10%, TY = 5%, CB = 5%, GB = 5%, OR = 20%, KL = 5%				sunny/clear

**Appendix B
Half Moon Marina
Trash Skimmer Log 2010**

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
05/12/2010	2:30PM	30	LV = 50%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, OR = 10%			X	sunny/clear
05/13/2010	2:30PM	50	LV = 40%, PL = 30%, WD = 5%, SF = 5%, CB = 5%, GB = 5%, OR = 10%				sunny/clear
05/14/2010	2:30PM	60	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, SC = 5%, OR = 5%	X			sunny/clear
05/17/2010	2:30PM	40	LV = 50%, PL = 20%, WD = 5%, TY = 5%, CB = 5%, GB = 5%, OR = 10%				cloudy
05/18/2010	2:30PM	30	LV = 40%, PL = 30%, WD = 5%, TY = 5%, CB = 5%, GB = 5%, OR = 10%				cloudy

Appendix B **Half Moon Marina** **Trash Skimmer Log 2010**

Animal	=	AN	Scum	=	SC
Cigarette Butt	=	CB	Styrofoam	=	SF
Glass Bottle	=	GB	Toys/Balls	=	TY
Kelp	=	KL	Wood	=	WD
Leaves	=	LV	Other	=	OR
Plastic (bottle/container/wrapper)	=	PL			

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
05/19/2010	2:30PM	20	LV = 40%, PL = 30%, WD = 10%, TY = 5%, SF = 5%, OR = 10%			X	cloudy
05/20/2010	2:30PM	30	LV = 50%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				cloudy/sunny
05/21/2010	2:30PM	30	LV = 40%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, SF = 5%, OR = 15%				cloudy/sunny
05/24/2010	2:30PM	40	LV = 50%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				cloudy/sunny
05/25/2010	2:30PM	20	LV = 40%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, TY = 5%, OR = 15%	X			cloudy/sunny
05/26/2010	2:30PM	50	LV = 40%, PL = 30%, WD = 5%, CB = 5%, GB = 5%, TY = 5%, OR = 10%				cloudy/sunny

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
05/27/2010	2:30PM	30	LV = 50%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, SC = 5%, OR = 5%			X	cloudy/sunny
05/28/2010	2:30PM	30	LV = 40%, PL = 20%, WD = 15%, CB = 5%, GB = 5%, SF = 5%, OR = 10%				cloudy/sunny
05/31/2010	2:30PM	30	LV = 40%, PL = 15%, WD = 10%, SF = 5%, TY = 5%, CB = 5%, GB = 5%, SC = 10%, OR = 15%				cloudy/sunny
Total Volume	(May, gal)	800					
06/01/2010	2:30PM	20	PL = 40%, LV = 40%, GB = 1%, OR = 15%	X		X	sunny
06/02/2010	2:30PM	20	LV = 40%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, SF = 10%, OR = 10%				sunny

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
06/03/2010	2:30PM	30	LV = 60%, PL = 20%, WD = 10%				sunny
06/04/2010	2:30PM	20	LV = 40%, PL = 30% WD = 5%, CB = 5%, GB = 5%, OR = 15%				cloudy/sunny
06/05/2010							
06/06/2010							
06/07/2010	2:30PM	30	LV = 50%, PL = 30%, WD = 10%, OR = 10%				cloudy/sunny
06/08/2010	2:30PM	40	LV = 30%, PL = 30%, WD = 5%, TY = 10%, CB = 5%, GB = 5%, OR = 5%, SF = 10%				cloudy/sunny
06/09/2010	2:30PM	30	LV = 50%, PL = 30%, WD = 10%, OR = 5%, CB = 5%			X	cloudy/sunny
06/10/2010	2:30PM	40	LV = 40%, PL = 30%, WD = 10%, CB = 5%, TY = 5%, OR = 10%				cloudy

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
06/11/2010	2:30PM	20	LV = 40%, PL = 30%, WD = 15%, SF = 5%, OR = 10%				cloudy
06/12/2010							
06/13/2010							
06/14/2010	2:30PM	20	LV = 50%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				cloudy/sunny
06/15/2010	2:30PM	10	LV = 40%, PL = 30%, WD = 5%, CB = 5%, GB = 5%, TY = 5%, OR = 10%	X			cloudy/sunny
06/16/2010	2:30PM	20	LV = 50%, PL = 30%, WD = 10%, CB = 5%, GB = 5%				cloudy/sunny
06/17/2010	2:30PM	10	LV = 40%, PL = 30%, WD = 15%, CB = 5%, GB = 5%, OR = 5%				cloudy/sunny
06/18/2010	2:30PM	30	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%			X	cloudy/sunny

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
06/19/2010							
06/20/2010							
06/21/2010	2:30PM	40	LV = 30%, PL = 30%, WD = 10%, OR = 10%, CB = 5%, GB = 5%, TY = 5%, SF = 5%				cloudy/sunny
06/22/2010	2:30PM	30	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				cloudy/sunny
06/23/2010	2:30PM	50	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				cloudy/sunny
06/24/2010	2:30PM	30	LV = 50%, PL = 30%, WD = 10%, TY = 5%, OR = 5%				cloudy/sunny
06/25/2010	2:30PM	20	LV = 40%, PL = 30%, WD = 10%, SF = 5%, GB = 5%, OR = 10%	X		X	cloudy/sunny
06/26/2010							
06/27/2010							

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
06/28/2010	2:30PM	20	LV = 50%, PL = 30%, WD = 10%, OR = 10%				cloudy
06/29/2010	2:30PM	30	LV = 30%, PL = 30%, WD = 10%, GB = 5%, CB = 5%, TY = 5%, OR = 15%				cloudy
06/30/2010	2:30PM	20	LV = 50%, PL = 20%, WD = 10%, GB = 5%, CB = 5%, OR = 10%				cloudy
Total Volume	(June, gal)	580					
Total Volume	(Apr-Jun, gal)	2125					
07/01/2010	2:30PM	20	PL = 30%, LV = 30%, WD = 10%, GB = 5%, CB = 5%, TY = 5%, OR = 15%			X	cloudy/sunny
07/02/2010	2:30PM	20	PL = 20%, LV = 40%, KL = 5%, SF = 5%, WD = 5%, CB = 5%, OR = 10%				cloudy/sunny
07/03/2010							

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
07/04/2010							
07/05/2010	2:30PM	10	LV = 50%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				cloudy
07/06/2010	2:30PM	15	LV = 40%, PL = 30%, WD = 15%, CB = 5%, GB = 5%, OR = 15%				cloudy
07/07/2010	2:30PM	10	LV = 50%, PL = 20%, WD = 10%, TY = 5%, CB = 5%, GB = 5%, OR = 5%				sunny
07/08/2010	2:30PM	10	LV = 40%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, TY = 5%, OR = 5%			X	sunny
07/09/2010	2:30PM	10	LV = 40%, PL = 30%, WD = 15%, CB = 5%, GB = 5%, OR = 15%				sunny
07/10/2010							
07/11/2010							

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
07/12/2010	2:30PM	20	LV = 50%, PL = 20%, WD = 10%, TY = 5%, CB = 5%, OR = 10%				cloudy/sunny
07/13/2010	2:30PM	30	LV = 50%, PL = 15%, WD = 10%, CB = 5%, GB = 5%, OR = 15%				cloudy/sunny
07/14/2010	2:30PM	30	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				cloudy/sunny
07/15/2010	2:30PM	20	LV = 30%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, TY = 5%, OR = 15%				cloudy/sunny
07/16/2010	2:30PM	20	LV = 50%, PL = 20%, WD = 15%, SF = 5%, CB = 5%, GB = 5%				cloudy/sunny
07/17/2010							
07/18/2010							
07/19/2010	2:30PM	10	LV = 40%, PL = 20%, WD = 10%, SF = 5%, TY = 5%, OR = 10%				cloudy/sunny

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
07/20/2010	2:30PM	10	LV = 40%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, TY = 5%, OR = 15%			X	cloudy/sunny
07/21/2010	2:30PM	30	LV = 50%, PL = 20%, WD = 5%, CB = 5%, GB = 5%, TY = 5%, OR = 10%				cloudy
07/22/2010	2:30PM	30	LV = 40%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, SF = 5%, OR = 15%				cloudy
07/23/2010	2:30PM	15	LV = 40%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, TY = 10%, OR = 10%				cloudy
07/24/2010							
07/25/2010							
07/26/2010	2:30PM	20	LV = 50%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, OR = 10%			X	cloudy

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
07/27/2010							
07/28/2010	2:30PM	20	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				cloudy
07/29/2010	2:30PM	30	LV = 50%, PL = 30%, WD = 15%, OR = 5%				cloudy
07/30/2010	2:30PM	10	LV = 40%, PL = 20%, WD = 5%, CB = 5%, GB = 5%, TY = 5%, OR = 15%				cloudy
07/31/2010							cloudy
Total Volume	(July, gal)	390					
08/01/2010							
08/02/2010	2:30PM	20	LV = 40%, PL = 20%, WD = 10%, GB = 5%, CB = 5%, OR = 20%			X	clear/sunny
08/03/2010	2:30PM	10	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%	X			clear/sunny

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
08/04/2010	2:30PM	30	LV = 50%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				clear/sunny
08/05/2010	2:30PM	20	LV = 40%, PL = 30%, WD = 5%, SF = 5%, CB = 5%, AN = 11%, OR = 9%				cloudy/sunny
08/06/2010	2:30PM	10	LV = 40%, PL = 10%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				cloudy/sunny
08/07/2010							
08/08/2010							
08/09/2010	2:30PM	10	LV = 50%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, OR = 10%			X	clear/sunny
08/10/2010	2:30PM	10	LV = 40%, PL = 20%, WD = 10%, CB = 5%, GB = 5%, TY = 5%, OR = 15%				clear/sunny

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
08/11/2010	2:30PM	10	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%	X			clear/sunny
08/12/2010	2:30PM	10	LV = 50%, PL = 30%, WD = 10%, CB = 5%, GB = 5%				clear/sunny
08/13/2010	2:30PM	30	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				clear/sunny
08/14/2010							
08/15/2010							
08/16/2010	2:30PM	20	LV = 30%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, TY = 10%, OR = 10%				clear/sunny
08/17/2010	2:30PM	30	LV = 40%, PL = 30%, WD = 10%, CB = 5%, AN = 5%, OR = 10%				clear/sunny
08/18/2010	2:30PM	20	LV = 40%, PL = 30%, WD = 10%, CB = 5%, SF = 5%, OR = 10%				clear/sunny

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
08/19/2010	2:30PM	30	LV = 40%, PL = 30%, WD = 10%, CB = 5%, SF = 5%, OR = 10%	X		X	clear/sunny
08/20/2010	2:30PM	30	LV = 40%, PL = 30%, WD = 10%, GB = 5%, CB = 5%, OR = 10%				clear/sunny
08/21/2010							
08/22/2010							
08/23/2010	2:30PM	20	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				clear/sunny
08/24/2010	2:30PM	10	LV = 30%, PL = 30%, WD = 10%, OR = 10%, CB = 5%, GB = 5%, SF = 10%				clear/sunny
08/25/2010	2:30PM	10	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				clear/sunny

Appendix B Half Moon Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
08/26/2010	2:30PM	30	LV = 30%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, KL = 5%, OR = 15%			X	clear/sunny
08/27/2010	2:30PM	20	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				clear/sunny
08/28/2010							
08/29/2010							
08/30/2010	2:30PM	10	LV = 40%, PL = 20%, WD = 10%, SF = 4%, CB = 5%, GB = 5%, AN = 1%, OR = 15%	X			clear/sunny
08/31/2010	2:30PM	30	LV = 40%, PL = 30%, WD = 10%, CB = 5%, GB = 5%, OR = 10%				clear/sunny
Total Volume	(August, gal)	420		33	16	35	
Total Volume	(Jul-Aug., gal)	810					

APPENDIX C

PIER 32 MARINA TRASH SKIMMER LOG

This page intentionally left blank

Appendix C
Pier 32 Marina
Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
1.4.10	3:30PM	10		KL = 94%, WD = 5%, CB = 1%		X		clear/sunny
1.7.10	1:30PM	10		KL = 95%, OR = 5%		X		sunny
1.8.10	11:30AM	10		OR = 100%		X		sunny
1.10.10	10:00AM	20		OR = 95%, KL = 5%		X		sunny
1.10.10	3:00PM	5		OR = 100%		X		sunny
1.11.10	7:30AM	15		OR = 100%		X		sunny
1.12.10	9:30AM	40		OR = 100%		X		sunny
1.13.10	7:30AM	30		OR = 100%		X		rain
1.14.10	3:00PM	30		KL = 100%		X		sunny
1.15.10	9:00AM	10		KL = 100%		X		sunny
1.16.10	1:30PM	40		KL = 100%		X		cloudy
1.17.10	7:30AM	50		KL = 100%		X		sunny
Total Weight	(January, lbs)	270						
2.2.10	7:30AM	3		KL = 100%		X		clear
2.4.10	7:30AM	5		KL = 90%, OR = 10%		X		rain
2.8.10	3:30PM	30		OR = 90%, CB = 1%, PL = 5%, WD = 4%		X		clear
2.13.10	7:30AM	10		OR = 95%, WD = 5%		X		sunny

Appendix C Pier 32 Marina Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
2.14.10	7:30AM	5		KL = 100%		X		sunny
2.14.10	1:30PM	5		KL = 100%		X		sunny
2.15.10	7:30AM	5		KL = 95%, CB = 5%		X		sunny
2.15.10	3:30PM	4		KL = 100%		X		sunny
2.16.10	7:30AM	8		KL = 100%		X		sunny
2.18.10	2:00PM	5		KL = 100%		X		sunny
2.20.10	7:30AM	5		KL = 100%		X		rain/sunny
2.21.10	7:30AM	1		KL = 95%, OR = 5%		X		rain
2.22.10	3:00PM	2		KL = 100%		X		sunny
2.24.10	7:30AM	15		OR = 100%		X		rain
2.25.10	2:00PM	30		OR = 100%		X		sunny
2.25.10	3:30PM	20		OR = 100%		X		sunny
2.26.10	7:30AM	15		OR = 100%		X		sunny
2.27.10	12:00PM	30		OR = 95%, PL = 5%		X		rain
2.27.10	3:00PM	45		OR = 100%		X		rain
2.28.10	7:30AM	20		OR = 100%		X		sunny
2.28.10	12:00PM	15		OR = 95%, LV = 5%		X		sunny
Total Weight	(February, lbs)	278						
3.1.10	12:00PM	20		OR = 95%, LV = 5%		X		sunny

Appendix C
Pier 32 Marina
Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
3.2.10	7:30AM	10		OR = 95%, WD = 5%		X		cloudy
3.3.10	7:30AM	15		OR = 95%, WD = 5%		X		sunny
3.4.10	7:30AM	20		OR = 100%		X		cloudy
3.5.10	8:00AM	10		OR = 100%		X		sunny
3.6.10	7:30AM	5		OR = 100%		X		cloudy
3.6.10	2:30PM	5		OR = 100%		X		cloudy
3.8.10	7:30AM	5		OR = 95%, WD = 5%		X		rainy
3.9.10	7:30AM	5		OR = 90%, LV = 10%		X		windy
3.10.10	7:30AM	2		OR = 95%, WD = 5%		X		sunny
3.11.10	7:30AM	2		OR = 95%, WD = 5%		X		sunny
3.12.10	7:30AM	25		OR = 100%		X		cloudy
3.13.10	12:00PM	30		OR = 100%		X		sunny
3.14.10	7:30AM	30		OR = 95%, WD = 5%		X		sunny
3.15.10	3:00PM	30		OR = 95%, PL = 5%		X		sunny
3.16.10	7:00AM	40		OR = 100%		X		sunny
3.16.10	2:00PM	60		OR = 100%		X		sunny
3.17.10	1:00PM	40		OR = 100%		X		sunny
3.18.10	7:00AM	40		OR = 100%		X		sunny
3.19.10	7:30AM	35		OR = 100%		X		sunny

Appendix C Pier 32 Marina Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
3.20.10	7:30AM	35		OR = 100%		X		sunny
3.21.10	7:30AM	40		OR = 100%		X		sunny
3.22.10	1:00PM	15		OR = 100%		X		cloudy
3.23.10	9:00AM	4		OR = 100%		X		sunny
3.24.10	12:00PM	5		OR = 100%		X		sunny
3.25.10	1:00PM	3		OR = 100%		X		sunny
3.26.10	7:00AM	10		OR = 100%		X		sunny
3.27.10	8:30AM	15		OR = 100%		X		sunny
3.28.10	9:00AM	12		OR = 100%		X		sunny
3.29.10	7:00AM	10		OR = 100%		X		sunny
3.30.10	8:00AM	12		OR = 100%		X		sunny
3.31.10	7:30AM	8		OR = 100%		X		sunny
Total Weight	(March, lbs)	598						
04/01/2010	7:40AM	2		OR = 100%		X		clear
04/02/2010	7:30AM	5		OR = 100%		X		cloudy
04/03/2010	7:30AM	15		OR = 99%, PL = 1%		X		clear
04/04/2010	8:00AM	5		OR = 100%		X		cloudy
04/05/2010	7:30AM	3		OR = 100%		X		cloudy
04/06/2010	8:00AM	1		OR = 100%		X		clear

Appendix C
Pier 32 Marina
Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
04/07/2010	8:30AM	3		OR = 100%		X		clear
04/08/2010	9:00AM	2		OR = 100%		X		clear
04/09/2010	8:30AM	1		OR = 95%, PL = 5%		X		clear
04/10/2010	7:30AM	5		OR = 100%		X		clear
04/11/2010	3:00PM	3		OR = 100%		X		cloudy
04/12/2010	3:00PM	3		OR = 100%		X		rainy
04/13/2010	7:30AM	1		OR = 100%		X		clear
04/14/2010	3:30PM	2		OR = 100%		X		clear
04/15/2010	7:30AM	1		OR = 100%		X		clear
04/16/2010	7:30AM	1		OR = 100%		X		cloudy
04/17/2010	9:00AM	3		OR = 100%		X		clear
04/18/2010	12:00PM	3		OR = 100%		X		clear
04/19/2010	2:00PM	1		OR = 100%		X		clear
04/20/2010	2:00PM	5		OR = 100%		X		clear
04/21/2010	1:50PM	1		OR = 100%		X		cloudy
04/22/2010	8:00AM	1		OR = 100%		X		clear
04/23/2010	1:00PM	3		OR = 100%		X		clear
04/24/2010	7:30AM	1		OR = 100%		X		clear
04/25/2010	3:00PM	0.5		OR = 100%		X		clear

Appendix C Pier 32 Marina Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
04/26/2010	9:30AM	1		OR = 100%		X		clear
04/27/2010	9:30AM	1		OR = 100%		X		clear
04/28/2010	8:00AM	1		OR = 100%		X		clear
04/29/2010	9:30AM	1		OR = 100%		X		clear
04/30/2010	8:00AM	1		OR = 100%		X		clear
Total Weight	(April, lbs)	76.5						
05/01/2010	7:30AM	3		OR = 100%		X		clear
05/02/2010	7:30AM	1		OR = 100%		X		cloudy
05/03/2010	7:30AM	0.5		OR = 100%		X		clear sunny
05/04/2010	7:30AM	2		OR = 100%		X		clear sunny
05/05/2010	7:30AM	1		OR = 100%		X		clear
05/06/2010	9:00AM	3		OR = 100%		X		clear
05/07/2010	10:00AM	1		OR = 100%		X		clear
05/08/2010	12:00PM	20		OR = 100%		X		clear
05/09/2010	7:30AM	40		OR = 100%		X		cloudy
05/10/2010	8:00AM	7		OR = 100%		X		cloudy
05/11/2010	8:00AM	2		OR = 100%		X		cloudy
05/12/2010	8:00AM	1		OR = 100%		X		clear
05/13/2010	7:30AM	2		OR = 100%		X		clear

Appendix C
Pier 32 Marina
Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
05/14/2010	7:30AM	1		OR = 100%		X		clear
05/15/2010	7:30AM	1		OR = 100%		X		cloudy
05/16/2010	7:30AM	3		OR = 100%		X		cloudy
05/17/2010	7:30AM	2		OR = 100%		X		cloudy
05/18/2010	7:30AM	0.5		OR = 100%		X		cloudy
05/19/2010	8:00AM	1		OR = 100%		X		cloudy
05/20/2010	8:00AM	3		OR = 100%		X		cloudy
05/21/2010	9:30AM	2		OR = 100%		X		clear
05/22/2010	9:30AM	1		OR = 100%		X		clear
05/23/2010	9:30AM	1		OR = 100%		X		sunny
05/24/2010	7:30AM	2		OR = 100%		X		sunny
05/25/2010	7:30AM	1		OR = 100%		X		clear
05/26/2010	9:00AM	1		OR = 100%		X		clear
05/27/2010	9:00AM	1		OR = 100%		X		clear
05/28/2010	8:00AM	1		OR = 100%		X		-
05/29/2010	8:00AM	1		OR = 100%		X		-
05/30/2010	8:00AM	3		OR = 100%		X		-
05/31/2010	8:00AM	5		OR = 100%		X		-
05/31/2010	3:00PM	3		OR = 100%		X		-

Appendix C
Pier 32 Marina
Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
Total Weight	(May, lbs)	117						
06/01/2010	7:30AM	3		OR = 100%		X		cloudy
06/02/2010	7:30AM	3		OR = 100%	X	X		cloudy
06/03/2010	7:30AM	3		OR = 100%		X		cloudy
06/04/2010	7:30AM	3		OR = 100%		X		clear
06/05/2010	7:30AM	5		OR = 100%		X		cloudy
06/06/2010	10:00AM	3		OR = 100%		X		clear
06/07/2010	9:00AM	3		OR = 100%		X		clear
06/08/2010	7:30AM	3		OR = 100%	X			cloudy
06/09/2010	7:30AM	2		OR = 100%		X		cloudy
06/10/2010	7:30AM	5		OR = 100%		X		cloudy
06/11/2010	8:30AM	16		OR = 100%		X		cloudy
06/12/2010	7:30AM	6		OR = 100%		X		cloudy
06/13/2010	Trash Skimmer Turned Off							
06/14/2010	Trash Skimmer Turned Off							
06/15/2010	Trash Skimmer Turned Off							
06/16/2010	Trash Skimmer Turned Off							
06/17/2010	Trash Skimmer Turned Off							
06/18/2010	Trash Skimmer Turned Off							

Appendix C
Pier 32 Marina
Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
06/19/2010	Trash Skimmer Turned Off							
06/20/2010	Trash Skimmer Turned Off							
06/21/2010	Trash Skimmer Turned Off							
06/22/2010	Trash Skimmer Turned Off							
06/23/2010	Trash Skimmer Turned Off							
06/24/2010	Trash Skimmer Turned Off							
06/25/2010	Trash Skimmer Turned Off							
06/26/2010	Trash Skimmer Turned Off							
06/27/2010	Trash Skimmer Turned Off							
06/28/2010	Trash Skimmer Turned Off							
06/29/2010	Trash Skimmer Turned Off							
06/30/2010	Trash Skimmer Turned Off							
Total Weight	(June, lbs)	55						
Total Weight	(Apr - June (lbs)	248.5						
07/01/2010	Trash Skimmer Turned Off							
07/02/2010	Trash Skimmer Turned Off							
07/03/2010	Trash Skimmer Turned Off							
07/04/2010	Trash Skimmer Turned Off							
07/05/2010	9:30AM	6		KL = 100%		X		cloudy

Appendix C
Pier 32 Marina
Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
07/06/2010	10:00AM	2		KL = 100%				
07/07/2010	10:00AM	2		KL = 100%				
07/08/2010	10:00AM	3		KL = 100%				
07/09/2010	11:00AM	5		KL = 100%				
07/10/2010	7:30AM	5		KL = 100%				
07/11/2010	10:00AM	20		KL = 100%				
07/12/2010	10:00AM	12		KL = 100%				
07/13/2010	10:00AM	10		KL = 100%				
07/14/2010	10:00AM	5		KL = 100%				
07/15/2010	7:30AM	15		KL = 100%				
07/16/2010	10:00AM	5		KL = 100%				
07/17/2010	10:00AM	5		KL = 100%				
07/18/2010	10:00AM	15		KL = 100%				
07/19/2010	10:00AM	5		KL = 100%				
07/20/2010	7:30AM	3		KL = 100%				
07/21/2010	8:00AM	4		KL = 100%				
07/22/2010	1:30PM	15		KL = 100%				
07/23/2010	7:30AM	10		KL = 100%				
07/24/2010	7:30AM	5		KL = 100%				

Appendix C Pier 32 Marina Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
07/25/2010	7:30AM	5		KL = 100%				
07/26/2010	9:00AM	10		KL = 100%				
07/27/2010	9:00AM	5		KL = 100%	X	X		clear
07/28/2010	9:00AM	3		KL = 100%	X	X		clear
07/29/2010	3:30PM	5		KL = 100%		X		clear
07/30/2010	8:00AM	5		KL = 100%		X		clear
07/31/2010	8:00AM	7		KL = 100%		X		clear
Total Weight	(July, lbs)	192						
08/01/2010	7:30AM	10		KL = 100%		X		cloudy
08/02/2010	7:30AM	7		KL = 100%		X		clear
08/03/2010	7:30AM	2		KL = 100%		X		clear
08/04/2010	8:00AM	2		KL = 100%	X	X		clear
08/05/2010	7:30AM	5		KL = 100%		X		windy
08/06/2010	8:00AM	6		KL = 100%	X	X		clear
08/07/2010	7:30AM	10		KL = 100%	X	X		clear
08/08/2010	7:30AM	20		KL = 100%		X		windy
08/09/2010	7:30AM	20		KL = 100%		X		windy
08/10/2010	7:30AM	10		KL = 100%		X		windy
08/11/2010	7:30AM	5		KL = 100%		X		windy

Appendix C
Pier 32 Marina
Trash Skimmer Log 2009-2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
08/12/2010	9:00AM	3		KL = 100%		X		windy
08/13/2010	9:00AM	5		KL = 100%		X		clear
08/14/2010	7:30AM	5		KL = 100%		X		clear
08/15/2010	7:30AM	3		KL = 100%		X		clear
08/16/2010	7:30AM	5		KL = 100%		X		clear
08/17/2010	7:30AM	3		KL = 100%		X		clear
08/18/2010	9:00AM	8		KL = 100%		X		clear
08/19/2010	7:30AM	10		KL = 100%		X		clear
08/20/2010	7:30AM	10		KL = 100%		X		clear
08/21/2010	7:30AM	20		KL = 100%		X		clear
08/22/2010	9:00AM	7		KL = 100%		X		clear
08/23/2010	9:00AM	8		KL = 100%		X		clear
08/24/2010	10:00AM	8		KL = 100%	X	X		clear
08/25/2010	10:00AM	8		KL = 100%	X	X		clear
08/26/2010	9:00AM	5		KL = 100%		X		windy
08/27/2010	10:00AM	3		KL = 100%		X		clear
08/28/2010	10:00AM	3		KL = 100%		X		clear
08/29/2010	8:00AM	2		KL = 100%		X		clear
08/30/2010	8:00AM	3		KL = 100%		X		clear

Appendix C
Pier 32 Marina
Trash Skimmer Log 2009-2010

Animal	=	AN	Scum	=	SC
Cigarette Butt	=	CB	Styrofoam	=	SF
Glass Bottle	=	GB	Toys/Balls	=	TY
Kelp	=	KL	Wood	=	WD
Leaves	=	LV	Other	=	OR
Plastic (bottle/container/wrapper)	=	PL			

Date	Time	Weight of Trash (lbs)	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
08/31/2010	9:00AM	2		KL = 100%		X		clear
Total Weight	(August, lbs)	218			9	175	0	
Total Weight	(Jul-Aug., lbs)	410						

APPENDIX D

POINT LOMA MARINA TRASH SKIMMER LOG

This page intentionally left blank

Appendix D Pt. Loma Marina Trash Skimmer Log 2010

Animal	=	AN	Scum	=	SC
Cigarette Butt	=	CB	Styrofoam	=	SF
Glass Bottle	=	GB	Toys/Balls	=	TY
Kelp	=	KL	Wood	=	WD
Leaves	=	LV	Other	=	OR
Plastic	=	PL			

(bottle/container/wrapper)

Date	Time	Weight of Trash (lbs)	Type and Percentage of Trash	Sheen	Bilge Pad	Weather (clear, rain, wind, rain in previous days)
1.3.10	8:45AM	8	KL = 80%, LV = 20%			clear/sunny
1.11.10	8:30AM	3	KL = 95%, CB = 1%, PL = 1%, LV = 3%			clear/sunny
1.14.10	1:30PM	5	PL = 1%, OR = 99%			clear/sunny
1.16.10	2:00PM	8	KL = 100%			clear
1.18.10	8:30AM	4	KL = 95%, SF = 1%, CB = 2%, WD = 1%, PL = 1%			rain
1.20.10	1:40PM	5	L = 1%, LV = 98%, KL = 1%			rain
1.25.10	8:30AM	20	LV = 85%, KL = 10% CB = 2%, SF = 1%, PL = 2%			sunny, but rain in previous days
Total Weight	(January, lbs)	53				
2.1.10	9:15AM	10	LV = 85%, SF = 3%, WD = 1%, KL = 5%, CB = 3%, PL = 3%	NO	YES	cloudy/sunny
2.4.10	8:30AM	5	KL = 100%	NO	YES	cloudy
2.6.10	9:00AM	10	KL = 90%, PL = 10%	NO	YES	rainy
2.8.10	8:30AM	20	WD = 5%, LV = 5%, KL = 80%, SF = 5%, CB = 2%, PL = 3%	NO	YES	rain in previous days
2.11.10	8:00AM	10	KL = 95%, LV = 3% CB = 1%, PL = 1%	NO	YES	clear
2.15.10	8:15AM	15	KL = 85%, LV = 10%, PL = 5%	NO	YES	clear/sunny
2.22.10	10:00AM	10	LV = 85%, PL = 5%, WD = 5%, CB = 3%, SF = 2%	NO	YES	rain
2.25.10	9:30AM	1	KL = 100%	NO	YES	cloudy
2.27.10	8:20AM	1	KL = 100%	NO	YES	rain
Total Weight	(February, lbs)	82				
3.1.10	8:30AM	5	LV = 90%, PL = 8% CB = 2%		X	sunny

Appendix D Pt. Loma Marina Trash Skimmer Log 2010

Animal	=	AN	Scum	=	SC
Cigarette Butt	=	CB	Styrofoam	=	SF
Glass Bottle	=	GB	Toys/Balls	=	TY
Kelp	=	KL	Wood	=	WD
Leaves	=	LV	Other	=	OR
Plastic	=	PL			

(bottle/container/wrapper)

Date	Time	Weight of Trash (lbs)	Type and Percentage of Trash	Sheen	Bilge Pad	Weather (clear, rain, wind, rain in previous days)
3.5.10	9:00AM	3	CB = 1%, KL = 90%, LV = 4%, PE = 5%		X	cloudy
3.6.10	10:30AM	2	LV = 90%, PL = 5%, WD = 3%, CB = 2%		X	cloudy
3.8.10	1:00AM	1	LV = 100%		X	rainy
3.11.10	9:00AM	1	LV = 100%		X	cloudy
3.13.10	9:30AM	5	LV = 95%, KL = 3%, PL = 2%		X	cloudy
3.15.10	8:00AM	3	LV = 100%		X	sunny
3.17.10	8:00AM	1	LV = 75%, OR = 25%		X	sunny
3.20.10	12:00PM	3	LV = 95%, PL = 5%		X	sunny
3.22.10	9:00AM	20	LV = 20%, GB = 5%, OR = 75%		X	sunny
3.24.10	10:00AM	5	LV = 10%, PL = 10%, WD = 5%, OR = 75%		X	sunny
3.27.10	9:00AM	5	LV = 99%, CB = 1%		X	sunny
3.29.10	8:30AM	2	LV = 100%		X	sunny
3.31.10	9:00AM	2	LV = 90%, PL = 10%		X	sunny
Total Weight	(March, lbs)	58				
04/05/2010	9:00AM	5	LV = 90%, CB = 10%		X	cloudy
04/07/2010	10:00AM	6	CB = 3%, PL = 1%, LV = 96%		X	clear
04/09/2010	1:00PM	12	WD = 2%, LV = 5%, PL = 1%, CB = 1%, KL = 93%		X	clear
04/12/2010	8:00AM	5	LV = 95%, CB = 5%		X	rain
04/14/2010	7:30AM	1	LV = 75%, CB = 20%, PL = 5%		X	clear
04/16/2010	9:00AM	3	KL = 70%, PL = 20%, CB = 10%		X	clear
04/19/2010	8:00AM	2	KL = 100%		X	clear
04/21/2010	11:00AM	1	KL = 100%			cloudy
04/24/2010	10:00AM	1	KL = 100%			cloudy
04/26/2010	9:00AM	1	LV = 100%			cloudy

Appendix D Pt. Loma Marina Trash Skimmer Log 2010

Animal	=	AN	Scum	=	SC
Cigarette Butt	=	CB	Styrofoam	=	SF
Glass Bottle	=	GB	Toys/Balls	=	TY
Kelp	=	KL	Wood	=	WD
Leaves	=	LV	Other	=	OR
Plastic	=	PL			

(bottle/container/wrapper)

Date	Time	Weight of Trash (lbs)	Type and Percentage of Trash	Sheen	Bilge Pad	Weather (clear, rain, wind, rain in previous days)
04/28/2010	9:00AM	1	LV = 95%, CB = 5%			cloudy
Total Weight	(April, lbs)	38				
05/01/2010	8:00AM	0.5	KL = 100%		X	clear
05/03/2010	9:00AM	0.5	KL = 100%		X	clear
05/05/2010	9:00AM	0.5	KL = 100%		X	clear
05/08/2010	9:00AM	0.5	KL = 100%		X	clear
05/10/2010	7:30AM	0.5	KL = 100%		X	clear
05/12/2010	9:00AM	0.5	KL = 90%, CB = 10%, PL = 10%		X	cloudy
05/16/2010	10:00AM	0.5	KL = 100%		X	clear
05/17/2010	8:00AM	0.5	KL = 100%		X	cloudy
05/20/2010	8:30AM	3	KL = 100%		X	clear
05/22/2010	3:00PM	1	KL = 100%		X	clear
05/24/2010	8:00AM	1	KL = 100%		X	clear
05/27/2010	9:30AM	3	KL = 98%, CB = 1%, PL = 1%		X	clear
05/29/2010	2:30PM	4	KL = 100%		X	clear
05/31/2010	3:00PM	5	KL = 100%		X	clear
Total Weight	(May, lbs)	21				
06/03/2010	9:00AM	3	KL = 100%		X	clear
06/05/2010	10:00AM	5	KL = 100%		X	clear
06/07/2010	9:00AM	5	KL = 98%, CB = 2%		X	cloudy
06/10/2010	7:30AM	9	KL = 100%		X	cloudy
06/12/2010	7:30AM	5	KL = 100%		X	cloudy
06/19/2010	9:00AM	1	KL = 100%		X	clear
06/21/2010	8:00AM	2	KL = 100%		X	cloudy
06/24/2010	7:30AM	3	KL = 100%		X	cloudy
06/28/2010	8:00AM	10	KL = 100%		X	clear
Total Weight	(June, lbs)	43				
Total Weight	(Apr - June lbs)	102				
07/01/2010	8:00AM	3	KL = 100%		X	clear
07/08/2010		1	KL = 100%		X	clear

Appendix D Pt. Loma Marina Trash Skimmer Log 2010

Animal	=	AN	Scum	=	SC
Cigarette Butt	=	CB	Styrofoam	=	SF
Glass Bottle	=	GB	Toys/Balls	=	TY
Kelp	=	KL	Wood	=	WD
Leaves	=	LV	Other	=	OR
Plastic	=	PL			

(bottle/container/wrapper)

Date	Time	Weight of Trash (lbs)	Type and Percentage of Trash	Sheen	Bilge Pad	Weather (clear, rain, wind, rain in previous days)
07/12/2010		1	KL = 100%		X	clear
07/15/2010		3	KL = 100%		X	clear
07/17/2010		3	KL = 100%		X	clear
07/19/2010		1	KL = 100%		X	cloudy
07/24/2010		3	KL = 100%		X	cloudy
07/31/2010		2	KL = 100%		X	cloudy
Total Weight	(July, lbs)	17				
08/02/2010	9:00AM	1	KL = 100%		X	clear
08/05/2010	2:00PM	2	KL = 100%		X	clear
08/07/2010	9:00AM	1	KL = 100%		X	windy
08/09/2010	10:00AM	3	KL = 99%, CB = 1%		X	clear
08/12/2010	2:00PM	5	KL = 99%, AN = 1%		X	clear
08/14/2010	10:30AM	2	KL = 100%		X	clear
08/16/2010	8:00AM	1	LV = 100%		X	windy
08/19/2010	9:00AM	2	LV = 90%, KL = 10%		X	clear
08/21/2010	2:00PM	1	KL = 100%		X	clear
08/23/2010	7:00AM	1	LV = 100%		X	clear
08/26/2010	9:00AM	0	skimmer off		X	clear
08/28/2010	10:00AM	2	KL = 100%		X	clear
08/30/2010	8:00AM	1	LV = 100%		X	clear
Total Weight	(Aug, lbs)	22		9	74	
Total Weight	(Jul-Aug, lbs)	39				

Port of San Diego
Environmental Services
Marina Trash Skimmer Final Report
AMEC Project No. 9151000900
February 2011

APPENDIX E

CABRILLO ISLE MARINA TRASH SKIMMER LOG

This page intentionally left blank

Cabrillo Isle Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
03/27/2010	11:00AM	14	KL/LV = 80%, SC = 8%, PL = 6%, WD = 6%		X		clear/sunny
03/28/2010	10:35AM	8	SC = 93%, PL = 7%		X		clear/sunny
03/29/2010	skimmer	off					
03/30/2010	skimmer	off					
03/31/2010	10:25AM	49	KL = 8%, SC = 80%, PL = 2%, LV = 8%, WD = 2%		X		clear/windy
Total Volume	(March, gal)	71					
04/15/2010	9:00AM	8.5	KL = 8%, LV = 0.5%		X		cloudy
04/16/2010	3:05PM	24	KL = 79%, PL = 4%, LV = 8%, WD = 8%		X		sunny and windy
04/17/2010	10:00AM	10	KL = 70%, WD = 10%, LV = 20%		X		overcast
04/18/2010	9:05AM	13.5	KL = 59%, SF = 4%, LV = 15%, WD = 22%		X		cloudy
04/19/2010	9:30AM	24	LV = 100%		X		sunny and windy
04/20/2010	9:20AM	16	KL = 75%, PL = 6%, LV = 6%, WD = 13%		X		cloudy

Cabrillo Isle Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
04/21/2010	9:05AM	8	KL = 75%, WD = 12%, LV = 13%			x	cloudy
04/22/2010	9:30AM	24.5	KL = 98%, OR = 2%		X		cloudy with slight rain
04/23/2010	9:30AM	1	KL = 100%		X		sunny
04/24/2010	9:30AM	12	GB = 17%, OR = 83%		X		sunny
04/25/2010	9:10AM	8.5	KL = 71%, PL = 6%, LV = 12%, WD = 12%		X		cloudy
04/26/2010	9:15AM	24	SF = 83%, LV = 17%		X		cloudy
04/27/2010	9:10AM	10	KL = 890%, WD = 10%		X		cloudy
04/28/2010	9:20AM	13	KL = 77%, WD = 8%, LV = 15%		X		cloudy
04/29/2010	9:15AM	41	KL = 72%, PL = 3%			X	sunny
04/30/2010	9:30AM	24	KL = 92%, PL = 8%		X		sunny
Total Volume	(April, gal)	262					
05/01/2010	10:00AM	4	KL = 75%, PL = 13%, WD = 13%		X		sunny
05/02/2010	9:50AM	2	KL = 100%		X		cloudy
05/03/2010	9:15AM	10	KL = 100%		X		sunny
05/04/2010	9:20AM	9	KL = 89%, LV = 11%		X		sunny
05/05/2010	9:30AM	15	KL = 93%, OR = 7%		X		sunny

Cabrillo Isle Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
05/06/2010	9:15AM	3	KL = 67%, LV = 33%		X		sunny
05/07/2010	9:30AM	10	KL = 100%		X		sunny
05/08/2010	9:30AM	0	0		X		sunny
05/09/2010	9:15AM	11	KL = 73%, WD = 18%, LV = 9%		X		cloudy
05/10/2010	9:20AM	10	KL = 100%		X		sunny
05/11/2010	9:10AM	2	KL = 100%		X		cloudy
05/12/2010	9:15AM	5	KL = 100%		X		sunny
05/13/2010	9:10AM	2	KL = 50%, PL = 25%, WD = 25%		X		partly sunny
05/14/2010	9:15AM	5	KL = 100%		X		sunny
05/15/2010	9:00AM	1	KL = 100%		X		cloudy
05/16/2010	9:30AM	20.5	KL = 88%, PL = 10%, GB = 2%		X		cloudy
05/17/2010	9:20AM	10	KL = 100%		X		cloudy
05/18/2010	Trash Skimmer Turned Off						
05/19/2010	Trash Skimmer Turned Off						
05/20/2010	9:00AM	6	LV = 8%, SC = 8%, PL = 83%		X		sunny and clear
05/21/2010	9:15AM	10	KL = 100%		X		cloudy
05/22/2010	9:30AM	1.5	KL = 100%		X		cloudy

Cabrillo Isle Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
05/23/2010	9:30AM	3	KL = 100%		X		cloudy/windy
05/24/2010	9:30AM	20	KL = 100%		X		sunny
05/25/2010	9:15AM	10	KL = 100%		X		cloudy
05/26/2010	9:17AM	11.75	KL = 93%, WD = 5% PL = 2%		X		sunny
05/27/2010	9:15AM	20	KL = 100%		X		sunny
05/28/2010	9:30AM	6	KL = 100%		X		sunny
05/29/2010	9:30AM	3	KL = 33%, OR = 33%, WD = 33%		X		sunny
05/30/2010	9:20AM	2	KL = 100%		X		sunny
05/31/2010	9:20AM	1	KL = 100%		X		sunny
Total Volume	(May, gal)	213.75					
06/01/2010	9:15AM	10	KL = 100%		X		cloudy
06/02/2010	9:05AM	1	KL = 100%		X		cloudy
06/03/2010	9:15AM	4					
06/04/2010	9:15AM	4	KL = 100%		X		cloudy
06/05/2010	Trash Skimmer Turned Off						
06/06/2010	9:30AM	1	KL = 100%		X		sunny
06/07/2010	9:15AM	6	KL = 100%		X		cloudy
06/08/2010	9:15AM	1.5	KL = 100%		X		cloudy

Cabrillo Isle Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
06/09/2010	9:10AM	0.5	KL		X		
06/10/2010	9:10AM	4	KL = 100%		X		cloudy
06/11/2010	9:15AM	4	KL = 100%		X		cloudy/windy
06/12/2010	9:15AM	0			X		sunny/windy
06/13/2010	9:50AM	2	KL = 100%		X		sunny
06/14/2010	9:10AM	6	KL = 100%		X		sunny
06/15/2010	Trash Skimmer Turned Off						
06/16/2010	Trash Skimmer Turned Off						
06/17/2010	Trash Skimmer Turned Off						
06/18/2010	Trash Skimmer Turned Off						
06/19/2010	9:10AM	0			X		sunny
06/20/2010	9:20AM	6.5	KL = 95%, WD = 5%		X		sunny
06/21/2010	9:15AM	10	KL = 100%		X		cloudy
06/22/2010	9:15AM	6	KL = 83%, WD = 17%		X		sunny
06/23/2010	9:15AM	10	KL = 100%		X		sunny
06/24/2010	9:20AM	10	KL = 100%		X		sunny
06/25/2010	9:15AM	10	KL = 100%		X		sunny
06/26/2010	Trash Skimmer Turned Off						
06/27/2010	9:20AM	7	KL = 71%, WD = 29%		X		cloudy
06/28/2010	9:15AM	6	KL = 100%		X		cloudy
06/29/2010	9:20AM	2	KL = 100%		X		cloudy

Cabrillo Isle Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
06/30/2010	9:15AM	10	KL = 100%		X		cloudy
Total Volume	(June, gal)	121.5					
Total Volume	(Apr-Jun, gal)	597.25					
07/01/2010	9:15AM	7	KL = 86%, PL = 14%		X		cloudy
07/02/2010	9:15AM	20	KL = 100%		X		sunny
07/03/2010	9:40AM	2	KL = 100%		X		cloudy
07/04/2010	9:20AM	20	KL = 100%		X		cloudy
07/05/2010	9:20AM	20	KL = 100%		X		cloudy
07/06/2010	10:05AM	3	KL = 100%		X		cloudy
07/07/2010	9:21AM	15	KL = 100%		X		cloudy
07/08/2010	9:40AM	27.5	GB = 2%, PL = 4%, KL = 91%, WD = 4%		X		cloudy
07/09/2010	11:25AM	40	KL = 100%		X		cloudy
07/10/2010	10:45AM	5	KL = 100%		X		cloudy
07/11/2010	10:00AM	5	KL = 100%		X		sunny
07/12/2010	9:15AM	30	KL = 100%		X		sunny
07/13/2010	9:30AM	10	KL = 50%, PL = 50%		X		sunny
07/14/2010	9:15AM	20	KL = 100%		X		sunny
07/15/2010	9:40AM	10	KL = 100%		X		sunny
07/16/2010	9:20AM	15	KL = 100%		X		sunny

Cabrillo Isle Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
07/17/2010	9:15AM	4	KL = 100%		X		sunny
07/18/2010	9:55AM	2	KL = 100%		X		cloudy
07/19/2010	9:15AM	10	KL = 100%			X	cloudy
07/20/2010	9:15AM	8	KL = 100%		X		cloudy
07/21/2010	9:10AM	2	KL = 100%		X		cloudy/misty
07/22/2010	9:10AM	4	KL = 100%			X	cloudy
07/23/2010	9:35AM	4	KL = 100%		X		cloudy
07/24/2010	9:15AM	10	KL = 100%		X		cloudy
07/25/2010	9:25AM	4.5	KL = 89%, PL = 11%		X		cloudy
07/26/2010	9:15AM	2	KL = 100%		X		cloudy
07/27/2010	9:20AM	2	KL = 100%		X		cloudy
07/28/2010	9:25AM	3	KL = 100%		X		cloudy
07/29/2010	9:10AM	30	KL = 100%		X		cloudy
07/30/2010	9:15AM	30	KL = 100%		X		cloudy
07/31/2010	9:40AM	30	KL = 100%		X		cloudy
Total Volume	(July, gal)	395					
08/01/2010	9:15AM	1	KL = 100%		X		sunny
08/02/2010	9:30AM	30	KL = 100%		X		sunny
08/03/2010	9:15AM	20	KL = 100%		X		sunny
08/04/2010	9:20AM	3	KL = 100%		X		cloudy

Cabrillo Isle Marina Trash Skimmer Log 2010

Animal = AN	Scum = SC
Cigarette Butt = CB	Styrofoam = SF
Glass Bottle = GB	Toys/Balls = TY
Kelp = KL	Wood = WD
Leaves = LV	Other = OR
Plastic (bottle/container/wrapper) = PL	

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
08/05/2010	9:10AM	10	KL = 100%				cloudy
08/06/2010	9:10AM	10	KL = 100%		X		cloudy
08/07/2010	11:35AM	2	KL = 100%		X		sunny
08/08/2010	9:35AM	2	KL = 100%		X		sunny
08/09/2010	9:30AM	2	KL = 100%		X		cloudy
08/10/2010	10:04 AM	33	KL = 91%, SC = 3%, PL = 3%, WD = 3%		X		cloudy
08/11/2010	9:10 AM	30	KL = 100%		X		cloudy
08/12/2010	4:55 PM	30	KL = 100%		X		sunny
08/13/2010	9:30 AM	40	KL = 100%		X		sunny
08/14/2010	9:35 AM	30	KL = 100%		X		cloudy
08/15/2010	10:25 AM	33	GB = 3%, LV = 3%, KL = 91%, PL = 3%		X		cloudy
08/16/2010	9:30 AM	25	KL = 100%		X		sunny
08/17/2010	9:30 AM	7	KL = 100%		X		sunny
08/18/2010	9:10 AM	40	KL = 100%		X		sunny
08/19/2010	9:20 AM	22	KL = 86%, PL = 5%, LV = 5%, WD = 5%		X		sunny
08/20/2010	9:30 AM	20	KL = 100%		X		sunny
08/21/2010	10:15 AM	16	KL = 94%, WD = 6%		X		sunny

Cabrillo Isle Marina Trash Skimmer Log 2010

Animal	=	AN	Scum	=	SC
Cigarette Butt	=	CB	Styrofoam	=	SF
Glass Bottle	=	GB	Toys/Balls	=	TY
Kelp	=	KL	Wood	=	WD
Leaves	=	LV	Other	=	OR
Plastic (bottle/container/wrapper)	=	PL			

Date	Time	Vol of Trash (gal)	Type and Percentage of Trash	Sheen	Bilge Pad	Pad Changed	Weather (clear, rain, wind, rain in previous days)
08/22/2010	9:30 AM	7	KL = 71%, LV = 14%, PL = 14%		X		sunny
08/23/2010	9:30 AM	60	KL = 100%		X		sunny
08/24/2010	9:30 AM	8	KL = 63%, LV = 25%, PL = 13%,		X		sunny
08/25/2010	9:10 AM	40	KL = 100%		X		sunny
08/26/2010	9:30 AM	9	KL = 67%, LV = 11% PL = 11%, WD = 11%		X		sunny
08/27/2010	Trash Skimmer Turned Off						
08/28/2010	Trash Skimmer Turned Off						
08/29/2010	Trash Skimmer Turned Off						
08/30/2010	Trash Skimmer Turned Off						
08/31/2010	Trash Skimmer Turned Off						
Total Volume	(Aug, gal)	530		0	123	4	
Total Volume	(Jul-Aug, gal)	925					

