



AGENDA REPORT

SAN CLEMENTE CITY COUNCIL MEETING
Meeting Date: May 7, 2019

Agenda Item 6-H
Approvals:
City Manager [Signature]
Dept. Head DR
Attorney _____
Finance [Signature]

Department: Utilities
Prepared By: Cynthia Mallett, Environmental Programs Supervisor DR

Subject: *APPROVE PROFESSIONAL SERVICES AGREEMENT WITH ADAM'S FALCONRY SERVICES, LLC FOR BIRD ABATEMENT SERVICES AT POCHE BEACH.*

Fiscal Impact: Yes. There is adequate funding for the proposed \$57,600 expenditure from Account Number 057-541-43890.

Summary: Staff recommends the City Council approve a Professional Services Agreement with Adam's Falconry Service, LLC in the amount not to exceed \$57,600 for Bird Abatement Services at Poche Beach with the option to annually extend for the same period for three additional years.

Background: In 2013 a bird abatement program was implemented at Poche Beach to deter seagulls from congregating near the Poche Beach Pond and in the shoreline area. Prior to implementation of the bird abatement services a bacteria disinfection facility called the Poche Clean Beach Project (PCBP) was built to treat water runoff from the Prima Deshecha Cañada watershed prior to reaching the shoreline. The initial test results from the PCBP in 2011 and 2012 indicated the treatment facility operated at a high level of performance with indicator bacteria levels in the treated water substantially below the bacteria levels entering the facility. Unfortunately, bacteria exceedances continued in the shoreline area but at a reduced frequency. Due to the hundreds of seagulls congregating at the site, it was determined that the birds were potentially the cause of the bacteria exceedances. Once the bird abatement services were implemented, in conjunction with the PCBP facility, water quality improved and the number of beach posting advisories were reduced.

Discussion: The Poche Beach bird abatement services three-year agreement expired on October 31, 2018. The City now needs to consider contracting for these services again at Poche Beach. The City desires that the shoreline water to be protective of human health while also needing to meet the Bacteria Total Maximum Daily Load (TMDL). Since the inception of the falconry bird deterrent program in conjunction with the PCBP, a reduction in bird presence has been stable and advisory postings have been reduced.

Attached to this agenda report is an *Assessment of the Poche Beach Falconry Program and Water Quality Data*. This report summarizes the Heal the Bay Report Card Grades issued to Poche Beach as well as the Beach Water Quality status from 2010 to 2018. Since 2014 the Heal the Bay report card grades for Poche Beach have shown a dramatic improvement when Falconry began to be implemented. In 2017,

there was an increase in the number of posting days at Poche Beach as a result of several compounding factors including high turbidity levels at the intake point of the PCBP and a reduction in the PCBP system performance. Upstream investigations were conducted to identify and abate sources contributing to the high turbidity levels and additional unplanned maintenance was conducted on the PCBP to improve its efficiency.

The key conclusions of this report are twofold: 1. The falconry program has proved to be effective in improving beach water quality at the Point Zero location, and 2. The Heal the Bay report card grades for Poche Beach have shown a dramatic improvement since Falconry began in 2014 with the exception of 2017 for the reasons state above.

The Coastal Advisory Committee (CAC), at its March 14, 2019 meeting, reviewed the subject attachment and has recommended to the City Council to continue the Falconry service at Poche Beach.

Staff prepared a request for proposal, which was posted on Planet Bids. Two proposals were received, one for costs totaling \$57,600 and one for costs totaling \$113,715. Based on proposal costs and local experience of similar work, staff is recommending approval of a PSA for Adam's Falconry Services, LLC for an annual cost not to exceed \$57,600, and authorize the City Manager to annually extend the contract up to three years without a cost annual escalator in future years.

Recommended

Action:

STAFF RECOMMENDS THAT the City Council:

1. Approve the City Manager to execute Contract _____ by and between the City of San Clemente and Adam's Falconry Service, LLC providing Bird Abatement Services at Poche Beach in the amount not to exceed \$57,600 for the initial year of the agreement; and
2. Approve and authorize the City Manager to extend the contract for three additional twelve month extensions for an amount not to exceed \$57,600 per year.

Attachments:

1. Assessment of the Poche Beach Falconry Program and Water Quality Data.
2. The Professional Services Agreement is on file with the City Clerk's Office.

Notification: None

**Attachment 1.
Assessment of the Poche Beach Falconry Program
and
Water Quality Data**

1.0 INTRODUCTION

Since implementation of the Orange County Stormwater Program’s Beach Water Quality Monitoring Program in January 2003, Poche Beach has experienced water quality issues. Water quality samples collected in the surfzone and at the creek-ocean intersection yielded consistently elevated bacteria levels, as reported by the Orange County Health Care Agency.

Heal-the-Bay is a non-profit organization based in southern California that conducts public health advocacy campaigns, including a well-known program for beach water quality referred to as the Beach Report Card. On numerous report cards since 2001, Heal-the-Bay has given Poche Beach an “F” letter grade (as shown in Table 1) for water quality, identifying the beach as one of California’s most consistently impacted beaches.

Table 1. Heal-the-Bay 2001 to 2017 Beach Report Card Letter Grades for Poche Beach¹

Calendar Year	Poche Beach	Poche Beach, at ocean interface
2001	F	—
2002	F	—
2003	F	—
2004	F	—
2005	F	—
2006	B	—
2007	F	—
2008	F	—
2009	F	—
2010	F	—
2011	F	—
2012	F	—
2013	D	—
2014	A	—
2015	A	—
2016	A	A
2017	A+	B+
2018*	A	F

Notes: Letter grade color coding in Table 1 same as Beach Report Card. (—) Letter grade not reported.

(*) Beach Report Card grades for 2018 represents January 1 to March 31.

In 2014, the Beach Report Card showed a dramatic improvement in Poche Beach water quality, as indicated by the change in the letter grade for Poche Beach from an “F grade” in 2012 to an “A grade” in 2014.

From 2003 through 2014, the Prima Deshecha Creek watershed stakeholders implemented several programs in the watershed and at the beach in a collective effort to improve beach water quality. The stakeholders included in these projects were the City of San Clemente (City), Orange County Public Works, Orange County Parks, Orange County Lifeguards, and the Orange County Health Care Agency.

In 2012, with financial assistance provided by the State Water Resources Control Board and the non-profit organization MiOcean, the City of San Clemente and the County of Orange implemented the *Poche Beach Ultraviolet Light Bacteria Disinfection System*.¹ The ultraviolet light treatment system was designed to reduce bacteria levels in watershed flows. However, the initial monitoring program for the ultraviolet light treatment system noted that the presence of a large number of birds, primarily gulls that congregate at the outlet of Prima Deshecha Creek, appeared to be complicating efforts to meet water quality objectives in the surfzone.

Beginning in early 2013, the City of San Clemente, in coordination with the Prima Deshecha Creek watershed stakeholders, conducted a five-month falconry pilot project at Poche Beach that focused on creating a deterrent for gulls to congregate at the Pond. The pilot project was designed to evaluate whether a natural predator, in this case a Harris Hawk, could act as a deterrent to keep the gulls from the beach and the brackish water pond, where the birds contribute bacteria into the water. The falconry program would, by creating an absence of gulls, improve water quality in the surfzone.

In general, *Enterococcus* concentrations were measurably decreased during the falconry pilot project, indicating that the falconry program could provide a feasible option for improving beach water quality during the high-usage summer season (Wood, March 2017)². Once the pilot project ended on October 31, 2013, indicator bacteria concentrations returned to concentrations above the water quality objectives. The falconry program continued to operate from 2014 to 2018, generally running from April through October each calendar year.

With the implementation of the Orange County Unified Beach Water Quality Program in April 2015, the brackish water pond monitoring station, located between the end of Prima Deshecha Creek and the surfzone water quality, was moved to the intersection point at which Prima Deshecha Creek enters the Pacific Ocean (POCHEz, or Point Zero). This location is referred to as “Poche Beach, at ocean interface” in the Heal the Bay report card. The Point Zero location has water quality issues and the water quality improvement benefits of the falconry program are presented in this memorandum.

¹ State Water Resources Control Board, Clean Beach Initiative Agreement No. 06-130-550-2.

² City of San Clemente, Public Works Department. “Memorandum on the Public Benefits from the Continued Use of the Poche Beach Falconry Program” Prepared by Wood Environment & Infrastructure Solutions, Inc. March 2017

2.0 DATA ANALYSIS METHODS

The sources of water quality data for this memorandum were retrieved from the Orange County Health Care Agency public website (ocbeachinfo.com) and the City-led falconry program. The data analyzed for this memorandum cover the period from adoption of the Bacteria TMDL program by the Regional Water Quality Control Board in 2010 through the most recent full calendar year of monitoring ending in December 2018.

This memorandum does not present any data collected in the Pond given the absence of current information that can be compared to the surfzone monitoring locations.

The water sample collection time period for the Poche Beach monitoring stations is shown in Table 2.

Table 2. Water Quality Monitoring Locations and Data Record Time Period

Location	Monitoring Station	Date Period for Memorandum	Description
Historical	S-15	January 2010 to December 2018	Surfzone at historical monitoring location also included in Bacteria TMDL Program
Upcoast	POCHEu	January 2010 to December 2018	Surfzone at 25 yards upcoast of creek-ocean interface location
Point Zero	POCHEz	April 2015 to December 2018	Surfzone at creek-ocean interface location
Downcoast	POCHEd	January 2010 to December 2018	Surfzone at 25 yards downcoast of creek-ocean interface location

TMDL = Total Maximum Daily Load

The indicator bacteria results for samples collected at the four monitoring stations were compared with two water quality objectives, Geometric Mean and Single-Sample Maximum, as shown in Table 3.

Table 3. Water Quality Objectives Included in the Data Analyses

Water Quality Objective	<i>Enterococcus</i>	Fecal Coliform	Total Coliform
	(CFU/100mL)		
Geometric Mean	1,000	200	35
Single Sample Maximum	10,000	400	104

Colony forming units per 100mL (CFU/100mL)

3.0 RESULTS

3.1 Beach Water Quality Status from 2010 to 2018

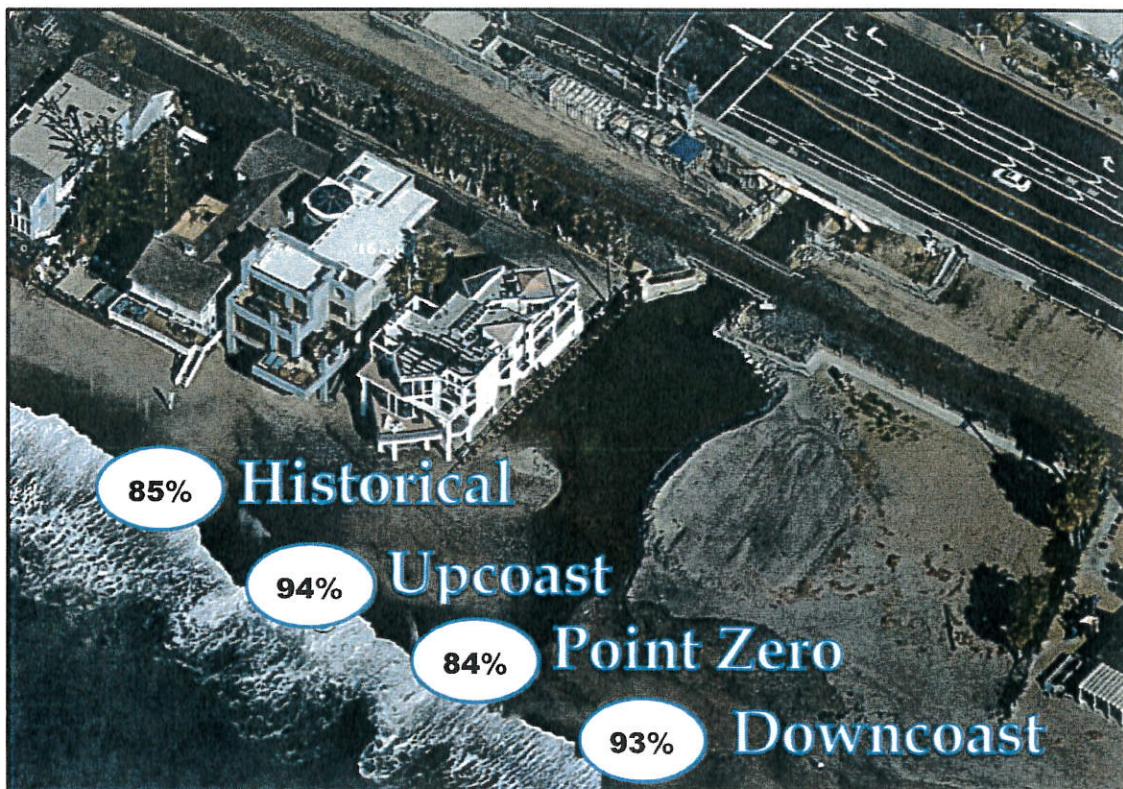
The water quality data for each of the three indicator bacteria were compared with the water quality objectives at the four monitoring stations to determine the overall percentage of indicator bacteria concentration measurements that meet the objective. The purpose of this analysis was to:

- Calculate the number of indicator bacteria results that meet the water quality objective at the monitoring stations that were sampled before and continue to be sampled during the falconry program (S-15, POCHEu, and POCHEd).
- Identify which, if any, of the four monitoring locations (S-15, POCHEu, POCHEz, and POCHEd) should be considered a priority for further analysis.

The results indicate that the indicator bacteria concentrations measured at the long-term monitoring stations (S-15, POCHEu, and POCHEd) met the water quality objectives in 85 to 94 percent of the samples collected from January 2010 to December 2018 as shown in Figure 1. The data analyses also indicate that POCHEz has the lowest percentage of indicator bacteria concentration measurements that meet the objective and should be considered the priority for further analysis.

The overall percentages of indicator bacteria concentration measurements that meet the water quality objectives for each of the four monitoring locations are shown in Figure 1.

Figure 1. Percentage of Beach Water Quality Indicator Bacteria Measurements Meeting Water Quality Objectives.



The 2010 to 2018 water quality data were also analyzed to determine the overall percentage of individual indicator bacteria measurements that meet the objective. The purpose of this analysis was to identify which, if any, of the three indicator bacteria (*Enterococcus*, fecal coliform, and total coliform) should be considered a priority for further analysis.

Table 1. Percentage of Indicator Bacteria Measurements Meeting Water Quality Objectives from All Monitoring Stations

Percentage of Samples with Indicator Bacteria Concentrations That Meet Geometric Mean and Single-Sample Maximum Water Quality Objectives	<i>Enterococcus</i>	Fecal Coliform	Total Coliform
	65%	90%	97%

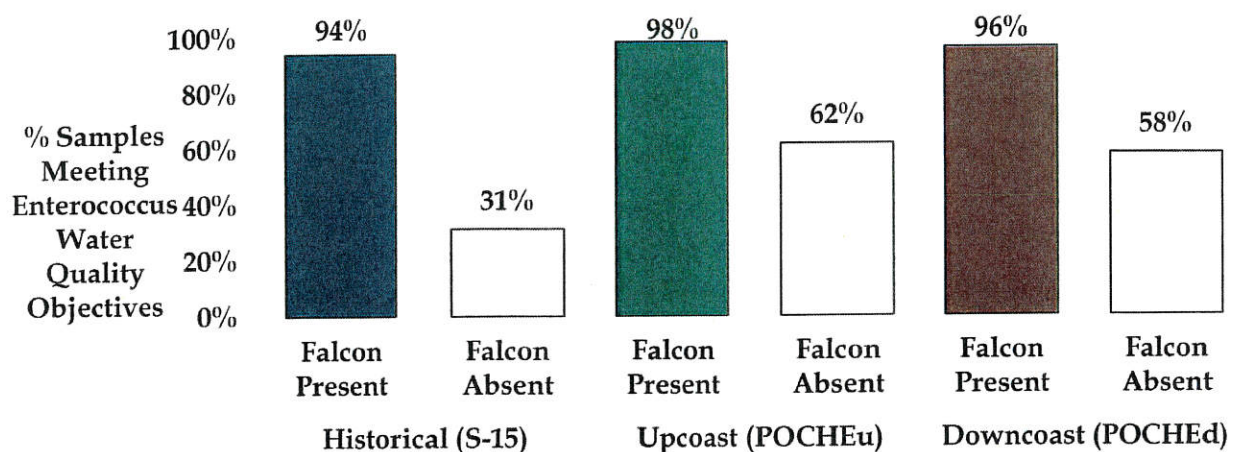
The results indicate that *Enterococcus* has the lowest percentage of sampling results that meet the objective and should be considered the priority for further analysis.

3.2 Falconry Program Water Quality Improvement Effectiveness

Enterococcus concentration measurements recorded at the three long-term (2010 to 2018) surfzone monitoring stations (S-15, POCHEu, and POCHEd) were compared with water quality objectives annually to determine the percentage of samples with *Enterococcus* concentrations that meet water quality objectives. The purpose of this analysis was to compare the percentages of sampling results that meet the objective in the time period before and during the falconry program. The percentages of *Enterococcus* sampling results meeting the water quality objective at the three long-term monitoring stations in relation to implementation of the falconry program are shown in Figure 2.

The results labeled as “Falcon Present” represent calendar years 2014 to 2018 and the portion of calendar year 2013 in which the pilot project was conducted. The results labeled as “Falcon Absent” represent calendar years 2010 to 2012 and the portion of calendar year 2013 in which the pilot project was not conducted.

Figure 2. Samples with *Enterococcus* Concentrations That Meet Water Quality Objectives at Long-Term Monitoring Stations.

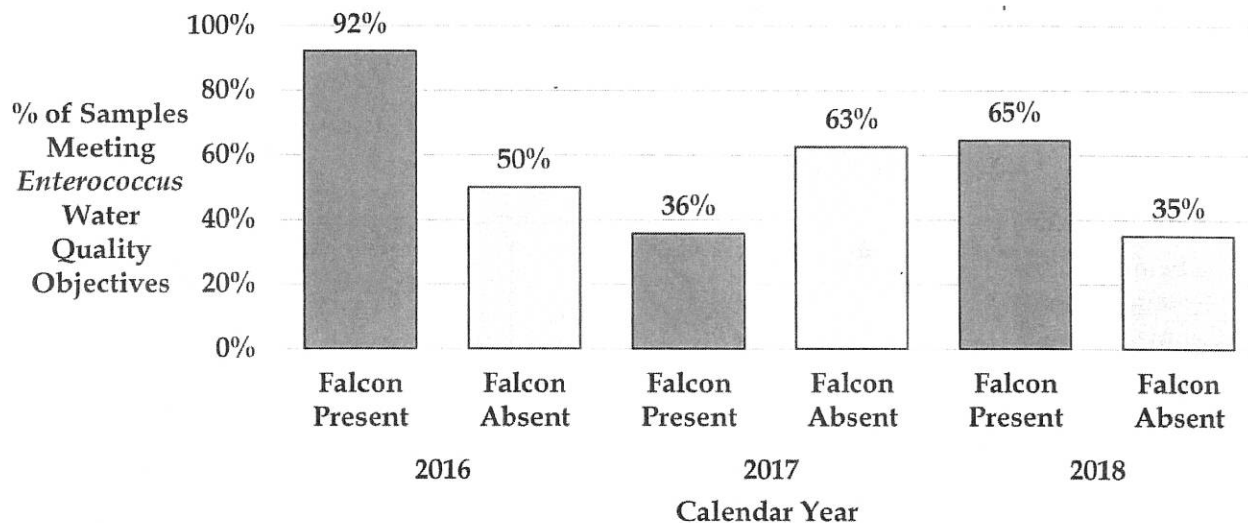


The falconry program has proved effective in improving water quality conditions during each year of implementation. The results in Figure 2 show that when the falconry program is active, the number of *Enterococcus* sampling results that meet the water quality objective are 60 to 300 percent higher than during the time period in which the falconry program is not active at the beach.

The falconry program provided a water quality improvement benefit at the Point Zero location in 2016 and 2018, as shown in Figure 3. However, note that the percentages of samples with *Enterococcus* concentrations that meet the water quality objective are lower than percentages at the adjacent surfzone monitoring stations.

The 2017 POCHEz results show that when the falconry program was active, a lower percentage of *Enterococcus* sampling results met the water quality objective. The 2017 sampling results could potentially be influenced by other factors that were not explicitly available in the records from the beach water quality monitoring program, but were documented in the 2017 Poche Clean Beach Project annual report³.

Figure 3. *Enterococcus* Concentrations Measured at the Prima Deshecha Creek Intersection with the Pacific Ocean (POCHEz) While the Falconry Program Was Conducted and While It Was Not.



3.3 Additional Water Quality Benefits of the Poche Beach Falconry Program

In 2010, the San Diego Regional Water Quality Control Board adopted Resolution No. R9-2010-0001 (A Resolution Amending the Water Quality Control Plan for the San Diego Basin (9) To Incorporate Revised Total Maximum Daily Loads (TMDLs) for Indicator Bacteria Project I – Twenty Beaches and Creeks in the San Diego Region Including Tecolote Creek), referred to as the Bacteria TMDL. The Bacteria TMDL sets water quality goals and timelines for achieving those goals that the City and the watershed stakeholder agencies, which are included as responsible parties, must meet prior to the final deadlines for dry weather conditions by April 4, 2021.

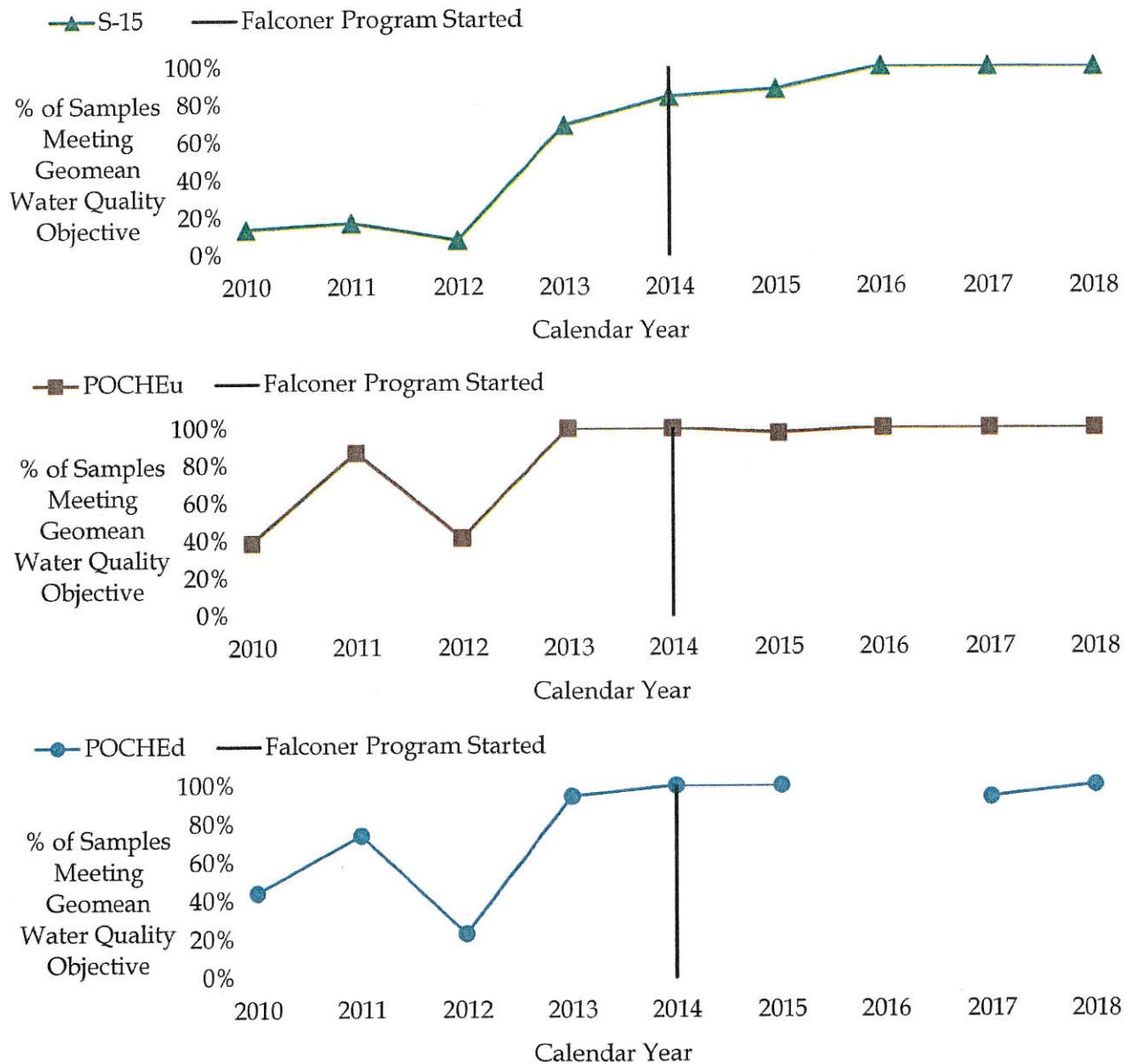
The Bacteria TMDL requires the City of San Clemente to achieve compliance with the Geometric Mean (geomean) water quality objective in dry weather conditions. The Regional Water Quality Control Board

³ Orange County Public Works. "Poche Clean Beach 2017 Annual Report for Clean Water Act Section 401C Water Quality Certification No. 06C-021." March 1, 2018.

set the compliance goal that 100 percent of samples collected by the City of San Clemente must meet the geomean water quality objective by April 4, 2021.

The percentages of *Enterococcus* measurements meeting the Bacteria TMDL geomean water quality objective at the three long-term monitoring stations are shown in Figure 4. The falconry program appears to provide an additional benefit at Poche Beach, in terms of helping the City of San Clemente comply with regulatory directives issued by the State of California.

Figure 4. Surfzone Monitoring Station *Enterococcus* Geometric Mean Concentrations



*Missing 2016 geomean for POCHEd due to an insufficient number of samples collected in the 30 day time period required by the Ocean Plan.

4.0 SUMMARY OF FINDINGS

The key conclusions about the effectiveness of the Poche Beach Falconry Program, as presented in this memorandum, are as follows:

1. The falconry program proved to be effective in improving beach water quality. During each of the five implementation years (2014, 2015, 2016, 2017, and 2018), the program has resulted in a 60 to more than 300 percent improvement in the number of sampling results that meet water quality objectives.
2. Water quality has improved substantially at some of the surfzone monitoring stations (S-15, POCHEu, and POCHEd), compared with conditions that existed from 2010 to 2012 (before the falconry program; see Figure 2).
3. The falconry program proved to be effective in improving beach water quality at the Point Zero location (POCHEz) in 2016 and 2018. However, the amount of improvement is less than at the three other surfzone sites.

The decrease in the percentage of sampling results meeting the water quality objectives at POCHez in 2017 and 2018 indicates that additional factors affecting water quality may not be captured by beach water quality monitoring program. This apparent data gap should be prioritized during future implementation years of the beach water quality and falconry programs.