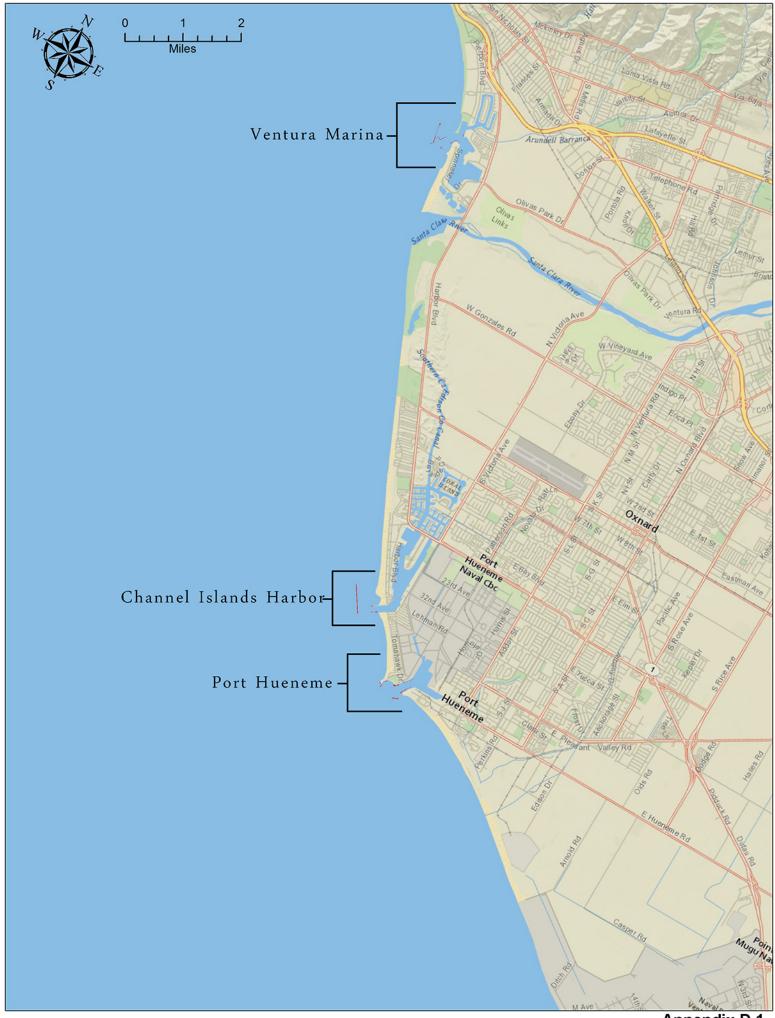
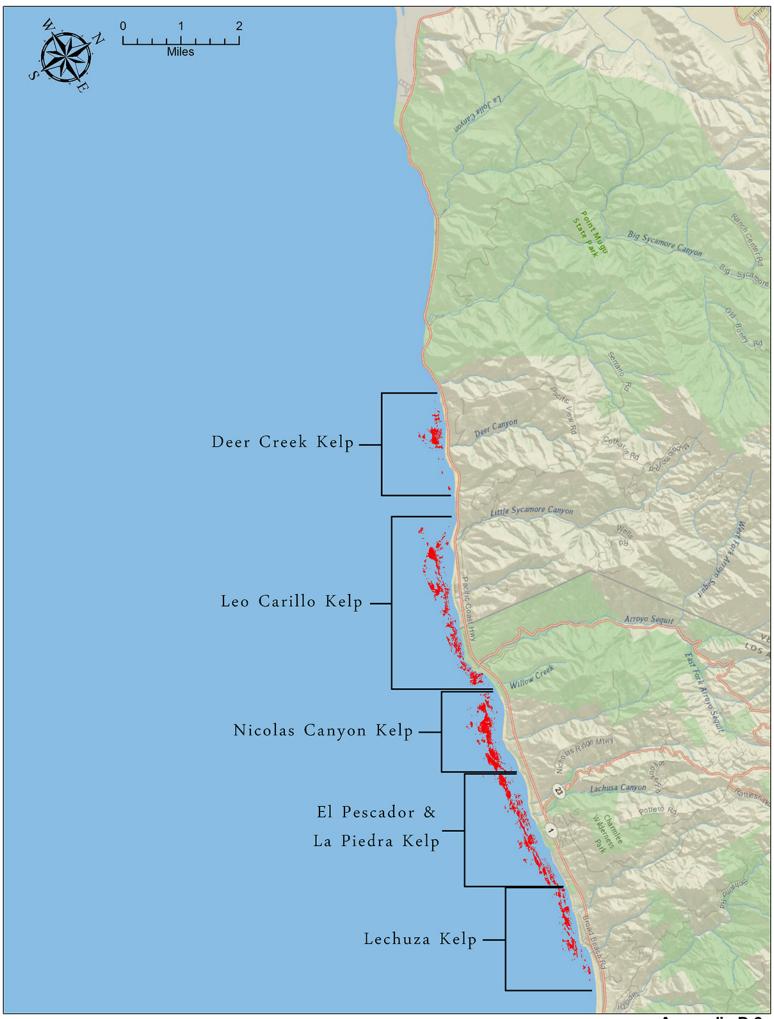
APPENDIX D

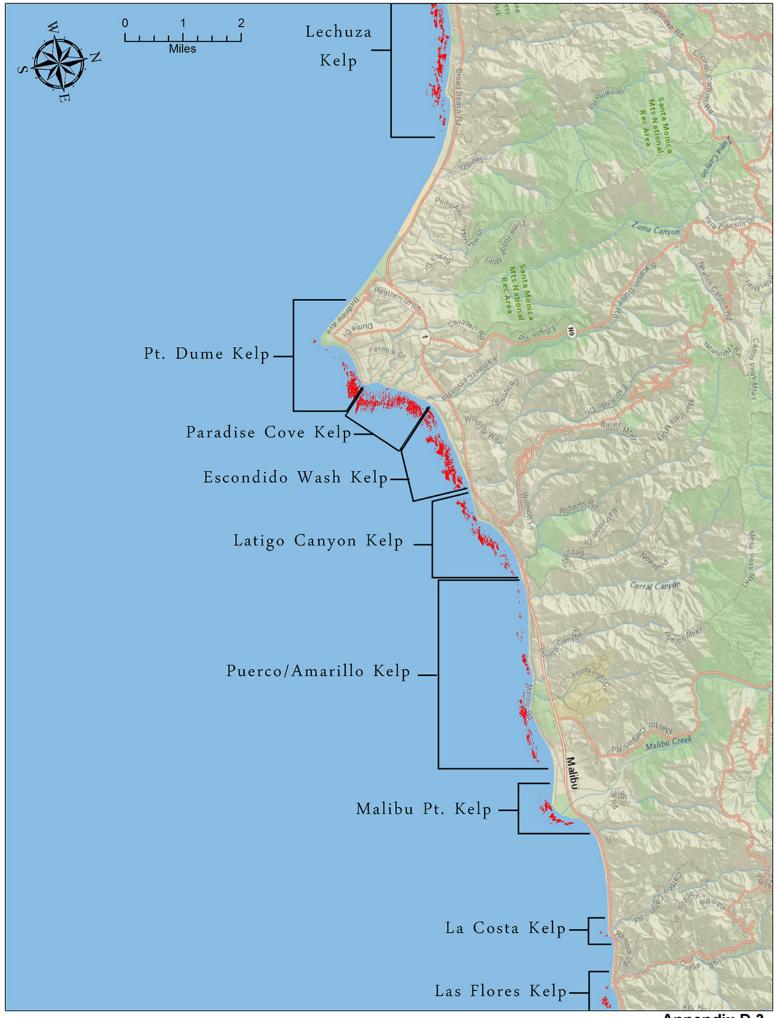
Flight Path Flight Data Reports Field Data Sheets



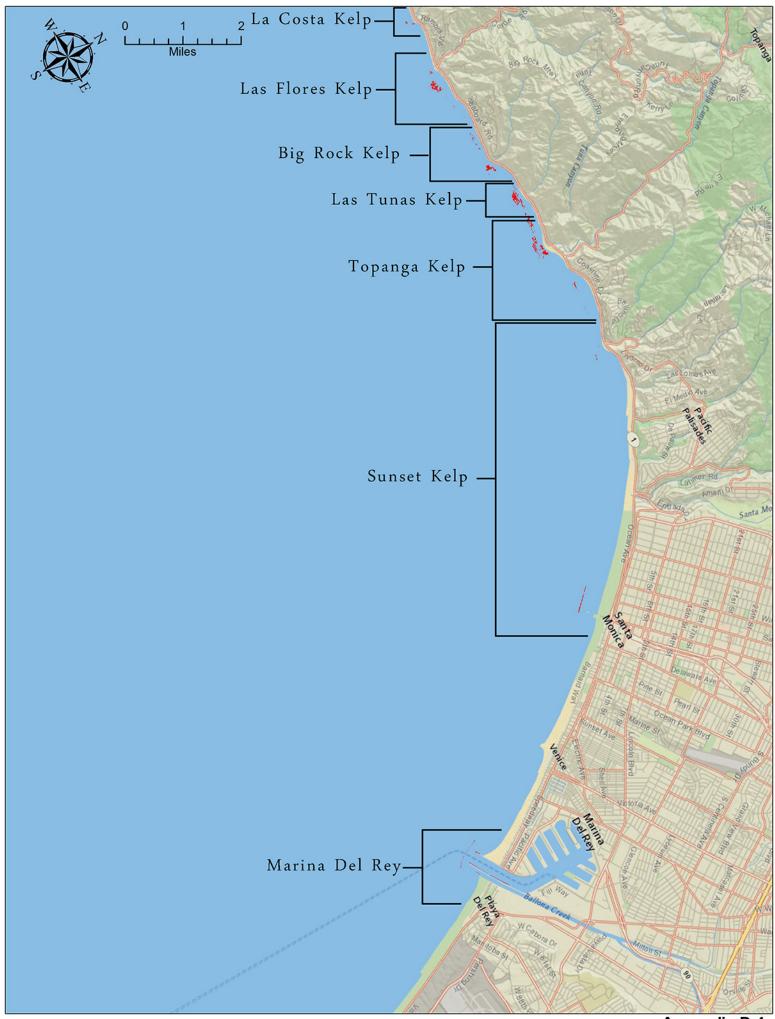
Appendix D.1



Appendix D.2



Appendix D.3

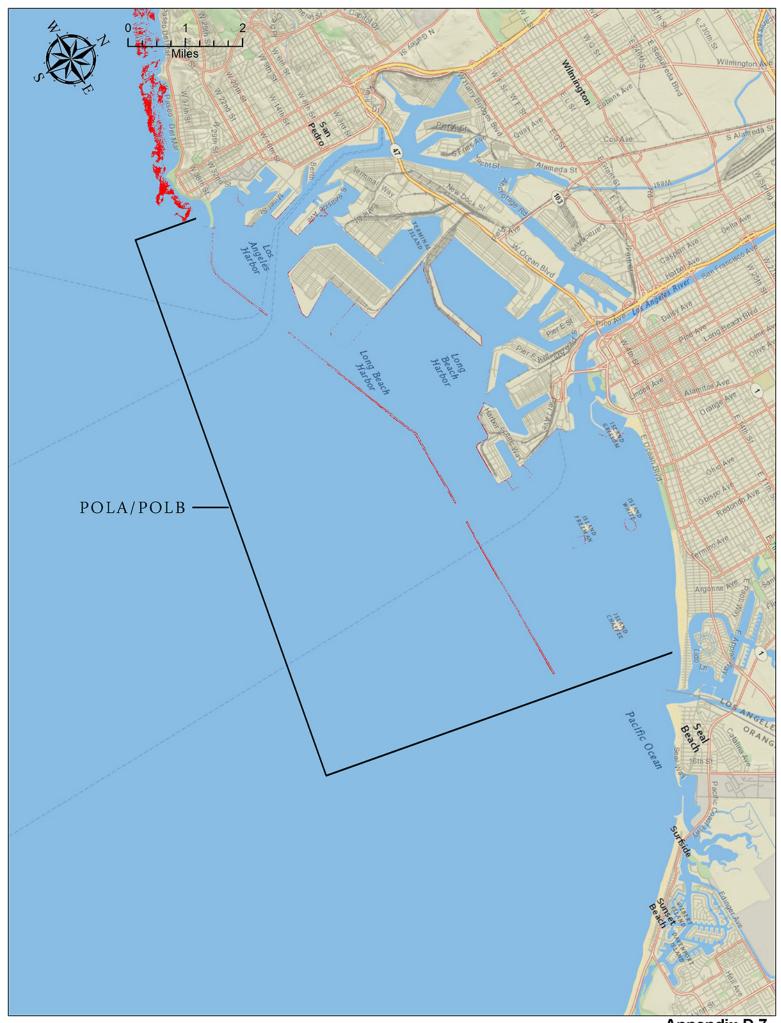


Appendix D.4

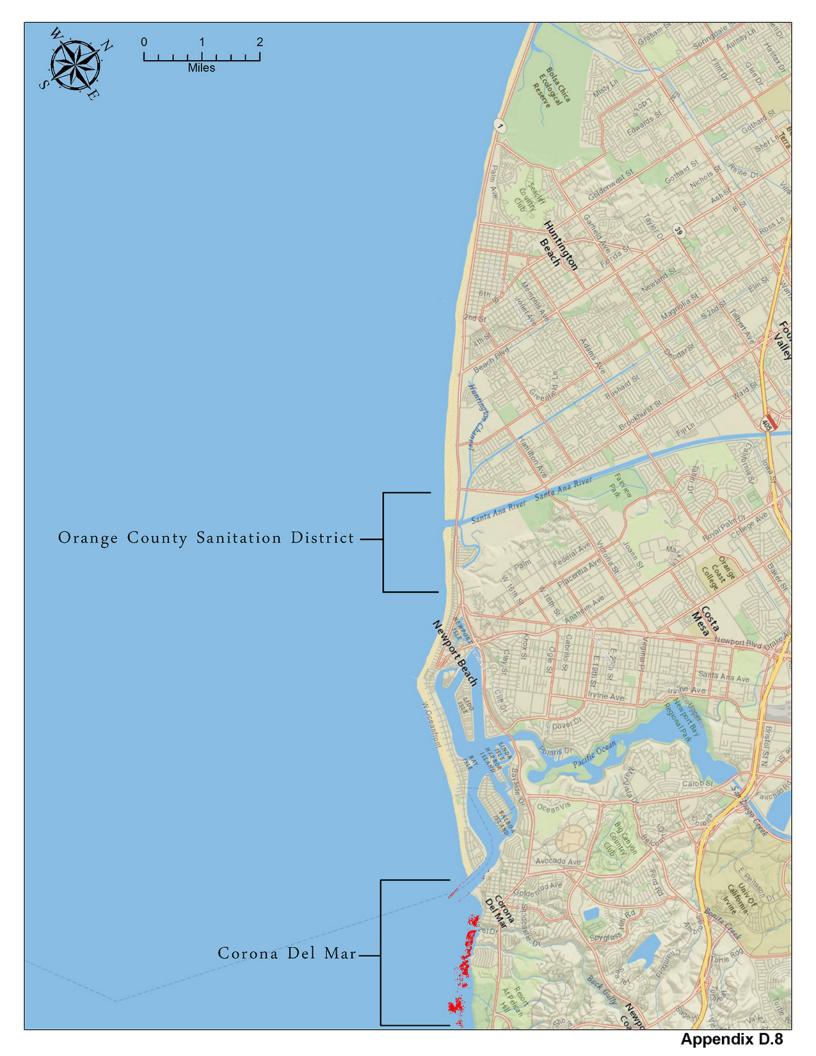


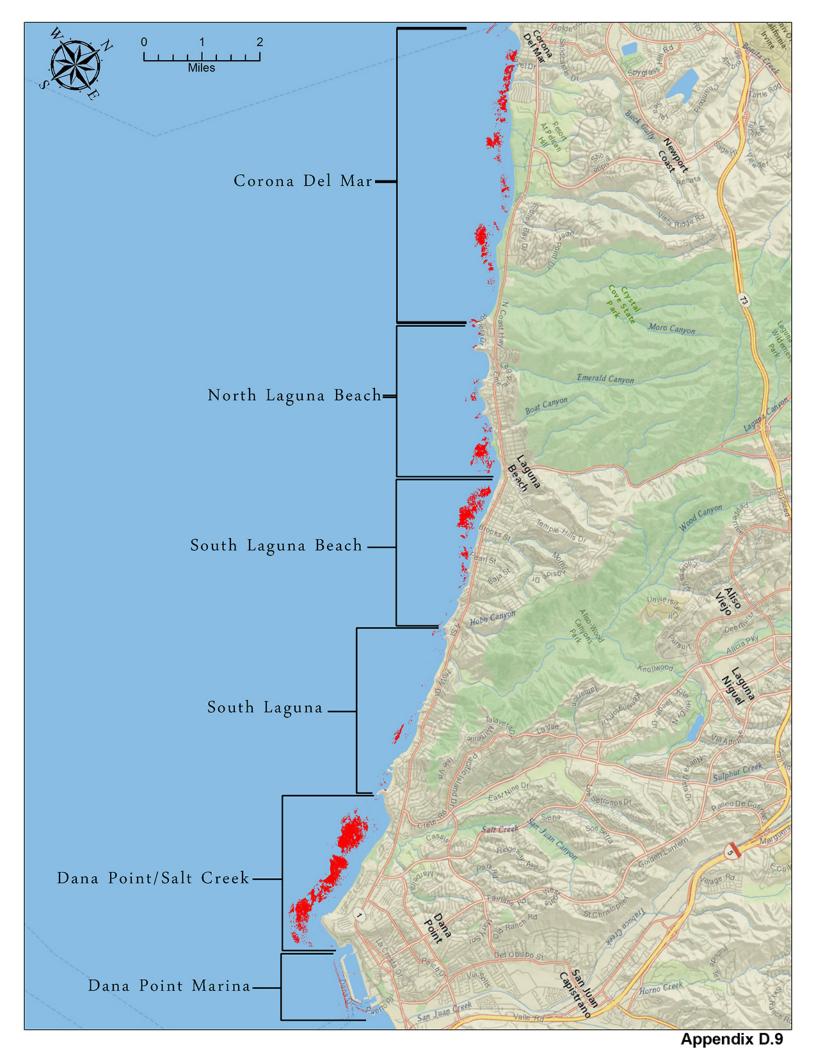


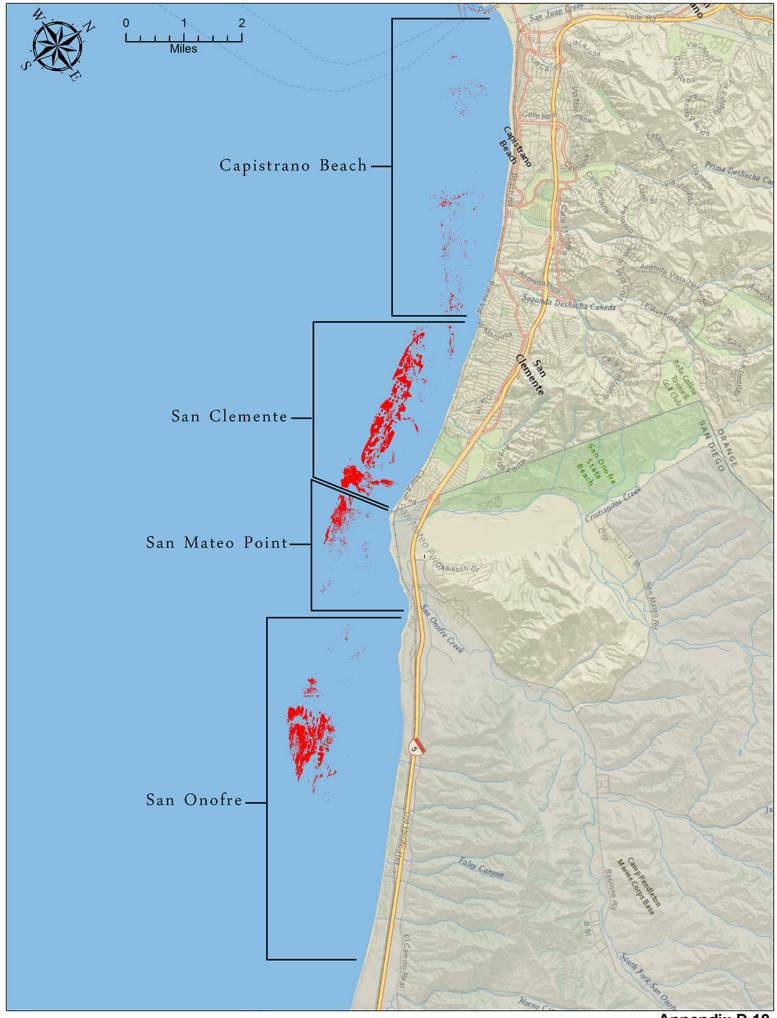
Appendix D.6



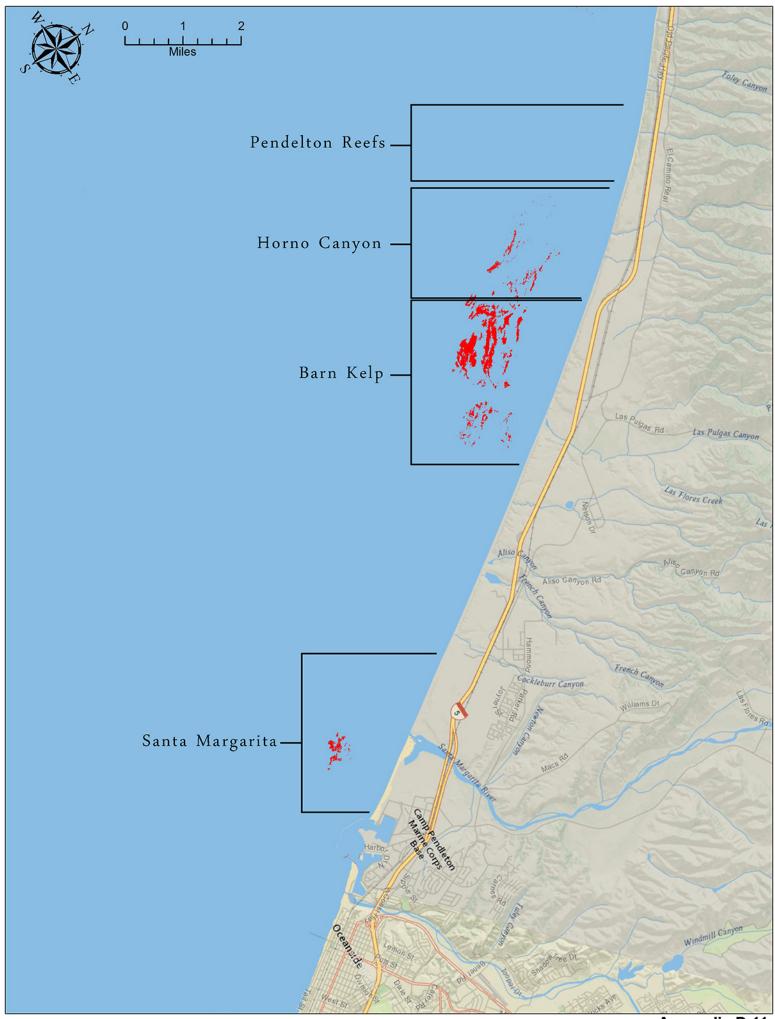
Appendix D.7



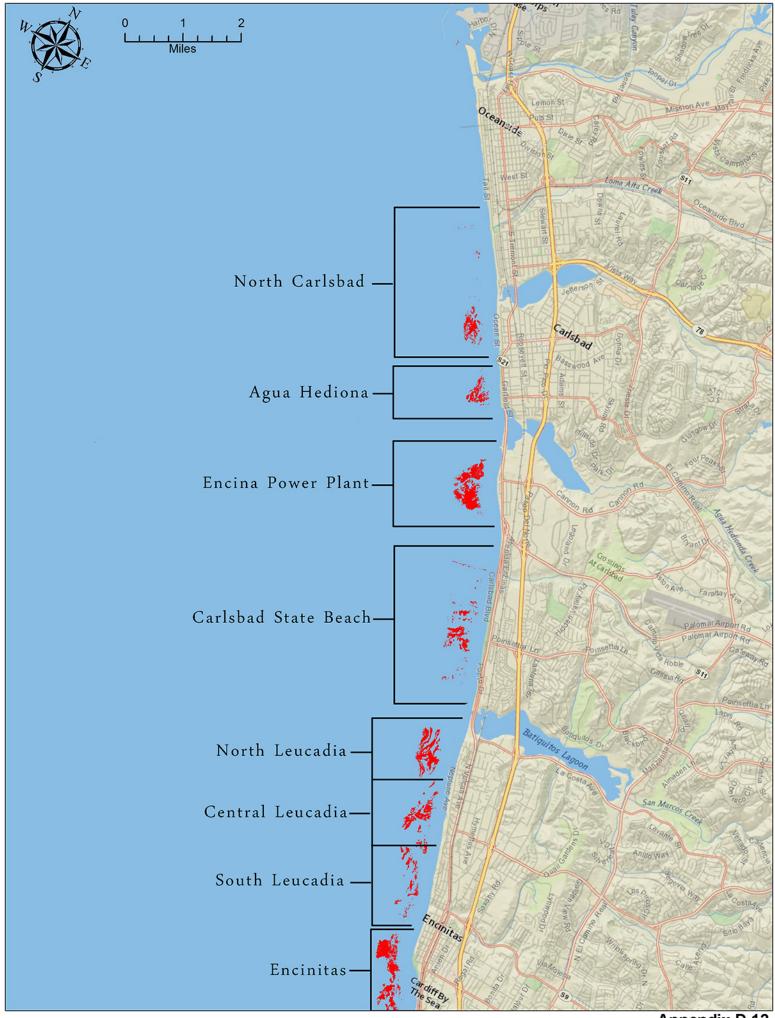




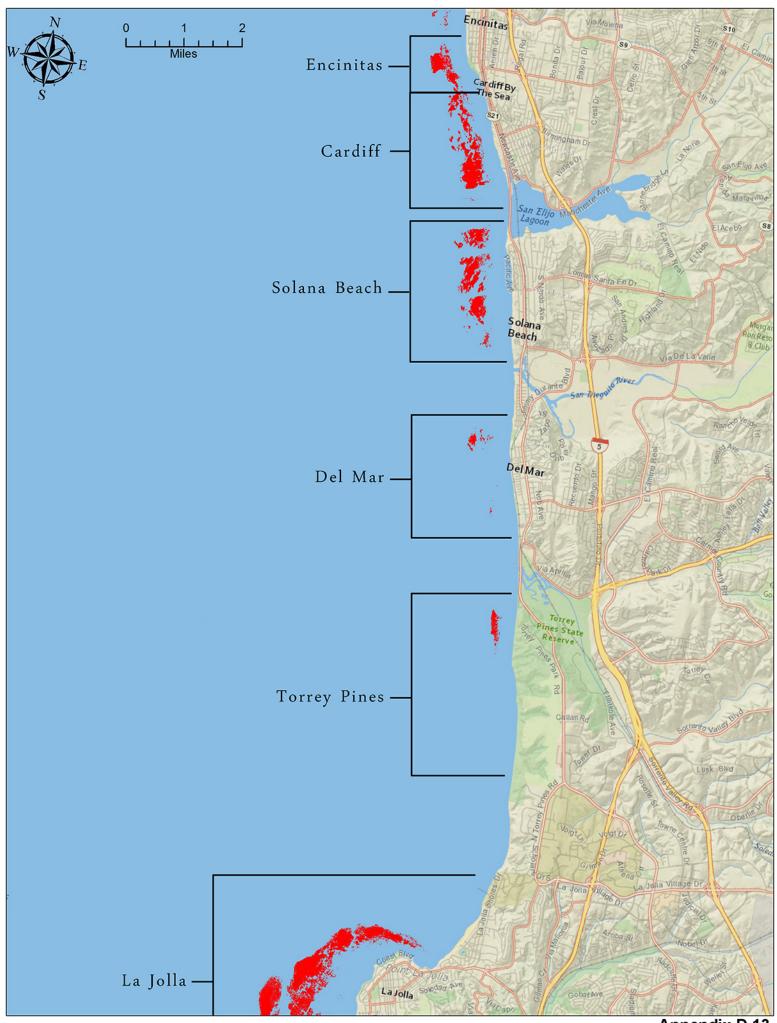
Appendix D.10



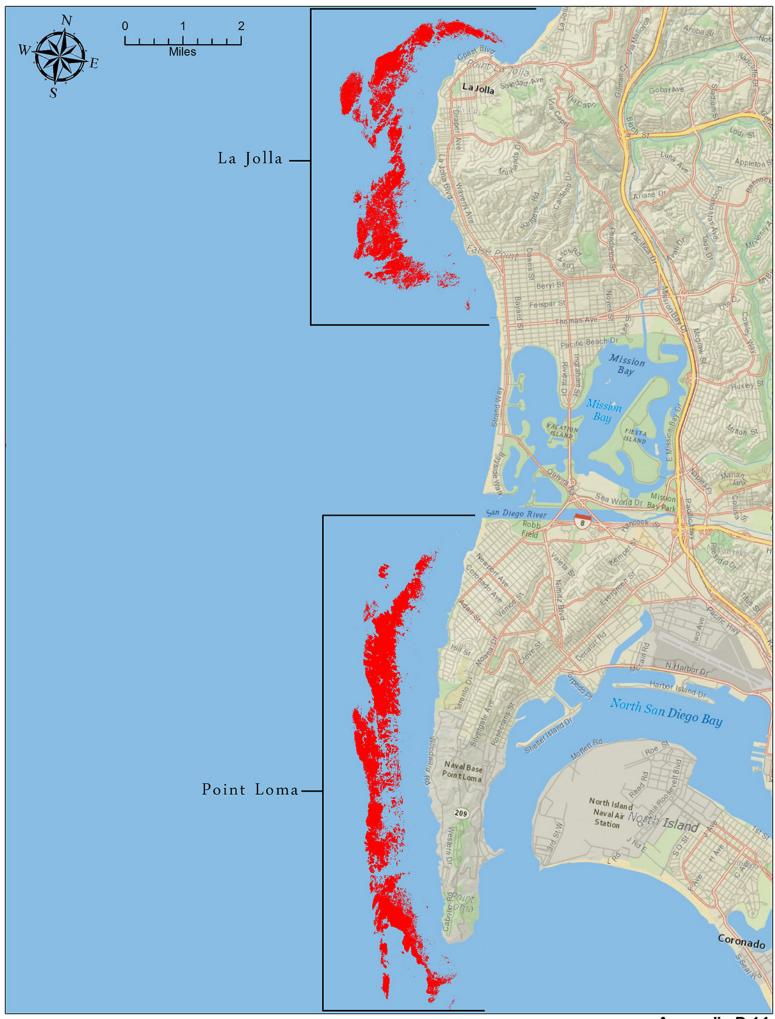
Appendix D.11



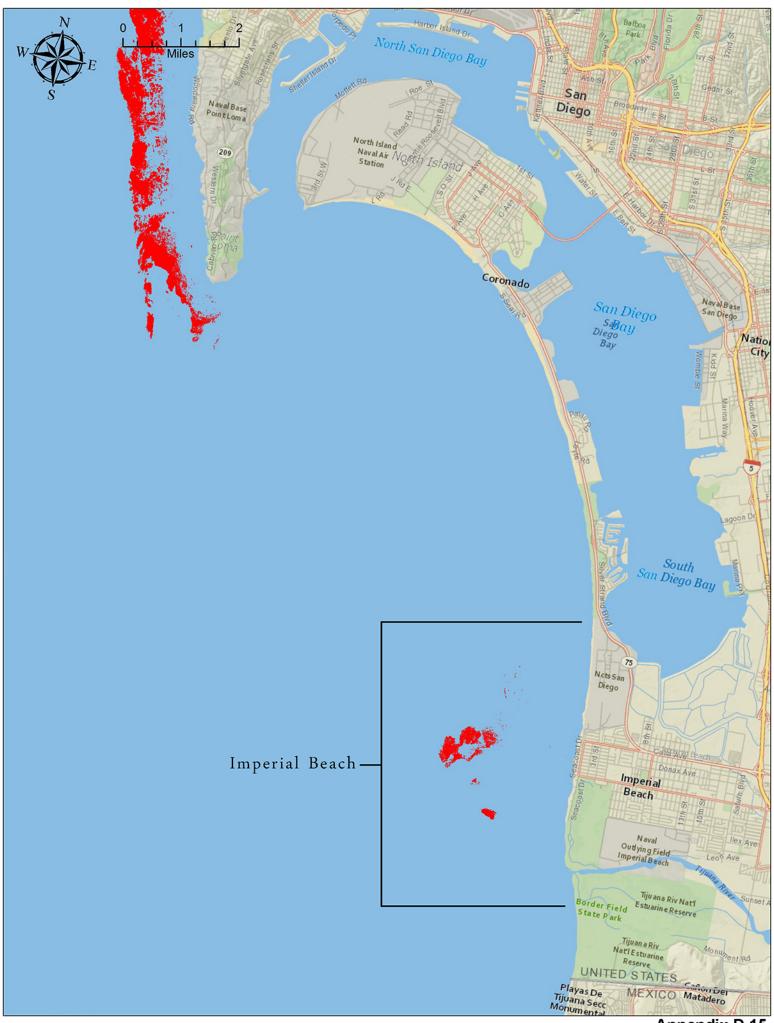
Appendix D.12



Appendix D.13



Appendix D.14



Appendix D.15

Ecoscan Resource Data Data Acquisition Flight Data Report

	Contracting Agency/Contact	Contract/Order #/Ag	ency File#	
Contracting Agency:	MBC Applied Environmental Sciences	Contract/Order #:		
Division:		Agency File #:		
Contact/Title:	Michael Curtis, Shane Beck	Calendar		
Address:	3000 Redhill Ave.	Services Ordered:	3/16	
City/State/Zip:	Costa Mesa, CA 92626	Data Acquisition Completed:	4/18/16	
Phone 1/Phone 2:	(714) 850-4830	Draft Report Materials Due:		
Fax/E-Mail:	(714) 850-4840	Final Report Materials Due:	4/16	
	Project Title/Target Resource (s)- Surv	ey Range (s)/Survey Data Flow		
Project Title	California Coastal Kelp Reso	urces - Ventura to Imperial Beach -	4/18/16	
Target Resource (s)/ Survey Range (s)	Coastal Kelp Canopies Ventura Harbor to Newport Beach			
Survey Data Flow Processing Analysis	Survey imagery indexed and delivered to N	MBC for further processing and analys		
Presentation	All survey imagery presented with 8"x10" contact sheets (12 images/per page)			

Aerial Reso	ource Survey Flig	ht Data for:	April 18, 2016				
	Survey Type		Aircraft/In	nagery Data	Associated Conditions		
Aerial Trans	Aerial Transportation/Observation			Cessna 182	Sky Conditions:	Clear	
	nic Film Imagery - 35		Altitude:	13,500' MSL	Sun Angle:	> 20 degrees from vertical	
	nic Film Imagery - 70		Speed:	100 kts.	Visibility:	50+ miles	
	or/Color Infrared Imag		Camera:	Nikon D200	Wind:	5-10 knots	
Videograph	ny		Lenses:	30mm (see note)	Sea/Swell:	3-5 feet	
Radio Tele			Film:	Digital Color IR	Time:	1401-1545	
Radiometry	//Geophysical Measu	ırements	Angle:	Vertical	Tide:	0.2' (+) to 0.7' (+) MLLW	
Other 1:				As Displayed	Shadow:	None	
Other 2:				Unsicker	Other:		
Other 3:			Photographer:	Van Wagenen	Comments:	Excellent Conditions	
Range (s) Surveyed	Ventura Harbor to	Imperial Beac	h.				
Target Resource Observations	Kelp Canopies	The kelp can	opies south of Sa	n Pedro were obser	ved to have a red	uced surface extent.	
Imagery Quality/ Comments	Excellent Lens Note	was conducted the subsequent	kelp canopies were photographed within the above range. The image processing sted normally. All of the imagery was judged of excellent quality and was useable for uent maping of the kelp resource. Tall SLR camera) is similiar focal length to 50mm (35mm film SLR camera)				

Ecoscan Resource Data

143 Browns Valley Rd. Watsonville, CA 95076 (831) 728-5900 (ph./fax)



Bob	Van	Wagenen	Director
	Bob	Bob Van	Bob Van Wagenen

	Contracting Agency/Contact	Contract/Order #/Ag	ency File #			
Contracting Agency	: MBC Applied Environmental Sciences	Contract/Order #:				
Division:		Agency File #:				
Contact/Title:	Michael Curtis, Shane Beck	Calendar				
Address:	3000 Redhill Ave.	Services Ordered:	6/16			
City/State/Zip:	Costa Mesa, CA 92626	Data Acquisition Completed:	6/20/16			
Phone 1/Phone 2:	(714) 850-4830	Draft Report Materials Due:				
Fax/E-Mail:	(714) 850-4840	Final Report Materials Due:	6/16			
	Project Title/Target Resource (s)- Surv	ey Range (s)/Survey Data Flow				
Project Title	California Coastal Kelp Reso	ources - Ventura to Imperial Beach -	6/20/16			
Target Resource (s)/ Survey Range (s)	Coastal Kelp Canopies Ventura Harbor to Newport Beach					
Survey Data Flow Processi Analy Presentati	ng Survey imagery indexed and delivered to Nosis	Vertical color IR digital imagery of all coastal kelp canopies within the survey range Survey imagery indexed and delivered to MBC for further processing and analysis All survey imagery presented with 8"x10" contact sheets (12 images/per page)				

Aerial Resource Survey Flight Data for:				June 20, 2016			
		Survey Type		Aircraft/Imagery Data		Associated Conditions	
		portation/Observat	ion	Aircraft:	Cessna 182	Sky Conditions:	Clear
		ic Film Imagery - 3		Altitude:	13,500' MSL	Sun Angle:	> 20 degrees from vertical
		ic Film Imagery - 70		Speed:	100 kts.	Visibility:	50+ miles
1		r/Color Infrared Ima		Camera:	Nikon D200	Wind:	5-10 knots
_	Videography			Lenses:	30mm (see note)	Sea/Swell:	3-5 feet
	Radio Telen			Film:	Digital Color IR	Time:	1440-1642
		/Geophysical Meas	urements	Angle:	Vertical	Tide:	2.1' (+) to 1.9' (+) MLLW
	Other 1:	Coop.i.joi.cai iii.caic		Photo Scale:	As Displayed	Shadow:	None
	Other 2:			Pilot:	Unsicker	Other:	
	Other 3:			Photographer:	Van Wagenen	Comments:	Excellent Conditions
	Range (s) Surveyed	Ventura Harbor to					
Target Resource Observations			T				
-	Resource	Kelp Canopies	The kelp can surface exter		n Pedro were again	observed to have	a significantly reduced

Ecoscan Resource Data

143 Browns Valley Rd. Watsonville, CA 95076 (831) 728-5900 (ph./fax)



Signed: _____ Bob Van Wagenen, Director

Ecoscan Resource Data Data Acquisition Flight Data Report

	C	ontracting Agency/Contact	Contract/Order #/Agency File #				
Contraction	ng Agency:	MBC Applied Environmental Sciences	Contract/Order #:				
Division:			Agency File #:				
Contact/T	itle:	Michael Curtis, Shane Beck	Calendar				
Address:		3000 Redhill Ave.	Services Ordered:	9/16			
City/State	/Zip:	Costa Mesa, CA 92626	Data Acquisition Completed:	9/24/16			
Phone 1/F	Phone 2:	(714) 850-4830	Draft Report Materials Due:				
Fax/E-Mai	il:	(714) 850-4840	Final Report Materials Due:	10/16			
		Project Title/Target Resource (s)- Surv	ey Range (s)/Survey Data Flow				
Proje	ect Title	California Coastal Kelp Reso	urces - Ventura to Imperial Beach -	9/24/16			
Target Resource (s)/ Survey Range (s)		Coastal Kelp Canopies Ventura Harbor to Imperial Beach					
Survey Data Flow	Acquisition Processing Analysis	Vertical color IR digital imagery of all coastal kelp canopies within the survey range Survey imagery indexed and delivered to MBC for further processing and analysis					
1 1044	Presentation	All survey imagery presented with 8"x10" contact sheets (12 images/per page)					

Aerial Resource Survey Flight Data for:				September 24, 2016				
		Survey Type		Aircraft/In	nagery Data	Associated Conditions		
	Aerial Transportation/Observation			Aircraft:	Cessna 182	Sky Conditions:	Clear	
		ic Film Imagery - 35		Altitude:	13,500' MSL	Sun Angle:	> 20 degrees from vertical	
	Photographi	ic Film Imagery - 70	mm	Speed:	100 kts.	Visibility:	50+ miles	
1	Digital Color	/Color Infrared Imag	jery	Camera:	Nikon D200	Wind:	5-10 knots	
	Videography	/		Lenses:	30mm (see note)	Sea/Swell:	3-5 feet	
	Radio Telen			Film:	Digital Color IR	Time:	1035-1213	
	Radiometry/	Geophysical Measu	rements	Angle:	Vertical	Tide:	2.6' (+) to 2.8' (+) MLLW	
	Other 1:			Photo Scale:	As Displayed	Shadow:	None	
	Other 2:			Pilot:	Unsicker	Other:		
	Other 3:			Photographer:	Van Wagenen	Comments:	Excellent Conditions	
	Range (s) Surveyed	Ventura Harbor to	Imperial Beac	:h.				
larget		The kelp can surface exter		s Angeles were aga	in observed to hav	ve a significantly reduced		
Imagery Quality/ Comments		Excellent	All surface kelp canopies were photographed within the above range. The image processing was conducted normally. All of the imagery was judged of excellent quality and was useable fo the subsequent maping of the kelp resource. 30mm (digital SLR camera) is similiar focal length to 50mm (35mm film SLR camera)					

Ecoscan Resource Data

143 Browns Valley Rd. Watsonville, CA 95076 (831) 728-5900 (ph./fax)



Signed:	Bob	Van	Wagenen,	Director

Ecoscan Resource Data Data Acquisition Flight Data Report

Appendix D. 16D Flight record for December 28, 2016.

	C	ontracting Agency/Contact	Contract/Order #/Age	ency File #		
Contracting Ag	gency:	MBC Applied Environmental Sciences	Contract/Order #:			
Division:			Agency File #:			
Contact/Title:		Michael Curtis, Shane Beck	Calendar			
Address:		3000 Redhill Ave.	Services Ordered:	12/16		
City/State/Zip:		Costa Mesa, CA 92626	Data Acquisition Completed:	12/28/16		
Phone 1/Phone	e 2:	(714) 850-4830	Draft Report Materials Due:			
Fax/E-Mail:		(714) 850-4840	Final Report Materials Due:	1/17		
		Project Title/Target Resource (s)- Surv	ey Range (s)/Survey Data Flow			
Project Ti	tle	California Coastal Kelp Resou	ırces - Ventura to Imperial Beach -	12/28/16		
Target Resource (s)/ Survey Range (s)		Coastal Kelp Canopies Ventura Harbor to Imperial Beach				
Survey Pro Data	uisition ocessing Analysis	Vertical color IR digital imagery of all coastal kelp canopies within the survey range Survey imagery indexed and delivered to MBC for further processing and analysis				
Prese	entation	All survey imagery presented with 8"x10" contact sheets (12 images/per page)				

Aerial Resource Survey Flight Data for:			December 28, 2016				
		Survey Type		Aircraft/Imagery Data		Associated Conditions	
	Aerial Transportation/Observation			Aircraft:	Cessna 182	Sky Conditions:	Clear
	Photograph	ic Film Imagery - 35	mm	Altitude:	13,500' MSL	Sun Angle:	> 20 degrees from vertical
	Photograph	ic Film Imagery - 70	mm	Speed:	100 kts.	Visibility:	50+ miles
1	Digital Colo	r/Color Infrared Imag	gery	Camera:	Nikon D200	Wind:	5-10 knots
	Videograph	у		Lenses:	30mm (see note)	Sea/Swell:	3-5 feet
	Radio Teler	netry		Film:	Digital Color IR	Time:	1345-1529
	Radiometry	/Geophysical Measu	ırements	Angle:	Vertical	Tide:	0.1' (+) to 0.6' (-) MLLW
	Other 1:			Photo Scale:	As Displayed	Shadow:	None
	Other 2: Other 3:			Pilot:	Unsicker	Other:	
				Photographer:	Van Wagenen	Comments:	Excellent Conditions
	Range (s) Surveyed	Ventura Harbor to	Imperial Beac	:h.			
	Target Resource eservations	Kelp Canopies	The kelp can surface exter	opies within the s nt when compared	urvey range were ob d with the Septembe	oserved to have a r 2016 survey.	significantly increased
Imagery Quality/ Comments		Excellent Lens Note	All surface kelp canopies were photographed within the above range. The image processing was conducted normally. All of the imagery was judged of excellent quality and was useable for the subsequent maping of the kelp resource. 30mm (digital SLR camera) is similiar focal length to 50mm (35mm film SLR camera)				

Ecoscan Resource Data 143 Browns Valley Rd. Watsonville, CA 95076 (831) 728-5900 (ph./fax)

A HOLD	

Signed:		Bob	Van	Wagenen,	Director
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CONDITION OF MACROCYSTIS BED

	Date
	Location JUPER (AL BERCH
BIDE OBSERVATIONS	Time
	Wind/Direction O-WEST SWEL
elp Canopy (AT/LoNG;	Current NO 19E
	Weather FOCKLY 100 MV
Extent ND VIA 18L9 CANGRY	UW Visibility MF7
Density	Swell Ht/Period 1-74
Tissue color	
% Frond cornp Senile Matu	re Young Other
Disease	_
Encrustaceans	- ((3-3-)
Apical blades	
Sediment on blades	- 11.06.19//h
Remarks	POTHIMS #
<i>(</i>)	
ubsurface NOMY TO IND D	ENGST 5POTS FROM 2016500
absurace	
NOTHING AT 57	34,463/11909,748 OR
32.3	4, 169 11/709, 141 NOTHING
ERWATER OBSERVATIONS	RORDOSUEFACE
	· · · · · · · · · · · · · · · · · · ·
Prince Anna	Community
<u>Aidwater</u>	Community
Midwater Tissue color	<u>Community</u> Litter
	
Tissue color	Litter
Tissue color	Litter
Tissue color Encrustaceans Disease	Litter Turf algae Turf invert
Tissue color Encrustaceans Disease Sediment on blades	Litter Turf algae Turf invert. Shrub algae
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds	Litter Turf algae Turf invert Shrub algae Large invert
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans	Litter Turf algae Turf invert Shrub algae Large invert Fishes Disease Sed. on rocks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Bottom Tissue color Encrustaceans Disease	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans Disease Sediment on blades	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed on rocks Urchin status Remarks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed on rocks Urchin status Remarks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sporophylls	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed on rocks Urchin status Remarks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sporophylis Juvenile fronds	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed on rocks Urchin status Remarks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sporophylis Juvenile fronds Holdfasts	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed on rocks Urchin status Remarks Bottom characteristics
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sporophylls Juvenile fronds Holdfasts Old holdfasts	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed on rocks Urchin status Remarks Bottom characteristics
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sporophylls Juvenile fronds Holdfasts Recruitment	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks Bottom characteristics
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sporophylls Juvenile fronds Holdfasts Old holdfasts	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks Bottom characteristics
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sporophylls Juvenile fronds Holdfasts Old holdfasts Recruitment	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks Bottom characteristics
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sporophylls Juvenile fronds Holdfasts Recruitment	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks Bottom characteristics

CONDITION	OF MACROCYSTIS BED
	Date 3//3/2017
	Location Point Loma S
DE OBSERVATIONS	Time 1/0 4/2
DE ODDERVATIONS	Wind/Direction Des L w
p Canopy	Current
LAT/LONG;	Weather + 966 100 A
extent 12M1 /2 MILE	UW Visibility
Density SCAYLTERED - M	EDDENSITY Swell Ht/Period 1-257 W
issue color DARIZ YELLOW	<u></u>
% Frond comp. 40% Senile 50%	Mature 10% YoungOther
Disease (DO	
1/4/18 TO 1870	4-5M LONG FRONDS
Apical blades 10% WITH	30-MOTORTERED TYPS
Sediment on blades	
Remarks	
FROND LENGTH 4-5	M
	OTS & SUNSDEFALL KEIJC
bsurface	320 39 879 4957
	1170 15, 870
	WALT OF CHILDRY EDGE
RWATER OBSERVATIONS	<u>Community</u>
The state of the s	Litter
dwater	Litter
dwater Tissue color	Litter Turf algae Turf invert
dwater Tissue color Encrustaceans	Litter Turf algae Turf invert. Shrub algae
idwater Tissue color Encrustaceans Disease	Litter Turf algae Turf invert. Shrub algae Large invert.
Tissue color Encrustaceans Disease Sediment on blades	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed, on rocks Urchin status
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans Disease	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans Disease Sediment on blades Sediment on blades	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Disease Sediment on blades Sinking fronds Grazed tissues Sporophylls	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed, on rocks Urchin status Remarks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Disease Sediment on blades Sinking fronds Grazed tissues Sporophylls Juvenile fronds	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Disease Sediment on blades Sinking fronds Grazed tissues Sporophylls Juvenile fronds Holdfasts	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks Bottom characteristics
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sediment on blades Sinking fronds Grazed tissues Sporophylls Juvenile fronds Holdfasts Old holdfasts	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks Bottom characteristics
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Disease Sediment on blades Sinking fronds Grazed tissues Sporophylls Juvenile fronds Holdfasts	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks Bottom characteristics
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sediment on blades Sinking fronds Grazed tissues Sporophylls Juvenile fronds Holdfasts Old holdfasts	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks Bottom characteristics
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Ottom Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Sediment on blades Sinking fronds Grazed tissues Sporophylls Juvenile fronds Holdfasts Old holdfasts	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks Bottom characteristics

CONDITION	
	Date 3/13/2017
<u>,, </u>	Location YOUTLOMAN
SIDE OBSERVATIONS	Time
	Wind/Direction Wind/Direction
elp Canopy LAT LONG: 32 43 444/11	1916,473 (4317) Current F066V 1/2M
	, ,
Extent HOON LE	111
Density SCATTRED	Swell Ht/Period /-2//
Tissue color DARN KURW	Mature 5% YoungOther
	KELP ON JORTACO
Disease Now 069ERVED	7611 121
Encrustaceans	32°43,486 117°16,265 (56FT)
Sediment on blades ND	1,2016,265 (5651)
Remarks	3-5 M
We Date	ATHOMATER 19 CONTINUOUS
Subsurface REH & M FA	TIMOTY CITY CONTINUOUS
DERWATER OBSERVATIONS Midwater	<u>Community</u>
Midwater Tissue color	Litter
Midwater Tissue color Encrustaceans	Litter Turf algae
Midwater Tissue color Encrustaceans Disease	Litter Turf algae Turf invert
Midwater Tissue color Encrustaceans Disease Sediment on blades	Litter Turf algae Turf invert. Shrub algae
Midwater Tissue color Encrustaceans Disease Sediment on blades Sinking fronds	Litter Turf algae Turf invert. Shrub algae Large invert.
Midwater Tissue color Encrustaceans Disease Sediment on blades	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes
Midwater Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Bottom Tissue color	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status
Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Bottom Tissue color Encrustaceans	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status
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Tissue color Encrustaceans Disease Sediment on blades Sinking fronds Grazed tissues Bottom Tissue color Encrustaceans Disease Sediment on blades Sediment on blades	Litter Turf algae Turf invert. Shrub algae Large invert. Fishes Disease Sed. on rocks Urchin status Remarks
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CONDITION OF MACROCYSTIS BED

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CONDITION	
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(4)	GORNU Location GOLANABACH
DE OBSERVATIONS	
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xtent	UW Visibility /
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-ncrustaceans	1 L XW 150M 4081
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Remarks	
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S.	_	Date	(Am mm)
		Location	
IDE OBSERVATIONS	\	Time	
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EXIENT TO THE TABLE		ell Ht/Period	
NED US LIVE		ell Unt. etion —	
I ISSUE COICI		Young	Other
Disease NO			
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Apical blades North LOW 5	76 RESTTATTS	erep	
Sediment on blades // D	- 		
Remarks			
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ata Sileet	CONDITION OF MA	CROCYSTIS BED	11
•		Date	13/17
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IDE OBSERVATIONS		Time	5 K
	0 / 0_	Wind/Direction	
elp Canopy LAT LONG;	3302081/11718.	Weather	1A27
1/1/1	MLX 14 MILC	UW Visibility	10 FT
		, · · · · · · · · · · · · · · · · · · ·	(16)
Density D2NGE	DARK YELLOW	Swell 1 lb1 clica	
Tissue color	Senile 100 % Mature	20% Young	Other
Disease		. •	
Encrustaceans	0%	577ATTUEP 0 PCANTS SU	717851
Apical blades	NERY FRW INTHAT - NO	STYATTURE O PLANTS SU	RFACE STE
Sediment on blades	at the above		
Remarks		INSIDE EDGE	-48 F1
-A	5 MC FRONDS		
Subsurface4	7 11 11 11 11 11		
Tissue color		Litter Turf algae	
Encrustaceans		Turf invert.	•
Disease Sediment on blades	•	Shrub algae	
Sinking fronds		Large invert.	
Grazed tissues		Fishes	
Gidzed lissues		Disease	
Bottom .	•	Sed. on rocks	
		• • • • • • • • • • • • • • • • • • •	:
Encrustaceans	·		
Disease		Remarks	
Sinking fronds			<u> </u>
Holdfasts	<u></u>	Bottom characteristics	
Old holdfasts			
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	•		
Remarks			<u> </u>
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CONDIT	TION OF MACROC	YSTIS BED	2/2/19
		Date	3/13/14
	((11))	Location _	SOUTH LEWIS
IDE OBSERVATIONS		Time	1530
IDE OBSERVATIONS		Wind/Direction _	5K V)
Canany 1 ATT ALAM	1200629	Current_	***************************************
EID CANODY LATILONG: 33 03170	11/10/201	Weather _	HAZY KMIZE
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Tissue color DARIE VECLE	(a)		
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% Frond comp. 20% Senile 50			·
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Sediment on blades			4 1 / 4
Remarks 3-5 M PRON	TOS ON SON MACE	No TH/NO	& C LATILON
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ibsurface		/ · / · <u>v v s</u>	
ERWATER OBSERVATIONS			
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<u>lidwater</u>		<u>nunity</u>	
lidwater Tissue color	Litte	er	
lidwater Tissue color Encrustaceans	Litte	algae	
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			Date	5/13/1/	1 0
	A(L)	Lo	cation <u>(</u>	RUTRAL	_ <u>L2</u>
IDE OBSERVATIONS			Time	1430	
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elp Canopy	3304.489/1171	902/0	urrent		
	, -/		eather	HMZY E	M
Extent 250	om /150 M	UW Vi	sibility	10FT	
Density Janst	70-30/100m2	Swell Ht/l	Period	1FT W	
Tissue color	K VELCOW	<u> </u>	•		
% Frond comp. 20		ire <u></u> グ <u></u> Young	· <u></u>	Other	
Disagra NO		· 		•	
	100%	- Survey and the same of the s			
Anical blades	FEW 5% bood	PEST THITE	(8.D)	100	
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Remarks					
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Data cheer	CONDITION OF MACI	ROCYSTIS BED	1/2
		Date	3/13/17
	/17/	Location	CARLS DAD STATE
SIDE OBSERVATIONS	01- 116	/ Time	
SIDE OBSERVATIONS		// Wind/Direction	5KW
Kelp Canopy LAT LONG; 33	05 935 /117 Pr 6	R/1557 Current_	1
LAY/LONG,	<u> </u>	vveatile:	HAZV
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Density		Swell Ht/Period	IFT
Tissue color			
% Frond comp Seni	ie Mature	Young	Other
Disease		•	
Encrustaceans		•	
Apical blades			•
Sediment on blades		1721. 1	ne and good
Remarks		<u></u>	UI OUUVE
		Fau at	FATHUM977
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Subsurface		NOTHING A	7512
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Tissue color		Litter	
Encrustaceans		Turf algae	•
Disease		Turf invert.	
Sediment on blades		Shrub algae	
Sinking fronds	·	Large invert.	
Grazed tissues		Fishes	
	•	Disease	
Bottom		Sed. on rocks	
Tissue color		Urchin status	
Encrustaceans			•
Disease	•	Remarks	
Sediment on blades			
Sinking fronds			
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DE OBSERVATIONS			Date Location Time Wind/Direction	315 3KW	gu g
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Disease				,	
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