



Pre-Permitting Environmental / Socio-Economic Data Report Series

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# Report Series J- Marine Nearshore Fish and Benthic Invertebrates

## Report J-3 Subtidal Diver Transect Data Tables and Figures 2004-2007

*Submitted to the Alaska Department of Natural Resources August 2009*

*Preliminary data. Do not cite or quote.*

The Pebble Partnership is providing environmental and socio-economic baseline data collected to inform the development of the Pebble Project to state and federal agencies, project stakeholders and the general public prior to project permitting as part of its commitment to full and open disclosure.

A comprehensive Environmental Baseline Document (EBD) will subsequently be prepared and appended to future project permit applications. The EBD will also be made publicly available when complete.

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Report J-3 Table 1

Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at MPS1 (Knoll Head), August 29, 2004, Transect 1 of 2

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Site Transect Name:	Port Site 1, Transect 1 of 2
Time:	1008 to 1100
Tidal Height:	-1.2 to -1.4 ft MLLW
Actual Depth:	10 to 51 ft
Adjusted Depth:	-11.2 to -49.6 ft MLLW
Transect Distance:	777 ft
Substrate:	Mixed sand/silt over gravel
Visibility:	4-5 ft @ 10 ft deep to 2 ft @ 51 ft deep
Tidal state:	Slight flood
Divers:	S. Jewett/H. Chenelot

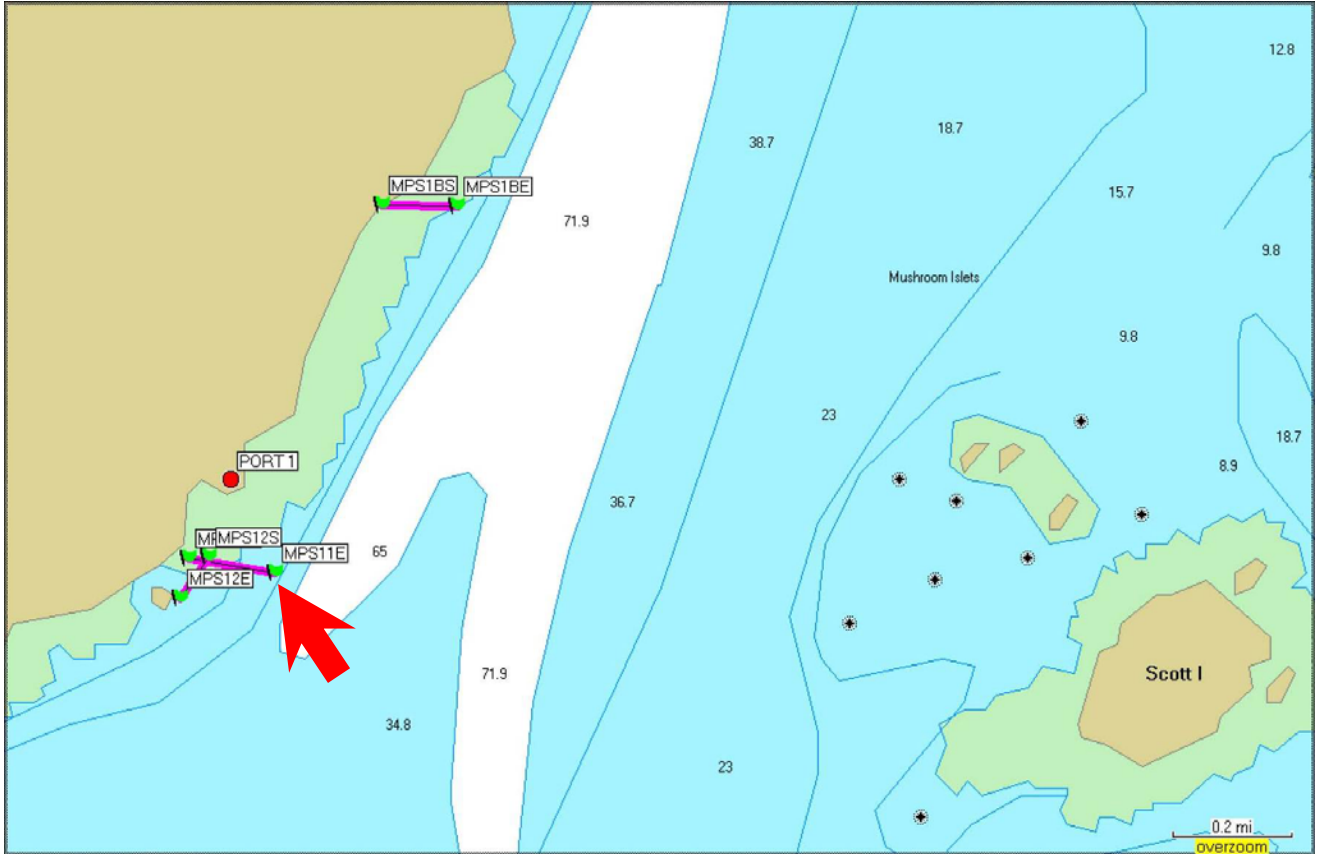
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<b>TAXON</b>	<b>COMMON NAME</b>
<b>PORIFERA</b>	
<i>Suberites sp.</i>	Sponge
<b>CNIDARIA</b>	
Hydrozoa— <i>Sertulariidae</i>	Hydroid
Anthozoa— <i>Urticina crassicornis</i>	Sea anemone
<b>ANNELIDA—Polychaeta</b>	
<i>Potamilla sp.</i>	Polychaete
<i>Schizobranhia insignis</i>	Polychaete
<b>MOLLUSCA—Gastropoda</b>	
<i>Margarites pupillus</i>	Snail
<i>Fusitriton oregonensis</i>	Snail
<i>Neptunea lyrata</i>	Snail
<i>Nucella lamellosa</i>	Snail
<i>Onchidoris bilamellata</i>	Nudibranch
<b>MOLLUSCA—Polyplacophora</b>	
<i>Molpadia sp.</i>	Chiton
<i>Cryptochiton stelleri</i>	Chiton
<i>Ischnochiton sp.</i>	Chiton
<b>ARTHROPODA—Crustacea</b>	
Unidentified shrimp	Shrimp
<i>Pagurus beringanus</i>	Hermit crab
<i>Elassochirus tenuimanus</i>	Hermit crab
<i>E. gilli</i>	Hermit crab

Report J-3 Table 1 continued  
 Benthic Reconnaissance Dive Survey of Algae, Epifaunal  
 Invertebrates, and Fishes at MPS1 (Knoll Head), August 29, 2004,  
 Transect 1 of 2

TAXON	COMMON NAME
ARTHROPODA—Crustacea (Cont'd)	
<i>Rhinolithodes wosnessenskii</i>	Umbrella crab
<i>Telmessus cheiragonus</i>	Helmet crab
<i>Hyas lyratus</i>	Lyre crab
<i>Oregonia gracilis</i>	Decorator crab
<i>Pugettia gracilis</i>	Kelp crab
ECTOPROCTA	
Flustrellidae	Bryozoan
ECHINODERMATA—Asteroidea	
<i>Henricia leviuscula</i>	Blood sea star
<i>Leptasterias sp.</i>	Sea star
<i>Leptasterias polaris acervata</i>	Sea star
<i>Leptasterias alaskensis</i>	Sea star
<i>Crossaster papposus</i>	Sea star
CHORDATA—Pisces	
<i>Hexagrammos stelleri</i>	Whitespotted greenling
<i>Stichaeus punctatus</i>	Arctic shanny
<i>Pleuronectidae</i> (juvenile.)	Flatfish

Report J-3 Figure 1  
Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at MPS1  
(Knoll Head), August 29, 2004, Transect 1 of 2

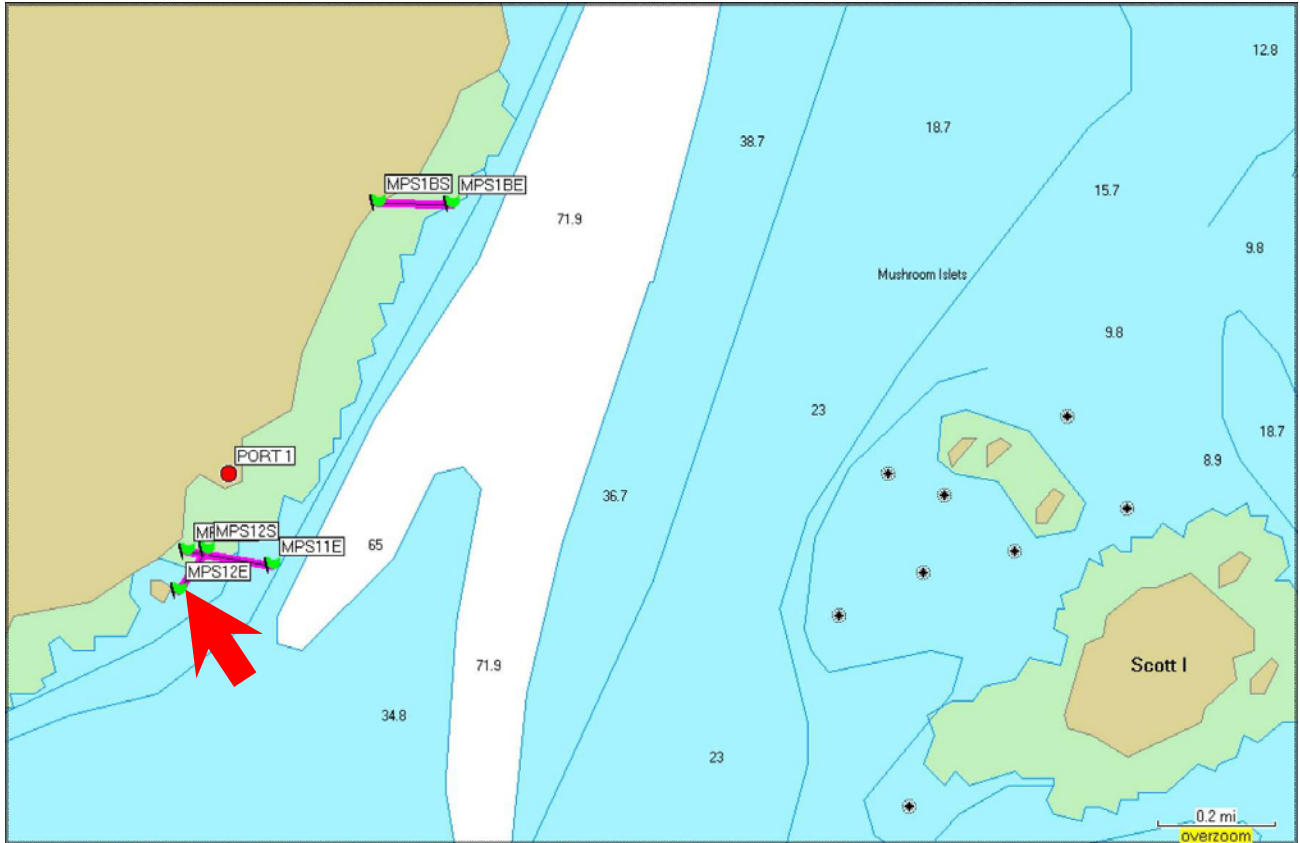


Report J-3 Table 2

Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at MPS1 (Knoll Head), August 29, 2004, Transect 2 of 2

Site Transect Name:	Port Site 1, Transect 2 of 2
Time:	1435 to 1509
Tidal Height:	+15.1 to +15.8 ft MLLW
Actual Depth:	32 to 31 ft
Adjusted Depth:	-16.9 - -15.2 ft MLLW
Transect Distance:	437 ft
Substrate:	Gravel
Visibility:	2 ft
Tidal state:	Strong flood
Divers:	S. Jewett/H. Chenelot
<b>TAXON</b>	<b>COMMON NAME</b>
ALGAE—Rhodophyta	Red algae
Coralline	Encrusting coralline algae
PORIFERA	
<i>Suberites sp.</i>	Sponge
ANNELIDA—Polychaeta	
<i>Schizobranhia insignis</i>	Polychaete
MOLLUSCA—Pelecypoda	
<i>Pododesmus macroschisma</i>	Rock jingle
MOLLUSCA—Gastropoda	
<i>Fusitriton oregonensis</i>	Snail
<i>Neptunea lyrata</i>	Snail
MOLLUSCA—Polyplacophora	
<i>Cryptochiton stelleri</i>	Chiton
<i>Tonicella lineata</i>	Chiton
<i>Tonicella insignis</i>	Chiton
<i>Mopalia ciliata</i>	Chiton
ARTHROPODA—Crustacea	
<i>Balanus glandula</i>	Barnacle
<i>Pagurus sp.</i>	Hermit crab
<i>Cancer oregonensis</i>	Cancer crab
<i>Hyas lyratus</i>	Lyre crab
<i>Pugettia gracilis</i>	Kelp crab
ECTOPROCTA	
Flustrellidae	Bryozoan
ECHINODERMATA—Asteroidea	
<i>Lepasterias sp.</i>	Sea star
<i>Henricia leviuscula</i>	Blood sea star

Report J-3 Figure 2  
Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at MPS1  
(Knoll Head), August 29, 2004, Transect 2 of 2

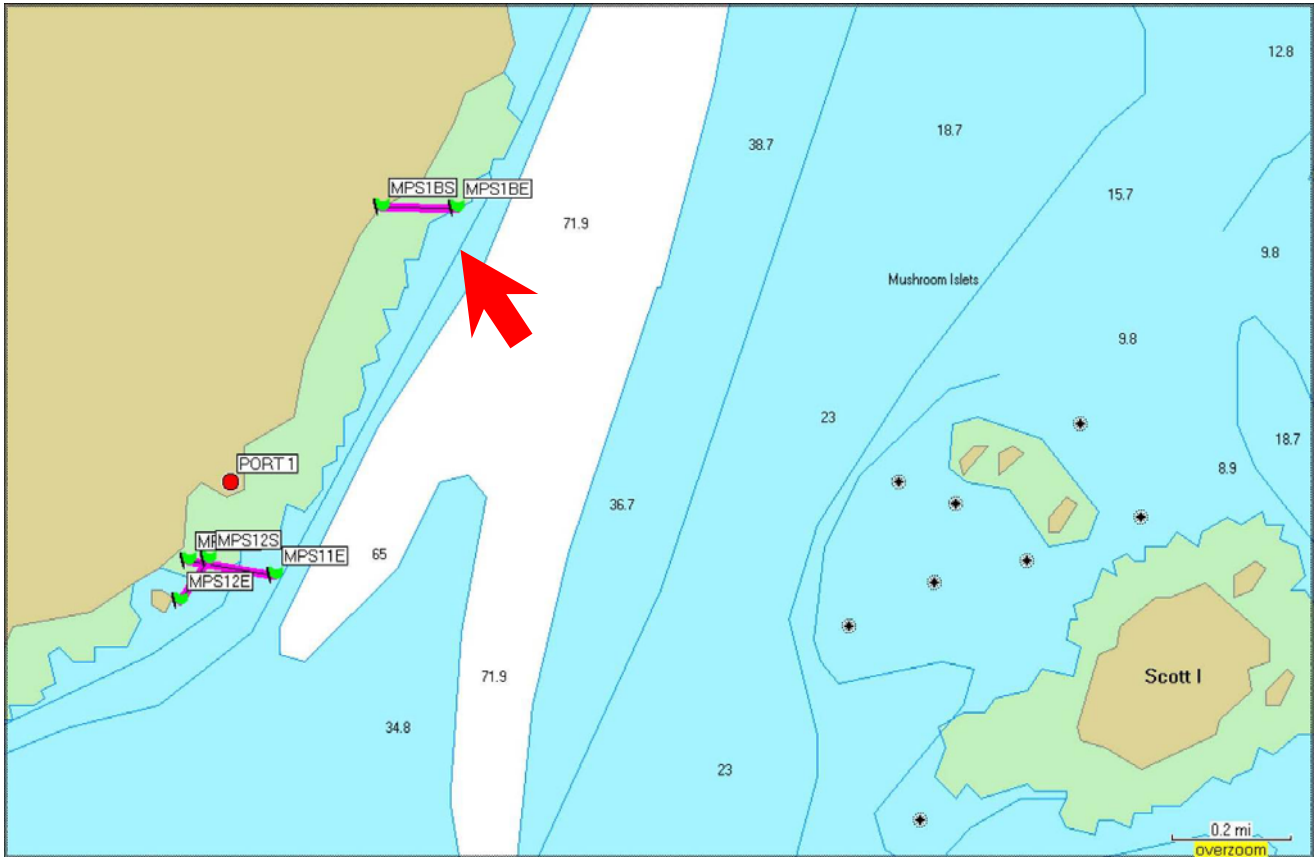


Report J-3 Table 3

Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at MPS1B  
(midway between MPS1 and MPS2), August 31, 2004

Site Transect Name:	Port Site 1B
Time:	1255 to 1314
Tidal Height:	+4.6 to +6.2 ft MLLW
Actual Depth:	3 to 17 ft
Adjusted Depth:	+1.6 to 10.8 ft MLLW
Transect Distance:	667 ft
Substrate:	Sand/silt/gravel throughout
Visibility:	3 ft @ shallow; 1 ft @ deep
Tidal state:	Very strong flood
Divers:	S. Jewett/S. Harper
<b>TAXON</b>	<b>COMMON NAME</b>
ALGAE—Chlorophyta	Green algae
<i>Ulva</i> sp.	Sea lettuce
ALGAE—Phaeophyta	Brown algae
<i>Laminaria bongardiana</i>	Split kelp
<i>Fucus distichus</i> subsp. <i>evanescens</i>	Rockweed
ALGAE—Rhodophyta	Red algae
PORIFERA	
<i>Suberites</i> sp.	Sponge
? <i>Esperiopsis</i> sp.	Yellow sponge
ANNELIDA—Polychaeta	
<i>Schizobranhia insignis</i>	Polychaete
MOLLUSCA—Pelecypoda	
<i>Mytilus trossulus</i>	Blue mussel
<i>Mactromeris polynyma</i>	Pinkneck clam
<i>Clinocardium nuttalli</i>	Cockle
MOLLUSCA—Gastropoda	
<i>Tectura scutum</i>	Snail
<i>Nucella lima</i>	Snail
<i>Onchidoris bilamellata</i>	Nudibranch
ARTHROPODA—Crustacea	
<i>Pagurus</i> sp.	Hermit crab
<i>Pagurus ochotensis</i>	Hermit crab
<i>P. hirsutiusculus</i>	Hermit crab
<i>P. aleuticus</i>	Hermit crab
<i>P. beringanus</i>	Hermit crab
<i>Telmessus cheiragonus</i>	Helmet crab
ECTOPROCTA—Flustrellidae	Bryozoan
ECHINODERMATA—Asteroidea	
<i>Leptasterias alaskensis</i>	Sea star

Report J-3 Figure 3  
Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at MPS1B  
(midway between MPS1 and MPS2), August 31, 2004





Report J-3 Table 4

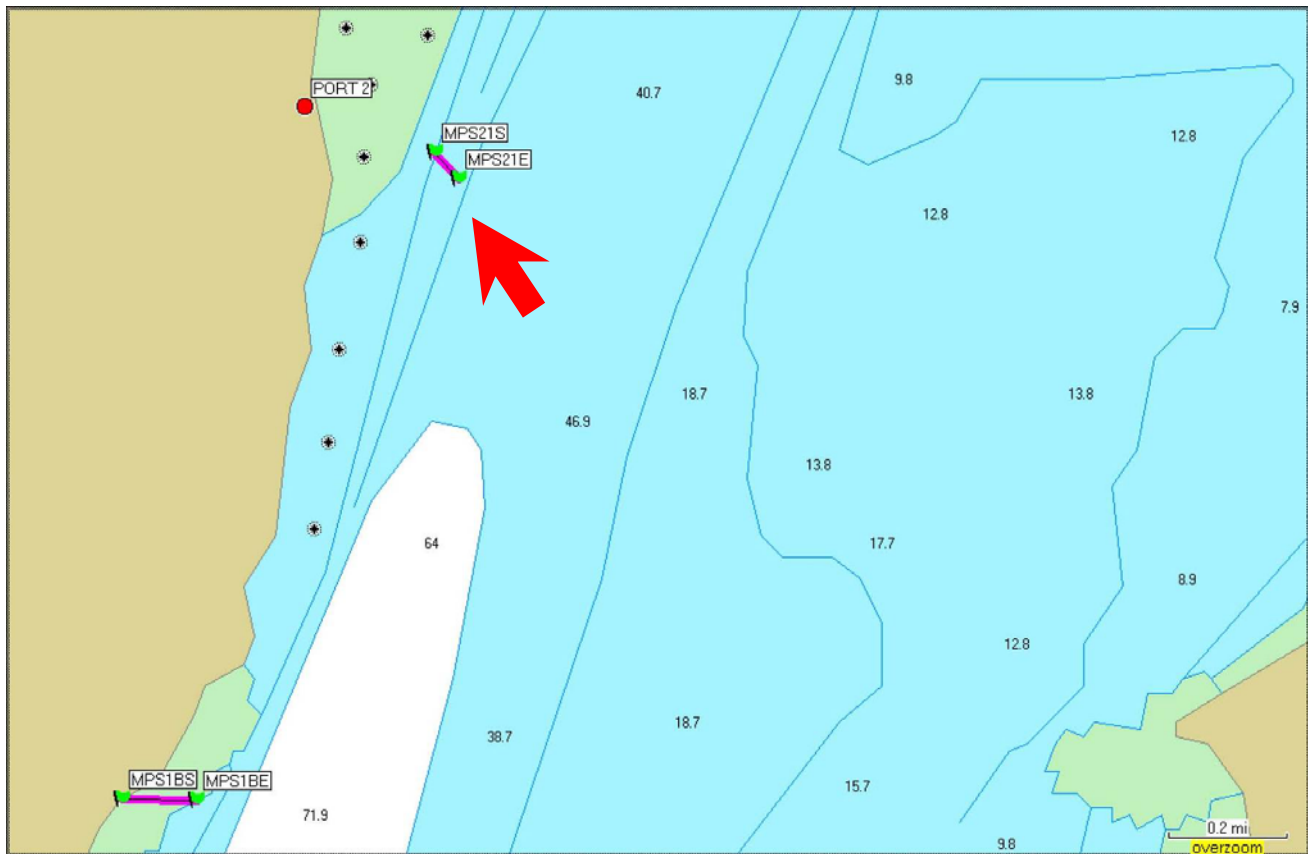
Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at MPS2, Inskin Bay, August 31, 2004

Site Transect Name:	Port Site 2
Time:	1015 to 1032
Tidal Height:	-2.6 to -2.5 ft MLLW
Actual Depth:	8 to 31 ft
Adjusted Depth:	-10.6 to -33.5 ft MLLW
Transect Distance:	307 ft
Substrate:	Sand/silt/gravel throughout
Visibility:	1 to 2 ft
Tidal state:	Slight ebb tide
Divers:	S. Jewett/S. Harper

TAXON	COMMON NAME
ARTHROPODA—Crustacea	
<i>Balanus sp.</i>	Barnacle
ECTOPROCTA—Flustrellidae	Bryozoan

Report J-3 Figure 4

Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at MPS2, Inskin Bay, August 31, 2004



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Report J-3 Table 5

Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at MPS4 (North Head), August 30, 2004

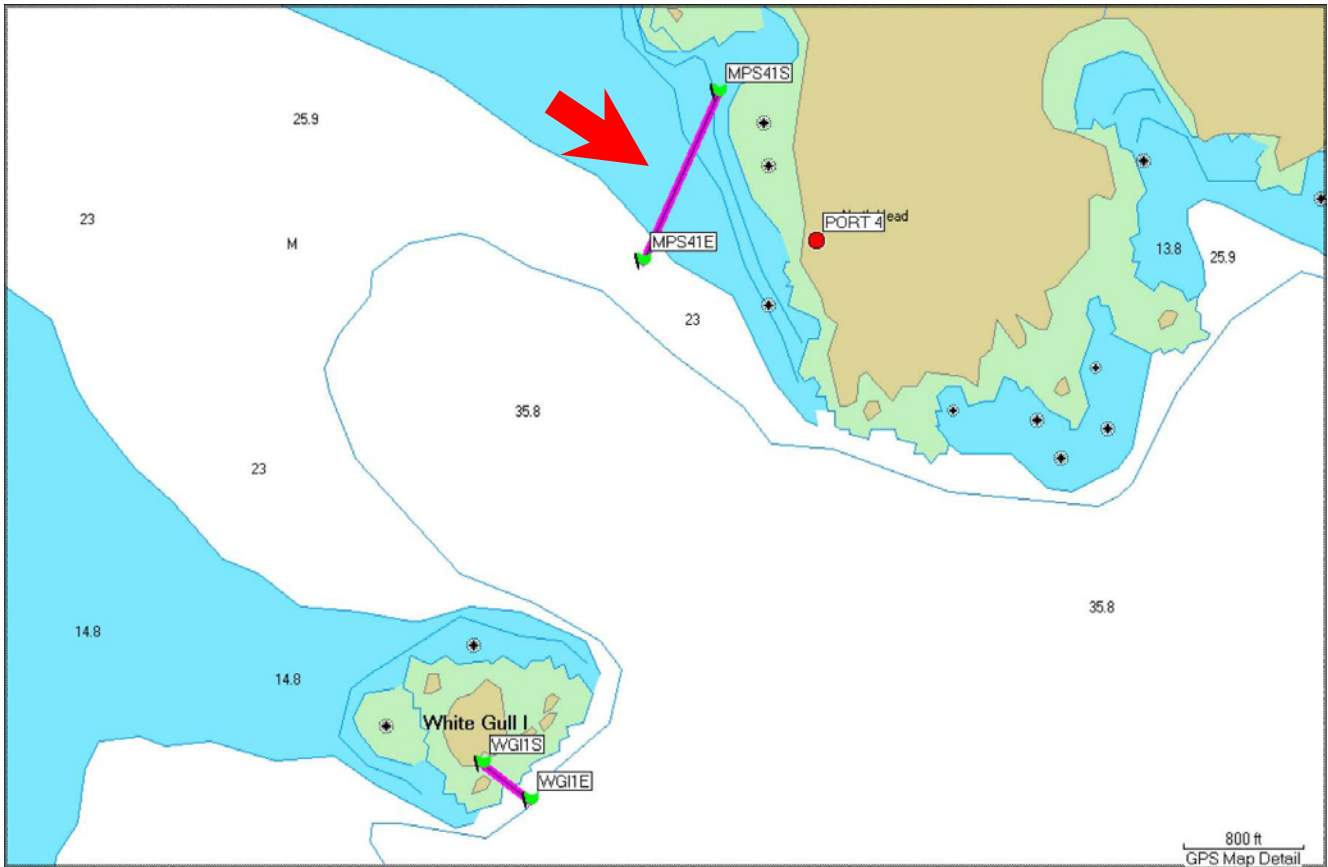
Site Transect Name:	Port Site 4
Time:	1000 to 1105
Tidal Height:	-2.8 to -0.6 ft MLLW
Actual Depth:	5 to 19 ft
Adjusted Depth:	-7.8 to -19.6 ft MLLW
Transect Distance:	1214 ft
Substrate:	Boulder @ 5 ft deep; sand @ 19 ft deep
Visibility:	2 ft @ 5 ft deep; 10 ft @ 19 ft deep
Tidal state:	Strong flood
Divers:	S. Jewett/S. Harper
<b>TAXON</b>	<b>COMMON NAME</b>
ALGAE—Chlorophyta	Green algae
<i>Ulva sp.</i>	Sea Lettuce
ALGAE—Phaeophyta	Brown algae
<i>Desmarestia aculeata</i>	Witch's Hair
<i>Agarum clathratum</i>	Shotgun kelp
<i>Laminaria bongardiana</i>	Split kelp
<i>Fucus distichus</i> subsp. <i>evanescens</i>	Rockweed
ALGAE—Rhodophyta	Red algae
<i>Constantinea sp.</i>	Cup and Saucer
<i>Neodilsea borealis</i>	Northern Red Blade
PORIFERA	
<i>Suberites sp.</i>	Sponge
CNIDARIA—Hydrozoa	
Sertulariidae	Hydroid
Campanularidae	Hydroid
CNIDARIA—Anthozoa	
Unid. White/yellow anemone	Sea anemone
<i>Urticina crassicornis</i>	Christmas sea anemone
<i>Pachygerianthus fimbriatus</i>	Tubicolous anemone
ANNELIDA—Polychaeta	
<i>Schizobranchia insignis</i>	Polychaete
<i>Potamilla sp.</i>	Polychaete

Report J-3 Table 5 continued

Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at MPS4 (North Head), August 30, 2004

TAXON	COMMON NAME
MOLLUSCA—Gastropoda	
<i>Lacuna vincta</i>	Snail
<i>Neptunea lyrata</i>	Snail
<i>Hemissenda crassicornis</i>	Nudibranch
<i>Onchidoris bilamellata</i>	Nudibranch
MOLLUSCA—Polyplacophora	
<i>Ischnochiton sp.</i>	Chiton
<i>Tonicella lineata</i>	Chiton
<i>T. insignis</i>	Chiton
ARTHROPODA—Crustacea	
<i>Balanus sp.</i>	Barnacle
<i>Pagurus beringanus</i>	Hermit crab
<i>Pagurus ochotensis</i>	Hermit crab
<i>Elassochirus tenuimanus</i>	Hermit crab
<i>E. gilli</i>	Hermit crab
<i>Oregonia gracilis</i>	Decorator crab
<i>Pugettia gracilus</i>	Kelp crab
ECTOPROCTA	
Flustrellidae	Bryozoan
Membraniporidae	Bryozoan
ECHINODERMATA—Asteroidea	
<i>Henricia leviuscula</i>	Blood sea star
<i>Leptasterias spp.</i>	Sea star
<i>Leptasterias alaskensis</i>	Sea star
<i>Crossaster papposus</i>	Sea star
ECHINODERMATA—Echinoidea	
<i>Echinarachnius parma</i>	Sand dollar
ECHINODERMATA—Holothuroidea	
<i>Cucumaria fallax</i>	Sea cucumber
CHORDATA—Pisces	
Unid. Flatfish	Flatfish
<i>Platichthys stellatus</i>	Starry Flounder

Report J-3 Figure 5  
Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at MPS4  
(North Head), August 30, 2004



Report J-3 Table 6

Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at White Gull Island, August 30, 2004

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Site Transect Name:	White Gull Island
Time:	1775 to 1837
Tidal Height:	+12.5 to +9.7 ft MLLW
Actual Depth:	16 to 37 ft
Adjusted Depth:	-3.5 to -27.3 ft MLLW
Transect Distance:	402 ft
Substrate:	Boulder @ 16 ft deep; gravel @ 37 ft deep
Visibility:	4 to 6 ft
Tidal state:	Slight ebb tide
Divers:	S. Jewett/H. Chenelot/S. Harper

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<b>TAXON</b>	<b>COMMON NAME</b>
ALGAE—Chlorophyta	Green algae
<i>Acrosiphonia arcta</i>	Arctic Sea Moss
ALGAE—Phaeophyta	Brown algae
<i>Desmarestia aculeata</i>	Witch's Hair
<i>Alaria sp.</i>	
<i>Agarum clathratum</i>	Shotgun kelp
<i>Laminaria bongardiana</i>	Split kelp
<i>Fucus distichus</i> subsp. <i>evanescens</i>	Rockweed
ALGAE—Rhodophyta	Red algae
<i>Constantinea sp.</i>	Cup and Saucer
<i>Opuntiella californica</i>	Red Opuntia
<i>Phycodryis riggii</i>	
<i>Scagelia sp.</i>	
<i>Sparlingla pertusa</i>	
PORIFERA	
<i>Suberites sp.</i>	Sponge
<i>Esperiopsis sp.</i>	Sponge
CNIDARIA—Hydrozoa	Hydroid
CNIDARIA—Anthozoa	
<i>Urticina crassicornis</i>	Sea anemone
<i>Metridium giganteum</i>	Sea anemone
MOLLUSCA—Gastropoda	
<i>Tectura scutum</i>	Snail
<i>Lacuna vincta</i>	Snail

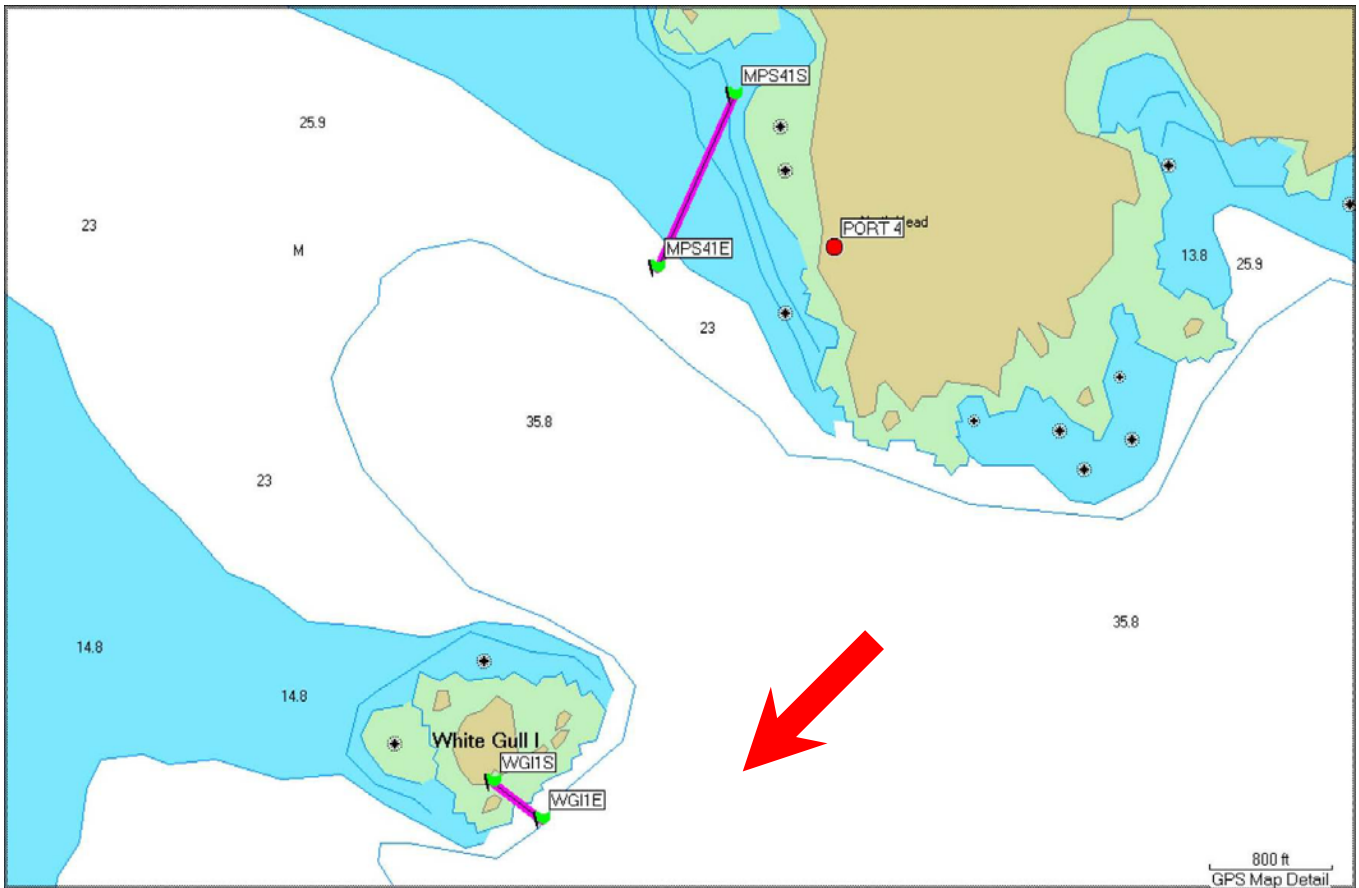
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Report J-3 Table 6 continued

Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at White Gull Island, August 30, 2004

TAXON	COMMON NAME
MOLLUSCA—Gastropoda (Cont'd)	
<i>Margarites pupillus</i>	Snail
<i>Neptunea lyrata</i>	Snail
<i>Fusitriton oregonensis</i>	Snail
<i>Hemissenda crassicornis</i>	Nudibranch
<i>Onchidoris bilamellata</i>	Nudibranch
MOLLUSCA—Polyplacophora	
<i>Ischnochiton sp.</i>	Chiton
<i>Mopalia ciliata</i>	Chiton
<i>Tonicella lineata</i>	Chiton
<i>T. insignis</i>	Chiton
BRYOZOA	
<i>Carbasea sp.</i>	Bryozoan
ARTHROPODA—Crustacea	
<i>Balanus glandula</i>	Barnacle
<i>Heptacarpus brevirostris</i>	Shrimp
<i>Pagurus beringanus</i>	Hermit crab
<i>P. hirsutiusculus</i>	Hermit crab
<i>Elassochirus tenuimanus</i>	Hermit crab
<i>E. gilli</i>	Hermit crab
ECTOPROCTA	Bryozoan
ECHINODERMATA—Asteroidea	
<i>Henricia leviuscula</i>	Blood sea star
<i>Pteraster sp.</i>	Sea star
<i>Leptasterias spp.</i>	Sea star
<i>Crossaster papposus</i>	Sea star
ECHINODERMATA—Ophiuroidea	
<i>Ophiopholus aculeata</i>	Brittle star
ECHINODERMATA—Holothuroidea	
<i>Eupentacta pseudoquinquesemita</i>	Sea cucumber
UROCHORDATA—Tunicata	
<i>Psolus chitonoides</i>	Tunicate
CHORDATA—Pisces	
<i>Hexagrammos stelleri</i>	Whitespotted greenling

Report J-3 Figure 6  
Benthic Reconnaissance Dive Survey of Algae, Epifaunal Invertebrates, and Fishes at White  
Gull Island, August 30, 2004



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