

| Location                   |                                | Seymour Landing  |            | Worlcombe Island   |             | Marine Life<br>of the Pacific<br><br>Northwest<br>Reference page |
|----------------------------|--------------------------------|------------------|------------|--|-------------|--|
| Geographic Coordinates     |                                | 49.34233         | -123.35583 | 49.348331  | -123.453331 |  |
| What it looks like         |                                | Sand, silt, wall |            | Boulder, eelgrass, kelp , outcrop,<br>rock, sand, silt, wall |             |  |
| Year visited               |                                | 1990             | 2010       | 1991   | 2017        |  |
| Common name                | Scientific name                |                  |            |  |             |  |
| Plants                     | Plantae                        |                  |            |  |             |  |
| eelgrass                   | <i>Zostera marina</i>          | 0                | 0          | 0  | 1           | SW002  |
| wireweed                   | <i>Sargassum muticum</i>       | 0                | 0          | 0  | 1           | SW051  |
| sugar wrack kelp           | <i>Saccharina latissima</i>    | 0                | 0          | 1  | 1           | SW042  |
| fringed sea colander kelp  | <i>Neogagarum fimbriatum</i>   | 1                | 1          | 1  | 1           | SW063  |
| diatom                     | <i>undetermined diatom</i>     | 0                | 0          | 0  | 1           | SW064  |
| bushy Turkish washcloth    | <i>Mastocarpus jardinii</i>    | 0                | 0          | 0  | 1           | SW073  |
| crustose corallines        | <i>Clathromorphum</i> etc.     | 1                | 0          | 1  | 0           | SW086  |
| filamentous red algae      | filamentous red algae          | 0                | 1          | 0  | 0           | SW081  |
| Sponges                    | Porifera                       |                  |            |  |             |  |
| sharp lipped boot sponge   | <i>Rhabdocalyptus dawsoni</i>  | 0                | 0          | 1  | 0           | PO009  |
| cloud sponge               | <i>Aphrocallistes vastus</i>   | 1                | 0          | 1  | 0           | PO011  |
| yellow boring sponge       | <i>Cliona californiana</i>     | 1                | 1          | 1  | 0           | PO021  |
| funnel sponge              | <i>Semisuberites cribrosa</i>  | 0                | 0          | 1  | 0           | PO026  |
| orange cratered encrusting | <i>Hamigera</i> sp.            | 0                | 0          | 1  | 0           | PO044  |
| red velvety sponge 1       | <i>Clathria pennata</i>        | 0                | 1          | 1  | 0           | PO051  |
| pipecleaner sponge         | <i>Lycopodina occidentalis</i> | 0                | 0          | 1  | 0           | PO052  |
|                            |                                |                  |            |  |             |  |
|                            |                                |                  |            |  |             |  |
|                            |                                |                  |            |  |             |  |
|                            |                                |                  |            |  |             |  |

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| Year visited             |                                   | 1990             | 2010       | 1991   | 2017        |                               |
| Cnidarians               | Cnidaria                          |                  |            |  |             |                               |
| giant plumose anemone    | <i>Metridium farcimen</i>         | 1                | 1          | 1  | 1           | CN002                         |
| snakelock anemone        | <i>Cribrinopsis fernaldi</i>      | 1                | 1          | 1  | 0           | CN003                         |
| painted anemone          | <i>Urticina grebelnyi</i>         | 1                | 0          | 1  | 0           | CN006                         |
| stubby rose anemone      | <i>Urticina clandestina</i>       | 1                | 0          | 0  | 0           | CN009                         |
| swimming anemone         | <i>Stomphia didemon</i>           | 0                | 0          | 1  | 0           | CN011                         |
| tube-dwelling anemone    | <i>Pachycerianthus fimbriatus</i> | 1                | 1          | 1  | 0           | CN026                         |
| orange zoanthid          | <i>Epizoanthus scotinus</i>       | 0                | 0          | 1  | 0           | CN027                         |
| orange cup coral         | <i>Balanophyllia elegans</i>      | 1                | 0          | 1  | 0           | CN030                         |
| round tan cup coral      | <i>Caryophyllia alaskensis</i>    | 1                | 0          | 1  | 0           | CN032                         |
| coarse sea fir hydroids  | <i>Abietinaria</i> spp.           | 0                | 0          | 1  | 0           | CN054                         |
| glassy plume hydroid     | <i>Plumularia setacea</i>         | 1                | 0          | 1  | 0           | CN059                         |
| wine-glass hydroids      | <i>Obelia</i> spp.                | 0                | 0          | 0  | 1           | CN063                         |
| bushy pink-mouth hydroid | <i>Ectopleura crocea</i>          | 0                | 0          | 1  | 0           | CN071                         |
| white hydroid            | <i>Similiclava nivea</i>          | 0                | 0          | 1  | 0           | CN074                         |
| moon jelly               | <i>Aurelia labiata</i>            | 0                | 0          | 0  | 1           | CN092                         |
| water jellies            | <i>Aequorea</i> spp.              | 0                | 1          | 0  | 0           | CN095                         |
| tailed jelly             | <i>Nanomia bijuga</i>             | 0                | 1          | 0  | 0           | CN109                         |
| Ctenophores              | Ctenophora                        |                  |            |  |             |                               |
| sea gooseberry           | <i>Pleurobrachia bachei</i>       | 0                | 1          | 0  | 0           | CT001                         |

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Marine Life of the Pacific

Northwest Reference page

|                              |   |   |   |   |   |       |
|------------------------------|---|---|---|---|---|-------|
|                              |   |   |   |   |   |       |
| Peanut worms                 | Sipuncula                               |   |   |   |   |       |
|                              |   |   |   |   |   |       |
| brown peanut worm            | <i>Golfingia vulgaris</i>               | 1 | 0 | 0 | 0 | SP002 |
|                              |   |   |   |   |   |       |
| Segmented worms              | Annelida                                |   |   |   |   |       |
|                              |   |   |   |   |   |       |
| ornate tubeworm              | <i>Diopatra ornata</i>                  | 1 | 0 | 1 | 0 | AN029 |
| pearl-topped calcareous worm | <i>Apomatus geniculatus</i>             | 0 | 0 | 1 | 0 | AN050 |
| white-crown calcareous tube  | <i>Protula pacifica</i>                 | 1 | 0 | 0 | 0 | AN051 |
| red-trumpet calcareous tube  | <i>Serpula columbiana</i>               | 0 | 0 | 1 | 0 | AN052 |
| twin-eyed feather duster     | <i>Megalomma</i> sp.                    | 1 | 0 | 0 | 0 | AN067 |
| jointed three-section tube   | <i>Spiochaetopterus costarum pottsi</i> | 0 | 0 | 1 | 0 | AN078 |
|                              |   |   |   |   |   |       |
| Bryozoans                    | Bryozoa                                 |   |   |   |   |       |
|                              |   |   |   |   |   |       |
| kelp-encrusting bryozoan     | <i>Membranipora villosa</i>             | 0 | 0 | 0 | 1 | BZ001 |
| orange encrusting bryozoa    | <i>Schizoporella japonica</i>           | 1 | 0 | 1 | 0 | BZ007 |
| fan bryozoan                 | <i>Dendrobeatia murrayana</i>           | 1 | 0 | 1 | 0 | BZ012 |
| white tuft bryozoans         | <i>Crisia</i> spp.                      | 0 | 0 | 1 | 0 | BZ014 |
| spindly rabbit-ear bryozoa   | <i>Cellaria diffusa</i>                 | 0 | 0 | 1 | 0 | BZ017 |
| southern staghorn bryozoa    | <i>Diaperoforma californica</i>         | 0 | 0 | 1 | 0 | BZ022 |
|                              |   |   |   |   |   |       |
|                              |   |   |   |   |   |       |
|                              |   |   |   |   |   |       |
|                              |   |   |   |   |   |       |

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| Brachiopods             | Brachiopoda                    |                  |            |                                    |             |  |
| transverse lamp shell   | <i>Terebratalia transversa</i> | 0                | 0          | 1                                  | 0           | BR001  |
| snake's head lamp shell | <i>Terebratulina unguicula</i> | 1                | 0          | 0                                  | 0           | BR003  |
| Molluscs                | Mollusca                       |                  |            |                                    |             |  |
| lined chiton            | <i>Tonicella lineata</i>       | 0                | 0          | 1                                  | 0           | MC001  |
| white-line chiton       | <i>Tonicella insignis</i>      | 0                | 0          | 1                                  | 0           | MC004  |
| mossy or hairy chiton   | <i>Mopalia</i> sp.             | 0                | 0          | 1                                  | 0           |  |
| Pacific blue mussel     | <i>Mytilus</i> spp.            | 0                | 1          | 0                                  | 0           | MC031  |
| pink scallop            | <i>Chlamys</i> sp.             | 0                | 0          | 1                                  | 0           |  |
| green false-jingle      | <i>Pododesmus macrochisma</i>  | 1                | 0          | 1                                  | 0           | MC054  |
| Nuttall's cockle        | <i>Clinocardium nuttalli</i>   | 0                | 1          | 0                                  | 0           | MC070  |
| gaper                   | <i>Tresus</i> spp.             | 0                | 1          | 0                                  | 1           |  |
| Washington butter clam  | <i>Saxidomus gigantea</i>      | 0                | 1          | 0                                  | 0           | MC106  |
| feathery shipworm       | <i>Bankia setacea</i>          | 0                | 0          | 1                                  | 0           | MC123  |
| whitecap limpet         | <i>Acmaea mitra</i>            | 0                | 0          | 1                                  | 0           | MC142  |
| rough keyhole limpet    | <i>Diodora aspera</i>          | 0                | 0          | 1                                  | 0           | MC153  |
| hooded puncturella      | <i>Puncturella cucullata</i>   | 0                | 0          | 1                                  | 0           | MC155  |
| wrinkled dogwinkle      | <i>Nucella lamellosa</i>       | 1                | 0          | 0                                  | 0           | MC167  |
| leafy hornmouth         | <i>Ceratostoma foliatum</i>    | 1                | 1          | 1                                  | 0           | MC172  |
| dire whelk              | <i>Lirabuccinum dirum</i>      | 0                | 0          | 1                                  | 0           | MC174  |
| wrinkled amphissa       | <i>Amphissa columbiana</i>     | 0                | 0          | 1                                  | 0           | MC175  |
| sandpaper trophon       | <i>Scabrotrophon maltzani</i>  | 1                | 0          | 1                                  | 0           | MC181  |
| western lean nassa      | <i>Hima mendica</i>            | 1                | 0          | 0                                  | 0           | MC195  |
| money wentletrap        | <i>Epitonium indianorum</i>    | 1                | 0          | 1                                  | 0           | MC203  |
| blue topsnail           | <i>Calliostoma ligatum</i>     | 0                | 0          | 1                                  | 0           | MC210  |

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| purple-ringed topsnail     | <i>Calliostoma annulatum</i>       | 0                | 0          | 1                                  | 0           | MC211  |
| Oregon triton              | <i>Fusitriton oregonensis</i>      | 0                | 0          | 1                                  | 0           | MC257  |
| checkered hairsnail        | <i>Trichotropis cancellata</i>     | 0                | 0          | 1                                  | 0           | MC258  |
| sea angel                  | <i>Clione limacina</i>             | 1                | 0          | 0                                  | 0           | MC286  |
| noble sea lemon            | <i>Peltodoris nobilis</i>          | 1                | 0          | 1                                  | 0           | MC291  |
| Monterey sea lemon         | <i>Doris montereyensis</i>         | 0                | 0          | 1                                  | 0           | MC293  |
| white nudibranch           | <i>Doris odhneri</i>               | 1                | 0          | 1                                  | 0           | MC294  |
| yellow-rimmed nudibranch   | <i>Cadlina luteomarginata</i>      | 1                | 1          | 1                                  | 0           | MC299  |
| Nanaimo nudibranch         | <i>Acanthodoris nanaimoensis</i>   | 1                | 0          | 1                                  | 0           | MC303  |
| barnacle-eating nudibranch | <i>Onchidoris bilamellata</i>      | 0                | 0          | 1                                  | 0           | MC311  |
| giant nudibranch           | <i>Dendronotus iris</i>            | 0                | 0          | 1                                  | 0           | MC331  |
| Dall's dendronotid         | <i>Dendronotus dalli</i>           | 1                | 0          | 0                                  | 0           | MC333  |
| frosted nudibranch         | <i>Dirona albolineata</i>          | 1                | 0          | 1                                  | 0           | MC345  |
| red flabellina             | <i>Himatina trophina</i>           | 1                | 0          | 0                                  | 0           | MC350  |
| giant Pacific octopus      | <i>Enteroctopus dofleini</i>       | 0                | 0          | 1                                  | 0           | MC371  |
|                            |                                    |                  |            |                                    |             |  |
| Arthropods                 | Arthropoda                         |                  |            |                                    |             |  |
|                            |                                    |                  |            |                                    |             |  |
| sea fleas                  | undetermined pelagic amphipods     | 0                | 0          | 1                                  | 0           | AR013  |
| coonstripe shrimp          | <i>Pandalus danae</i>              | 0                | 0          | 1                                  | 0           | AR077  |
| rough patch shrimp         | <i>Pandalus stenolepis</i>         | 1                | 0          | 0                                  | 0           | AR078  |
| red rock crab              | <i>Cancer productus</i>            | 0                | 1          | 0                                  | 0           | AR098  |
| Dungeness crab             | <i>Metacarcinus magister</i>       | 0                | 0          | 0                                  | 1           | AR101  |
| graceful decorator crab    | <i>Oregonia gracilis</i>           | 0                | 0          | 1                                  | 0           | AR113  |
| rhinoceros crab            | <i>Rhinolithodes wosnessenskii</i> | 0                | 0          | 1                                  | 0           | AR130  |
| Puget Sound king crab      | <i>Lopholithodes mandtii</i>       | 0                | 0          | 1                                  | 0           | AR132  |
| butterfly crab             | <i>Cryptolithodes typicus</i>      | 0                | 0          | 1                                  | 0           | AR140  |
| Bering hermit              | <i>Pagurus beringanus</i>          | 0                | 0          | 1                                  | 0           | AR148  |

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| orange hermit             | <i>Elassochirus gilli</i>                | 0                | 0          | 1                                  | 0           | AR152  |
| blackeyed hermit          | <i>Pagurus armatus</i>                   | 1                | 0          | 0                                  | 0           | AR158  |
| common acorn barnacles    | <i>Balanus glandula/Balanus crenatus</i> | 0                | 0          | 1                                  | 0           |  |
| giant acorn barnacle      | <i>Balanus nubilus</i>                   | 1                | 1          | 1                                  | 0           | AR171  |
|                           |  |                  |            |                                    |             |  |
| Echinoderms               | Echinodermata                            |                  |            |                                    |             |  |
|                           |  |                  |            |                                    |             |  |
| purple star or ochre star | <i>Pisaster ochraceus</i>                | 1                | 0          | 1                                  | 1           | EC001  |
| giant pink star           | <i>Pisaster brevispinus</i>              | 1                | 1          | 1                                  | 0           | EC002  |
| mottled star              | <i>Evasterias troschelii</i>             | 1                | 1          | 0                                  | 1           | EC003  |
| rainbow star              | <i>Orthasterias koehleri</i>             | 1                | 1          | 1                                  | 0           | EC004  |
| velcro star               | <i>Stylasterias forreri</i>              | 1                | 0          | 1                                  | 0           | EC006  |
| leather star              | <i>Dermasterias imbricata</i>            | 0                | 0          | 1                                  | 1           | EC007  |
| vermilion star            | <i>Mediaster aequalis</i>                | 1                | 1          | 1                                  | 0           | EC009  |
| slime star                | <i>Pteraster tesselatus</i>              | 1                | 0          | 1                                  | 0           | EC016  |
| wrinkled star             | <i>Pteraster militaris</i>               | 1                | 0          | 1                                  | 0           | EC017  |
| ridged blood star         | <i>Henricia aspera aspera</i>            | 0                | 0          | 1                                  | 0           | EC020  |
| sunflower star            | <i>Pycnopodia helianthoides</i>          | 1                | 1          | 1                                  | 0           | EC028  |
| rose star                 | <i>Crossaster papposus</i>               | 1                | 1          | 1                                  | 0           | EC029  |
| morning sun star          | <i>Solaster dawsoni</i>                  | 1                | 1          | 1                                  | 0           | EC030  |
| striped sun star          | <i>Solaster stimpsoni</i>                | 0                | 1          | 0                                  | 0           | EC032  |
| daisy brittle star        | <i>Ophiopholis kennerlyi</i>             | 0                | 0          | 1                                  | 0           | EC034  |
| gray brittle star         | <i>Ophiura luetkenii</i>                 | 0                | 1          | 0                                  | 0           | EC042  |
| basket star               | <i>Gorgonocephalus eucnemis</i>          | 0                | 0          | 1                                  | 0           | EC046  |
| feather star              | <i>Florometra serratissima</i>           | 1                | 1          | 1                                  | 0           | EC047  |
| red sea urchin            | <i>Mesocentrotus franciscanus</i>        | 0                | 0          | 1                                  | 0           | EC048  |
| green sea urchin          | <i>Strongylocentrotus droebachiensis</i> | 0                | 0          | 1                                  | 0           | EC050  |
| giant sea cucumber        | <i>Apostichopus californicus</i>         | 1                | 1          | 1                                  | 0           | EC054  |

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| stiff-footed sea cucumber | <i>Eupentacta quinquesemita</i>        | 0                | 0          | 1                                  | 0           | EC060  |
| salt and pepper sea cucum | <i>Cucumaria piperata</i>              | 0                | 0          | 1                                  | 0           | EC066  |
| creeping pedal sea cucum  | <i>Psolus chitonoides</i>              | 0                | 0          | 1                                  | 0           | EC073  |
|                           |  |                  |            |                                    |             |  |
| Urochordates              | Urochordata                            |                  |            |                                    |             |  |
|                           |  |                  |            |                                    |             |  |
| transparent tunicate      | <i>Corella willmeriana</i>             | 1                | 0          | 1                                  | 0           | CH001  |
| glassy tunicate           | <i>Ascidia paratropa</i>               | 1                | 0          | 1                                  | 0           | CH004  |
| sea blisters              | <i>Ascidia columbiana / A. callosa</i> | 1                | 0          | 1                                  | 0           | CH005  |
| broadbase tunicate        | <i>Cnemidocarpa finmarkiensis</i>      | 0                | 1          | 1                                  | 0           | CH007  |
| Pacific sea peach         | <i>Halocynthia aurantium</i>           | 1                | 1          | 1                                  | 0           | CH008  |
| bristly tunicate          | <i>Halocynthia igaboja</i>             | 1                | 0          | 1                                  | 0           | CH009  |
| warty tunicate            | <i>Pyura haustor</i>                   | 0                | 0          | 1                                  | 0           | CH010  |
| brown tunicate            | <i>Styela gibbsii</i>                  | 0                | 0          | 1                                  | 0           | CH012  |
| hairy tunicate            | <i>Boltenia villosa</i>                | 1                | 0          | 1                                  | 0           | CH015  |
|                           |  |                  |            |                                    |             |  |
| Chordates                 | Chordata                               |                  |            |                                    |             |  |
|                           |  |                  |            |                                    |             |  |
| blackeye goby             | <i>Rhinogobiops nicholsii</i>          | 1                | 1          | 1                                  | 1           | FGO01  |
| northern ronquill         | <i>Ronquilus jordani</i>               | 1                | 0          | 0                                  | 0           | FRO01  |
| wolf-eel                  | <i>Anarrhichthys ocellatus</i>         | 0                | 0          | 1                                  | 0           | FWF01  |
| shiner perch              | <i>Cymatogaster aggregata</i>          | 0                | 0          | 0                                  | 1           | FSP07  |
| copper rockfish           | <i>Sebastes caurinus</i>               | 1                | 0          | 1                                  | 0           | FRF01  |
| quillback rockfish        | <i>Sebastes maliger</i>                | 1                | 0          | 1                                  | 0           | FRF02  |
| kelp greenling            | <i>Hexagrammos decagrammus</i>         | 1                | 1          | 1                                  | 0           | FGL02  |
| whitespotted greenling    | <i>Hexagrammos stelleri</i>            | 1                | 0          | 0                                  | 1           | FGL04  |
| lingcod                   | <i>Ophiodon elongatus</i>              | 0                | 0          | 1                                  | 0           | FGL05  |
| scalyhead sculpin         | <i>Artedius harringtoni</i>            | 0                | 0          | 1                                  | 0           | FSC04  |

|                 |                                      |   |   |  |   |   |       |
|-----------------|--------------------------------------|---|---|--|---|---|-------|
| longfin sculpin | <i>Jordania zonope</i>               | 0 | 0 |  | 1 | 0 | FSC15 |
| cabezon         | <i>Scorpaenichthys marmoratus</i>    | 1 | 0 |  | 1 | 0 | FSC38 |
| great sculpin   | <i>Myoxocephalus polyacanthoceph</i> | 0 | 1 |  | 0 | 0 | FSC39 |
| red Irish lord  | <i>Hemilepidotus hemilepidotus</i>   | 0 | 0 |  | 1 | 0 | FSC44 |
| grunt sculpin   | <i>Rhamphocottus richardsonii</i>    | 1 | 0 |  | 0 | 0 | FSC37 |
| C-O sole        | <i>Pleuronichthys coenosus</i>       | 0 | 0 |  | 1 | 0 | FRE15 |