

## Appendix 4. Descriptions of available data sources.

| Data Sources (Curator/Description/Parameters)                           | Geographic Extent |    |    |    |    |    |    |    |    |    |    | Timespan       | Frequency |          |          | Design |      |      |    |      |
|---|-------------------|----|----|----|----|----|----|----|----|----|----|----------------|-----------|----------|----------|--------|------|------|----|------|
|   | SJF               | AI | MB | SS | WB | NH | SH | NA | EB | CB | SI |                | 0-1 / MO  | 1-2 / MO | 3-6 / MO | SURF   | DEEP | PROF | FW | WWTP |
| <b>Washington State Department of Ecology (ECY)</b>                     |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| <b>Marine Waters Monitoring Data</b>                                    |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| T, S, DO, pH, CHL, SECCHI   | X                 | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | 1973-2008+     |           | X        |          | X      | X    |      |    |      |
| NUTS  | X                 | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | 1999-2008+     |           | X        |          | X      | X    |      |    |      |
| T, C, P, DO, FLUOR, BEAM-C  | X                 | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | 1989-2008+     |           | X        |          |        |      | X    |    |      |
| <b>South Puget Sound Field Studies</b>                                  |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| T, S, DO, pH, CHL, PPROD, NUTS, SECCHI                                  |                   |    |    | X  |    |    |    |    |    |    |    | 1994-2007      |           |          | X        | X      | X    |      |    |      |
| T, C, P, DO, FLUOR, BEAM-C, PAR   |                   |    |    | X  |    |    |    |    |    |    |    | 1994-2007      |           |          | X        |        |      | X    |    |      |
| T, DO, pH, DOC, POC, NUTS   |                   |    | X  | X  |    |    |    |    |    |    | X  | 1994-2007      |           |          |          |        |      |      | X  |      |
| T, DO, pH, DOC, POC, NUTS, CBOD   |                   |    | X  | X  |    |    |    |    |    |    | X  | 1994-2007      |           |          |          |        |      |      |    | X    |
| <b>Central Basin/Possession Sound Primary Production Study</b>          |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| CHL, PPROD, PAR   |                   | X  | X  |    |    |    |    |    |    |    |    | 1998-2001      | X         |          |          | X      |      |      |    |      |
| <b>Puget Sound Mooring Data</b>   |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| T, C, DO, FLUOR   |                   |    |    | X  |    |    |    |    |    |    | X  | 2005-2008+     | X         |          |          |        | X    |      |    |      |
| <b>Freshwater Ambient Monitoring Data</b>                               |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| FLOW, T, DO, pH, DOC, TOC, NUTS   | X                 |    | X  | X  | X  | X  | X  |    | X  | X  | X  | 1959-2008+     |           | X        |          |        |      |      |    | X    |
| <b>Hood Canal Dissolved Oxygen Program</b>                              |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| <b>Citizen Monitoring Data</b>  |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| DO  |                   |    |    |    |    | X  | X  |    |    |    |    | 2003-2008+     |           | X        |          | X      | X    |      |    |      |
| <b>Comparative Cross Sections</b>                                       |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| T, C, P, DO   |                   |    |    |    |    | X  | X  |    |    |    |    | 2005-2008+     |           | X        |          |        |      | X    |    |      |
| <b>Freshwater Monitoring Data</b>                                       |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| DOC, POC, NUTS  |                   |    |    |    |    | X  | X  |    |    |    |    | 2005-2008+     |           | X        |          |        |      |      |    | X    |
| <b>Applied Physics Laboratory of the University of Washington (APL)</b> |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| <b>ORCA Mooring Data</b>  |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| T, C, P, DO, FLUOR  |                   |    |    | X  |    |    |    |    |    |    |    | 2000-2003      | X         |          |          |        |      | X    |    |      |
| T, C, P, DO, FLUOR  |                   |    | X  |    |    |    |    |    |    |    |    | 2003-2004      | X         |          |          |        |      | X    |    |      |
| T, C, P, DO, FLUOR  |                   |    |    |    |    | X  | X  |    |    |    |    | 2005-2008+     | X         |          |          |        |      | X    |    |      |
| <b>University of Washington, Seattle, WA (UW)</b>                       |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| <b>PRISM Field Studies</b>  |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| T, S, DO, pH, CHL, PPROD, NUTS, SECCHI                                  | X                 | X  | X  | X  | X  | X  | X  | X  |    |    |    | 1998-2004      |           |          | X        | X      | X    |      |    |      |
| T, C, P, DO, FLUOR, BEAM-C  | X                 | X  | X  | X  | X  | X  | X  | X  |    |    |    | 1998-2004      |           |          | X        |        |      | X    |    |      |
| <b>King County Department of Natural Resources</b>                      |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| <b>Puget Sound Marine Monitoring Data</b>                               |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| T, S, DO, pH, CHL, NUTS, DOC, POC, SECCHI                               |                   | X  | X  |    | X  |    |    |    |    | X  |    | 1964-2008+     |           | X        |          | X      | X    |      |    |      |
| T, C, P, DO, FLUOR, BEAM-C, PAR   |                   | X  | X  |    | X  |    |    |    |    | X  |    | 1998-2008+     |           | X        |          |        |      | X    |    |      |
| <b>Stream and River Water Quality Monitoring Data</b>                   |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| FLOW, T, DO, pH, NUTS   |                   |    | X  |    |    |    |    |    |    |    |    | 1976-2008+     |           | X        |          |        |      |      |    | X    |
| <b>United States Geological Survey (USGS)</b>                           |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| <b>Freshwater River/Stream Data</b>                                     |                   |    |    |    |    |    |    |    |    |    |    |                |           |          |          |        |      |      |    |      |
| FLOW, T   | X                 |    | X  | X  | X  | X  | X  |    | X  | X  | X  | pre 1950-2008+ | X         |          |          |        |      |      |    | X    |

| United States Navy's Puget Sound Naval Shipyard |   |   |   |   |   |   |   |   |   |   |   |   |               |   |   |  |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---------------|---|---|--|---|---|---|---|---|
| Sinclair/Dyes Inlet Flow Data                   |   |   |   |   |   |   |   |   |   |   |   |   |               |   |   |  |   |   |   |   |   |
| CHL, NUTS                                       |   |   |   |   |   |   |   |   |   |   |   | X | 1997-1998     | X |   |  | X | X |   |   |   |
| T, C, P, DO, FLUOR, BEAM-C, PAR                 |   |   |   |   |   |   |   |   |   |   |   | X | 1997-1998     | X |   |  |   |   | X |   |   |
| FLOW, T, NUTS                                   |   |   |   |   |   |   |   |   |   |   |   | X | 2002-2005     | X |   |  |   |   |   | X |   |
| National Pollution Discharge Elimination System |   |   |   |   |   |   |   |   |   |   |   |   |               |   |   |  |   |   |   |   |   |
| FLOW, DO, pH, NUTS, CBOD                        | X | X | X | X | X | X | X | X | X | X | X | X | pre 1999-2008 |   | X |  |   |   |   |   | X |

**Measured Parameters**

- T Temperature
- S Salinity
- C Conductivity (used to calculate salinity)
- P Pressure (used to calculate depth)
- DO Dissolved Oxygen concentrations estimated using Winkler titration method (discrete samples) or electronic sensor (freshwater and profile data)
- CHL Chlorophyll *a* and phaeopigment concentrations estimated using standard acidification method
- FLUOR Chlorophyll *a* concentration estimated from *in vivo* fluorescence
- PPROD Phytoplankton primary production estimated from <sup>14</sup>C uptake experiments
- NUTS Nutrient concentrations to include some combination of total and total dissolved nitrogen and phosphorous and separate estimates of dissolved NO3 (nitrate), NO2 (nitrite), NH4 (ammonium), PO4 (orthophosphate), and SiOH4 (silicate)
- DOC Dissolved organic carbon
- POC Particulate organic carbon
- TOC Total organic carbon
- pH Potential hydrogen
- BEAM-C Light transmission
- SECCHI Secchi disk measurement (surface only)
- PAR Photosynthetically available radiation (400-700 nm)
- CBOD Carbonaceous Biochemical Oxygen Demand
- FLOW River/stream flow and effluent discharge

**Geographic Extent**

- SJF Strait of Juan de Fuca
- AI Admiralty Inlet
- MB Main Basin
- SS South Sound
- WB Whidbey Basin
- NH Northern Hood Canal
- SH Southern Hood Canal
- NA The Narrows
- EB Elliot Bay
- CB Commencement Bay
- SI Sinclair/Dyes Inlet

**Timespan/Frequency/Design**

- SURF Discrete surface samples available
- DEEP Discrete deep/near-bottom samples available
- PROF Continuous vertical profile data available
- FW Freshwater samples available
- WWTP Waste water treatment plant samples available
- + Ongoing data collection