# Pacific Northwest
# Water Quality
# Data Exchange

# Trading Partner Agreement

**Version 1.0**

December 28, 2004

Prepared By:



State of Oregon
**Department of
Environmental
Quality**

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## *Partnership Overview*

The Pacific Northwest Water Quality Data Exchange (Exchange) coordinates delivery from a variety of sources of data related to water quality in the Pacific Northwest. The project is supported by funds allocated from the EPA Network Challenge Grant program. With this project, the Trading Partners are applying the concepts embodied in the National Environmental Information Exchange Network.

## Purpose and Parties

This Trading Partner Agreement (TPA) is between all organizations providing and/or hosting data to the Exchange. This TPA defines the terms and conditions under which water quality monitoring data and data source metadata will be exchanged under the framework implemented in the Exchange. For the purposes of this Agreement, there are three types of Trading Partners:

1. Non-node partners – organizations that have no network node and make water quality monitoring data available through a Host partner using the Exchange format. Organizations submitting data to Exchange partners using agency-specific formats are not bound by this TPA.

2. Node partners – organizations that make water quality monitoring data available through their network node.

3. Host partner – organizations with a node that make non-node partners' data available from an Exchange Host database. Node partners may "host" data through other mechanisms, (e.g., importing partners' data into internal databases that are served through the node). For purposes of the TPA, a host partner is distinguished by use of the Exchange Host database. The Host partner is by definition the operator of the Exchange Data Catalog.

## Definition of Data

The Partners will submit data into the Exchange using the instructions in a supported version of the Flow Configuration Document. The operator of the Exchange Data Catalog will determine which versions are currently supported, in collaboration with Exchange partners (*contact the Primary Point of Contact for the Host partner for further information*). The supported versions will be available on the Exchange project website:
http://www.ecy.wa.gov/pnwdx/pnwdx_main.htm.

Water quality monitoring data includes information about samples, measurements, and observations of the quality and quantity of water, sediment, soil, and biological tissues and populations. Data source metadata, which enables the Data Catalog, includes summaries of the quantities and qualities of data in the underlying data source.

The Data Catalog uses the summarized data to allow nodes to estimate the size of data solicit requests to determine how and when to deliver the data. A node partner may determine from the estimate whether to respond to the request immediately, respond at a later time as a batch process, or refuse the request altogether. The Data Catalog also uses the summarized data to extract lists of station, analyte, and taxon information to facilitate data searches.

The different types of Trading Partners have differing responsibilities for water quality monitoring and data source metadata:

1. Non-node partners – responsible for providing water quality monitoring data using Exchange protocol to a node partner or Host partner; or for providing web access to data formatted to Exchange standards.

2. Node partners – responsible for providing water quality monitoring data available through their network node and for providing data source metadata to a Host partner Data Catalog.

3. Host partner – responsible for providing water quality monitoring data through their network node. Responsible for hosting water quality monitoring data from non-node partners in an Exchange Host Database. Responsible for maintaining the Data Catalog. Responsible for providing data source metadata for non-node partners from the Exchange Host Database, in addition to their own data source metadata.

## *Definition of Roles and Responsibilities*

### Legal Framework

This TPA does not fulfill any specific Federal or State reporting requirements unless stated by amendment to this TPA. Participation does not supersede any data or information management and reporting requirement.

### Dispute Resolution

Parties shall make a good faith effort to resolve any data exchange issues in a timely fashion.

### Exchange Mechanism

Exchange of the data between partners will employ a mixture of mechanisms due to different degrees of node readiness.

1. Non-node partners – periodically submit (push) water quality data to a Host partner's node.

2. Node partners – make water quality monitoring data available to the Exchange by pulling from their node. Periodically push data source metadata to a Host partner Data Catalog.

3. Host partner – make non-node partners' water quality monitoring data available to the Exchange by pulling from the Exchange Host database through the host node, in addition to making their own water quality monitoring data available to the Exchange by pulling from their node. Periodically push non-node partners' data source metadata from the Exchange Host database to the Data Catalog, in addition to periodically pushing their own data source metadata to the Data Catalog.

### Exchange Schedule

Water quality data and data source metadata may be accessed from the nodes at a minimum of once per month. Data submission frequency may vary from trading partner to trading partner. Each partner shall make a good-faith effort to meet agreed reporting schedules, or withdraw from the Exchange.

1. Non-node partners – water quality data from closed projects (i.e., no further water quality data will be added to project) need not be repeatedly submitted, once the non-node partner is satisfied that the project data as represented on the Exchange Host database is complete and correct. Water quality data from ongoing projects will be submitted on a schedule determined either by the non-node partner or between partners in a subsequent agreement. Maximum frequency of exchange is daily. See Attachment A for specific details.

2. Node partners – data source metadata will be submitted on a schedule determined by the node partner. Maximum frequency of exchange is daily. See Attachment A for specific details.

3. Host partner – a good faith effort will be made to submit non-node partners' data source metadata to the Data Catalog on a weekly basis. See Attachment A for details regarding submission of host partner data.

## Exchange Failure

Data exchange failures may be classified as failure due to invalid file format or as failure due to invalid data. Invalid file format includes the use of an invalid organization identifier or the use of an invalid or unsupported schema to load the Exchange Host Database or the Data Catalog. Procedures to load the Exchange Host Database or the Data Catalog and error handling associated with invalid file format errors are documented in the Flow Configuration Document. If the failure is due to invalid data, or data are otherwise identified to be removed from the Exchange Host Database or Data Catalog, the submitting partner will coordinate with the Host partner to remove the data. For the Exchange Host Database, the data will be removed at the project level. The project may be reloaded, with valid data, into the Exchange Host Database. For the Data Catalog, the entire catalog entry for the submitting data source will be removed and replaced with a valid catalog entry.

## System Failure and Data Reconciliation

In the event of system failure, the Host partner will make a good faith effort to restore the Exchange Host Database and Data Catalog from the last available backup files in a timely manner. The Host partner will backup the Exchange Host Database and Data Catalog with a minimum frequency of weekly and a maximum frequency of once per business day. The Host partner will arrange for data reconciliation with partners affected by the system failure. Data reconciliation will involve resubmission of data to the Exchange Host Database or Data Catalog.

## Record Retention

To aid in data reconciliation in the event of system failure, partners will retain a copy of data submission files. Node partners should retain the last Data Catalog file successfully submitted at a minimum of until the next Data Catalog file is successfully submitted. Non-node partners should retain Exchange Host Database files successfully submitted for a period of at least one month.

# *Data Stewardship*

## Data Ownership

All partners, as identified by Providing Organization Identifier, will be steward to their own data.

## Use and Distribution of Data

If a Result is associated with the Availability Description "Routine", then that result and all metadata associated with that result may be made available to the public by any Network partner or third-party application with a valid CDX registration.

Results associated with any other Availability Description (e.g., "Agreement", "Civil", "Criminal") and all metadata associated with that result are considered restricted data. Restricted data may only be made available to node partners and to all parties with whom they are legally required to disclose data. In this latter case, further restrictions may apply. Restricted data can be withheld by a partner until such time, if ever, that data is determined to be no longer restricted. **The flow configuration for the Exchange treats all users as anonymous, and does not differentiate between classes of users. The flow can not test whether a request comes from a party with a legal requirement for disclosure. Therefore it is responsibility of the node partner to protect restricted data from unauthorized disclosure.**

## Data Elements

The Partners will submit data into the Exchange using data elements as defined in a supported version of the Data Exchange Template. The operator of the Exchange Data Catalog will determine which versions are currently supported, in collaboration with Exchange partners. The supported versions will be made available on the Exchange project website: http://www.ecy.wa.gov/pnwdx/pnwdx_main.htm.

The Data Exchange Template defines Water Quality Monitoring and Data Source Metadata by identifying and describing the data elements as well as defining the optionality, data type, and business rules associated with each data element.

## Data Content and Coverage

The content of the data exchanged covers all water quality monitoring data and data source metadata as previously defined. The data exchanged includes both historical and current data. The actual date range of the data will vary between trading partners. The content includes information about data sources (aka providing organization), monitoring projects, stations and locations (and well information as appropriate), field events (sample collections and field-level assessments), and results (including in situ measurements and observations). Contact information is included at each data level (providing organization, project, station, field event, and result). Binary objects or references to binary objects related to projects, stations, and field events may be exchanged. Binary objects include reference documents, images, photos, GIS data layers, and other pertinent objects.

Data elements may refer to example lists or valid value lists, as documented in the Data Exchange Template. Example lists are suggested values to provide context for the data element. Valid value lists, or enumerated lists, are required values. The content of these data elements are enforced by business rules encoded in the appropriate xml schema.

The Data Exchange Template provides validation lists for all code values with the exception of the codes/names for units of measure, analytes/characteristics, taxonomy, and methods for collecting and analyzing samples. Data elements for analyte and taxon names and identifiers allow for references to be made using the classification of the data provider's choice as long as a qualifying contextual element is supplied. As an example, if a chemical analyte name was obtained from the EPA Chemical Registry, then the name and the classification system used will be defined.

## Data Quality

The environmental monitoring data exchanged will have been collected under a wide variety of geopositioning, sampling, analytical, and quality assurance regimes. Trading partners are responsible for documenting the quality of these various regimes and presenting that documentation with the data, when such information is available. Inclusion in the Exchange does not indicate that any particular level of data quality may be imputed. Data that partners make available to the Exchange does not necessarily represent the complete data holdings of that partner. Data users should be aware of these qualifications, and use data from the Exchange with caution.

## Data Timeliness

Different trading partners will have different levels of resource available for data entry. Parties shall make a good faith commitment to timely data entry and availability.

## *Agreement Administration*

## Period of Agreement / Termination

This TPA becomes effective on the date of signatures by all partners. This TPA becomes effective for new partners on the date of their signature. This TPA will continue in effect unless modified by mutual consent of all parties. This TPA will be reviewed each year and will be amended or revised as needed if agreeable to all parties. Any partner may withdraw from the agreement at any time by providing a letter of the notification of intent to do so.

## New Trading Partners

Any organization may become a partner in the exchange and party to this agreement by providing a letter adopting this TPA, and accepting its terms, provided that partner is registered in the data catalog as a data provider, and that the letter is endorsed by one state partner in the Exchange.

## Contacts

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## *Attachment A – Exchange Schedules*

**1. Non-node Partners Exchange of Water Quality Monitoring Data from Ongoing Projects**

| Organization | Minimum Frequency | Maximum Frequency |
|---|---|---|
|  |  |  |

**2. Node Partners Exchange of Data Source Summary Metadata**

| Organization | Minimum Frequency | Maximum Frequency |
|---|---|---|
| Alaska Department of Environmental Conservation | Monthly | Daily |
| Idaho Department of Environmental Quality | Monthly | Daily |
| Washington Department of Ecology | Weekly | Daily |

**3. Host Partners Exchange of Data Source Summary Metadata**

| Organization | Minimum Frequency | Maximum Frequency |
|---|---|---|
| Oregon Department of Environmental Quality | Weekly | Daily |